

**ARTIFICIAL FERTILIZATION WITH DONOR GAMETES:
A MEDICAL SOCIAL WORK PERSPECTIVE**

by

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Charlene Laurence Carbonatto

DEDICATED TO MY FAMILY:
MY HUSBAND GIUSEPPE,
OUR SON RICARDO,
OUR SON TO BE OF 7-MONTHS GESTATION
AND MY
FATHER AND MOTHER,
CECIL AND LOUISE LAURENCE.

SUMMARY

ARTIFICIAL FERTILIZATION WITH DONOR GAMETES: A MEDICAL SOCIAL WORK PERSPECTIVE

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Promoter: Prof. Dr. M.S.E. Du Preez
Degree: Doctor Philosophiae (Social Work)

Artificial fertilization with donor gametes is becoming more popular amongst infertile couples as an alternative to childlessness. It allows the couple the opportunity to experience a pregnancy and the birth of their child, who is fifty percent blood-related. This form of treatment involves various medical, legal, ethical-moral, religious and psycho-social aspects, and couples requesting this form of treatment usually have limited knowledge of these aspects, are unable to make an informed decision and are unaware of the possible long-term implications.

Applied and developmental research was implemented in this study. The research designs were exploratory and descriptive and the nature of this research was both quantitative and qualitative. The research population of 30 respondents were all included in this study.

The hypotheses for this study were formulated as follows:

Hypothesis 1:

When couples request artificial fertilization with donor gametes, they have limited knowledge of all the medical, legal, ethical-moral, religious and psycho-social aspects related to this treatment.

Hypothesis 2:

If couples are prepared for artificial fertilization with donor gametes by means of a holistic preparation session, they will gain more knowledge regarding all the aspects related to this treatment.

Hypothesis 3:

If couples undergo artificial fertilization with donor gametes, they will experience long-term psycho-social implications.

The aims of this study included:

Aim 1:

To develop, implement, evaluate and describe a guideline for the holistic preparation of couples for artificial fertilization with donor gametes.

Aim 2:

To do a longitudinal study of the same respondents to determine the long-term psycho-social implications of successful or unsuccessful artificial fertilization with donor gametes.

Aim 3:

To provide a medical social work guideline for the counselling of couples undergoing artificial fertilization with donor gametes. These aims were all met by means of this study.

In the first empirical study, the preparation session which was developed in this study, was implemented over a half-day session, individually with each couple using the A-B-A single system design and a questionnaire. A pre-test prior to and post-test after completion of the session was conducted. These respondents' knowledge on all the aspects related to this form of treatment, which was limited in the pre-test, had increased after completion of the session in the post-test. The session was evaluated to be of high value on the short-term, as it had increased their knowledge and provided them with a thorough perspective, supporting hypothesis 1 and 2.

The second empirical study was conducted with the same respondents 7 years later, by means of a longitudinal survey, using personal interviews and a questionnaire. Respondents had either donor, adopted or own biological children or were childless and had experienced long-term psycho-social implications as a result of successful or unsuccessful artificial fertilization with donor gametes, supporting hypothesis 3. Respondents valued the preparation session highly on the long-term, as it had increased their knowledge and enabled them to make an informed decision. A preparation session was recommended as a necessity for all couples undergoing this form of treatment, as well as a need for long-term counselling. Recommendations included a preparation session being a prerequisite for all couples undergoing this form of treatment and the need for long-term counselling. A guideline was provided for this purpose.

OPSOMMING

**KUNSMATIGE BEVRUGTING MET DONOR GAMETE: 'N GENEESKUNDIGE
MAATSKAPLIKEWERK-PERSPEKTIEF**

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Departement: Maatskaplike Werk
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Graad: Doktor Philosophiae (Maatskaplike Werk)

Kunsmatige bevrugting met donor gamete, word steeds gewilder by onvrugbare egpare, as alternatief tot kinderloosheid. Dit bied 'n egpaar die geleentheid om 'n swangerskap en die geboorte van hulle kind, wat vyftig persent bloedverwant is, te ervaar. Hierdie soort behandeling behels verskillende mediese, wetlike, eties-morele, godsdienstige en psigososiale aspekte en egpare wat hierdie soort behandeling versoek, dra gewoonlik slegs beperkte kennis van hierdie aspekte, is nie daartoe instaat om 'n ingeligte besluit te neem nie en is onbewus van die moontlike langtermyn implikasies.

Toegepaste en ontwikkelingsnavorsing is in hierdie studie aangewend. Die navorsingsontwerpe was verkennend en beskrywend en die aard van die navorsing was sowel kwantitatief as kwalitatief. Die universum van 30 respondente is in hierdie studie ingesluit.

Die hipoteses vir die studie is as volg geformuleer:

Hipotese 1:

Wanneer egpare kunsmatige bevrugting met donor gamete versoek, het hulle slegs beperkte kennis van al die mediese, wetlike, eties-morele, godsdienstige en psigososiale aspekte wat verband hou met hierdie behandeling.

Hipotese 2:

Indien egpare deur middel van 'n holistiese voorbereidingsessie vir kunsmatige bevrugting met donor gamete voorberei word, sal hulle meer kennis opdoen ten opsigte van al die aspekte wat verband hou met die behandeling.

Hipotese 3:

Indien egpare kunsmatige bevrugting met donor gamete ondergaan, sal hulle langtermyn psigososiale implikasies ervaar.

Die doelstellings van die studie het die volgende ingesluit:

Doelstelling 1:

Om 'n riglyn vir die holistiese voorbereiding van egpare vir kunsmatige bevrugting met donor gamete te ontwikkel, implementeer, evalueer en beskryf.

Doelstelling 2:

Om 'n longitudinale studie van dieselfde respondente te onderneem, om die langtermyn psigososiale implikasies van suksesvolle of onsuksesvolle kunsmatige bevrugting met donor gamete te bepaal.

Doelstelling 3:

Om 'n geneeskundige maatskaplikewerk-riglyn vir die berading van egpare wat kunsmatige bevrugting met donor gamete ondergaan, te verskaf. Hierdie doelstellings is almal deur middel van hierdie studie bereik.

In die eerste empiriese studie is die voorbereidingsessie individueel met elke egpaar oor 'n half-dag geïmplementeer en die A-B-A enkelstelselontwerp en 'n vraelys is benut. 'n Voortoets asook 'n na-toets is uitgevoer, voor en na voltooiing van die sessie. Die respondente het vóór die voorbereidingsessie, oor beperkte kennis van al die aspekte wat met dié behandeling verband hou beskik, en het na die sessie vermeerderde kennis getoon. Die sessie is van hoë waarde beskou op die korttermyn, want hulle kennis is aangevul en 'n deeglike perspektief is voorsien, wat hipoteses 1 en 2 ondersteun het.

Die tweede empiriese studie is sewe jaar later met dieselfde respondente uitgevoer, deur middel van 'n longitudinale opname, met gebruikmaking van persoonlike onderhoude en 'n vraelys. Die respondente het donor, aangenome, of eie biologiese kinders gehad, of was kinderloos en het langtermyn psigososiale implikasies ervaar as gevolg van suksesvolle of onsuksesvolle kunsmatige bevrugting met donor gamete. Hipotese 3 is deur hierdie bevindinge ondersteun. 'n Hoë waarde is aan die sessie geheg met die langtermyn evaluasie van die voorbereidingsessie, omdat dit hulle met kennis toegerus het, en hulle in staat gestel het om 'n ingeligte besluit te neem. Aanbevelings het sowel die voorbereidingsessie as vereiste vir alle egpare wat hierdie behandeling ondergaan, ingesluit, asook die behoefte aan langtermyn berading. 'n Riglyn is vir hierdie doel voorsien.

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CHAPTER 1

GENERAL INTRODUCTION AND ORIENTATION

1.1 INTRODUCTION

Infertility is a condition which affects many couples worldwide and of which the incidence is increasing. New reproductive technology techniques are constantly being developed by specialists all over the world to aid these couples in reproducing. Some couples can be assisted by means of various methods of artificial fertilization using their own gametes to conceive and bear a child. Other couples who have a poor prognosis have only three alternatives to choose from, namely, adoption, remaining childless or artificial fertilization using donor gametes.

Artificial fertilization with donor gametes is a more complicated option and is the main focus of this study. Many aspects have to be taken into consideration before couples can make a final decision regarding this form of treatment. These include the medical, legal, ethical-moral, religious and psycho-social aspects. These couples have to be selected and the donors also have to be selected, screened and finally matched with the recipient couples. The recipient couples have to undergo thorough preparation regarding all these above-mentioned aspects to equip them to make a final and rational decision regarding this form of treatment and their future.

This chapter provides an orientation to this study. It commences with the motivation for the choice of the subject, the problem formulation, the aims and objectives of the study and the hypotheses. This is followed by the research methodology, including the type of research, the research design, research procedures, methods of data collection and the pilot study. Subsequently the research population is described and demarcated, key concepts are defined and the limitations of the study are described. This chapter ends with a brief overview of the thesis.

1.2 MOTIVATION FOR THE CHOICE OF THE SUBJECT

Researcher has been working as a medical social worker since 1984 and specifically in the field of infertility since 1985. Only a few social workers in South Africa are specialized in the field of infertility treatment and work at infertility clinics. Thus a need for knowledge and skills regarding the field of infertility exists amongst social workers, as well as a need for research in this field to meet this need.

While working as a medical social worker at the Infertility Clinic at H.F. Verwoerd Hospital, researcher became aware of the need for research in this field and did research for her MA(SW) (Medical Social Work) degree dissertation on: "The psycho-social effects of infertility on a couple: A medical social work perspective". This met certain needs, but more in-depth long-term research was necessary on infertility and specifically pertaining to infertility treatment using the gametes of male or female donors in cases of severe infertility with a poor prognosis for the recipient couple. When the Infertility Clinic at the H.F. Verwoerd Hospital started with an artificial fertilization with donor gamete treatment programme in 1986, the need for research in this specific field became even more apparent. It seemed as if the main focus with this form of treatment at the few hospitals performing it, was on the medical aspects and very little attention, if any, was given to the psycho-social aspects or even the legal, ethical-moral and religious aspects regarding artificial fertilization with donor gametes.

These limitations in these treatment programmes were also observed in the United States of America (U.S.A.), while researcher was working at the Infertility Unit at the Jewish Hospital, Washington University Medical Centre, St. Louis, Missouri, U.S.A., as part of the requirements for the MSW degree, completed in 1987 at the George Warren Brown School of Social Work, Washington University.

The need thus seemed to exist for a holistic multi-disciplinary team approach at these Infertility Clinics or practices. Unfortunately though, very few infertility clinics have a social worker or psychologist on their team, which often leads to treatment with a

one-sided medical focus only. No thorough screening and selection on psycho-social grounds of these couples requesting artificial fertilization with donor gametes is made by a social worker or psychologist, nor any attention given to the preparation of couples regarding the psycho-social, legal, ethical-moral or religious aspects.

At some clinics and hospitals it seems as if the couples are not even always thoroughly prepared regarding all the medical aspects involved. More than often, too much medical jargon is used by the medical practitioners and patients do not understand, but are too shy to ask the doctor to repeat it in layman's terms. Many couples thus request artificial fertilization with donor gametes without understanding or having sufficient information regarding all the medical, legal, ethical-moral, religious or psycho-social aspects. They are thus not equipped to make a decision and can end up making a rash decision, going ahead with treatment which they might later on regret.

The need thus arose by researcher to develop a guideline for the holistic preparation of couples undergoing artificial fertilization with donor gametes, in order to provide them with the knowledge and thus prepare and equip them to make a rational decision regarding treatment and to enable them to be more realistic about possible future implications. Researcher was fortunate to be part of an active inter-disciplinary team at the Infertility Clinics at both the H.F. Verwoerd Hospital, Pretoria and the Jewish Hospital, Washington University Medical Centre, St. Louis, Missouri, U.S.A. An artificial fertilization with donor gametes programme was initiated for the first time at the Infertility clinic at the H.F. Verwoerd Hospital in 1986. It was researcher's task to screen and select couples for infertility treatment, as well as to prepare them for treatment, to provide counselling and to follow them up for supportive counselling and intervention during and after treatment. The same tasks were then suddenly required regarding the new donor infertility treatment programme. As no literature or research results were available on the preparation of couples, nor any specific guideline or programme to follow, researcher had to develop something from scratch. This motivated researcher to pursue a study

on this topic, concentrating firstly on the preparation of couples for artificial fertilization with donor gametes.

Secondly, no research has been undertaken in South Africa and very limited studies in other countries on the long-term psycho-social implications of artificial fertilization with donor gametes on couples, whether successful or unsuccessful. A tremendous need for such research thus exists, as there are many questions which still remain unanswered. This motivated researcher to extend this research by doing a longitudinal follow-up study over seven years of these same couples who took part in the preparation sessions for artificial fertilization with donor gametes. The need for a long-term follow-up study is confirmed by Rosenkvist (1981:143) as follows: "Follow-up studies at an interval of seven to eight years would therefore be of great importance for a more varied evaluation of the consequences of AID in such couples." Berger, Eisen, Shuber & Doody (1986:822) furthermore stress the need for research of couples who have decided against artificial fertilization with donor gametes or who had unsuccessful treatment, as will be done in this study, as follows: "There are no studies of couples who have decided against AID or who have undertaken it but failed to conceive, to compare with outcome studies of couples with AID children." Thus the need for such a study is confirmed.

This study would enable researcher to firstly develop, implement, evaluate and describe a guideline for the preparation of couples for artificial fertilization with donor gametes and secondly to explore the long-term psycho-social implications of successful or unsuccessful artificial fertilization with donor gametes on couples. A need for more knowledge not only exists amongst all professionals involved, but also amongst couples planning to or having undergone this form of treatment. A guideline for the preparation of couples for artificial fertilization with donor gametes, as well as for medical social work counselling of couples undergoing artificial fertilization with donor gametes, whether successful or unsuccessful, would be provided as a result of this research.

As the incidence of infertility is increasing and more mothers with illegitimate babies are deciding to keep their babies, the demand for

artificial fertilization with donor gametes is already increasing. With the focus in health care in South Africa nowadays on primary health care, one could ask why this study, if the government is not concentrating on reproductive technology in their health budget, but rather on family planning as part of primary health care. One has to keep in mind that even though the focus of health care is mainly preventative, catering more for the developing population and state health services, we must not forget about the developed population, private health services and curative health care. It is important to maintain a fair balance between state and private health care services, with the problem of overpopulation and family planning on the one hand and the emotionally painful experience of childlessness and couples who will pay any price and go to any length to bear their desired child on the other hand. These couples pay astronomical fees as private patients for this treatment which is not covered by medical aid schemes and is mainly available at private gynaecologists. Even though there is a lower success rate than with natural conception, it is their only chance at ever being pregnant and bearing a child who will at least be 50% biologically their own, other than adoption where the child is not at all biologically related. These couples therefore have a right to an improved holistic treatment plan.

This study would thus not only make a contribution to medical social work, but also to all other disciplines involved, as well as to all couples contemplating artificial fertilization with donor gametes as an alternative to remaining childless.

1.3 PROBLEM FORMULATION

Infertility is a phenomenon of which the incidence is increasing and where infertile couples are prepared to go ahead with treatment such as artificial fertilization with donor gametes in order to have the chance of bearing a child which will be 50% theirs, other than adoption where the child is not at all biologically related. This form of treatment is mainly a privately funded service, available at gynaecologists in private practice and only a few university training hospitals, as the government focuses more on primary health care in their budget and health care plan. Medical aid schemes unfortunately

exclude these fees and these couples therefore have to pay for this expensive treatment themselves as private patients. These couples must therefore not be forgotten as their infertility experience and desire for a child is emotionally painful and they, just like any other patient have a right to a child and need a holistic multi-disciplinary treatment plan.

These couples contemplating artificial fertilization with donor gametes as an alternative to remaining childless, have limited knowledge of the medical, legal, ethical-moral, religious and psycho-social aspects involved in this form of treatment when requesting it and are unable to make a rational decision with the little information they have. They, however, still go ahead and request this form of treatment, after which they are usually placed on a waiting-list until a suitable donor is found. These couples are thus not at all prepared regarding all the medical, legal, ethical-moral, religious and psycho-social aspects involved, are not equipped to make a thorough decision and should undergo a preparation session before commencing with treatment.

A guideline for the holistic preparation of couples for artificial fertilization with donor gametes should be developed and implemented with each couple individually, before a decision to go ahead with treatment can be made. The effectiveness of such a session should also be determined. Once having decided to go ahead with treatment, these couples need regular follow-up supportive counselling throughout the treatment process, as they could experience some psycho-social implications, whether treatment is successful or unsuccessful. They will also need long-term counselling even after the birth of the child. As these long-term psycho-social implications are relatively unknown, a need exists for this to be explored and described, so as to improve counselling services.

In this study a guideline for the holistic preparation of couples for artificial fertilization with donor gametes will be developed, implemented, evaluated and described. The long-term psycho-social implications of this treatment on couples or "the artificial family" will be explored and described. A guideline for medical social work counselling of these couples will also be provided.

1.4 AIMS OF STUDY

As this study is multifaceted, with various aims, each aim with its specific objectives will be discussed individually.

1.4.1 Aim 1:

The first aim of this study is: "To develop, implement, evaluate and describe a guideline for the holistic preparation of couples for artificial fertilization with donor gametes".

1.4.1.1 Objectives

- * To develop and describe the contents of a preparation session for the holistic preparation of couples for artificial fertilization with donor gametes by exploring and describing thoroughly all the medical, legal, ethical-moral, religious and psycho-social aspects regarding artificial fertilization with donor gametes as follows:
 - To provide an in-depth description of all the medical aspects related to infertility and the treatment options available.
 - To provide an in-depth description of all the medical aspects related to artificial fertilization with donor gametes.
 - To give a broad overview and discussion of the legal aspects and legislation pertaining to artificial fertilization with donor gametes in South Africa and other countries.
 - To give a broad overview and discussion of the ethical-moral and religious aspects regarding artificial fertilization with donor gametes.
 - To provide an in-depth description of all the psycho-social aspects regarding artificial fertilization with donor gametes.
- * To implement the guideline in a preparation session for the holistic preparation of couples for artificial fertilization with donor gametes.
- * To evaluate the effectiveness of the preparation session on a short-term and long-term basis.
- * To describe and provide a medical social work guideline for the

holistic preparation of couples for artificial fertilization with donor gametes.

1.4.2 Aim 2:

The second aim of this study is: "To do a longitudinal study of the same respondents to determine the long-term psycho-social implications of successful or unsuccessful artificial fertilization with donor gametes".

1.4.2.1 Objectives

- * To provide an in-depth description of all the psycho-social implications of artificial fertilization with donor gametes.
- * To explore and describe the long-term psycho-social implications of successful or unsuccessful artificial fertilization with donor gametes on these respondents.

1.4.3 Aim 3:

The third aim of this study is: "To provide a medical social work guideline for the counselling of couples undergoing artificial fertilization with donor gametes".

1.4.3.1 Objective

- * To provide a medical social work guideline for the counselling of couples undergoing artificial fertilization with donor gametes.

1.5 HYPOTHESES

According to Black & Champion (1983:126) a hypothesis is a tentative statement about something, the validity of which is usually unknown. A hypothesis can thus be defined as a trial allegation about something that the researcher wishes to support or refute.

The hypotheses for this study have been linked to some of its aims. The hypotheses for the first aim of this study: "To develop, implement, evaluate and describe a guideline for the holistic preparation of couples for artificial fertilization with donor gametes", are as follows:

* Hypothesis 1:

When couples request artificial fertilization with donor gametes, they have limited knowledge of all the medical, legal, ethical-moral, religious and psycho-social aspects related to this treatment.

* Hypothesis 2:

If couples are prepared for artificial fertilization with donor gametes by means of a holistic preparation session, they will gain more knowledge regarding all the aspects related to this treatment.

The hypothesis for the second aim of this study: "To do a longitudinal study of the same respondents to determine the long-term psycho-social implications of successful or unsuccessful artificial fertilization with donor gametes", is as follows:

* Hypothesis 3:

If couples undergo artificial fertilization with donor gametes, they will experience long-term psycho-social implications.

These above-mentioned hypotheses were tested in the appropriate research chapters 6 and 7.

1.6 SCHEMATIC PRESENTATION OF DOCTORAL STUDY

This study will subsequently be presented in Table 1 for a clearer understanding of its progress:

TABLE 1: SCHEMATIC PRESENTATION OF DOCTORAL STUDY

*	<p><u>1986 to 1989: First stage: The orientation and pilot study</u></p> <ul style="list-style-type: none"> - Social worker at the Infertility Clinic, the H.F. Verwoerd Hospital, Pretoria. - Social worker at Infertility Unit, the Jewish Hospital, Washington University Medical Centre, St. Louis, U.S.A. - MSW degree, George Warren Brown School of Social Work, Washington University, St. Louis, U.S.A., completed in 1987. - Research for MA(SW) Medical social Work dissertation on: "The psycho-social effects of infertility on a couple: A medical social work perspective." - MA(SW) Medical Social Work degree, University of Pretoria, completed in 1989. - Pilot study.
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* 1987 to 1992: Second stage: The development, implementation, evaluation and description of a guideline for the holistic preparation of couples for artificial fertilization with donor gametes

- Literature study and writing of thesis.
- Construction of questionnaire and pilot-test.
- Development of the preparation session.
- Empirical research: Implementation and evaluation of the preparation session.
- Appointment as lecturer at the Department of Social Work, University of Pretoria in 1988.
- Continuation of empirical research.
- Enrolment for D.Phil study in 1990.
- Oral doctoral examinations.
- Processing, analysing and interpretation of research findings.
- Writing of research report.
- Description of the guideline for the holistic preparation of couples.
- Writing of thesis.

* 1993 to 1996: Third stage: Longitudinal study of the long-term psycho-social implications of artificial fertilization with donor gametes.

- Literature study and writing of thesis.
- Construction of questionnaire and pilot-test.
- Tracing of respondents.
- Empirical research: Longitudinal study and personal interviews.
- Doctoral seminar.
- Processing, analysing and interpretation of research findings.
- Writing of research report.
- Description of medical social work guideline for the counselling of couples undergoing this treatment.
- Conclusions and recommendations.
- Submission.

1.7 RESEARCH METHODOLOGY

The type of research, the research design and procedures as well as the pilot study and description of the research population will subsequently be discussed.

1.7.1 Type of research

Research in the human sciences, according to Mouton & Marais (1989:7), entails: "... 'n gemeenskaplike menslike aktiwiteit waardeur 'n bepaalde verskynsel in die werklikheid op 'n objektiewe wyse bestudeer word ten einde 'n geldige begrip van die verskynsel daar te stel". Thus this research entails a human activity by means of which a particular phenomenon is studied objectively to improve knowledge regarding this human phenomenon.

The type of research implemented in this study was **applied research**, which according to Bailey (1987:21) is: "... research with conclusions that can be applied to solve social problems of immediate

concern". Similarly Black & Champion (1983:27) are of the opinion that applied research constitutes research activities on problems posed, for the purpose of contributing to the solution of these problems, while Bloom (1986:54) states that "... it seeks to develop principles that enable people to resolve problems or to obtain desired objectives." Arkava & Lane (1983:12), on the other hand, link applied research to immediate problems which the professional person experiences in practice. Huysamen (1993:35) is more specific in this regard, defining applied research in a multi-disciplinary context as follows: "Toegepaste navorsing, daarenteen, word spesifiek onderneem met die oog op die oplossing van een of ander psigologiese, opvoedkundige of maatskaplike probleem in die kliniese, voorligtings-, opvoedkundige, bedryfs-, militêre of forensiese sielkunde, of maatskaplike werk".

Thus applied research was implemented, as the topic studied is very actual and could definitely contribute by providing answers to this relatively unknown topic and field of specialization. This study also had an element or component of **developmental research**, if one considers the guideline for the holistic preparation of couples for artificial fertilization with donor gametes, which was developed, implemented, evaluated and described as one of the aims of this research. Furthermore, a guideline for the medical social work counselling of couples undergoing artificial fertilization with donor gametes was provided.

Developmental research according to Bailey (1987:23) is a systematic activity whereby existing knowledge which is acquired by research and/or practical experience is utilized. Hofmeyr (1994:3) describes developmental research in more detail as follows: "... die stelselmatige aktiwiteit waarin bestaande kennis wat deur navorsing en/of praktiese ervaring verkry is, benut word, en op grond waarvan dienste, prosesse, stelsels, metodes, materiale, produkte en toestelle ontwerp, geëvalueer en aangepas word met die oog op die implementering en/of vervaardiging of verbetering van bestaande dergelike items. Dit verskil van ander soorte navorsing in dié sin dat dit eerder fokus op die ontwikkeling van nuwe maatskaplike tegnologie as op die ontwikkeling van kennis." Thus developmental research aims at developing new programmes, strategies, guidelines,

methods or services for the improvement of social work services.

The main focus of this study was **applied research**, with a component of **developmental research**.

1.7.2 Research design

According to Black & Champion (1983:75), most contemporary social scientific research is characterized by some type of study plan. This plan is labelled the research design. Royse (1991:43) similarly refers to the research design as a blueprint which outlines the approach to be used to collect the data. Heppner, Kivlighan & Wampold (1992:43) add to this by stating that research designs help the researcher to examine specific research questions in a valid, systemic and objective manner. A more thorough definition is provided by Strydom (1991:28) who states: "Die navorsingsontwerp is die navorsingsplan, die struktuur en die strategieë van die ondersoek na antwoorde op navorsingsvrae en verwys na die totale navorsingsproses wat gevolg behoort te word."

The aim of the research design is described by Mouton & Marais (1989:33) as follows: "Die doel van 'n navorsingsontwerp is om die betrokke navorsingsprojek sodanig te beplan en te struktureer dat die uiteindelijke geldigheid van die navorsingsbevindinge verhoog word". Tripodi (1981:198) similarly describes the aim of the research design as: "... to provide a set of systematic procedures for producing data pertaining to the development, modification or expansion of knowledge".

Thus a research design can be defined as the concept plan to help the researcher perform his research in a scientific and systematic manner.

1.7.2.1 Exploratory design

The first and major research design used in this study was an exploratory design. The reason for this design was that no research had been performed on this topic in social work, nor in any other related discipline, nor in the health related disciplines. A tremendous need thus existed for research on artificial fertilization with donor gametes, regarding the preparation of couples, the long-

term psycho-social implications and the medical social work counselling of these couples. Thus the exploratory design was an ideal research design for this study.

The exploratory design, according to Royse (1991:44), is used with topics about which very little information is available. This Grinnell & Williams (1990:140) and Babbie (1992:90) support, and add that the purpose of this research design is just to explore, that is, to gather data or facts. Reid & Smith (1981:67) furthermore maintain that it is used to gain preliminary understanding of phenomena or to stimulate the development of concepts, hypotheses and theories. Thus the exploratory design was ideal for this study as very little is known of the topic and researcher had to explore and generate new information, as well as develop guidelines for the preparation and counselling of couples undergoing fertilization with donor gametes.

The value of this design is emphasized by Arkava & Lane (1983:12) who state that "... it breaks new ground and often illuminates a problem." This design is similarly referred to by Marlow (1993:24) as: "... an excellent means of breaking new ground and generating exciting insights into the nature of an issue when we know very little about the problem area."

The goals of the exploratory design are presented in a detailed manner by Neuman (1994:19) as follows:

- * Become familiar with the basic facts, people and concerns involved.
- * Develop a well-grounded mental picture of what is occurring.
- * Generate many ideas and develop tentative theories and conjectures.
- * Determine the feasibility of doing additional research.
- * Formulate questions and refine issues for more systematic inquiry.
- * Develop techniques and a sense of direction for future research.

These above-mentioned goals provide a good understanding of what the exploratory design can entail and of how valuable it can be. In this study researcher strove to achieve some of these goals.

1.7.2.2 Descriptive design

The second research design implemented in this study was a **descriptive design**.

To the descriptive design, Grinnell & Williams (1990:139-140) refer as a middle level of knowledge where the study can provide us with a higher level of knowledge and questions will be of a more general descriptive nature. A higher level of knowledge is striven for in this study with the research being of a general descriptive nature. Babbie (1992:90-91), on the other hand, maintains that the most common purposes of social research are exploration, description and explanation and that the major purpose of many social scientific studies is to describe situations and events. Thus in a study with description as a purpose, the researcher observes and then describes what was observed. Leedy (1993:187) similarly mentions that the descriptive survey deals with a situation that demands the technique of observation as the principle means of collecting data.

Descriptive studies, according to Black & Champion (1983:79), who are more specific in their definition, provide the researcher with a vast amount of information about many social settings. Descriptive designs are more specific in that they direct attention to particular aspects or dimensions of the research target. A descriptive design thus aims at describing specific phenomenon in detail and improving knowledge in this way.

According to Mouton & Marais (1989:44), descriptive studies can include the following: "Enersyds kan die klem val op 'n in-diepte beskrywing van 'n spesifieke individu, situasie, groep, organisasie, stam, subkultuur, interaksie of sosiale voorwerp. Andersyds kan die klem val op 'n beskrywing van die frekwensie waarmee 'n bepaalde eienskap of veranderlike in 'n steekproef voorkom". Thus a descriptive design could include an in-depth study of specific phenomena, as pertained to this study.

The goals of the descriptive design are presented in a detailed manner by Neuman (1994:19) as follows:

- * Provide an accurate profile of a group.
- * Describe a process, mechanism or relationship.

- * Give a verbal or numerical picture.
- * Find information to stimulate new explanations.
- * Present basic background information or a context.
- * Create a set of categories or classify types.
- * Clarify a sequence, set of stages or steps.
- * Document information that contradicts prior beliefs about a subject.

These goals provide a clearer picture of what a descriptive design includes. Researcher aimed at achieving some of these above-mentioned goals in this study.

1.7.3 Research procedures

The research procedures chosen for this study were selected, keeping the aim of the study and research designs in mind.

Research procedures are selected according to the research design as stated by Strydom (1989:198, 207) as follows: "Op grond van die doel van die ondersoek en die gekose navorsingsontwerp behoort 'n navorser sy prosedures te selekteer. Daar bestaan 'n wye verskeidenheid prosedures waarvan gebruik gemaak kan word, naamlik: die enkelstel-selontwerp, eksperimentele navorsing, die opname, die gevallestudie en ex post facto-navorsing." Hofmeyr (1994:1-7) on the other hand classifies the research procedures as: Natural observation, observation with controlled stimuli, ex-post facto research and experimental research.

A research procedure which was selected on the basis of Aim 1 of this study: To develop, implement, evaluate and describe a guideline for the holistic preparation of couples for artificial fertilization with donor gametes, as well as on the basis of the exploratory and descriptive designs, is the **single system design**. This entailed the second stage of this study: The development, implementation, evaluation and description of a guideline for the holistic preparation of couples for artificial fertilization with donor gametes.

The **single system design** is defined by Bloom & Fischer (1982:8), as: "... the repeated collection of information on a single system over time. This system can be an individual, family, group, organization

or community. Each is treated as a single unit for this type of analysis. The design part of the term refers to a systematic plan for the collection of data." On the other hand, the single system design is regarded by Strydom (1989:207) as: "... die integrering van navorsing en praktyk. Volgens die enkelstelselontwerp behoort elke maatskaplike werker sy eie alledaagse praktyk te kan evalueer". The single system design should thus become an integral part of each social worker's practice, as a means of measurement and evaluation of practice, as well as to become more accountable. Strydom (1986:218) makes a further important statement regarding the single system design: "Die kern van die enkelstelselontwerp is die herhaaldelike meting van die probleem." This design in other words was ideal for this research, as the couples were to be tested by means of a self-constructed questionnaire prior to and after the preparation session or intervention was completed, to determine whether their knowledge regarding artificial fertilization with donor gametes had improved as a result of the intervention.

In this regard Bloom & Fischer (1982:268) state: "One of the most distinctive and helpful features of the single system design involves collecting information on the client's situation before intervention actually begins. This is called baselining. The period of time over which this information is collected is called the baseline." The aim of the baseline phase, as mentioned by Du Plessis (1994:108-109) is that it is firstly necessary for evaluation, and secondly for the purposes of assessing the data. Du Plessis (1994:109), states further that the evaluation: "... dien as 'n basis vir die vergelyking van feitegegewens wat ingesamel word tydens die intervensiefase van 'n terapeutiese behandelingsprogram. Hierdie basislyndata stel die terapeut in staat om vas te stel of the teikenprobleem verander soos wat beplan is. In sommige gevalle kan selfs vasgestel word of dit werklik die program is wat verandering teweeg gebring het. Deur monitering en vergelyking kan die terapeut verder evalueer of 'n bepaalde intervensieprogram effektief is, al dan nie." The assessment of the data, according to Du Plessis (1994:110), "... stel die terapeut in staat om 'n waardebeplanning te maak of te diagnoseer." Thus the baseline phase serves as a period to collect relevant data about the client, problem and situation prior to intervention for the purpose of assessing the situation and to be able to then evaluate

the changes which take place after the intervention phase has been implemented.

The **basic concurrent A-B-A single system design** was chosen for this study. Concurrent baselines, according to Du Plessis (1994: 110), are baseline data which have been collected in a planned, systematic way over a specific time period with the aim of reflecting the natural occurrence of events. In this study the data was collected in a planned, systematic way over a specific time period, by means of person-to-person interviews, a self-constructed questionnaire and observation. The **A-B-A single system design**, as explained by Du Plessis (1994: 122), is a basic design requiring two comparisons: between the first baseline and intervention and between the intervention and the second baseline. According to Arkava & Lane (1983:132), this design, "... allows investigators to view the results of applying, then removing a treatment." If this treatment results in improvement, the conclusion can be made that the treatment was the agent responsible for any observed changes. A similar, but more specific description is given by Bloom & Fischer (1982:309-310), who explain that the baseline behaviour is established during the A-phase and that the client should attain some stable or desired form of behaviour during the B-phase. Therefore by removing or ending the intervention, it can be determined in the second A-phase if this stable or desired form of behaviour has become a part of the client's behaviour and whether intervention was successful or not. Thus the **A-B-A single system design** seemed to be the most suitable for this research, as it measures the effectiveness of the preparation session. The **A-B-A design** is described in further detail by Du Plessis (1994:124-129), Heppner *et al.* (1992:174-180), Royse (1991:64-66), Bloom (1986:328-338) and Bloom & Fischer (1982:309-313).

The **A-B-A design** was implemented in this study as follows:

- A-phase:** Each respondent was tested with a self-constructed questionnaire prior to the intervention/preparation session for approximately one hour to establish his/her baseline knowledge regarding artificial fertilization with donor gametes (pre-test).
- B-phase:** Intervention in the form of a half-day preparation session

for artificial fertilization with donor gametes took place individually with each couple.

A-phase: After the preparation session was terminated at the end of the half-day session, the researcher returned to baseline conditions and tested each respondent again with the same questionnaire (post-test) for approximately one hour. This determined whether the baseline knowledge regarding artificial fertilization with donor gametes remained the same as established in the first baseline phase or not.

If this baseline knowledge in the pre-test regarding artificial fertilization with donor gametes increased in the post-test, then it could be assumed that the preparation session was responsible for this change.

A research procedure which was selected on the basis of Aim 2 of this study: To do a longitudinal study of the same respondents to determine the long-term psycho-social implications of successful or unsuccessful artificial fertilization with donor gametes, as well as on the basis of the exploratory and descriptive designs, was the **longitudinal survey**. This entailed the third stage of this study: Longitudinal study of the long-term psycho-social implications of artificial fertilization with donor gametes.

The **randomized longitudinal survey** is specifically seen as a research procedure of the descriptive research design by Grinnell & Williams (1990:158). Longitudinal surveys, according to Royse (1991:120), are surveys conducted over an extended period of time. Babbie (1992:99) agrees that longitudinal surveys are designed to permit observations over a prolonged period. The different types of longitudinal studies, namely trend, cohort and panel studies, are similarly described by Royse (1991:120) and Babbie (1992:100), with the most appropriate type for this study appearing to be the **panel study**. Panel studies, as maintained by Royse (1991:120) and Babbie (1992:100), are studies of the same group of persons over an extended period of time. Neuman (1994:27) refers to the panel study as a powerful type of longitudinal research, as the researcher observes exactly the same people over a time period. Panel studies are thus used to detect changes in individuals over time. As the same group of respondents was studied over an extended period of time in this

study, the **panel longitudinal study** was most appropriate.

The advantages of panel longitudinal studies, according to Babbie (1992:100), are that they provide information describing processes over time. The disadvantage, however, is that they come at a heavy cost in both time and money. This was a limitation in this study. Panel longitudinal studies, Babbie (1992:100) states further, offer the most comprehensive data on changes over time but they do face a specific problem, that is, **panel attrition**. Babbie (1992:100) describes the danger of panel attrition in panel studies where respondents studied in the first phase of the survey are not willing to participate in later phases. Due to the sensitivity, secrecy and privacy involved in artificial fertilization with donor gametes, this group of respondents was seen twice during this panel longitudinal study, as panel attrition was feared. Thus this group of respondents was seen initially during the implementation and evaluation of the preparation session and then only again seven years later.

The period of time in which this **panel longitudinal study** was performed, was of utmost importance. The purpose of the study must, however, be taken into consideration before deciding on the period of time. This is referred to as the **time dimension** used in the study, as stated by Babbie (1992:102) and Neuman (1994:26). Some studies they mention, give a snapshot of what is going on at a single fixed point, while other focus on a few cases during a longer time period. Respondents were also, due to the time period, expected to recall their past. This recalling of the past, according to Babbie (1992:100-101), is a common way of approximating observation over a long period of time. Possible conclusions can then be drawn about these processes that have taken place over an extended period of time.

A period of seven years has been decided on for this panel longitudinal study, as this would be the approximate time when these children, if any, conceived by means of artificial fertilization with donor gametes, would be anything up to 6 years old. Due to the secrecy involved, certain psycho-social implications could thus be experienced at this stage, as the children would either be approaching school going age, or be at a pre-school, a crèche or a day

mother. This "artificial family" would thus have experienced contact with the outside world with "their child" by this stage and would possibly be experiencing psycho-social implications as a result of the secrecy and sensitivity involved, such as a fear of their secret being revealed or their child being rejected by others. Rosenkvist (1981:143) accentuates the need for a long-term study at an interval of 7 to 8 years to determine the consequences of AID in couples.

In this regard Steyn, Van Wyk & Le Roux (1987:173-179) and Carter & McColdrick (1989:14-17) explain how in the life cycle model the life cycle phases of the family with pre-school children and with school-going children, or families with young children, are the phases where the couple and family have many adaptations and are exposed to the outside world, with their child meeting other people and also comparing themselves to other children and their parents to other parents. This could be a threatening period for many parents, as it could make them feel that their parenthood and their child is being examined and evaluated by outsiders. This would probably be experienced even more sensitively by parents with a child conceived by means of artificial fertilization with donor gametes.

If this panel longitudinal study were to be performed over a shorter period of time, for example three years, these couples would most probably have been caring for their child at home by themselves or with the help of significant others and would not yet have had much contact with other parents and children outside of their family system, as a means of protecting their secret. The results would most probably then have shown families experiencing no psycho-social implications, as most short-term studies have revealed thus far. This would have created a distorted positive image in these research findings. Researcher thus specifically planned to perform this study over a more realistic extended period of time such as seven years. Panel research, according to Neuman (1994:27), is, however, formidable to conduct, very costly, and tracking people over time is also difficult, as some people die or cannot be located. Nevertheless the results of a well-designed panel study are extremely valuable. In this study the tracking of the same respondents seven years later was an extremely difficult, time-consuming and expensive task, but it was essential as there was a need for a long-term study.

The methods of data collection in this study were **personal interviews** with each couple, **observation** and two different **self-constructed questionnaires** which were filled in by the same respondents during the two different stages of this research. The interviews in the second stage of research were also **tape-recorded** so as to obtain all the information possible during the interview and to utilize these tapes for the description of each couple in the form of a case-study in Chapter 7. This study thus contained elements of qualitative research, which Neuman (1994:28) refers to as collecting data in the form of words. Marlow (1992:66) more specifically refers to qualitative research as using a small number of subjects, narrative techniques, in-depth interviews and observation. The major focus of this study was quantitative research, with a component of qualitative research, where the descriptive as well as the explanatory designs were implemented.

The **first questionnaire** was administered to each respondent in the **second stage of research**: the development, **implementation, evaluation** and description of a guideline for the holistic preparation of couples for artificial fertilization with donor gametes. This questionnaire consisted of: biographic details; the medical, legal, ethical-moral, religious and psycho-social aspects regarding artificial fertilization with donor gametes; future plans and an evaluation of the preparation session (short-term). (See Appendix 3 of this thesis for this questionnaire.) The aim of this questionnaire was to determine the knowledge of the respondents of the medical, legal, ethical-moral, religious and psycho-social aspects regarding artificial fertilization with donor gametes prior to the implementation of the preparation session (pre-test) and after completion and short-term evaluation of the preparation session (post-test). This would help to determine the effectiveness of the preparation session. Each couple underwent a **personal interview** in the form of the preparation session which took place over a full morning or afternoon session of five hours duration. This took place at the Infertility Clinic at the H.F. Verwoerd Hospital, Pretoria in the office of the medical social worker. This session included the pre-test and post-test questionnaire completion.

During the **third stage of research**: longitudinal study of the long-term psycho-social implications of artificial fertilization with

donor gametes, the **second questionnaire** was administered to each of the same respondents during a personal interview with the couple at their home seven years later. This questionnaire consisted of: biographic data, medical data, evaluation of the preparation session (long-term), psycho-social data and professional services. (See Appendix 4 of this thesis for this questionnaire.) The aim of this questionnaire was to explore the circumstances of the same group of respondents seven years later. This included the treatment they underwent, the long-term evaluation of the preparation session and the effect it had on their situation, the psycho-social implications of successful or unsuccessful artificial fertilization with donor gametes on them and their experience of, and need for professional services.

The **personal interview** with each couple took place at their homes, as this was a safe environment for them to discuss this sensitive and secretive issue. The personal interview was chosen because it, according to Reid & Smith (1981:209) "... is capable of eliciting information in larger amounts and in greater depth. It is particularly useful for obtaining data on topics that are complex, highly sensitive, emotionally laden or relatively unexplored." Furthermore Tripodi (1983:75) states that an advantage of the interview is that face-to-face interviews yield high response rates particularly with regard to sensitive information. The respondents in this study were interviewed personally in their home environment, as this study dealt with a very sensitive and secretive issue. The **personal or person-to-person interviews** conducted at the homes of the respondents took place in eight of the nine provinces in South Africa. These interviews were conducted over weekends and holidays when both the husband and wife were available. Furthermore, weekends and holidays were more convenient for researcher, as long distances had to be travelled. This was unfortunately very costly and time-consuming. Strydom (1989:202) similarly states: "Die beperkinge van die persoonlike onderhoud is onder meer hoë reiskoste, verblyfkooste ... en die tyd wat deur voltooiing van die vraelyste in beslag geneem word." As the interviews were conducted in the homes of the respondents, **observation** was used to gather information on them in their natural environment where they feel secure and comfortable to talk openly about this sensitive and secretive topic. Both husband

and wife were present in the combined interview, or separate interviews if divorced or separated since the first contact. The duration of the interview and observation were between two and three hours, with the duration with couples who had successful treatment obviously being longer. All interviews were also tape-recorded with the permission of the respondents, so as to record as much data as possible, besides the questionnaire and observation. The questionnaire was filled in individually and confidentially by each respondent. Researcher also explained each question to them during the interview, while they were completing the questionnaire.

Thus the method of data collection in this study, though expensive and time-consuming, had the advantage that researcher was present, could explain everything clearly, could gather more applicable and in-depth information and could ensure that the questionnaire was filled in and a 100% response was obtained by the respondents who were traced.

1.7.4 Pilot study

The pilot study, according to Strydom (1989:198), can be regarded as "... 'n voorlopige ondersoek om die ondersoeker op die hoogte te bring met die aard en omvang van 'n probleem ten einde die navor-singsterrein te kan afbaken. Deur middel van 'n deeglike vooronder-soek oriënteer die navorser homself ten opsigte van bestaande kennis oor die onderwerp en stel hy homself bekend met die empiriese situasie van sy ondersoek". Black & Champion (1983:116) sum it up as "... a preliminary step in the preparation for more extensive and elaborate research", while Collins (1990:254) briefly refers to it as laying the foundation for all subsequent research steps.

Thus the pilot study can be seen as a preliminary study to help orientate the researcher regarding his topic of research, to determine the feasibility and extent of the study and to form a cornerstone to build on.

The pilot study formed part of the first stage of this study: **The orientation and pilot study** and consisted of the following:

1.7.4.1 Literature study

The nature of the subject being studied required an extensive and time-consuming literature study. As social work literature was very limited, literature from various related human science disciplines, such as psychology, had to be consulted. A broad perspective on this complicated subject was essential for this study and as a result literature had to be studied in-depth in the fields of nursing, medicine, gynaecology, andrology, urology, spermatology, endocrinology, infertility, reproductive medicine, law, medical-legal-ethics, theology, psychiatry and psychology. This extensive literature study was essential as this study focused on the medical aspects of infertility and artificial fertilization of persons with donor gametes and the legal, ethical-moral, religious and psycho-social aspects of artificial fertilization with donor gametes. The constant changing nature of this subject of reproductive medicine studied, specifically the treatment procedures being developed, new legislation being introduced and the ever-changing ethical-moral viewpoints were all aspects which had to be taken into consideration throughout the literature study.

The initial literature study already commenced while studying for a MSW-degree at Washington University, St. Louis, Missouri in the U.S.A. in 1987 and while working at an Infertility Unit at the Jewish Hospital, Washington University Medical Centre, St. Louis, Missouri. Their excellent library facilities and resources were of immense value to researcher for this extensive literature study.

On return to South Africa a second master's degree, namely, MA(SW) Medical Social Work was completed in 1989 at the University of Pretoria, concentrating on the general effect of infertility on couples, with the title of the dissertation as follows: "The psycho-social effects of infertility on a couple: A medical social work perspective." This served as a background and motivated researcher to enrol in 1990 for D.Phil studies focusing this time on artificial fertilization with donor gametes and resuming an extensive literature study as part of the pilot study.

Continual literature studies were, however, essential throughout this D.Phil study, to ensure that the information provided in this thesis

was relevant and most recent. This was made possible by the Medical Library, University of Pretoria, who requested a regular monthly literature search printout throughout the study from MEDLINE, an international data base system used by the Medical Library for medically related literature worldwide.

1.7.4.2 Consultation with experts

Various experts from different disciplines were consulted with during this study and researcher also worked and gained experience from a number of experts both in South Africa and in the U.S.A.

The experts consulted in South Africa included:

- * **Prof J A van der Merwe** - Dean of the Faculty of Medicine, University of Pretoria and former head of the Department of Obstetrics and Gynaecology, University of Pretoria and Infertility Clinic, H.F. Verwoerd Hospital, Pretoria.
- * **Dr C B van O Sevenster** - Former head of the Infertility Clinic at H.F. Verwoerd Hospital, Pretoria, consultant at the Department of Obstetrics and Gynaecology, University of Pretoria, and present gynaecologist, obstetrician and infertility specialist in private practice.
- * **Dr Danie du Toit** - Chief spermatologist at the Centre for Fertility Studies, Department of Urology, Faculty of Medicine, University of Pretoria.
- * **Prof Zen Fourie** - Head of the IVF-infertility laboratory at the Infertility Clinic, H.F. Verwoerd Hospital, Pretoria, and chief reproductive scientist at the Department of Obstetrics and Gynaecology, University of Pretoria.
- * **Dr K Wiswedel** - Head of the Infertility Clinic, Andrology Clinic and Sperm Bank, University of Cape Town at Groote Schuur Hospital, Cape Town.
- * **Prof T F Kruger** - Head of the Unit for Reproductive Biology, University of Stellenbosch at Tygerberg Hospital, Tygerberg.
- * **Dr J P Van der Merwe** - Consultant at the Unit for Reproductive Biology, University of Stellenbosch at Tygerberg Hospital.
- * **Mr J Lourens** - Reproductive biologist, Drs Du Buisson & Partners Pathology Laboratories, Pretoria.
- * **Mrs H Claasen** - Social Worker - Unit for Reproductive Biology. Tygerberg Hospital.

- * **Mrs S Van Lill** - Social Worker - Infertility and Andrology Clinic, Groote Schuur Hospital, Cape Town.
- * **Prof S A Strauss** - Department of Private Law, University of South Africa, Pretoria - legal specialist on subject.
- * **Dr R Pretorius** - Department of Private Law, University of South Africa - legal specialist on subject.
- * **Prof A A Van Niekerk** - Head of the Department of Philosophy and Chairman of the Unit for Bioethics, University of Stellenbosch - specialist on bioethics.
- * **Prof D J Louw** - Associate Professor at the Department of Practical Theology, University of Stellenbosch - specialist on ethical-moral and religious issues.
- * **Prof W F Van Delft** - Head of Department of Social Work, University of South Africa, psychologist and social worker - specialist on subject.
- * **Prof H Strydom** - Associate Professor at the Department of Social Work, Potchefstroomse Universiteit vir Christelike Hoër Opleiding (PU vir CHO) - specialist in research.
- * **Prof K J Collins** - Associate Professor, Department of Social Work, University of South Africa - specialist in research.
- * **Prof A S De Vos** - Associate Professor, Department of Social Work, Randse Afrikaanse Universiteit - specialist in research.
- * **Dr L Hofmeyr** - Senior lecturer, Department of Social Work, University of Pretoria - specialist in research.
- * **Prof M S E Du Preez** - Associate Professor, Department of Social Work, University of Pretoria - promoter and specialist in marriage counselling and infertility.
- * **Ms D Holton** - Institute for Research Support, University of Pretoria - computer consultant.
- * **Mr A Swanepoel** - Department of Applied Statistics, University of Pretoria - statistics consultant.
- * **Prof R P De la Rey** - Professor, Department of Psychology, University of Pretoria - research psychologist.
- * **Dr J Mouton** - Head of the Centre for Research Methodology in the Institute for Research development at the Human Sciences Research Council (HSRC), Pretoria - specialist in research.
- * **Dr W Schurink** - Researcher at the Human Sciences Research Council (HSRC), Pretoria - specialist in qualitative research.

The experts consulted in the U.S.A. included:

- * **Dr R C Strickler** - Head of the Infertility Unit at the Jewish Hospital, Washington University Medical Centre, St. Louis, Missouri.
- * **Dr W H Masters** - Head of the Masters and Johnson Institute and specialist sex therapist and marriage counsellor, St. Louis, Missouri.
- * **Ms Pat Christianson** - Senior nurse and infertility programme co-ordinator at the Infertility Unit, Jewish Hospital, Washington University Medical Centre, St. Louis, Missouri.
- * **Mrs Sima Needleman** - Social Worker at the Infertility Unit, Jewish Hospital, Washington University Medical Centre, St. Louis, Missouri.
- * **Prof W Auslander** - Associate Professor, George Warren Brown School of Social Work, Washington University, St. Louis, Missouri, U.S.A.
- * **Dean S K Khinduka** - Dean, George Warren Brown School of Social Work, Washington University, St. Louis, Missouri, U.S.A.

These experts, representing different disciplines, were all consulted to broaden researcher's perspective and knowledge on the subject, to help her determine the focus and need for research and to help clarify certain issues, such as research methodology and the constructing of the questionnaire for computer data-processing, to mention a few.

1.7.4.3 Preliminary exploratory study and overview of feasibility of the study

The preliminary exploratory study, according to Strydom (1989:201) is: "... 'n baie waardevolle manier waarop praktiese kennis van die beplande navorsingsgebied opgedoen kan word. Op watter wyse en tot watter diepte die voorlopige verkenningsstudie uitgevoer moet word, sal bepaal word deur die aard van die probleem, die mate van bekendheid van die navorser daarmee, die vorige ervaring van die navorser, die beplande omvang en toepaslike prosedure wat tydens die hoofondersoek gebruik sal word."

The first stage of the research: The orientation and pilot study was partly completed while working as a medical social worker at the

Infertility clinic at the H.F. Verwoerd Hospital, Pretoria and at the Infertility Unit at the Jewish Hospital, Washington University Medical Centre, St. Louis, Missouri, U.S.A. At the Infertility Clinic at the H.F. Verwoerd Hospital, Pretoria, researcher was an active member of the inter-disciplinary team and was expected to assess, select and counsel all infertility patients and do follow-up interviews and counselling on a regular basis. This included patients undergoing infertility treatment using their own gametes (sperm and egg cells), as well as from 1986, patients undergoing artificial fertilization with donor gametes. Researcher also became a member of, and consultant to a local infertility support group and regularly attended meetings to explore their problems, needs and experience of treatment. They even invited researcher to present a few topics at some of their formal meetings as consultant. During the period of one year which researcher worked as medical social worker at the Infertility Unit at the Jewish Hospital, Washington University Medical Centre, St. Louis, Missouri, U.S.A. as part of the practicum requirements for the MSW degree completed in 1987 at Washington University, the same tasks as mentioned above were expected of researcher. This experience enabled researcher to become specialized as a medical social worker in the field of infertility and already formed part of the preliminary exploratory study.

A vast number of infertility patients were seen during this above-mentioned period and researcher became aware of specific psychosocial implications, needs and emotional experiences of the couples undergoing infertility treatment. Researcher then completed a second Masters degree, namely, MA(SW) Medical Social Work in 1989 at the University of Pretoria with the topic of the dissertation: "The psycho-social effect of infertility on a couple: A medical social work perspective." At the same time researcher worked with couples planning to undergo artificial fertilization with donor gametes and saw the need for research on the preparation and counselling of these couples and could start generating ideas for the contents of a preparation session and started constructing the questionnaire.

Concerning the feasibility of this **first stage: the orientation and pilot study** the financial expenditure and time consumed included attending conferences locally and abroad, interviewing experts

locally and abroad, local travelling expenses and telephone calls, travelling and accommodation expenses in the U.S.A., membership fee for an infertility support group and unpaid study leave from the TPA, H.F. Verwoerd Hospital for one year while in the U.S.A.

For the second stage of the study: the development, implementation, evaluation and description of a guideline for the holistic preparation of couples for artificial fertilization with donor gametes, the study was predicted to be feasible and financial expenditure and practical problems less than the first stage. Researcher was working at the Infertility Clinic at the H.F. Verwoerd Hospital when the guideline was developed. The implementation of the preparation sessions were initiated with a few of the respondents while still working at the H.F. Verwoerd Hospital, who were part of researchers workload and were available. Researcher was then appointed as a lecturer at the Department of Social Work at the University of Pretoria and the implementation of the preparation sessions with the rest of the respondents at the clinic were continued with the permission of the superintendent of the H.F. Verwoerd Hospital. Financial expenditure and time consumed included travelling expenses, taking leave from work to conduct the preparation sessions and administrative expenses. The data-processing and analysis of the research incurred costs such as the fee for the private data-analysis by a statistician, time taken off work for researcher to personally code and process the data by computer, the typist's fee and the time taken to master the Harvard Graphics computer software programme in order to personally do all the graphs and figures for the empirical chapter.

The third stage of the study: the longitudinal study of the long-term psycho-social implications of artificial fertilization with donor gametes, was predicted to have more problems in terms of the feasibility. The same respondents who now were situated in eight of the nine provinces in South Africa, as many had moved and were no longer patients at the Infertility clinic at H.F. Verwoerd Hospital, and had to be interviewed in person-to-person interviews at their homes in the longitudinal study. Thus vast distances would have to be travelled over weekends and this implied immense travelling costs and time consumed, as well as study leave which would have to be

taken.

The willingness of respondents to partake in this study after such a long period of time had passed was questioned from the start. The secrecy involved in this respect was another aspect which made a longitudinal study a possible risk, as respondents would possibly not want to be contacted or interviewed. Tracing and contacting of the respondents was another predicted major problem and time-consuming task, as the addresses of the respondents acquired by researcher at the Infertility Clinic at the H.F. Verwoerd Hospital were outdated. The majority of respondents had moved and changed jobs and both their addresses and telephone numbers had changed. The telephone account for this tracing exercise would be phenomenal. The tracing would be attempted by means of Telkom, the voters list, previous employers and the new owners of the houses respondents used to reside in. Unfortunately the identity numbers of the respondents were not available at the Infertility Clinic and if researcher had had them, the voters list would have been sufficient to help trace these people. A tracing service of a private investigator who would have to be paid, would also be used if difficulties were encountered. Neuman (1994:27) corroborates this by stating that longitudinal studies are: "... formidable to conduct, very costly and tracking people over time is also difficult as some people die or cannot be located." It was, however, essential and a challenge for researcher to attempt this longitudinal study, as no such a long-term study had yet been attempted in South Africa. Besides these tracing and travelling expenses and the time consumed by the tracing of respondents, other expenses would include the data-processing and analysis, the typing and editing, as well as the graphical representations. The costs of the doctoral seminar could also be added.

Thus the third and final stage of this study would be the only stage presenting problems in terms of the feasibility of the study, that is, the availability, tracing and willingness of respondents to partake in the study, as well as substantial tracing and travelling expenses and the long period of study leave from work and being away from home.

1.7.4.4 Study of specific entities and pilot-test of questionnaire

The study of specific entities, according to Strydom (1989:201-202), entails: "... dat die ondersoeker 'n paar gevalle aan presies dieselfde prosedure, as wat vir die hoofondersoek beplan word, blootstel. Dit kan leemtes in die meetinstrument uitwys en die inhoud van vraelyste en onderhoude kan aangepas word voordat die hoofondersoek 'n aanvang neem."

In the second stage of this study: the development, implementation, evaluation and description of a guideline for the holistic preparation of couples for artificial fertilization with donor gametes, the preparation session was planned and the questionnaire constructed. Five infertile couples who were not part of the research population, as they had already undergone counselling by researcher were subjected to the preparation session and the questionnaire was administered in a pre-test and post-test. All the criticism and recommendations were taken into consideration.

After completing the second stage of research, the researcher had to construct a questionnaire for the third stage of this study: the longitudinal study of the long-term psycho-social implications of artificial fertilization with donor gametes, and perform a pilot-test. This questionnaire was administered in a pilot-test to a few professionals from various disciplines, including social workers. The planned interview format and the questionnaire were tested using two couples during an interview at their homes. These couples were not part of the research population, but had already undergone or decided against artificial fertilization with donor gametes and were the only people willing to partake in a pilot-test. Valuable recommendations were made in terms of changes to the questionnaire and the interview. Thus the study of specific entities and the pilot-test of the questionnaires turned out to be very useful and fruitful on improving and making adaptations before commencing with the main study.

1.7.5 Description of the research population, delimitation of sample and sampling method

The research population (or universe) is defined by Bloom (1986:61) as the largest unit of analysis, including all persons meeting the

defined characteristics. The sample is some defined portion of a population.

The research population for this study consisted of all adult patients, male and female, of all races, who were on the waiting list for artificial fertilization with donor gametes at the Infertility Clinic at the H.F. Verwoerd Hospital, Pretoria by October 1987. For the second stage of this study: the development, implementation, evaluation and description of a guideline for the holistic preparation of couples for artificial fertilization with donor gametes, the respondents had to be patients who had not yet been counselled or prepared by the medical social worker by means of the preparation session for artificial fertilization with donor gametes. This is why all couples on the waiting list by October 1987 were chosen as they were all new patients.

All the respondents had to be included in this study and thus the whole research population was utilized. The research population for this study thus consisted of all 30 adult persons, that is, 15 males and 15 females, all white, who were on the waiting list at the Infertility Clinic at the H.F. Verwoerd Hospital, Pretoria for artificial fertilization with donor gametes in October 1987. No persons from other racial groups were on the waiting list. The research population was small as only a limited number of people contemplated this form of treatment. These respondents came from the old Transvaal province. The total research population thus had to be included in this study and no sample was taken or sampling method used. All 30 respondents underwent the preparation session with a 100% response rate. Carr, Friedman, Lannon & Sharp (1990:908) express the need for this study with a smaller sample as follows: "Fewer subjects may provide useful data in descriptive studies of couples' experience before, during and after AID treatment, which are necessary to identify potential causes of stress." For the third stage of this study: The longitudinal study of the long-term psychosocial implications of artificial fertilization with donor gametes, the same research population was included. These 30 respondents had to be traced after seven years. This was a formidable task and after several months researcher could only trace 16 respondents (53%). After using the services of a private investigator, another 3

respondents were traced, making the total respondents traced 19, with a 63% response rate. The same respondents in this second study, had mostly moved and at the time of the second empirical study came from the following 8 provinces in South Africa: Gauteng, Northern Province, Mpumalanga, North-west, Free State, Kwazulu-Natal, Western Cape and Northern Cape and were thus from a widespread geographic area.

1.8 DEFINITIONS OF KEY CONCEPTS

The key concepts for this study will subsequently be defined briefly, as each key concept is defined extensively in the applicable literature chapters. This makes it easier for the reader to have the key concepts defined in each chapter where it is discussed, and more convenient not to have to refer back to chapter 1 each time for the definitions.

As this is a medical social work study, a vast number of medical terms were used. These medical terms are all defined in Appendix 1 in this thesis, to clarify these terms for the reader. As there are numerous medical terms, they could not be defined in the two applicable chapters, and are therefore found in Appendix 1.

The following key concepts for this study are briefly defined:

1.8.1 Artificial

The Shorter Oxford English Dictionary (1990:110) defines artificial as: "Made by art, imitation of, or as substitute for, what is natural or real, factitious, feigned". Artificial in this study refers to the artificial or substitute use of donor gametes to fertilize infertile persons.

1.8.2 Donor

Donor is defined by Dorland's Medical Dictionary (1988:505) as: "An individual that supplies living tissue to be used in another body". In this study donor refers to a male or female donor who is donating his or her gametes (sperm or egg cells) to be used for a recipient couple in an infertility treatment programme for artificial fertilization with donor gametes.

1.8.3 Fertilization

The Shorter Oxford English Dictionary (1990:742) defines fertilization as: "The action or process of rendering fertile, fecundation". In this study fertilization refers to the artificial fertilization of an infertile person with the use of donor gametes.

1.8.4 Gamete

Gamete refers to: "A reproductive cell (ovum or spermatozoon) whose union is necessary in sexual reproduction to initiate the development of a new individual". (Dorland's Medical Dictionary, 1988:674). In this study gametes thus refer to the male and female reproductive cells which are assisted by means of artificial fertilization or infertility treatment methods in order to conceive.

1.8.5 Infertility

Infertility is defined by Dorland's Medical Dictionary (1988:835) as: "Diminished or absent capacity to produce offspring, the term does not denote complete inability to produce offspring as does sterility". Infertility is thus the inability of a couple to conceive naturally, but it does not imply that they are sterile, but that they can possibly be assisted by means of artificial methods of fertilization or infertility treatment.

1.8.6 Medical Social Work

"Medical social work can be defined as the practice of social work in an inter-disciplinary health setting, with the primary focus on the illness, hospitalization, treatment or disability and the psycho-social effect on the patient, the family and the community". (Laurence-Carbonatto & Du Preez, 1990:317). This field is defined by Ritter (1992:6) as: "... 'n spesialiteitsrigting in die maatskaplike werk wat in die gesondheidsveld verrig word en gerig is op die maatskaplike en emosionele implikasies wat 'n liggaamlike of psigiese siektetoestand vir die pasiënt, gesin en gemeenskap tot gevolg het".

Medical social work thus entails the practice of social work in a health setting focusing on illness, disability, hospitalization and treatment, and the psycho-social effect on the patient, family and community. It also concentrates on the prevention of illness and promotion of health by means of education and primary health care.

1.8.7 Psycho-social

Psycho-social is referred to by Dlamini (1982:31) as the inner psychological realities of the person and the social context within which he lives. Webster's Medical Dictionary (1986:588) defines it as: "Involving both psychological and social aspects, with psychological referring to the mental, emotional and behavioural aspects and attitudes and social referring to the social problems".

Psycho-social in this study thus refers to the psychological aspects (mental, emotional and behavioural) and the social aspects (social functioning and relationships between individuals, their family and community system within which they function).

1.9 LIMITATIONS OF THE STUDY

Certain limitations and problems were experienced during this study:

- * The health care plan and health budget of South Africa currently focuses on primary health care and preventative services, such as family planning. In contrast, this study focused on curative services and reproductive technology, as this is an appropriate and actual study for the need which exists for research in private, curative health services. As there is an increasing demand for artificial fertilization with donor gametes, these couples cannot merely be forgotten, so as to concentrate on the new health care plan, but their needs also have to be seen to, and services improved. Thus this study is still appropriate and necessary.
- * The subject studied was very extensive and this implied that the literature study had to be very broad and far-reaching. The literature study included literature from various disciplines, namely: social work, psychology, nursing, theology, law, medical-legal-ethics, medicine, gynaecology, andrology, urology, spermatology, endocrinology, infertility and reproductive medicine.
- * Social work literature and research on this subject was very limited and researcher had to apply general medical social work literature to this study and make it applicable by means of

personal practical experience.

- * As this is a medical social work study, a medical perspective had to be provided to be acceptable in this field and in the process a vast number of medical terms were used. A list of definitions of the medical terms used in this study is provided in Appendix 1 of this thesis, in order to clarify these terms.
- * The subject studied was of a constantly changing nature due to the development of new reproductive technology, new legislation and new ethical-moral issues being raised. This forced researcher to have to continue with the literature study throughout this study and to constantly have to update the literature study chapters in this thesis, which was very time-consuming and required a great deal of perseverance.
- * Due to the scarcity of research and the extent of the subject studied, this thesis turned out to be lengthy, but was essential, as it covered a very broad perspective such as the medical, legal, ethical-moral, religious, and psycho-social aspects regarding artificial fertilization with donor gametes. The empirical research on the implementation and evaluation of the preparation session had to be discussed in one research chapter, while the longitudinal study had to be done in another. Thus the length of this thesis had to be extensive to cover all these aspects thoroughly as expected on a doctoral level.
- * As artificial fertilization with donor gametes should be a multi-disciplinary team approach with a holistic treatment plan, it was essential to provide a holistic perspective by means of this study and thus a chapter on each of the medical, legal, ethical-moral, religious and psycho-social aspects related to this form of treatment. All these aspects also had to be explored in both empirical studies, so as to maintain a holistic approach throughout and thereby make this study more valuable and useful for all professionals involved. This was favoured above a focus on one discipline only and a selfish attempt to claim this field for social workers only.

- * The research population of 30 respondents included in this study could be considered a limited number of respondents for a doctoral study. But one has to take certain aspects into consideration such as the uniqueness of this study, the secrecy involved for most of these couples, the limited number of persons who do consider artificial fertilization with donor gametes and who are still willing to partake in such a sensitive study. These 30 respondents had to undergo a preparation session (100% response), where they gained a great deal of knowledge and insight, but often had to reveal and share private and painful issues with a stranger. They then still had to be willing to allow a follow-up interview many years later so that their situation and "artificial family" could be assessed, when it had most probably been kept secret, and "conveniently forgotten" about. Only 19 respondents could be traced for the longitudinal study, that is, a 63% response rate. If one considers these complicated and unique circumstances, the research population included in this study was phenomenal.

- * A guideline for the holistic preparation of couples for artificial fertilization with donor gametes had to be developed from scratch, as nothing like this existed or had been attempted before in South Africa or elsewhere. This was difficult as researcher developed it on her own, consulting the necessary experts and the literature.

- * As the research population included respondents who come from all over Transvaal, the implementation and evaluation of the preparation session for the holistic preparation of couples for artificial fertilization with donor gametes did not take place under the most ideal conditions for research. The respondents were not willing to stay overnight or to return on another day for the session to be implemented and evaluated over a longer period, as this meant having to take more leave, as well as travelling and accommodation expenses. This meant that the implementation and short-term evaluation of the session had to take place intensely over a half-day, with each couple being pre-tested on arrival, the session being implemented by researcher over the half-day and the couple being post-tested

at the end of the session. This was thus not the ideal situation, but researcher had to take these unique circumstances into consideration and make the best of the situation for research purposes, as such a chance for this unique research would not arise again with the sensitivity of the issue at stake, the availability of such couples and their willingness to partake in the study.

- * The longitudinal study was complicated by the addresses and telephone numbers of most of the respondents having changed, making the tracing of these respondents very difficult. Telkom enquiries, the 1995 voters list, former employers of the respondents and the new home owners of the respondents' previous homes were all contacted to help with the tracing of these persons. Researcher's telephone account during this period was phenomenal! If the identity numbers of these respondents had been available, tracing would have been an easier task - a lesson learnt from this difficult experience! Sixteen of the 30 respondents (53%) were traced in this manner by researcher.

- * A second attempt at tracing these respondents was made, making use of the tracing services of a private investigator at a set fee for each couple traced. He was able to trace another 3 respondents, making the total number of respondents 19, with a 63% response. All attempts at tracing the other 11 respondents were of no avail. Taking the sensitivity of this topic and the secrecy involved, this was a very good response rate. The secrecy involved also led to some of the respondents not being very keen initially on taking part in this long-term follow-up study. A response rate of 50% or less was expected, and fortunately a 63% response was achieved. The vast distances which had to be travelled to interview these respondents at their homes in 8 of the 9 provinces was very costly, time-consuming and tiring.

- * The longitudinal study interviews were very long and intense (an average of 2 to 3 hours per interview). Only the most relevant information could, however, be reflected in this study, due to the secrecy and sensitivity of the subject and the length of the

thesis.

- * The person-to-person interviews with these respondents to discuss this sensitive, private and secretive matter could have had an influence on their responses. They could possibly not have been totally honest in all their responses, as it is difficult and threatening to share such intimate information with an outsider. Telephone interviews would, however, not have been possible with such a secretive and intense interview. Postal questionnaires would also have been risky and would have had a low response rate. A 63% response rate was achieved in the longitudinal study with the tracing and person-to-person interviews.
- * The "donor" child was present during the interview in some cases and even though they were aged between 3 and 6 years, it did make the responses of the parents sensitive and more indirect, as the issue of the donor and the father not being the biological father was a secret in most cases and could not be revealed. Alternative terminology was used in the interview to overcome this problem.
- * The interviews had to take place over weekends and during holidays, due to the long distances which had to be travelled and were at the respondents' homes. This was more convenient for the respondents and they were very relaxed during the interviews. They were also more willing to allow an interview if it was at their home, due to the secrecy involved. Researcher thought that it might have been inconvenient for them and imposing on their privacy, but they literally welcomed researcher with open arms and had a need to talk.
- * The tape-recording of the interview had to be motivated to the couples and researcher thought that it could have affected their responses, but it in actual fact did not seem to bother them at all and they shared intimate and secretive issues. The fact that they knew researcher from the Infertility Clinic initially made a difference in their trusting her.
- * The interview schedule or questionnaire for the longitudinal

study turned out to be too lengthy, detailed and complicated for the respondents to fill in independently, despite the pilot-test. To solve this problem researcher went through the whole questionnaire, question by question with each couple explaining the question and instructions carefully to them. Each respondent was then allowed sufficient time to complete his/her answer confidentially, before moving to the next question. Despite this, some respondents still did not fill in all the columns in the matrix questions representing the stages of treatment as requested. This could have been due to their wanting to show that only certain stages or issues were of significance to them; that they could maybe only remember certain stages or issues; or that they misunderstood the instructions or the question or were tired of filling in the questionnaire after a while.

- * The coding of the data for the follow-up study presented a problem. The questionnaire was designed according to the recommendation of the Centre for Academic Research Support, at the University of Pretoria, so as to allow only 3 to 5 responses per stage of treatment in the matrix questions, which proved to be inadequate. Respondents had not responded uniformly as expected and some only filled in certain stages with more or less than the requested number of responses per stage. This could have been due to their feeling that only those stages were of significance or that they could not remember how they experienced all the stages. This meant that researcher had to recode all the questionnaires after the completion of the empirical study and had to design a new data definition and post-coding system to accommodate all the responses provided by the respondents. This was a time-consuming exercise but proved to be more beneficial for this study, taking the importance and uniqueness of this research into consideration, as well as the number of respondents and the utilization of all the information provided by them.

- * Due to the small number of respondents (19) in the second empirical study, normal approximations could not be made and thus no statistical tests to determine whether significant differences existed between the various proportions for the

relevant variables, could be performed, in the analysis of the data. Only the mean averages (\bar{x}) of certain values could be determined and for the rest only the frequencies and percentages could be interpreted.

- * The time period over which this longitudinal study was conducted, namely seven years, was long, but was essential to enable a thorough and meaningful longitudinal study. This provided these respondents who were prepared for treatment by researcher initially, with more time to contemplate, decide against or go ahead with artificial fertilization with donor gametes until success was achieved and until a child was born and raised by them for a few years, to be able to assess effectively what effect this treatment had had on them. The ability of the respondents to recall the past and provide accurate answers could also be questioned.

- * As most couples had kept this treatment a secret and accepted the child as their own, this interview could have had an effect on them of opening old wounds and issues which had been forgotten. In contrast to this, these couples were actually very grateful to at long last have somebody to talk to who was aware of their situation and involved in their initial preparation. They could share their experience and concerns after all the years of bottling up these emotions. Most were talking non-stop throughout the interview and contributed to the interview often being much longer than planned. This was, however, allowed to some extent to fulfil their need for ventilation and support, as well as to gather important information for this unique study.

- * The focus of this study was predominantly on the recipient couple. The donor and his/her family and the psycho-social implications of the donation on them, could not be researched or discussed in-depth in this study, but was merely touched on. Further studies on the donor, however, will be recommended at the end of this study.

1.10 OVERVIEW OF THE THESIS

Including this chapter, this thesis consists of nine chapters of which an overview will subsequently be provided:

Chapter 2 describes infertility, the investigations, causes and treatment in-depth. It starts off with the definitions of the key concepts, followed by a description of infertility and the incidence. The infertility investigations are subsequently discussed and include the initial assessment interview, the female and male infertility examinations and the combined examinations. This is followed by the causes of infertility, including the female, male and combined causes, as well as psychogenic and idiopathic infertility. Finally infertility treatment options are discussed with specific reference to homologous infertility treatment methods or the use of both husband and wife's gametes.

In Chapter 3 the focus is on artificial fertilization with donor gametes or heterologous infertility treatment. This chapter starts with the definitions of key concepts, the history of artificial means of reproduction and the incidence. The medical indications are subsequently provided, followed by the selection and preparation of recipient couples. The donor selection and preparation are discussed next, as well as recipient-donor matching. Finally the different methods of artificial fertilization with donor gametes or heterologous infertility treatment are discussed, followed by the use of fresh versus frozen gametes during treatment.

Chapter 4 discusses the legal, ethical-moral and religious perspectives regarding the artificial fertilization of persons with donor gametes. The legal perspectives of different countries are firstly provided followed by the South African perspective. Subsequently the ethical-moral issues are discussed and then the religious perspectives of different church denominations and religions.

Chapter 5 describes the psycho-social aspects of artificial fertilization with donor gametes. The psycho-social implications of infertility are discussed briefly, followed by an in-depth description of the psycho-social aspects of artificial fertilization with

donor gametes. These include the motives, the decision-making period and process, secrecy and anonymity, emotional reactions resulting from treatment, the individuals involved, that is the recipient husband and wife and the donor, the marital relationship, the pregnancy and childbirth, parenthood, the child and the artificial family.

Chapter 6 describes the research process and interprets the empirical research findings regarding the implementation and evaluation of the preparation session for artificial fertilization with donor gametes.

Chapter 7 describes the research process and interprets the empirical research findings regarding the longitudinal study of the same respondents to determine the long-term psycho-social implications of artificial fertilization with donor gametes, whether successful or unsuccessful.

Chapter 8 describes the medical social work guideline for both the preparation and counselling of couples undergoing artificial fertilization with donor gametes, with the imperativeness of the preparation and counselling of couples being emphasized and proposed in this study.

Chapter 9 ends off this thesis with the summary, conclusions and recommendations resulting from this study.

The bibliography for this study is arranged alphabetically. The appendices to the study consist of the list of definitions of medical terms used in this study, copies of the letters of permission for this study, the two questionnaires used for the two empirical studies, a copy of the abstract and programme of a paper presented on the first empirical study at an international conference in Israel and copies of the invitation, programme and abstract of the doctoral seminar.

CHAPTER 2

INFERTILITY: INVESTIGATIONS, CAUSES AND TREATMENT

2.1 INTRODUCTION

Infertility is a complicated condition, of which few persons have a thorough knowledge. People take their fertility for granted as a result of the process of socialization where a person is led to believe that he/she will be a parent one day. Children are encouraged to play the father/mother role with dolls, prams and a play-house. Adolescents are warned against experimenting sexually and of resultant illegitimate pregnancies. Fertility is thus automatically assumed and once married, contraceptives are used until the time is right to have a baby. When infertility problems are experienced by a couple, it therefore causes a crisis, as that which was assumed, is no longer possible. Families also usually pressurize couples to start with a family and lay advice is provided due to the ignorance regarding this condition. Social workers who have to counsel these couples or families usually have a sparse knowledge of infertility, the treatment options, appropriate resources or even of the psychosocial effect it has on the couple and family. As a result, inadequate advice and counselling is provided and couples are seldom referred to the correct resources. Couples are often treated by their general practitioner who sometimes has limited knowledge of and experience in the field of infertility. Precious time and money are then wasted without any success. When couples finally arrive at a specialized infertility clinic or practice they have feelings of hostility and disbelief regarding treatment and have wasted years in terms of age, thus decreasing their chances of infertility treatment being successful.

By means of this chapter, the knowledge of social workers, particularly medical social workers, infertility clinic team members, infertility patients and their families can be developed and improved regarding infertility. This improved knowledge can lead to a better understanding of infertility, more effective counselling by medical social workers, appropriate advice and referral of patients to clinics for thorough infertility investigations and treatment at a

specialized clinic or practice. Thus, unnecessary pain, time and money wasted by couples, due to a lack of knowledge regarding this condition or the referral to inappropriate resources, can be avoided by improved knowledge.

This chapter fulfils part of the first aim of this study: "To develop, implement, evaluate and describe a guideline for the holistic preparation of couples for artificial fertilization with donor gametes." The objective is: To develop and describe the contents of a preparation session, that is, by means of this chapter to provide an in-depth description of all the medical aspects related to infertility and the treatment options available. This chapter includes definitions of the terms used; a description of infertility and the incidence of infertility; infertility investigations such as the initial assessment interview, the female, male and combined examinations; the causes of infertility; and infertility treatment options available using the gametes of both husband and wife.

2.2 DEFINITIONS OF KEY CONCEPTS

A diversity of terms is used in this chapter regarding infertility. The medical terms used are essential, as this is a medical social work study and knowledge of these terms is of utmost importance, when working in an inter-disciplinary team in a medical setting, such as an infertility clinic. As the medical terms used in this chapter are numerous, and will take up unnecessary space if provided in this section, a list of definitions of all the medical terms used, are provided in an appendix in this thesis for an improved understanding (see Appendix 1). Other, more general terms used in this chapter, however, will subsequently be defined:

2.2.1 Andrologist

This refers to: "A specialist in the field of medicine concerned with diseases peculiar to the male, particularly infertility and sexual dysfunction" (Stedman's Medical Dictionary, 1990:72). Thus an andrologist is mostly a urologist who has specialized in the field of male infertility and sexual dysfunction and is the equivalent for men of a gynaecologist for women.

2.2.2 Clinic

Throughout this chapter the term infertility clinic is used. Clinic is defined in The Shorter Oxford English Dictionary (1990:350) as: "A private hospital to which patients are recommended by individual doctors". Therefore an infertility clinic can be defined as a medical institution specializing in infertility treatment, to which patients are referred.

2.2.3 Donor

According to Dorland's Medical Dictionary (1988:505), a donor is: "An individual that supplies living tissue to be used in another body". In this study a donor refers to an individual donating his or her gametes (sperm or egg cells) or embryos to a recipient couple for the purpose of achieving a pregnancy by means of an infertility treatment procedure.

2.2.4 Examination

An examination is defined by Stedman's Medical Dictionary (1990:546) as: "Any investigation or inspection made for the purpose of diagnosis, usually qualified by the method used". In this study examination refers to any examination or test performed for the purpose of making an infertility diagnosis.

2.2.5 Gynaecologist

This refers to: "A specialist in the branch of medicine concerned with the treatment of female diseases, particularly those of the reproductive system" (Maxwell, 1976:441). The gynaecologist, as referred to in this study, is the specialist in infertility treatment.

2.2.6 Infertility

Infertility is defined by the Dorland's Medical Dictionary (1988:835) as: "Diminished or absent capacity to produce offspring; the term does not denote complete inability to produce offspring as does sterility". Thus one can clearly see the difference between infertility and sterility which is unfortunately often seen as synonymous terms by most people. Stedman's Medical Dictionary (1982:707) provides a more detailed definition as follows: "Relative sterility, diminished or absent fertility; does not imply (either in male or

female) the existence of as positive or irreversible a condition as sterility. In the female it indicates adequate anatomical structures and equivocal function, with the possibility of pregnancy that may or may not proceed to term". The diminished fertility and dubious possibility of a pregnancy proceeding to term is emphasized in this definition, thus bringing to mind the uncertainty caused by this condition. Infertility on the other hand is described by Fogel & Woods (1981:287) as linked to a certain period of time before it can be seen as an infertility problem in their definition: "Infertility is the involuntary reduction in one's reproductive ability and the inability to conceive after a year or more of regular sexual intercourse". Finally, Shulman (1986:399) includes the aspect of not using contraceptives in his definition as follows: "Infertility is the condition of a couple who have failed to achieve a pregnancy after one year of unprotected and frequent intercourse. This does not mean that they will never achieve pregnancy, they might accomplish it in three or five or ten years, or it might in fact be never. Infertility is thus a matter of degree, not an absolute".

Infertility is therefore not synonymous with sterility, but refers to the inability of a couple to conceive after a year or longer of regular sexual intercourse without contraceptives, or the unlikelihood of a pregnancy proceeding to full term.

2.2.7 Investigation

Investigation refers to: "Any investigation or inspection made for the purpose of diagnosis, usually qualified by the method used". (Stedman's Medical Dictionary, 1990:546). Investigation in this study, as examination, refers to any examination or test performed for the purpose of making an infertility diagnosis.

2.2.8 Patient

A patient, according to Dorland's Medical Dictionary (1988:1242) is: "A person who is ill or who is undergoing treatment for a disease". In this study patient refers to a person who is infertile and is undergoing infertility treatment.

2.2.9 Recipient

A recipient is defined by Webster's Medical Dictionary (1986:606) as:

as: "One who receives biological material from a donor". The recipient referred to in this study is the infertile person who receives gametes from a donor for the purpose of fertilization during infertility treatment.

2.2.10 Treatment

Treatment, according to Stedman's Medical Dictionary (1990:1626), refers to: "Medical or surgical management of a patient". In this study treatment refers to the medical or surgical treatment provided for infertility.

2.2.11 Urologist

A urologist is defined by Stedman's Medical Dictionary (1990:1675) as: "A specialist in urology, i.e. the medical speciality concerned with the study, diagnosis and treatment of diseases of the genito-urinary tract, especially the urinary tract in both sexes and the genital organs in the male". Thus a urologist specializes in diseases of the male and female urinary system and the genital organs of the male.

These definitions together with the list of medical terms in Appendix 1, will help clarify the meaning of these terms used throughout this chapter and avoid any misinterpretations.

2.3 INFERTILITY

Infertility, according to researcher, refers to the inability of a couple to conceive after a year or longer of regular sexual intercourse without contraceptives, or the unlikelihood of a pregnancy proceeding to full term. A similar description is also provided by D'Andrea (1984:75) as follows: "Infertility is the inability to conceive after one year of regular intercourse or the inability to deliver a live infant after three consecutive conceptions". Hudson, Pepperell & Wood (1980:1), also state in this regard that if a couple has not conceived after twelve months of regular sexual practice without contraception, they should be regarded as potentially infertile.

Infertility can also be classified as primary or secondary infertility according to Sevenster (1989) and Dorland's Medical Dictionary

(1988:835) as follows:

* **Primary infertility:**

Infertility occurring in patients who have never conceived.

* **Secondary infertility:**

Infertility occurring in patients who have previously conceived, have had a miscarriage, an ectopic pregnancy, or have had children from a previous or the present marriage.

In their study on infertility in the U.S.A., Mosher & Pratt (1991: 193) with a national sample of 8 450 women between 15 to 44 years of age, found 10,1% to have unresolved impaired fecundity, 4% to have primary infertility and 6,1% secondary infertility. The "impaired fecundity" they refer to as, "... it is difficult or impossible to conceive a baby, or difficult or dangerous to carry it to term". Unresolved impaired fecundity, they reported, has increased and is due to delayed childbearing and the large Baby Boom generation between the ages 27 years and 45 years. One can thus find a combination of the above-mentioned in one couple, where both spouses have primary or secondary infertility, or where one spouse has primary infertility and the other secondary, or where childbearing is delayed because of careers and becomes more difficult (impaired fecundity). In some couples only one spouse is infertile and this creates a problem in the marriage regarding feelings of guilt and blame concerning the childlessness.

The percentage rates at which most normal couples take to conceive are provided by Barker (1980:18) as follows: "Twenty five percent of couples are pregnant within one month; 63% after six months; 75% after nine months; 80% after one year and 90% after eighteen months". Betz (1983: 316), provides slightly higher pregnancy rates of 30% in one month, 60% in three months and 90% in one year.

Thus if a couple does find that they cannot conceive by twelve to eighteen months, they should start suspecting infertility problems in one or both of the spouses and they should seek help as soon as possible at a specialized infertility clinic or by a gynaecologist who specializes in infertility treatment.

2.4 INCIDENCE OF INFERTILITY

Infertility is a problem which affects couples all over the world and which is busy increasing, leaving more and more couples childless. Today's fast way of life and related stress, which is constantly increasing, seems to be the cause of many diseases and it can therefore also be playing a role in infertility.

It was stated by the former Dean of the Medical Faculty of the University of Pretoria, Professor J.V. Van der Merwe (1988) at a symposium in Pretoria, that approximately one out of every eight couples in South Africa are childless due to infertility and that this figure is constantly increasing.

The American Medical Association, according to Clamar (1980:173), estimated 15% of all American couples or ten million people to be infertile. Davis (1987:30) also provides the same incidence of 15%, while Jaffe & Jewelewicz (1991:599) provide a more recent figure of 15% to 20% of couples who are infertile in the United States. Macourt & Jones (1977:693) state that at least 50 000 couples in Australia are barren because of infertility. In Sweden, Milsom & Bergman (1982:125) estimate approximately 10% of married couples to be infertile. Rosenkvist (1981:133) provides a similar figure for Denmark of an estimated 10% to 15% of all permanent sexual relationships to be involuntarily childless.

A 15% rate of infertility in most populations is cited in many reviews according to Betz (1983:315-316), but it is seldom stated whether this figure reflects involuntary infertility or the incidence of childlessness. Furthermore, many reports of the incidence of infertility in cultures that use no contraception and where there are social pressures to have children, suggest a lower incidence of involuntary infertility than 15%.

On the other hand, Belsey (1976:319) mentions an incidence of infertility in many Sub-Saharan African cultures to be 30% to 50% due to their cultural practices and the impact of gonorrhoeal infections on these people. Figures of other African countries could, however, not be found by the researcher to make a comparison or to verify this

high incidence.

The incidence of infertility is therefore an actual condition throughout the world which is constantly increasing. The stress of today's way of life is a possible contributing factor, but the various causes of infertility will be discussed later in this chapter. Infertility is thus an aspect with which most medical social workers are at some stage in their work going to have to deal with and will need sufficient knowledge of, as is aimed at providing in this chapter.

2.5 THE INFERTILITY INVESTIGATION

Once a couple suspects they have infertility problems and visit their general practitioner, they should immediately be referred to an infertility clinic or practice. Here they usually have an initial assessment interview with the gynaecologist after which the various infertility examinations are performed over a period of time to determine their infertility diagnosis.

Before couples are referred to an infertility clinic, they should have had regular sexual intercourse without contraception for at least one year. Moghissi (1979:12) also quotes the same period: "Most physicians prefer to delay thorough evaluation of infertile patients until at least a twelve-month period of cohabitation has elapsed". It is important that this information is passed on to couples wishing to undergo an infertility investigation. General practitioners and gynaecologists should provide their patients with such information before referring them.

These examinations, however, are expensive, can take a long time and hospitalization and anaesthetic are required for certain tests. This usually interferes with the couple's work, as much time has to be taken off. Furthermore, these examinations can often be stressful and anxiety-provoking and sometimes embarrassing. Couples should be made aware of this when requesting an infertility investigation. The medical social worker can play an important role in this regard.

These reactions engendered by the examinations are described by

Berger (1980:553) as: "... a sense of despair and concerns about inadequacy. It probes into the couple's sex life, a highly private area and makes uncomfortable demands, such as semen specimens and sexual performance that is scheduled and charted. Finally the diagnosis is made and one of the partners is named 'the individual at fault', which causes further anxiety and usually marital conflict". During these infertility investigations, there should not merely be concentrated on the physical aspects, but also on the psycho-social aspects, such as the emotional reactions and implications of the examinations for each couple. A medical social worker should therefore be part of the inter-disciplinary team at an infertility clinic to deal with these issues. If there is no team, such as in the case of a private gynaecologist, or if a medical social worker is not part of the team, as is the case at most private clinics, couples should be referred on a routine basis to medical social workers in private practice for the necessary psycho-social assessment, intervention and support.

2.5.1 The initial assessment interview

Once a couple has been referred to an infertility clinic or practice and an appointment has been made, they usually have to have an assessment interview with the gynaecologist. Moghissi (1979:13) emphasizes the importance of a joint interview with both partners. During this interview the couple's family and medical history is obtained. Routine gynaecological questions are asked, concentrating on the menstrual history; the use of contraceptives; previous pregnancies or miscarriages and the frequency and timing of intercourse. Furthermore, the menstrual cycle and the timing and process of conception should also be explained to each couple in detail. Often a lack of knowledge regarding the afore-mentioned, is found to be a contributing factor to the couple's infertile problem, as is also mentioned by Barker (1980:19) as follows: "In die meeste gevalle kan die oorsaak na seks herlei word, dus verwys ons na 'tegniese seksuele probleme'. Tydens die eerste besoek sal die dokter vasstel of die paartjie 'n redelike toetstydperk agter die rug het. Hy moet uitvind of die paartjie die basiese kennis het wat betref die vereistes vir bevrugting. 'n Baie klein persentasie se probleem word opgelos met 'n doodgewone verduideliking van die normale vereistes vir bevrugting". By means of this initial

assessment interview the source of a few couples' infertility problems can possibly be established if the gynaecologist takes the time to do a thorough assessment.

The importance of inquiring about alcohol intake, cigarette smoking and occupational history such as inhalation of chemicals, is emphasized by Pryor (1982:186-189) as these aspects could interfere with fertility. These aspects, according to researcher, are of utmost importance during the initial assessment interview and a history of possible drug or medication abuse should not be overlooked, as this is also a possible factor affecting fertility. Furthermore, the patients should be advised, according to Moghissi (1979:13), of the nature and type of procedures to be performed, the risks involved, the duration of the investigations and the approximate costs involved.

On the other hand, Elstein (1975:297) feels that an attempt should be made in the initial assessment interview to discover psychological factors which may be contributing to the infertility or other problems masquerading as cases of infertility. The medical social worker according to researcher should be utilized at this point to conduct a thorough psycho-social assessment interview with each couple to explore their marital relationship, their infertility problem, their motivation for infertility treatment, their insight regarding their infertility problem, their ability to deal with stress and any possible personal problems which might exist. Berger (1974:89) states in this regard: "... one aim should therefore be to screen out those cases of emotional problems or marital conflict to which a child is sought as a solution". A psycho-social assessment interview by the medical social worker thus seems to be of utmost importance and should be a standard procedure at all clinics or practices.

A joint approach during the initial assessment interview by a gynaecologist and a medical social worker should thus be followed. According to researcher, this will ensure a thorough assessment on physical as well as psycho-social grounds. Bell (1983:49) is of the same opinion that unnecessary investigations may be avoided if these questions concerning motivations and decision-making regarding

parenthood are initially raised and explored.

Unnecessary wasted time and expenses can be avoided if an interdisciplinary team approach is followed during this stage to determine possible causes or factors contributing to each couple's infertility problem, before they commence with the costly examinations and treatment. This stage could therefore act as a catchment area for couples who have marital, sexual or psychological problems, as the major causes of their infertile state. They could then be referred to the medical social worker for therapy regarding these problems. Couples with "technical sexual problems", due to a lack of knowledge, could also be helped during this stage. An initial assessment interview by the gynaecologist and the medical social worker regarding the medical and psycho-social aspects of each couple should therefore be a prerequisite for the infertility investigations and treatment. This holistic approach will save unnecessary time and expenses which would have been wasted on fruitless infertility investigations, if the causes of the infertility problem had been of a psycho-social nature or were due to a lack of basic knowledge regarding the requirements for conception.

2.5.2 Infertility examinations

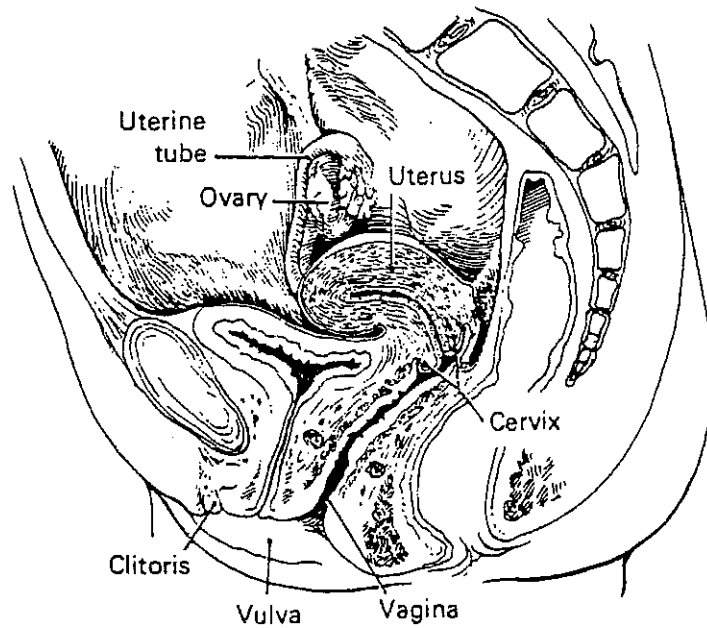
During the infertility investigation stage, various male, female and combined examinations are performed. These examinations will subsequently be briefly described:

2.5.2.1 Female examinations

As is usually the case, the female is the one who has to undergo the most examinations and tests, often requiring hospitalization and anaesthetic. These tests are also very time-consuming and can be stressful, evoking many emotional reactions in the female patient such as anxiety, uncertainty and sometimes embarrassment.

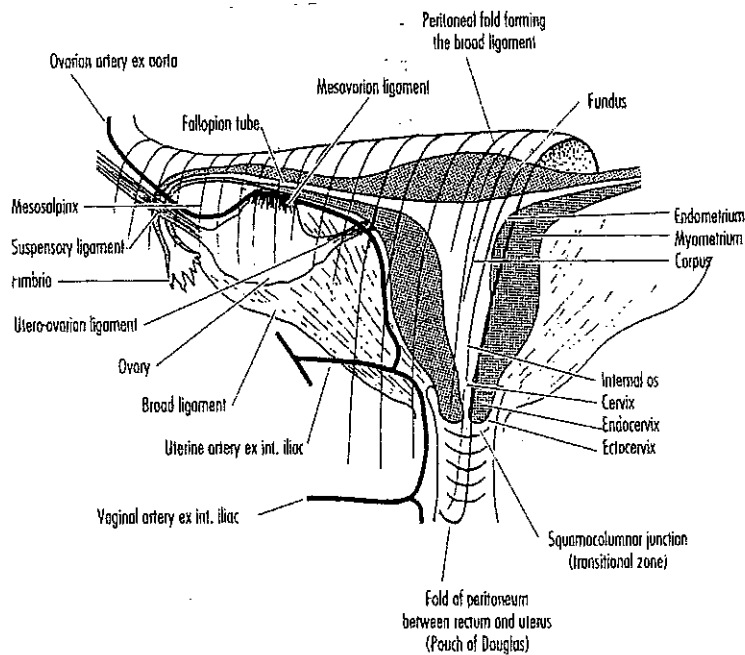
Appendix 1 in this thesis can be referred to for the definitions of the medical terms used in this section. Various diagrams of the female genital and reproductive organs will subsequently be provided to enable a better understanding of the female examinations and causes of infertility.

FIGURE 1: THE FEMALE GENITAL ORGANS



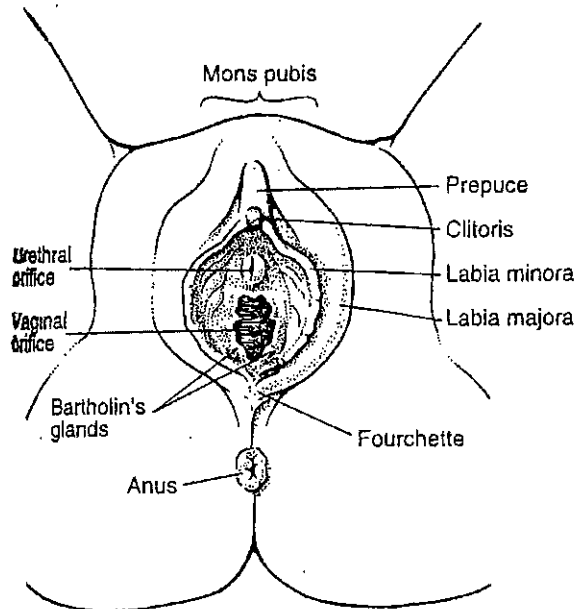
(Stedman's Medical Dictionary, 1990:1099).

FIGURE 2: THE UTERUS, FALLOPIAN TUBES AND OVARIES



(Cohen, 1995:64).

FIGURE 3: THE VAGINA/FEMALE EXTERNAL GENITALIA



(Dorland's Medical Dictionary, 1988:687)

The following female examinations are the most common ones performed at an infertility clinic for an infertility diagnosis:

*** Physical examination:**

A thorough physical examination is performed including the measurement of length, weight, temperature and blood pressure. Obesity, for example, can have a serious effect on the fertility of the patient. The thyroid gland situated in the neck is examined for any possible enlargement, as this could affect fertility. Furthermore, aspects such as excessive facial or bodily hair or hirsutism and secondary sexual development are examined, as they can be indications of the presence of increased male hormones. The lungs and heart are examined and the abdomen as well, taking note of any surgical scars such as that of an appendicectomy for example. A urine sample should also be examined for protein and sugar content and sent away for microscopic examination. Often a physical problem contributing to the infertility problem can be found at this stage already.

Templeton, 1983:192-193; Jones & Jones, 1982:93-95; and Barker, 1980:37-41.)

* **Gynaecological examination:**

- A careful **breast examination** for benign or malignant breast disease is essential.
- An **abdominal examination** is performed to reveal any abnormalities such as masses or tenderness, asymmetrical contour, variations in abdominal and pubic hair distribution and previous surgical scars.
- A **pelvic examination** is performed to examine the pelvic organs. The patient lies in the dorsal recumbent position, with flexed thighs and knees, the feet resting on the stirrups of the examining table, with the limbs and lower abdomen draped with a sheet. The gynaecologist, wearing a disposable glove, uses the left hand to examine first of all the **external genitalia** for any abnormalities or inflammation. This is followed by a **speculum examination** of the cervix, where a speculum is inserted to stretch the vagina and to make the cervix more visible. A Pap smear is taken and sent away for microscopic analysis. The examination of the **internal genitalia** follows after removing the speculum and introducing one or more well-lubricated fingers into the vagina. The size, shape and direction of the cervix is determined and the examining fingers then seek to determine the size, shape and position of the uterus, with the external hand on the abdomen coming into play. This bimanual procedure between the internal fingers and the external hand and the co-operation of the patient is indispensable for good results. By pushing the one hand against the other, groping gently about to outline the various pelvic contents, abnormalities can be detected.
- Finally a **rectum examination** is performed where there are complaints of rectal symptoms such as bleeding or pain. (Compare Jaffe & Jewelewicz, 1991:601; Laurence, 1989:34; Sevenster, 1989; Strickler, 1987; Templeton, 1983:192-194; Betz, 1983:318-319; Reilly, 1982:201-205; Jones & Jones, 1982:95-100 and Barker, 1980:41-45.) From the above-mentioned description it can be understood why most women

experience a gynaecological examination as embarrassing, degrading and anxiety-provoking. Often a precise diagnosis cannot be made even after a thorough physical and gynaecological examination has been performed. Under these circumstances examinations, involving specialized equipment or techniques and laboratory analysis, have to be used. Some of these specialized examinations are performed on a routine basis with all infertility patients at certain clinics. These are as follows:

* **Pap smear:**

A Pap smear is taken during the gynaecological examination and sent to a cytopathology laboratory for analysis. Papanicolaou first documented the characteristic changes in vaginal cytology in 1933 and thus this test is called a "Pap" smear. The Pap smear can be used to exclude cervical cancer and to assess ovarian function. (Compare Jones & Jones, 1982:191-192 and Brown, Pepperell & Evans, 1980:10.)

* **Basal body temperature Chart (BBT):**

This method has up until recently been used routinely, but is not so popular and is no longer used by most Clinics, but can be used by patients themselves. Van de Velde first demonstrated in 1905 that the body temperature shows a specific pattern during the ovulatory cycle with an increase of 0,5°C during ovulation (Brown *et al.*, 1980:11). The patient takes her temperature before rising every morning and records the results on a chart. This is done during a specific menstrual cycle starting on the first day of menstruation. The temperature can be measured orally, but some claim vaginal or rectal measurement to be more accurate. The temperature is usually lower during the first half of the cycle, declines just before ovulation and increases 0,3°C to 0,5°C during ovulation, remaining higher in the second half of the cycle. (Compare Jones & Jones, 1982:492; Reilly, 1982:204; Barker, 1980:47-49 and Brown *et al.*, 1980:11.) The infertility patient can use this method daily to detect and time her ovulation, but will need previous thorough instruction. Most patients, however, are not too enthusiastic about recording their basal body temperature each morning, as it is a constant

reminder of their infertility problem.

* **Cervical mucus changes:**

The cervical mucus tests are not always undertaken routinely with all patients, but only if there is an indication. Pouchet was the first in 1847 to describe the cervical mucus changes observed during the menstrual cycle (Brown *et al.*, 1980:10). Pre-ovulatory and post-ovulatory mucus have definite characteristics. Pre-ovulatory mucus is clear, has low viscosity and has the property of forming into threads when stretched between two points. A sample can be stretched 6 to 12 cm. It also allows free entry of spermatozoa. At the time of maximum mucus production the cervical os opens to its greatest extent. After ovulation the cervix closes and the post-ovulatory mucus abruptly loses the above characteristics, to become scant, viscous and impenetrable to spermatozoa. During this examination a vaginal speculum is inserted and a cervical mucus smear is taken for analysis. (Compare Betz, 1983:325-326; Jones & Jones, 1982:493; Reilly, 1982:202; and Brown *et al.*, 1980:10.)

* **Ultrasonography:**

Kratochwil, Jentsch and Bressina in 1973 were the first to report that the ovaries and "follicle-like" structures could be visualized on ultrasound examination of the pelvis (Brown *et al.*, 1980:11). Ultrasonography has come into widespread use in gynaecological diagnoses and is also specifically used for infertility patients to monitor ovarian stimulation.

* **Laparoscopy:**

The laparoscopy is not always necessary for all patients and is only performed if necessary. The laparoscope is used for diagnostic and therapeutic measures. Hospitalization and anaesthetic are required for this procedure. During this procedure a one-incision or a two-incision technique can be used. The abdomen is insufflated with carbon dioxide to lift the abdominal wall from the organs and intestines, so as to avoid injury during insertion of the laparoscope. The laparoscope is inserted through a small incision through the abdominal wall into the abdominal cavity, where the pelvic

organs can be visualized by the gynaecologist for abnormalities. (Compare Laurence, 1989:35; Marrs, 1986:45-46; Betz 1983:337; Jones & Jones, 1982:103-104; Wood & Paterson 1980:47-48 and Barker, 1980:82-88.) The laparoscopy is usually employed as a routine procedure with infertility patients to determine the presence of any possible problems, such as for example endometriosis or adhesions. Patients often reported feelings of fear and anxiety regarding the laparoscopy, because it entails hospitalization and anaesthetic.

* **Hysterosalpingogram/Hysterosalpingography (HSG):**

This examination provides information about the anatomy of the tubes and the uterus. A radio-opaque dye is injected into the uterus of the patient. The Fallopian tubes and the uterus are then examined by fluoroscopy screening, which enables the passage of dye through the tubes to be observed on a television screen. (Compare Laurence, 1989:35; Marrs, 1986:46; Betz 1983:336 and Wood & Paterson 1980:47.)

* **Hysteroscopy:**

In the past few years hysteroscopy has evolved as an alternative to HSG, particularly when combined with a laparoscopy and the injection of dye through the Fallopian tubes. This can save the patient the discomfort of an HSG. The hysteroscope is useful in examining the endometrial cavity for myomas, adhesions and polyps. (Compare Betz 1983:337 and Jones & Jones, 1982:102.)

* **Endometrial biopsy:**

This is a standard procedure used to determine whether ovulation has occurred. A sample of endometrial tissue is removed with a sampling instrument through the internal cervical os of the patient, during the second half of the menstrual cycle. This biopsy is usually painful and anaesthetic can be used, but is usually not. Often the endometrial biopsy is combined with the laparoscopy or the hysteroscopy for the convenience of the patient. (Compare Laurence, 1989:35; Betz, 1983:320 and Brown *et al.*, 1980:10.)

* **Endocrine evaluation or hormonal tests:**

Hormonal tests can be used for determining the presence of various disorders:

- **Ovulation disorders:**

Blood samples are taken on specific days during the patient's cycle and sent away for laboratory analysis to establish ovulation. The hormones tested are:

- . Follicle-stimulating hormone (FSH);
- . luteinizing hormone (LH); and
- . prolactin (PRL).

These hormones are usually tested on a routine basis in infertility patients.

- **Sex hormone imbalance:**

If hirsutism or hairiness is present in the female patient, blood samples will be taken to exclude an increase in male hormone.

- **Thyroid gland disorders:**

When there are problems with the thyroid gland, such as hypothyroidism or hyperthyroidism, blood samples are taken to measure the thyroid-stimulating hormone (TSH) and triiodothyrodine (T3).

- **Hypothalamic-pituitary gland disorders:**

When there is a problem in the production of hormones, the gonadotropin hormones can be tested.

(Compare Betz, 1983:320-323; Jones & Jones, 1982:71-88 and Brown *et al.*, 1980:12-14.)

Many patients have infertility problems as a result of endocrine or hormone problems. An endocrine evaluation is therefore of utmost importance in the infertility investigation stage and it is usually the test with the least discomfort, exposure and emotional reactions for the female patient.

From the above description of the various female examinations, many of which require hospitalization, it can be understood why the female infertility patient often experiences stress, evoking feelings of fear, anxiety, uncertainty and sometimes humiliation and embarrassment regarding these examinations. Van Hall (1984:360) states in this regard: "It must be kept in mind that the burden for patients

may be much heavier than the doctor imagines. This holds especially for female investigations. There is a great discrepancy between prescribing and undergoing a procedure. I am afraid that many gynaecologists do not realize what it means for a woman not only to undergo a pelvic examination, but also to keep BBT recordings month after month and have repeated postcoital tests performed, both of which can affect the social and sexual life of the couple". Van Hall (1984:360) states further that the HSG, which usually is performed on an out-patient basis in the cold and technical atmosphere of a radiology department, combines humiliation, pain and fear and the laparoscopy usually means hospitalization and general anaesthesia, while both procedures evoke ambivalent feelings of hope that some treatable cause will be found and also fear that a serious untreatable abnormality will be exposed.

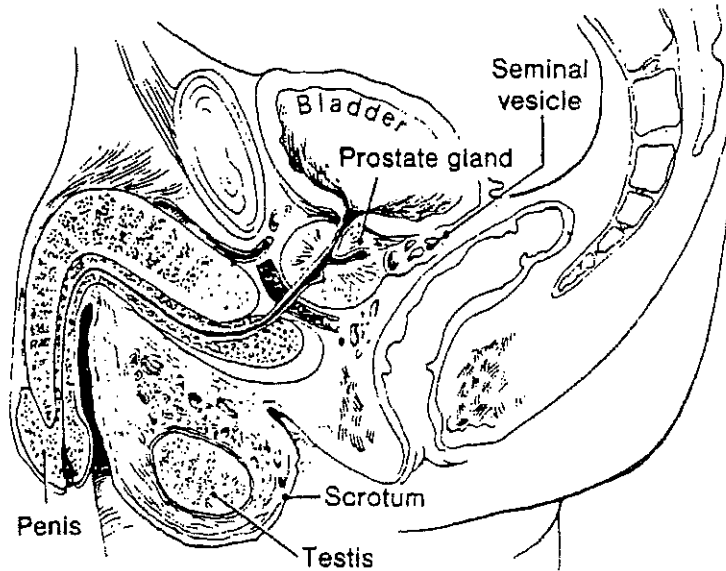
This helps one understand why so many infertility patients, especially women, experience these infertility investigations so intensely emotional. The medical social worker should therefore be involved during this investigation stage to offer patients the necessary emotional support, to deal with possible psycho-social problems, and to prepare patients thoroughly for these examinations.

2.5.2.2 Male examinations

The examinations which the male patient has to undergo, are fewer than those of the female patient, but can also be experienced as stressful, with feelings of anxiety, humiliation and embarrassment reported by most male patients seen at the Infertility and Andrology clinic of the H.F. Verwoerd Hospital. These feelings were generally experienced when the semen specimen was required, as it had to be produced by means of masturbation at the clinic.

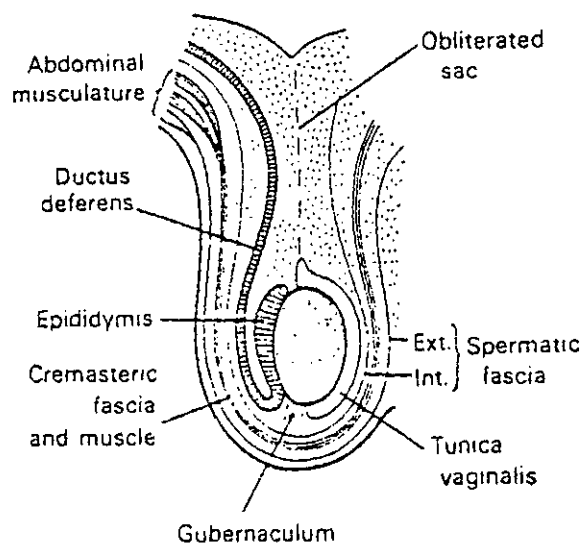
Appendix 1 in this thesis can be referred to for the definitions of the medical terms used in this section. Various diagrams of the male genital and reproductive organs will subsequently be provided to enable a better understanding of the male examinations and causes of infertility.

FIGURE 4: THE MALE GENITAL ORGANS



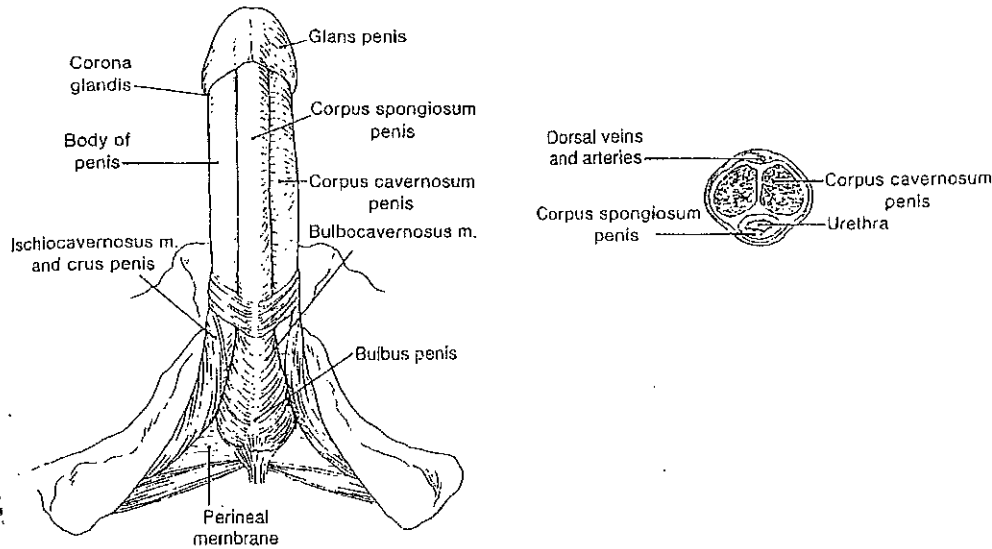
(Stedman's Medical Dictionary, 1990:1099).

FIGURE 5: THE SCROTUM/MALE EXTERNAL GENITALIA



(Stedman's Medical Dictionary, 1990:1397).

FIGURE 6: THE PENIS/MALE EXTERNAL GENITALIA



(Stedman's Medical Dictionary, 1 990:1159).

The following male examinations are the most common ones performed at an andrology clinic for an infertility diagnosis:

*** Physical examination:**

A thorough physical examination is performed, including the measurement of length, weight, temperature and blood pressure. Obesity and a very short stature can have an effect on the patient's fertility. The lungs and heart are examined, as well as the abdomen and lower abdomen, taking note of hair distribution, the absence of secondary sex characteristics and surgical scars. A urine sample should also be examined for protein and sugar content and sent for microscopic analysis. (Compare Jaffe & Jewelewicz, 1991:601; Makler, 1986:53; Jequier, 1986:33-34; Hargreave, 1983:16-17; Montague, 1982:54; Bandhauer, 1982a:197; Pryor, 1982:188-189; and Barker, 1980:58-59.)

*** Andrological examination:**

- The patient is first examined in a **standing position**, with the scrotal contents carefully palpated for the possible

presence of a varicocele or tumour. Testicular size and consistency are measured and the volume of the testis can be estimated using an orchimeter.

- The examination continues in the **supine position**, taking note whether the patient is circumcised or uncircumcised. The glans penis, the opening of the urethra or external urethral orifice, the penile shaft and curvature and the retraction of the foreskin are assessed for abnormalities. Both corpora cavernosa are compressed between the andrologist's thumbs dorsally and his fingers alongside the urethra ventrally, noting the general consistency of the flaccid corpora cavernosa. The epididymis and vasa deferentia must be palpated for the possibility of infections or congenital abnormalities. The prostate must also be examined. A tender prostate may indicate prostatitis. Prostatic massage may also be performed to examine prostatic fluid.
- Finally, a **rectal examination** is performed to assess any abnormalities of the prostate.

(Compare Du Toit, 1992; Jequier, 1986:33-35; Lipshultz & Howards, 1983:189-190; Hargreave, 1983:16-21; Montague 1982:54; Bandhauer, 1982a:197-199; Pryor, 1982:188-189 and Barker, 1980:58-61.)

It is understandable from the above-mentioned description that male patients find this andrological examination anxiety-provoking, humiliating and embarrassing, and especially so if the andrologist is a female. During the above-mentioned examinations certain abnormalities or conditions could be diagnosed which could affect the patient's fertility. However, certain advanced techniques, requiring specific equipment and laboratory analysis are required to be able to make a final infertility diagnosis. These physical and andrological examinations are usually stressful and embarrassing for the male, as his penis, scrotum and rectum are examined in the finest detail, something he is not as accustomed to, as the female is to a gynaecological examination. The evaluation of penile size and length, as well as testes size are further humiliating for the male, as he feels his manhood is being

determined and his masculinity measured. The medical social worker can play an important role in preparing the male patient for these examinations, thereby reducing the stress.

* **Semen analysis**

The most important aspect concerning the semen analysis is that the patient is thoroughly informed what is required of him for the semen analysis. First of all sexual abstinence is required for two to five days, after which a semen specimen has to be produced by means of masturbation into a sterile, wide-mouthed, glass or plastic container at the clinic, usually in a special private room for this purpose. At least two different semen specimens should be analyzed by the laboratory to make a thorough analysis. These specimens should be produced a minimum of seven days apart to a maximum of three months apart and often a third one is required if the previous two showed a remarkable difference.

It is most suitable if the "collection room" is close to the laboratory and the semen specimen can be given directly to the laboratory personnel. The semen analysis should be performed within one hour after ejaculation and the optimal time is half an hour after ejaculation. Often masturbation is impossible for the patient at the clinic, as it is awkward or embarrassing and sometimes it is taboo for certain religions or cultures. Most black patients at the infertility clinic of the H.F. Verwoerd Hospital were found to have had difficulty in producing a specimen at the clinic and would sometimes be there for hours with no success, as masturbation is not a common and acceptable practice in the black culture. In such instances, and only in extreme cases, when there is no other option, the patient can be provided with a collection container to take home with him. Coitus interruptus is an unacceptable means of collection, as the sample is incomplete. Ordinary condoms as a means of collection cannot be used either, but in certain circumstances, special prepared condoms made of a certain plastic which is non-spermicidal, can be used. These are at present available in South Africa. The sample must, however, reach the laboratory within one hour after ejaculation and must be kept at body

temperature, for example, in a trouser pocket. The sample must, however, be protected from extreme temperatures of not less than 20°C or not more than 40°C. Incomplete samples should not be analyzed. It is important that the specimen is given to a spermatologist at the laboratory and that information is gathered and the container labelled concerning the following:

- Subject's name;
- date and time of collection;
- duration of abstinence before ejaculation (i.e., number of days);
- age of specimen (i.e., time lapse between collection and delivery, if applicable);
- mode of transport regarding temperature changes;
- whether the whole ejaculate was collected into the collection jar.

(Compare Makler, 1988:634-635; World Health Organization, 1987:3-4 and Ludwig & Frick, 1987:5-6.)

The semen analysis is performed by means of macroscopic, microscopic, immunological and biochemical evaluations:

- **Macroscopic evaluation:**

The following aspects can be evaluated in the laboratory with the naked eye:

- . **Colour:** Normal, freshly ejaculated semen has a milky-whitish cloudy to grey-opalescent colour.
- . **Odour:** The odour of semen is very characteristic and resembles the fragrance of chestnut tree blossoms. The odour derives from the prostatic secretions.
- . **Coagulation:** Normally semen coagulates immediately after ejaculation to a curdled state. This serves the function of preventing it from leaking too quickly from the vagina. The coagulating enzymes originate from the secretions of the seminal vesicles.
- . **Viscosity/Consistency:** Coagulated semen has a viscous, gelatinous sometimes flocculent-lumpy to sago-like consistency. This is described as stringiness or stickiness. Viscosity or consistency is measured either with a viscosimeter or a calibrated

pipette. After the ejaculate has liquified, it is stirred with the pipette or glass rod and the length of a thread of semen which adheres to the glass rod when it is raised, is estimated. A drop of semen stretched like a thread of about 1cm should hang from the rod for 10 to 15 seconds.

- . **Liquefaction:** Normally semen which has coagulated immediately after ejaculation, will liquefy within 10 to 30 minutes at 37°C.
- . **Volume:** The normal volume of an ejaculate after 3 to 5 days of sexual abstinence is 2 to 6 cm³. The volume of the ejaculate increases as the duration of sexual abstinence increases. To measure the volume, the liquefied ejaculate is put into a graduated Falcon tube to determine the volume in cm³.
- . **pH:** Normal pH should be measured within one hour of ejaculation. The pH is measured using special pH indicating paper, which is dipped half-way into the liquefied semen. The moistened end of the strip will change colour and can be measured against a pH colour scale within 10 to 30 seconds. The normal pH of liquefied semen varies between 7.2 to 7.8.

(Compare Du Toit, 1992; Laurence, 1989:36-37; Makler, 1988:635-636; Ludwig & Frick, 1987:5-41; World Health Organization, 1987:5-6; Jequier, 1986:21-31; Menchini-Fabris, Voliani, Canale & Olivieri, 1986:341-354; Clark & Sherins, 1986:253-263; Lipshultz & Howards, 1983: 192-201; Hargreave & Nillson, 1983: 56-66; Glezerman, 1982b:203-212; Blasco, 1981:255-258 and Hudson, Baker & De Kretser, 1980:83-86.)

- **Microscopic evaluation:**

The following criteria are evaluated by means of a microscope:

- . **Sperm motility (quantitative motility):** This is the percentage of spermatozoa which are motile or able to move spontaneously in at least 10 randomly selected microscopic fields. At least 40% of the normal spermatozoa should be motile. A reduced motility, i.e., less than 40% with normal motility, is referred to as asthenozoospermia.

- . **Sperm motility or forward progression (qualitative motility):** The forward progression of spermatozoa refers to the linear movement of spermatozoa from one point to another in a microscopic field, measured on a grading scale from 0 to 3. The forward progression of normal spermatozoa is usually 2 to 3.
- . **Sperm density/concentration:** This is also known as the sperm count. The sperm density is the number of sperm or the number per millilitre of the ejaculate. In order to arrive at the total number, one multiplies the spermatozoal density by the volume: Total number of spermatozoa = number/ml x volume. The sperm count should be between 20 and 250 million per millilitre. A very low sperm count or density is referred to as oligozoospermia, i.e., less than 20 million spermatozoa/ml. The absence of spermatozoa in the semen is referred to as azoospermia.
- . **Sperm Morphology:** Morphological assessment of spermatozoa, or the assessment of structure or shape of spermatozoa, is complicated by the fact that there is a great variation in shape. After motility and density, morphology is the third essential pillar supporting the diagnostic framework of ejaculate analysis. If less than 20% of the spermatozoa have a normal morphology, it is referred to as teratozoospermia.
- . **Leucocytes/White blood cells:** The ejaculate usually contains small numbers of white blood cells or leucocytes. If there is an excess of white blood cells, the semen is infected.

(Compare Du Toit, Bornman, Van der Merwe, Du Plessis, & Oosthuizen, 1993:69; Du Toit, 1992; Laurence, 1989:36-37; Makler, 1988:637-651; Ludwig & Frick, 1987:5-41; World Health Organization, 1987:6-9; Jequier, 1986:21-31; Makler, 1986:54-60; Menchini-Fabris *et al.*, 1986: 341-354; Clark & Sherins, 1986:253-263; Lipshultz & Howards, 1983:192-201; Hargreave & Nillson, 1983:56-66; Glezerman, 1982b:203-212; Blasco, 1981:255-258; Hudson *et al.*, 1980:83-86 and Belsey, Eliasson, Gallegos, Moghissi & Prasad, 1980:9-13.)

- **Immunological evaluation:**

Immunological factors may occur in the male causing auto-immunity or antisperm antibodies against his own sperm, which causes immunological infertility. Various laboratory tests are performed for the immunological examination:

- . **MAR Test:** The mixed antiglobulin reaction (MAR) test is used to detect the presence of antisperm antibodies and as a screening test. These antisperm antibodies can cause either agglutination or immobilization of sperm. If more than 10% of the sperm tested is positive for antisperm antibodies, the following tests are performed:

- + **Friberg test or gelatin agglutination test:**

This test is used to observe the agglutination of sperm macroscopically.

OR

- + **Sperm micro-agglutination test:**

The agglutination of sperm is observed microscopically on glass slides. Sperm may be agglutinated head to head, tail to tail or head to tail.

AND

- + **Sperm immobilization test or Isojima test:**

The immobilizing effect of antisperm antibodies on sperm can be detected microscopically as a loss of motility followed by cell death.

(Compare Du Toit, 1992; World Health Organization, 1987:12; Shulman, 1986:399-404; Leto & Paulson, 1986a:417-420; Haas, 1986:439-451; Jequier, 1986:30-31, 119-121; Hjort, 1983:160-182; Mumford & Warner, 1983:266-274; Dondero, 1982:159-161; Jones, 1980:126-134 and Moghissi, 1979:23-24.)

- **Biochemical evaluation:**

The biochemical evaluation includes amongst others, hormonal tests, using semen as an indicator for testing specific hormonal stimulation, the assessment of the fructose levels in the semen and the biochemical composition of seminal plasma, such as the specific products of the prostate gland, seminal vesicles and epididymis. (Compare Du Toit, 1992; Makler, 1988:651-653; World Health

Organization, 1987:14-15; Menchini-Fabris *et al.*, 1986:352 and Glezerman 1982b:206.)

Men often experience problems producing a semen sample for the semen analysis at the andrology clinic or laboratory. They usually feel embarrassed and humiliated by the fact that they first of all have to achieve an erection there at the clinic or laboratory, in a special "semen specimen" room and then have to masturbate and ejaculate into a small plastic specimen jar, after which the semen sample must be handed personally to the laboratory spermatologist for analysis. This makes men feel that their masculinity is being evaluated and that they have to perform, with all the staff and other patients aware of his actions inside that room. This leads to feelings of anxiety, humiliation and embarrassment. Furthermore, these men are forced to do that which is usually very private, in a public setting and then to make it even worse, they are evaluated for performance and achievement by means of the semen analysis directly afterwards. This causes a great deal of stress amongst male infertility patients and even more so if they are unable to produce a sample, which then makes them feel they are failures. Du Toit (1992), spermatologist at the Centre for Fertility Studies, Department of Urology, H.F. Verwoerd Hospital, University of Pretoria, told researcher in an interview that signs of stress are often found in the semen samples analyzed, indicating the levels of stress experienced by these male patients.

While working at the Infertility clinic of the H.F. Verwoerd Hospital, researcher's office was next door to the "semen specimen" room. Often couples were observed going past together and sometimes they seemed to be arguing. On one occasion a couple came past with the wife running behind the husband taking his hand. He was obviously embarrassed and angry with the situation and pushed her away saying: "Leave me alone, I can do it on my own"! Many similar reactions reflecting anxiety, embarrassment, humiliation and anger were often observed. Black patients particularly, often had problems because of cultural norms against masturbation and producing a semen sample at the clinic. Other male patients would sometimes not arrive at the clinic, to avoid the problem and would tell their wives they had been there, only for the truth to be revealed at the clinic later

during a combined visit. Giving the sample in the collection jar to the spermatologist at the semen laboratory directly after producing the sample, was reported by most male patients to be the most embarrassing moment. But it was also found that having to produce the first sample is experienced as the most stressful and thereafter it merely becomes a technical procedure.

Emotional support by the medical social worker could be of value to the male patients and would most probably be most successful if combined with other male infertility patients for moral support, in the form of a supportive group therapy session.

Nowadays non-spermicidal condoms or sperm-friendly condoms are available for patients who prefer to produce a sample at home by means of intercourse, instead of by means of masturbation, due to religious, ethical or cultural reasons.

*** Tests to assess the functional properties of sperm:**

The aim of these tests are to assess the functional properties of sperm and the ability to penetrate various media.

- Hamster oocyte penetration Test (HOP):

This test has up until recently been used routinely on patients with an indication, but although some clinics still use this test, most prefer to perform the Hemizona test which will be discussed next. This test is used to determine the functional competence of spermatozoa and the ability to penetrate ova. Hamster ova, that have had the zona pellucida removed, i.e. zona-free ova, are used in this test. A patient's semen sample is prepared, washed and concentrated, while hamsters are induced to super-ovulate. The concentrated spermatozoa of the patient and the hamster oocytes are put together and the percentage of oocytes penetrated by sperm are observed and evaluated microscopically. This test enables important conclusions to be drawn with respect to the nature of sperm - oocyte interaction in this in-vitro situation. This test is also called a "mixed-gamete" assay. (Compare Du Toit, 1992; Makler, 1988:655; Aitken, 1986:268-280 and Keller, Strickler & Warren, 1984:103.)

- **Hemizona assay:**

Prof D Franken of the Unit for Reproductive Biology, University of Stellenbosch, Tygerberg Hospital, developed this test in the 1980's. This test checks the binding capacity of the sperm to the hemizona of the oocyte. It allows a prediction to be made of the potential binding capacity of a male patient's sperm to his wife's oocyte and of an IVF treatment outcome. This can also help to determine which procedure should be followed on the day of the aspiration. (Compare Du Toit, 1996 and Lourens, 1996.)

* **Testicular biopsy:**

This test is performed if testicular failure is suspected. Various methods can be used to perform a testicular biopsy. The stab method performed under general anaesthesia is the most common one used. A stab incision is made with a scalpel vertically through the scrotal skin, the tunica vaginalis and the tunica albuginea of the testis. A small quantity of testicular tissue is cut off and sent for histopathological analysis. A testicular biopsy allows precise information on the state of spermatogenesis. (Compare Busuttill, Orr & Hargreave, 1983:112-114 and Wong & Jones, 1983:217.)

* **Endocrine evaluation or hormonal evaluation:**

The normal reproductive processes of males depend endocrinologically on the presence of a normal responsive hypothalamus, pituitary gland, testes and accessory glands. The major objective of an endocrine investigation is to assess hormonal deficiencies affecting fertility. The measurement of FSH (follicle-stimulating hormone), by virtue of its inverse relationship to sperm density, is used as the adjunct to semen analysis. LH (luteinizing hormone) and testosterone measurements may also contribute to a complete assessment of hypothalamic-pituitary-testicular functions. The assessment of prolactin is only used when erectile impotence is present. To perform an endocrine investigation, blood samples are taken and sent for laboratory analysis. (Compare Jequier, 1986:35-36; Wu, 1983: - 98-106; Swerdloff & De Kretser, 1983:207-215; Pogach & Vaitukaitis, 1983: 63-68; De Vere White & Nagler, 1982:103-112 and Lunenfeld & Glezerman, 1982:233-235.)

* **Varicocele investigation:**

The following examinations can be performed to determine the presence of a varicocele:

- **Doppler echography:**

The Doppler echography or ultrasound is one of the simplest methods of diagnosing a varicocele. It is performed with the patient recumbent and the probe is located over the spermatic cord. Pulsations of the testicular artery are registered as the ultrasound beam passes through the varicocele.

- **Scrotal thermography:**

A scrotal thermography will detect an increase in temperature of the scrotal skin. The normal scrotal temperature is 32°C to 33°C and in men with varicoceles the temperature of the overlying skin will be higher.

(Compare Comhaire, 1986b:255-257; Comhaire, 1986a:393-394; Jequier, 1986:65-68, Jevtich, 1983:150-151, Nilsson, 1983:206-207 and Fenster & McLoughlin, 1982:210-215.)

These varicocele investigations can be stressful for the male patients and they reported feelings of embarrassment, awkwardness, shyness and anxiety to researcher.

The male infertility examinations discussed can be stressful for the male patient, causing various emotional reactions or psychological problems. Brown (1984:377-379) for example, found in a study undertaken, that the male's sexual function is affected by the infertility investigations, sometimes causing impotence or ejaculatory incompetence. The male's sexual function, according to Walker (1982:255), is more sensitive to the infertility work-up or investigations than the female's. Walker (1982:255) also mentions that the male patient is very reluctant to undergo any psychiatric evaluation. However, if it is made a part of the infertility work-up, there is usually no problem with the evaluation. Unfortunately researcher has found that very few clinics have a psychiatrist, a psychologist or a medical social worker on their team. A psycho-social assessment or a counselling session with the medical social worker or psychologist should therefore be a routine procedure at clinics to avoid the above-mentioned problem of refusing an evaluation.

The male patient also needs emotional support, thorough preparation regarding the infertility investigations and therapy regarding any psycho-social problems which are often experienced as a result of these investigations. The psycho-social implications of the infertility investigations will be discussed in chapter 5 in this thesis. The medical social worker has an important role to play during the infertility investigation stage.

2.5.2.3 Combined male and female examinations

Often infertility investigations require combined analysis of samples of both the husband and the wife. This usually requires prescribed intercourse at a certain time of the female patient's cycle, after which the couple have to be at the clinic for an examination to evaluate the interaction of the semen and cervical mucus. Other tests merely require semen and mucus samples from husband and wife to be used in combined laboratory tests.

The following tests are examples of combined male and female infertility examinations:

* Post-coital test (PCT):

The post-coital test consists of a microscopic examination of mucus following intercourse. It was first described by Sims in 1866 and by Huhner in 1913. Thus it is also known as the Sims-Huhner test. The optimum time for the post-coital test is on day 14 of a 28-day cycle. Day 12 and 13 could also be satisfactory. The standard approach is to have the couple abstain from coitus for 48 hours and then to schedule the wife for an examination after coitus. The examination should take place 2 to 4 hours after coitus without the wife washing or douching. A vaginal speculum is inserted to make the cervix visible and the external cervical os is carefully wiped to remove mucus that may be acidic as a result of exposure to the vagina. Thereafter, cervical mucus is taken from the upper portion of the cervical canal, as near to the internal cervical os as possible. This is placed on a microscopic slide and sent for laboratory analysis. The characteristics of both the mucus and the number of sperm that show progressive forward movement are evaluated and the presence of antisperm antibodies in the cervical mucus

can be determined. (Compare Laurence, 1989:34; Harrison, 1986:431-439; Marrs, 1986:43-44; Keller *et al.*, 1984:101; Betz, 1983:325-326; Kroeks & Kremer, 1980:112-114; Jones, 1980:136; and Barker, 1980:49-50.)

The post-coital test is usually experienced as embarrassing, degrading and humiliating by most infertile couples and often causes psycho-sexual problems. It delves into their private sexual lives with specific prescriptions of time and even evaluation of their performance directly afterwards. This often causes impotence in the male patient according to Brown (1984: 378) and Bell (1983:50).

* **Antisperm antibody test or iso-immunization against sperm:**

The natural introduction of sperm into the female genital tract may evoke an isoimmune response. The human female genital tract, particularly the uterus, is well endowed with immunologically competent cells. Antibody response may occur in the cervical mucus, follicular fluids, the uterus and the Fallopian tubes. Different methods can be used to investigate immunological infertility:

- **Sperm microagglutination test:**

The agglutination of sperm can be observed microscopically on slides. Head to head sperm agglutination most commonly appears to be mediated by anti-sperm antibodies developed in the female.

- **Sperm immobilization test (SIT):**

This test is ideal for screening females for serum antibodies or for antibody testing of cervical mucus.

- **Cervical mucus antibody test:**

Cervical mucus is collected from the female patient and prepared, using various techniques for sperm antibody testing.

(Compare Chacho, Hage & Shulman, 1991:462; Laurence, 1989:35; Leto & Paulson, 1986b:453-455; Mumford & Warner, 1983:266-274; Hendry, 1983:283-286; Jones, 1980:127-141 and Moghissi, 1979:23-24.)

* **Sperm-cervical mucus penetration test:**

This test allows a more controlled in-vitro type post-coital test. (Compare Randall & Templeton, 1991:466-467; Harrison, 1986: 439-440; Hendry, 1983:283-284 and Jones, 1980:136-137.)

* **Sperm-cervical mucus contact test (SCMC):**

This test is used to demonstrate the presence of local antibodies in either partner. (Compare Harrison, 1986:439-440; Hendry, 1983:283-284; and Jones, 1980:136-137.)

These combined sperm-cervical mucus interaction tests often create feelings of fear and anxiety in couples about who is going to be the one at fault or the infertile partner. The post-coital test evokes the most emotions and has had many reported psychological and sexual implications manifesting from it, as reported by infertility patients.

The medical social worker should prepare infertile patients thoroughly regarding all the infertility investigations, using understandable terminology and possibly a booklet which should be made available for couples at the clinic, providing useful information about these investigations, which can be studied by patients on their time at home. Bell (1983:50) discusses the findings of a study to support the above-mentioned, where patients during the investigation stage, were found to have a lack of knowledge regarding these investigations and a widespread desire for more information. A prerequisite for medical social workers practising in this field should be a thorough knowledge of the different female, male and combined examinations performed during the infertility investigation. The aim of this section has been to provide this knowledge to future medical social workers in this field.

A further task of the medical social worker during this investigation stage is to provide the needed emotional support, as most of these examinations are experienced as stressful, anxiety-provoking and often embarrassing and humiliating. Harrison, O'Moore, O'Moore & Robb (1984:374) in their study of infertile patients, found in this regard that they were more prone to anxiety and guilt, more introverted and more tense than their fertile counterparts, and that they

were therefore psychologically more stressed. This supports the need these patients have for emotional support throughout the infertility investigations.

Furthermore marital and sexual problems can often occur during this investigation period, requiring marriage counselling or sometimes sex therapy, which the medical social worker can provide. Christie (1980:241) mentions the findings of a study in this regard, where the infertility investigations were found to make patients feel under pressure in their sexual life. Some women stated that their anxiety and feelings of being under pressure were often taken out on their husbands and they often experienced feelings of guilt and inadequacy. Bell (1983:50) furthermore adds impotence in the male patient as a result of the infertility investigations and Brown (1984:378) mentions cases of erectile and ejaculatory dysfunction resulting from these investigations.

Thus it is clear that these infertility investigations are experienced intensely and stressfully by most infertile patients, with many resulting psycho-social implications, which will be discussed in detail in the next chapter. There is therefore no doubt that a medical social worker should be part of the inter-disciplinary team at an infertility clinic and that there is a definite need for counselling, emotional support and thorough preparation of patients regarding the infertility investigations.

2.6 CAUSES OF INFERTILITY

After the infertility investigations are completed, which usually take anything from a few months to a year, the gynaecologist and andrologist can make a final male, female or combined infertility diagnosis. In some instances no medical or physical cause for the couple's infertility problem can be found and a diagnosis of either psychogenic infertility or idiopathic/unexplained infertility is made. Psychogenic infertility refers to psychological factors causing infertility problems and idiopathic or unexplained infertility refers to infertility with no physical, medical or psychological factors present.

When couples experience infertility problems, it is usually thought by most people that the wife is the one who is infertile. It is seldom considered that the husband or even both husband and wife could be experiencing infertility problems. Valentine (1986:61) provides figures of the causes of infertility in the U.S.A. to be: "... 40% male factors, 40% female factors and 20% both male and female factors causing infertility". South African figures seem to be the same, as was quoted by Sevenster (1988) at a symposium on infertility treatment.

Subsequently the female, male and combined factors will be discussed, followed by psychogenic and idiopathic infertility:

2.6.1 Female factors

The female causes can be understood better by referring to Figures 1, 2 and 3 in this chapter showing diagrams of the female genital and reproductive organs, as well as Appendix 1 in this thesis for the definitions of the medical terms used. The female factors which could contribute to infertility will subsequently be described:

2.6.1.1 Tubal factors

The two Fallopian tubes, each approximately 10cm in length, are situated laterally on either side of the top portion of the uterus. They are responsible for the transport of the gametes from the tubes, where conception takes place, to the uterus. Normal tubal physiology entails ovum pick-up from the ovaries by the fimbriae, through muscular contraction at the time of ovulation; nutrition of the ovum, sperm and embryo; and transport of the gametes through the Fallopian tubes by muscular contraction, ciliary action and fluid flow (Van Niekerk, 1980:75).

Tubal problems, causing infertility, are the most common problems found in infertile women. According to Betz (1983:329) and Wood & Paterson (1980:43), 20% of infertile women have tubal problems. Templeton (1983:196) provides a similar figure of 18,8%. Hudson, Pepperell & Wood (1980:2) on the other hand, provide a world figure of 30% to 35% which is rather higher, confirming that it is the most common problem.

Congenital abnormalities or infection of the Fallopian tubes may cause infertility problems. Although congenital abnormalities, such as absence of a tube, do occur, the vast majority of identifiable tubal disorders result from infections. These infections are caused by gonorrhoea, tuberculosis, bacteria such as streptococci and staphylococci, viruses, post-pregnancy, puerperal infection or post-abortal sepsis, infection as a result of intra-uterine contraceptive devices, post-surgical adhesions and the practice of certain forms of water sport such as water skiing where the forceful douching of water into the genital tract of the female causes infection. Sterilization is also often a factor presented, where patients request reversal after remarriage or death of a child. The success of the reversal depends on the sterilization procedure implemented. Sterilizations using clips or rings have better chances of reversal than the more drastic procedure where the tubes are cut and tied. Less damaging procedures should be performed on younger patients.

Tubal problems can be diagnosed by means of a laparoscopy, hysterosalpingography or hysteroscopy which were discussed in the previous section on female infertility investigations. Tubal problems can usually be treated with various forms of surgery or specialized infertility treatment methods, such as in-vitro fertilization and embryo transfer (IVF-ET). (Compare Laurence, 1989:37-38; Betz, 1983:329-332; Templeton, 1983:191; Jones & Jones, 1982:268-280; Reilly, 1982:204; Wood & Paterson, 1980:43-53 and Van Niekerk, 1980:75-76.)

Tubal factors thus seem to be one of the main causes of infertility in the female and it is important that the necessary examinations and tests are performed early, to make a tubal diagnosis and to recommend an applicable method of treatment. Thorough guidance should be provided to all gynaecology patients regarding the possible causes of tubal problems, including certain methods of contraception. The long term implications of methods such as an IUD and sterilization, which often cause tubal problems, should be discussed with the patient before a final decision is made. This can help to reduce the high incidence of tubal causes of infertility to a certain degree. The medical social worker can perform an important task in this regard.

2.6.1.2 Ovarian factors

The ovaries are endocrine glands which produce hormones such as estrogen and progesterone, which are secreted from the ovarian follicles and corpus luteum. Each ovary is approximately the size of an almond and they are situated near the pelvic wall in close proximity to the fimbriae of each Fallopian tube. The ovaries start producing ova after puberty. They also control the secondary sex characteristics and the changes which take place in the endometrium during the menstrual cycle and during pregnancy (Van Niekerk, 1980:75).

Ovulatory disorders are the most common ovarian factors causing infertility. Ovulatory disorders are also one of the most common causes of infertility. Hudson *et al.* (1980:2) provide a world figure of 15% of the causes of infertility being due to ovulatory disorders. Templeton (1983:196), however, provides a lower figure for Edinburgh of 8,5%. Hudson *et al.* (1980:2) provide much higher figures for ovulatory disorders causing infertility, with a figure for London of 24,9% and Adelaide, Australia, 43,3%. Thus one finds varying figures throughout the world, with a general world figure of 15%, confirming that it is one of the higher causes of infertility.

Disorders of ovulation can be classified as follows:

- * **Primary amenorrhoea:**
No spontaneous bleeding by the age of eighteen years.
- * **Secondary amenorrhoea:**
No spontaneous bleeding for periods of three months or more.
- * **Oligomenorrhoea:**
Where cycles are occurring at intervals varying between six weeks and six months.
- * **Anovulatory cycles:**
Where cycles are of three to six weeks in duration, but are anovulatory.

Disorders of ovulation can be treated with "fertility drugs" or hormone therapy, which could bring on ovulation once again. (Compare Laurence, 1989:38-39; Betz, 1983:319-324; Templeton, 1983: 190-191; Reilly, 1982:204-205; Jones & Jones, 1982:420-425; Brown *et al.*, 1980:7-21 and Van Niekerk, 1980:75.)

With ovulatory disorders being one of the main factors contributing to infertility, the applicable tests should be performed early in the infertility investigation, so as to make a possible diagnosis, as the treatment of ovulation disorders is less complicated and less expensive. Other ovarian factors causing infertility problems which occur less commonly than ovulatory disorders, may include congenital abnormalities such as absence of an ovary, hormonal disorders or adhesions covering the ovaries. Furthermore, primary or secondary ovarian failure could occur. These causes can be classified as follows:

- * **Women with functioning ovaries and normal menstrual flow with:**
 - Risk of genetic disease in offspring;
 - inaccessible ovaries for oocyte aspiration due to massive adhesions;
 - failed treatment due to:
 - . Abnormality of oocytes;
 - . unfertilizability; or
 - . degenerate oocytes.
 - Little remaining ovarian tissue due to multiple ovarian operative manipulations, causing repeated poor or lacking oocyte harvest.
 - Medical contra-indications to ovum harvest.

- * **Women with non-functioning ovaries and no menstrual function with:**
 - Primary ovarian failure due to:
 - . Genetic disorder;
 - . insensitive ovary syndrome; or
 - . auto-immunity.
 - Secondary ovarian failure due to:
 - . Premature menopause, genetic or auto-immune;
 - . bilateral oophorectomy; or
 - . chemo- or radiotherapy-induced ovarian failure.

(Compare Rosenwaks, 1986:276; Lütjen, Leeton & Findlay, 1985:799-800; and Lütjen, Trounson, Leeton, Findlay, Wood & Renoux, 1984:174.)

These causes of infertility, such as primary and secondary ovarian failure especially, are more severe, with a poorer prognosis and

patients often have to resort to artificial fertilization with donor gametes where donor oocytes or embryos are used. Various methods can be used to determine the presence or absence of ovarian activity and ovulatory disorders, such as the endometrial biopsy, laparoscopy, ultrasonography and hormonal tests, which were discussed as part of the female infertility examinations previously.

Thus ovarian causes of infertility can include many factors ranging from ovulatory disorders to the more severe primary and secondary ovarian failure.

2.6.1.3 Cervical factors

The cervix extends downwards and slightly posterior from the uterus to the vagina. The part of the cervix above the level of the vagina is the supravaginal portion. At its upper end the cervical canal which is spindle-shaped, communicates with the uterine cavity through a constricted orifice called the internal os. The cervical canal terminates below at the external os, which protrudes into the vagina, and is a small round, slit-like opening averaging about 5mm in diameter. This part of the cervix is called the vaginal portion (Van Niekerk, 1980:77-78).

The cervix plays an important role in encouraging spermatozoal invasion during the ovulatory phase of a cycle. Spermatozoa can only survive for a few hours in the acid medium of the vagina. Those that invade the cervical mucus within the limited time-span, can survive longer and can progress further into the uterus, with a greater possibility of reaching the Fallopian tubes. At the time of ovulation cervical mucus becomes thin, watery and relatively clear. A sample can be stretched like a thread between two points. Cervical mucus is critical for the protection of the sperm from the highly acidic vaginal secretions. This mucus also serves as a "filter" as the spermatozoa are maintained in the mucus in the cervical canal for anything up to 48 hours, with only the strong, motile sperm getting through to the uterus on their way to the Fallopian tubes.

Poor cervical mucus, cervical mucus containing antisperm antibodies and cervicitis or infection of the cervix, as well as congenital

abnormalities, can cause infertility. Tests which can be performed to determine cervical factors causing infertility are the post-coital test (PCT), antisperm antibody tests, Pap smear, monitoring of cervical mucus changes, sperm mucus contact test (SMCT) and a gynaecological examination. Cervical factors can be treated with medication, intra-uterine inseminations, or the preparation and washing of sperm containing male antisperm antibodies before insemination and occlusive therapy, where sperm contact is avoided by couples, by using condoms for 6 to 9 months, to reduce the female antisperm antibodies and then resuming with unprotected intercourse thereafter. (Compare Laurence, 1989:39; Betz, 1983:325-327; Reilly, 1982:202-203; Jones & Jones, 1982:3; Kroeks & Kremer, 1980:112-124 and Van Niekerk, 1980:77-78.)

2.6.1.4 Uterine factors

The uterus is a hollow, thick-walled muscular organ which is situated in the pelvis between the bladder anteriorly and the rectum posteriorly. It is placed at right angles to the vagina. It has a somewhat upside-down pear shape and measures about 8 to 9cm in length and 6cm at its widest portion and is about 4cm in thickness. It is divisible into a corpus and a cervix. The upper dome-like portion of the corpus is called the fundus, whereas the angle marking the attachment of the tube at each side is the cornu. The uterine cavity is cone-shaped, ending at the internal cervical os leading into the cervical canal. The mucus membrane of the uterine body is the endometrium, which varies in thickness during the different phases of the menstrual cycle. The uterus has a muscular coat and the entire corpus uteri is covered by the peritoneum. (Compare Jones & Jones, 1982:3-4 and Van Niekerk, 1980:76.)

There are various uterine factors which cause infertility:

* **Myomas or tumours of the uterus:**

It is estimated that 20% of all women over 35 years of age have uterine myomas. Approximately 5% of infertility patients have myomas. Myomas are often incorrectly spoken of as fibroids. Myomas may be situated in the corpus uteri or the cervix. They may be microscopic in size or can be of mammoth proportion weighing up to 45kg. When very large, these tumours impinge on

the bladder causing urinary retention. They may develop beneath the endometrium or on the muscular wall and may cause infertility problems. Myomas are diagnosed by means of a hysteroscopy or hysterosalpingogram. Myomas are removed surgically by means of a myomectomy. (Compare Betz, 1983:332; Jones & Jones, 1982:245-246 and Jones & Rock, 1980:158-161.)

* **Abnormal maturation of the post-ovulatory endometrium or Luteal Phase deficiency:**

Abnormal maturation of the post-ovulatory endometrium is a cause of infertility. It is diagnosed by means of a hormonal evaluation and endometrial biopsy, and is treated with fertility or hormone-stimulating drugs. (Compare Betz, 1983:333 and McBain & Pepperell, 1980:170-171.)

* **Intra-uterine adhesions:**

Adhesions of the uterus can occur and can be caused by previous surgery, endometriosis or Asherman's syndrome (Betz, 1983:333).

* **Congenital abnormalities**

Various congenital abnormalities of the uterus occur which cause infertility. These include a retroverted uterus, a double uterus or a double cervix, amongst others (Jones & Jones, 1982:128-130).

Uterine factors can be diagnosed by means of a hysterosalpingography or hysteroscopy and can be treated by means of surgery. There are various uterine factors causing infertility and the sooner these are detected by means of the necessary infertility investigations, the sooner the patient can be treated to rectify the uterine factor if possible and to commence with specialized infertility treatment.

2.6.1.5 Endometriosis

Endometriosis is a disease affecting women in their reproductive years and is found in about 23% of patients with infertility. Endometriosis is the presence of endometrial tissue outside their usual location, that is, lining the uterine cavity. With endometriosis the endometrial tissue can be found in many locations, such as the

ovaries; uterine ligaments; cervix; vagina; vulva; pelvic peritoneum covering the bladder, rectum, uterus and tubes; umbilicus; rectovaginal septum; appendix; rectum; sigmoid; tubal stumps and lymph glands. These endometrial cells respond to hormones produced during the menstrual cycle and they subsequently enlarge and might indicate minimal bleeding. The endometriosis patient has a menstrual flow which is usually longer and very painful. Endometriosis occurs mostly in woman in their thirties and early forties who have never been pregnant.

Merely a few endometrial spots in the pelvis can influence the patient's fertility. Endometriosis can also cause adhesions, cysts and even a "frozen" pelvic mass, affecting fertility drastically. Endometriosis can be diagnosed by means of a laparoscopy or laparotomy. (Compare Betz, 1983:335-336; Jones & Jones, 1982:346-357; Barker, 1980:75-76 and Jones & Rock, 1980:147-158.)

Endometriosis is thus a common cause of infertility. With women becoming more career orientated and only having children in their thirties, the incidence of endometriosis is increasing.

2.6.1.6 Vaginal and vulval factors

The following are vaginal or vulval causes of infertility:

*** Congenital abnormalities:**

Congenital abnormalities of the vagina or vulva such as the absence of a vagina, a septum in the vagina and a stenotic vagina can contribute to infertility (Jones & Jones, 1982:146-177).

*** Infections:**

Syphilis, gonorrhoea, herpes simplex, vaginitis, neurodermatitis and Bartholin adenitis are a few infections which can interfere with fertility (Jones & Jones, 1982:146-177).

*** Tumours and carcinoma:**

Various benign or malignant tumours of the vulva and vagina can occur, as well as carcinoma of the vulva or vagina (Jones & Jones, 1982:146-177).

Vaginal and vulval causes of infertility are less common, but do occur, especially the infectious diseases, which if diagnosed and treated early, can have a good prognosis.

2.6.1.7 Endocrine factors

Hormones play an important role in fertility. Any hormone imbalance will cause infertility problems. Furthermore, any dysfunction in any of the glands which produce hormones, such as the hypothalamus, pituitary, thyroid, pancreas, ovaries and adrenal gland, will cause infertility problems. (Compare Betz, 1983:321-323 and Barker, 1980:66-69.)

A thorough endocrine evaluation during the infertility investigation will make a diagnosis in this regard possible. Treatment normally takes on the form of drug therapy.

2.6.1.8 Immunological factors

Immunological factors may operate at any step in the human reproductive process, leading to immunological infertility. These factors include antisperm antibodies or iso-immunization and can occur in any part of the female genital tract, such as the cervix, uterus, endometrium and Fallopian tubes, where immunologic activity occurs most. A study by Chacho *et al.* (1991:461-464) attempted to determine the relationship between female sexual practices and the development of antisperm antibodies. They found women who practise anal intercourse which included ejaculation, to have a slightly higher incidence of antisperm antibodies. This was, however, of no statistical significance and they thus found female sexual practices not to be related to the development of antisperm antibodies. They did, however, recommend that infertile patients should be counselled to avoid these practices. The development of antisperm antibodies in the female thus still seems to be a puzzling phenomenon. (Compare Vasquez-Levin, Kaplan, Guzman, Grunefeld, Garrisi & Navot, 1991:84-87; Chacho *et al.*, 1991:461-464; Betz, 1983:325 and Jones, 1980:126-129.)

Immunological factors can be diagnosed by means of various tests, such as the post-coital test or the sperm-cervical mucus contact test and can be treated by preparing and washing spermatozoa before

insemination or by occlusive therapy where the use of a condom is prescribed for a few months to reduce the antisperm antibodies.

From the above description of the female factors causing infertility, it can be understood why the infertility investigations take so long to complete and why infertility is such a complicated condition. Often various factors can play a role in causing infertility, making diagnosis and treatment even more difficult. Patients have to be informed of these aspects by the gynaecologist. The cause of their infertility and the treatment has to be explained to them, so as to reduce their fear and anxiety related to uncertainty and a lack of knowledge. The medical social worker, as part of the inter-disciplinary team, should also have a thorough knowledge of the causes of infertility, to help clarify misconceptions patients might have, and to assess the patient's insight in the problem.

Subsequently the male factors causing infertility will be discussed:

2.6.2 Male factors

The male causes can be understood better by referring to Figures 4, 5 and 6 in this chapter showing diagrams of the male genital and reproductive organs, as well as Appendix 1 in this thesis for the definitions of the medical terms used. The male factors which can cause infertility will subsequently be described:

2.6.2.1 Testicular causes of infertility

The testes are dual, oval-shaped organs, weighing approximately 25g. They have the ability to produce spermatozoa after puberty. The testes consist of two types of endocrine cells, namely, the Leydig and Sertoli cells, of which the former are responsible for the secretion of testosterone. The testes are situated in the scrotum, with the left testis on a lower level than the right one. The scrotum is surrounded on its posterior by the epididymis and the bottom portion of the spermatic cord. The primary function of the testis is the production of spermatozoa. (Compare De Kretser, Temple-Smith & Kerr, 1982:1-3; Chan, Cunningham & Lipshultz, 1982:116-119 and Van Niekerk, 1980:73.)

* **Primary testicular failure:**

Testicular function can be impaired due to an inherent or acquired defect of steroidogenesis or spermatogenesis, which is defined as primary testicular failure, according to Glezerman (1982a:171). Primary testicular failure can be caused by any of the following factors:

- **Genetic abnormalities:**

Genetic abnormalities, such as Sertoli-cell-only syndrome, maturation arrest of germ cells and structural defects or morphologic abnormalities of spermatozoa, are the genetic abnormalities which can cause primary testicular failure. (Compare Lipshultz, Cunningham & Howards, 1983:256; Busuttil *et al.*, 1983:129-130 and Glezerman, 1982a:172-173.)

- **Chromosomal abnormalities:**

Chromosomal abnormalities, such as Klinefelter's syndrome, associated with impairment of both spermatogenesis and Leydig cell function; XYY syndrome, associated with impaired spermatogenesis; Noonan's syndrome or Male Turner syndrome, associated with cryptorchidism and a hormonal imbalance; autosomal abnormalities, such as myotonic dystrophy, with impotence and premature baldness; and translocations are all causes of primary testicular failure. (Compare Baker, Burger, De Kretser & Hudson, 1986:351-352; Makler, 1986:51-52; Lipshultz *et al.*, 1983:250-251; Busuttil *et al.*, 1983:132; Glezerman, 1982a:173-177 and Chan *et al.*, 1982:121-122.)

- **Developmental abnormalities:**

This refers to abnormalities in the development of the testes, such as:

- **Congenital anorchism:** Anorchia or absence of testes, also known as the vanishing testes syndrome or pre-pubertal castrate syndrome, is a rare condition with small external genitalia, empty scrotum, high-pitched voice and other sexually immature male characteristics.
- **Cryptorchidism:** This refers to undescended testes after 5 to 7 years of age. Cryptorchid testes are small in size or are outside the scrotum.

- **Intersexuality:** This refers to the presence of a uterus, vagina and at least one Fallopian tube in males due to a chromosomal cause.

(Compare Makler, 1986:52; Baker *et al.*, 1986:352; Jequier, 1986:53-54; Lipshultz *et al.*, 1983:251 and Busuttill *et al.*, 1983:133-134.)

- **Acquired primary testicular failure:**

This refers to infectious diseases influencing testicular function, such as:

- + **Orchitis:** The mumps virus is an infectious cause of orchitis that leads to testicular failure. Other diseases that may cause orchitis are syphilis, malaria and leprosy. Post-pubertal mumps, however, is the most significant infection, and is often followed by orchitis. Unilateral orchitis, or orchitis in one testis, has a better prognosis, but seldom occurs, as the immune system will attack the other testis, causing bilateral orchitis, which usually leads to irreversible testicular failure and sterility. (Compare Du Toit, 1992; Baker *et al.*, 1986:352-353; Jequier, 1986:53; Lipshultz *et al.*, 1983:252; Chan *et al.*, 1982:127-128 and Glezerman, 1982a:181.)

- **Varicocele:**

The incidence of scrotal varicoceles is between 21% to 41% according to Saypol, Lipshultz & Howards (1983:299). Varicoceles are a dilatation of veins of the pampiniform plexus which may result from loss of valve action at the orifice of the internal spermatic vein at its entry into the renal vein. This allows blood from the renal vein to reflux freely into the internal spermatic vein with subsequent retrograde flow into the pampiniform plexus. The veins then dilate with subsequent varicose, known as varicocele. Varicoceles are unilateral and left-sided in 80-90% of cases. Unilateral right-sided varicoceles are rare, approximately 2%, and bilateral varicoceles are found in 20% of cases. With the presence of a varicocele, the thermal regulating system of the testicle becomes insufficient to reduce scrotal temperature. This results in a rise in scrotal temperature associated with a varicocele,

which has an effect on spermatogenesis. (Compare Laurence, 1989:40; Jequier, 1986:61-65; Saypol *et al.*, 1983:299-302; Nilsson, 1983:199-201; Netto, 1983:70-73 and Fenster & McLoughlin, 1982:210-211.)

- **Chemicals and drugs:**

Exogenous chemicals such as pesticides and drugs or medication may affect the testis directly or indirectly by affecting spermatogenesis and causing hormonal changes. (Compare Baker *et al.*, 1986: 353-354; Makler, 1986:52; Lipshultz *et al.*, 1983:254 and Chan *et al.*, 1982:130.)

- **Irradiation:**

High doses of ionizing irradiation will affect testicular function. (Compare Lipshultz *et al.*, 1983:254 and Chan *et al.*, 1982:130-131.)

- **Trauma:**

Trauma may result in spermatogenic failure. Such accidents can occur in sportsmen during games such as rugby, football and cricket, with a blow or kick to the testes (Jequier, 1986:52-53).

- **Aging:**

Age-related changes in men are less abrupt than in women. Endocrine aspects gradually change and similarly sperm production or spermatogenesis. Libido and potency during the aging process are also important factors that affect fertility. (Compare Lipshultz *et al.*, 1983:254-255 and Chan *et al.*, 1982:131.)

- **Other factors:**

Obesity, paraplegia, quadriplegia, sickle cell anaemia, polyglandular failure, uremia and chronic liver disease are all factors which can cause infertility due to testicular causes. (Compare Lipshultz *et al.*, 1983:255-256 and Chan *et al.*, 1982:131-132.)

- **Idiopathic infertility:**

Idiopathic testicular failure or idiopathic oligozoospermia, without any possible causes and which remains unexplained, can be attributed to primary testicular failure. (Compare Lipshultz *et al.*, 1983:256-257 and Chan *et al.*, 1982:133-135.)

Primary testicular failure can thus be caused by a variety of factors, requiring a thorough infertility investigation to make a diagnosis of primary testicular failure. Patients with primary testicular failure have a spermatogenesis defect or a production of sperm defect, or they have a steroidogenesis defect. The prognosis of primary testicular failure is not very good, but depends of course on the cause.

* **Secondary testicular failure:**

Testicular function may be impaired due to inadequate stimulation of steroidogenesis or spermatogenesis by the pituitary or hypothalamus. This is referred to as secondary testicular failure. This implies that the normal function potential of the testes is not expressed due to insufficient stimulation by gonadotropins. Failed gonadotropin secretion may result from pituitary or hypothalamic insufficiency (Compare Makler, 1986:52 and Glezerman, 1982a:181). Secondary testicular failure can be caused by any of the following factors:

- **Hypothalamic failure:**

Hypothalamic failure is referred to as hypothalamic hypogonadotropic hypogonadism. Hypothalamic failure to secrete the gonadotropin-releasing hormone (GnRH) will prevent the synthesis of pituitary gonadotropins and lead to hypogonadotropic hypogonadism. Certain physical features such as obesity and short stature, and congenital defects such as colour blindness, cleft lip, cleft palate and cryptorchidism are associated with hypothalamic failure. Hypothalamic failure causes secondary testicular failure and a deficiency in FSH, LH or both. (Compare Wong & Jones, 1983:232-234 and Glezerman, 1982a:181-182.)

- **Pituitary failure:**

Pituitary failure is referred to as hypopituitarism. Hypopituitarism may be due to pituitary tumours, infection and infiltrative processes and may be a consequence of radiation or surgery. In prepubertal hypopituitarism major clinical features are growth retardation and deficiency symptoms of adrenal and thyroid involvement. Post-pubertal hypopituitarism is expressed initially by reduced libido, potency and fatigue. Hypopituitarism may result in

insufficient secretion of either FSH or LH. Testicular function may also be impaired by the excessive secretion of other pituitary hormones interfering with spermatogenesis, such as prolactin, referred to as hyperprolactinemia, an estrogen excess and an androgen excess. (Compare Wong & Jones, 1983:234-237 and Glezerman, 1982a: 182-184.)

- **Thyroid disorders:**

Hypothyroidism or decreased thyroid function and hyperthyroidism or increased thyroid function both have an effect on spermatogenesis by suppressing it (Wong & Jones, 1983:237).

- **Diabetes Mellitus:**

Patients with diabetes mellitus may have diminished testicular function because of arteriosclerosis of the testicular arteries, according to Wong & Jones (1983:237).

Secondary testicular failure is mainly caused by endocrine disorders. Effective treatment of endocrine abnormalities by medication or hormone therapy usually has a good prognosis. Other causes, such as tumours in or about the pituitary, can be treated by surgery or radiation. To determine secondary testicular failure requires a thorough infertility investigation and if discovered early and treated appropriately, it can have a good prognosis.

Testicular causes of infertility are numerous and can affect spermatogenesis or endocrine function. The prognosis varies, depending on whether it is primary or secondary testicular failure and on what factor or factors contribute to the testicular failure.

2.6.2.2 Disorders of sperm transport

Spermatozoa are produced in the testes and once they mature, they are stored in the ampulla. During emission and ejaculation they move along the vas deferens, obtaining fluid from the seminal vesicles and prostate gland after going through the ejaculatory duct into the urethra, after which ejaculation takes place. (Compare Hudson *et al.*, 1980:78 and Barker, 1980:54-55.) Disorders in any of the above will cause an obstruction in sperm transport. About 6% to 7% of

infertility cases are caused by obstruction of sperm transport, according to Chan *et al.*, (1982:135). Disorders of sperm transport can be due to either mechanical or functional obstruction:

* **Mechanical obstruction:**

Mechanical obstruction can be attributed to:

- **Congenital abnormalities:**

The most common congenital abnormality of the male ductal system is atresia of the cauda epididymis or the proximal part of the vas deferens. Absence of the vas deferens may occur unilaterally or bilaterally and may be accompanied by absence of the seminal vesicles or part of the epididymis. Congenital defects of the epididymis include a cyst in the head of the epididymis, constriction with fibrosis in the middle of the epididymis, separation of the two halves of the epididymis, absence of the lower half of the epididymis and an extended epididymis. Congenital defects of the vas include obliteration of a short length of the vas, absence of a short length of the vas, obstruction of a length of the vas and absence of the whole length of the vas. (Compare Lipshultz *et al.*, 1983:257-258; Chan *et al.*, 1982:135-137 and Hudson *et al.*, 1980:95-96.)

- **Acquired obstruction:**

Mechanical obstruction can be acquired from the following causes:

- . **Infections:** Bacterial and viral infections are the main causes of mechanical destruction. These include gonorrhoea, tuberculosis, staphylococcus, streptococcus, pseudomonas, and in rare cases smallpox and bilharzia. (Compare Lipshultz *et al.*, 1983:258; Chan *et al.*, 1982:137 and Wagenknecht, 1982:222-224.)
- . **Surgical trauma:** Voluntary sterilization by vasectomy is by far the most common cause of ductal obstruction. Reversal is usually unsuccessful. Unintentional surgical injury to the vas deferens or the epididymis has been reported following varicocelectomy, hydrocelectomy, vasography, herniorrhaphy or herniotomy and orchiopexy. The injury can be direct

severance of the ductal system, vascular, neurologic or inflammatory insults may also be contributory. (Compare Lipshultz *et al.*, 1983:258-259; Chan *et al.*, 1982:137-138 and Wagenknecht, 1982:224-228.)

Mechanical obstruction of sperm transport causing infertility can thus be caused by congenital abnormalities or by acquired obstruction, caused by infection or surgical trauma. The prognosis depends on the cause and the severity. Mechanical obstruction also has long-term effects, according to Chan *et al.* (1982:138-142). It can affect testicular morphology and can cause biochemical and immunological changes.

Thus the sooner it is diagnosed by means of a thorough infertility investigation, the fewer long-term effects there will be and the sooner the patient can be treated.

* **Functional obstruction:**

Functional obstruction can be due to sympathetic denervation. After mature spermatozoa are transported along the ductal system, they must be deposited with seminal plasma in the posterior urethra (emission) and expelled along the anterior urethra (ejaculation) to be deposited over the cervical os of the female. The sympathetic nervous system plays a major role in these two functions. Any disorder of the sympathetic nervous system, such as in diabetic men with autonomic neuropathy, who usually have retrograde ejaculation due to the failure of sympathetic mediated bladder neck closure, can cause a functional obstruction in the transport of sperm. Similar sympathetic nervous system dysfunction can also result from certain forms of medication. (Compare Lipshultz *et al.*, 1983:259 and Chan *et al.*, 1982:143.)

Functional obstruction is caused in the transport of sperm, when any dysfunction of the sympathetic nervous system is present. This causes problems regarding emission and ejaculation.

Disorders of sperm transport can thus be mechanical with congenital or acquired obstruction, or functional with sympathetic nervous

system dysfunction.

2.6.2.3 Erectile dysfunction and impotence

Normal erectile function is a product of vascular, endocrine and neurologic influences. Penile tumescence or rigidity, is essentially a vascular phenomenon, mediated by autonomic nerves. During erection, engorgement of the corpora cavernosa is brought about by preferential redirection of blood flow into the spongy spaces of the corpora cavernosa, by unimpaired arterial supply. It is the function of the nervous system to effect this shunting of blood. The patency of vascular channels in the erectile tissue and venous drainage by the deep dorsal veins is also of utmost importance. Erection results from maximal arterial supply, while the venous drainage is shut down. (Compare Benson & McConnell, 1983:165-169; Krane & Siroky, 1982:61 and Bandhauer, 1982b:402.)

Any abnormality or dysfunction in the process of erection can cause erectile failure and impotence. These causes can be organic or psychogenic:

* **Organic causes:**

The following are organic causes of erectile dysfunction and impotence:

- **Congenital:**

There are certain congenital abnormalities which cause erectile dysfunction:

- . **Hypospadias:** This is a developmental abnormality of the penis and urethra in which the urethral meatus is situated on the anterior of the penis at any point from the glans to the perineum. It is caused by an endocrine abnormality.
- . **Epispadias:** The shaft of the penis and the glans is affected and the urethra is placed dorsally, forming a gutter between the two corpora cavernosa.
- . **Exstrophy:** The entire bladder is everted onto the lower abdomen and epispadias also occurs.
- . **Diphallia:** This is a duplication of the whole or a portion of the penis. It may range from a mere split at the glans to two well-developed penises.

- . **Microphallus:** This is a micropenis and is approximately 1cm at birth.
- . **Peno-scrotal transposition:** The penis, developed to a greater or lesser degree, lies behind a well-formed scrotum.
- . **Phimosis:** This refers to a constricted foreskin which cannot be retracted over the glans, causing painful engorgement of the glans and painful erection. Circumcision is an effective form of treatment.
- . **Other congenital abnormalities:** Agenesis of the corpora cavernosa, testicular agenesis, Klinefelter's syndrome, Noonan's syndrome or Male Turner's syndrome, and spina bifida are further congenital abnormalities causing erectile dysfunction.

(Compare Hargreave, Pryor, Jequier & Crich, 1983:246-248; Cromie, 1982:143-160; Bandhauer, 1982b:402-403 and Stroom, 1982:31-42.)

- **Acquired:**

The following are acquired causes of erectile dysfunction:

- . **Diseases:** Penile carcinoma, renal failure, liver disease, heart disease and Peyronies disease which cause painful erection and curvature of the penis.
 - + **Neurological:** Central nervous system: Head injuries and tumours.
 - + **Peripheral:** Trauma, tumours, side-effects of neurological treatment; spinal cord injuries, multiple sclerosis and lumbar disc disease.
- . **Vascular:** Large vessel disease such as atherosclerosis; small vessel disease; blood pressure changes; priapism, caused by leukemia, pelvic vein thrombosis or sickle cell anaemia; and angina.
- . **Endocrine:** Diabetes mellitus, hypothyroidism, hypopituitarism, hyperprolactinaemia, lack of androgens and exogenous estrogens.
- . **Trauma and surgical trauma:** Fracture of the penis or injury to the erectile tissue, fracture of the pelvis, amputation of the penis, radical prostatectomy, aorto-iliac surgery, lumbar-sympathectomy, bladder-

neck surgery, colectomy, proctectomy, bilateral orchiectomy, cystoprostatectomy and other radical pelvic surgery. Colostomy and ileostomy may cause erectile dysfunction secondary to surgery.

- . **Inflammation:** Acute urethritis and prostatitis.
- . **Alcohol, drugs and smoking:** Alcohol abuse and most addictive drugs such as barbiturates, opiates, cannabis and nicotine.
- . **Side-effects of medical treatment:** Radiation therapy, hemodialysis, certain endocrine drugs, antihypertensives, anticonvulsants, cardiac drugs, psycho-active therapeutic drugs, such as anorectics, antidepressants and immuno-suppressives.

(Compare Hargreave *et al.*, 1983:247-248; Bandhauer, 1982b:403-406; Kockott, 1982:196-198; Wagner, 1982:128-132; Bennett, 1982:135-140; Cromie, 1982:143-160; Jarowenko & Bennett, 1982:163-167; Bailey, 1982:175; Yalla, 1982:182-187 and Romano, 1982:195-196.)

The organic causes of erectile dysfunction and impotence can thus be congenital or acquired. It is important that a thorough medical history is obtained from the patient for information which might help in making a diagnosis. All the necessary examinations should also be performed to make a final diagnosis and a recommendation for treatment. Methods used for diagnosis of impotence are: Endocrine evaluation, neuromuscular evaluation and the Nocturnal penile tumescence method (NPT), where a patient is monitored for 3 nights in hospital for penile rigidity during sleep, while connected to various monitors, according to Karacan & Moore (1986:548-551). Furthermore, Virag (1982:108-124) describes other methods used in the vascular evaluation of impotence, such as the Doppler method for penile arterial pressure, artificial erection with cavernosography and arteriography.

Thus the investigations regarding impotence or erectile dysfunction seem to be a further field of specialization, which are not carried out on a routine basis during an infertility investigation. If erectile dysfunction is, however, diagnosed, the patient will be referred for these specialized investigations.

* **Psychogenic causes:**

The vast majority of sexual dysfunctions in men are primarily due to psychogenic factors. Typically psychogenic impotence occurs only during partner contact, with spontaneous erections at night and in the morning remaining undisturbed. Erections are also undisturbed during masturbation (Kockott, 1982:198-199).

Psychogenic sexual dysfunction can be caused by intrapsychic conflict rooted in infantile and childhood experiences such as incest or sexual abuse. Men who come from religiously rigid backgrounds, where sex was never discussed or was seen as dirty and sinful, or men who were sexually repressed, often experience psychogenic impotence. Men who had a close relationship with their seductive mother, often develop strong unconscious feelings of incest guilt and castration anxiety. Impotence can also be a result of performance anxiety, which is the most common cause, or of sexual immaturity and fear of intimacy. Furthermore, marital conflict and situational problems, such as lack of privacy, ignorance and remnants of culturally engendered sexual guilt, are also factors which can lead to sexual dysfunction (Karacan & Moore, 1982:46-48).

Thus, performance anxiety seems to be the most common psychogenic cause of sexual dysfunction in men. Low self-image can also play a major role in this regard. Men often fear being a failure sexually, and being ridiculed or rejected. This anxiety usually causes impotence and the above fears, which often become a regular experience of impotence.

Figures in this regard are quoted by Karacan & Moore (1982:48) from a study performed with young men with erectile dysfunction. They found that 44% of these patients feared sexual inferiority and ridicule by their partner. Hampson (1986:524-527), regards anxiety, fear and anger to be the most powerful suppressants of sexual appetite and erection.

Thus the medical social worker can perform an important task in assessing and dealing with the patient's anxieties, fears and

anger or any other emotional or psychosocial problem causing impotence. Individual, marital or sex therapy can be provided by the medical social worker to help reduce the psycho-social factors causing erectile dysfunction. If these problems seem to be of a psychological or psychiatric nature, the patient should be referred to a psychologist or psychiatrist.

2.6.2.4 Emission and Ejaculatory dysfunction

Ejaculatory disorders account for approximately 10% of male infertility problems, according to Hargreave *et al.* (1983:250). Three sexual functions are necessary: Erection, emission and ejaculation. Erectile dysfunctions were discussed in the above section. The ejaculation process comprises three different stages following in rapid sequence:

- * **Seminal emission** into the posterior urethra.
- * **Bladder neck closure** to avoid retrograde ejaculation.
- * **Antegrade ejaculation** through the urethral meatus.

During the seminal emission stage, the seminal fluid is released into the posterior urethra. This is the result of contractions of smooth muscles of the epididymis, the vas deferens, the seminal vesicles and the prostate gland. Simultaneously the second stage, the bladder neck closure, takes place by smooth muscle contractions, preventing retrograde ejaculation. The smooth muscle tissue of the internal bladder sphincter aids in maintaining urinary continence during intercourse. The third stage, ejaculation, refers to the passage of the semen through the urethra and its expulsion or antegrade ejaculation from the urethral meatus. Emission and bladder neck closure are a result of sympathetic nerve control and ejaculation of parasympathetic control.

Any dysfunction in the above stage causes ejaculatory dysfunction. The following are organic causes of ejaculatory dysfunction:

- * **Organic causes:**

The following are organic causes of the different emission-ejaculatory disorders:

- **Emission failure:**

Emission refers to the release of seminal fluid into the

posterior urethra. Emission failure can be attributed to the following organic causes:

- . **Congenital:** Defects of the sympathetic nerve system and malformations of the internal genitalia or urinary system.
- . **Acquired:**
 - + **Neurogenic:** Spinal cord injury causing para- or quadriplegia, multiple sclerosis and diabetic neuropathy.
 - + **Surgery:** Bilateral lumbar sympathectomy, retroperitoneal lymphadectomy, bladder neck surgery, rectal surgery.
 - + **Medication:** Sympatholytic drugs.
- **Retrograde ejaculation:**

Retrograde ejaculation refers to the expulsion of semen into the bladder. The following are organic causes of retrograde ejaculation:

 - . **Congenital:** Defects of the sympathetic nerve system and malformations within the internal genitalia and urinary system.
 - . **Acquired:**
 - + **Neurogenic:** Spinal cord injury causing para- or quadriplegia, multiple sclerosis and diabetic neuropathy.
 - + **Surgery:** Prostatectomy with bladder neck resection; open bladder neck resection or transurethral bladder neck resection during childhood; retroperitoneal lymphadenectomy, lumbar sympathectomy, rectal surgery and aorto-iliac surgery and any abdomino-perineal resection.
 - + **Obstruction:** Ectopic ureterocele, urethral stricture, urethral rupture, urethral valve dysfunction.
 - + **Medication:** Sympatholytic drugs.
- **Anejaculation:**

Anejaculation refers to absent or delayed ejaculation and can be caused by the following:

 - . **Congenital:** Defects of sympathetic nerve system and malformations of the intergenitalia or urinary

system.

. **Acquired:**

- + **Neurogenic:** Spinal cord injury causing para- or quadriplegia, multiple sclerosis, diabetic neuropathy.
- + **Surgery:** Lumbar sympathectomy and abdominal aortic surgery.
- + **Trauma or obstruction:** Genital trauma, urethral stricture.
- + **Medication, drugs and alcohol:** All drugs that decrease libido also lead to delayed or absent ejaculation. This includes antihypertensives and barbiturates. Chronic alcoholism also causes anejaculation.
- + **Aging and fatigue:** These factors also play a role in causing anejaculation.

- **Premature ejaculation:**

This is mainly a psychogenic disorder, but can be caused by organic factors as well:

- . **Infections:** Urethritis and prostatitis.

(Compare Laurence, 1989:43; Schill, 1986:599-604; Jequier, 1986:91-93; Hargreave *et al.*, 1983:250-255; Benson & McConnell, 1983:176-181; Kockott, 1982:197-198; Bandhauer, 1982b:406-407; Krane & Siroky, 1982:64-65; Kedia, 1982:37-50 and Collins, 1982:181-183.)

These organic causes of emission and ejaculatory dysfunction need to be carefully investigated to make a diagnosis. The medical history of the patient is also of importance in this regard to obtain the necessary information which could help in making a diagnosis.

* **Psychogenic causes:**

The following are psychogenic causes of emission and ejaculatory disorders:

- **Premature ejaculation:**

This refers to ejaculation that occurs before the person wishes it to occur. The cause is mainly psychogenic. Ejaculation occurs at inappropriate times, such as during

great excitement, sexual arousal, foreplay, before penetration or straight after penetration. It usually occurs in sexually immature young men, during their first intercourse experience and can possibly be attributed to the transition from masturbation to sexual intercourse. It can usually be successfully treated in sex therapy in training the couple to use the "squeeze technique" and in prescribing frequent intercourse.

- **Anejaculation:**

Anejaculation, or a failure to ejaculate, is often caused by psychogenic factors. It may be selective due to unconscious conflicts, where the patient is unable to ejaculate during intercourse with his wife, but is able to masturbate or ejaculate from an erotic dream. (Compare Schill, 1986:603; Hargreave *et al.*, 1983:252; Kockott, 1982:198-199 and Kedia, 1982:50.)

The medical social worker can perform an important task in assessing the possibility of psychogenic causes of ejaculatory dysfunction during a psycho-social assessment interview. Furthermore, sex therapy can be provided by the medical social worker, as well as marital or individual therapy to resolve this problem.

Thus ejaculatory dysfunction can be either of organic or psychogenic origin. A thorough investigation on medical and psycho-social grounds is necessary to make a correct diagnosis. In the case of psychogenic causes, the medical social worker can provide sex therapy or marital therapy to resolve the problem. If of a deeper psychological or psychiatric nature, the patient must be referred to an appropriate psychiatrist or psychologist for therapy.

A few of the medical examinations which are specifically implemented to diagnose the organic causes of ejaculatory dysfunction are described by Jequier (1986:94-96). These are a cystoscopy, urethroscopy, vasography and hormone evaluation. Ejaculatory disorders can be treated with drug therapy or surgery, depending on the cause and the prognosis. Infertility patients with retrograde ejaculation can be treated by implementing post-ejaculatory catheterization. Liquids are restricted for 6 hours and the patient

urinates before the bladder is catheterized and washed out. Immediately after the patient has ejaculated, the semen is retrieved and artificial insemination can be performed.

2.6.2.5 Disorders of spermatozoa

Various disorders of the spermatozoa can cause infertility problems. These spermatozoal disorders were described in the infertility investigation earlier in this chapter and will merely be mentioned in this section.

- * **Asthenozoospermia:** A low motility.
- * **Oligozoospermia:** A low density.
- * **Azoospermia:** Absence of sperm.
- * **Teratozoospermia:** A high presence of abnormal sperm.

These are the most common spermatozoal disorders which occur. Other disorders according to Ludwig & Frick (1987:2) and Du Toit (1992) are:

- * **Aspermia:** Absence of semen.
- * **Hypospermia:** Insufficient semen.
- * **Hyperspermia:** Too much semen.
- * **Hemospermia:** Blood present in semen.
- * **Pyospermia:** Pus present in semen.
- * **Necrozoospermia:** Spermatozoa present are dead.
- * **Globozoospermia:** Only round-headed spermatozoa.
- * **OTA syndrome:** Oligoteratoasthenozoospermia syndrome.

Thus it is evident that there are various disorders of spermatozoa. The OTA syndrome has a very poor prognosis and many patients at the infertility clinic of the H.F. Verwoerd Hospital were diagnosed with this syndrome, with donor infertility treatment as the only option. Immunological or biochemical disorders might also be present in spermatozoa which were described in the male infertility investigation earlier in this chapter. Further disorders of spermatozoa may only be present when male and female factors combine, such as sperm-mucus contact, or sperm-ova contact, which were described in the combined examinations earlier in this chapter.

The causes of male infertility are numerous and complicated. If combined factors are contributing to infertility, it is the more difficult to make the diagnosis and to treat the problem. Patients should be made aware of what the cause of their infertility problem is and of the treatment options available.

The medical social worker should have a thorough knowledge of the female and male causes of infertility. It should be assessed whether patients are aware of and understand what the cause of their infertility problem is. Any misconception or uncertainties and related anxiety can be dealt with by the medical social worker.

2.6.3 Combined factors

Combined factors refer to both male and female factors contributing to the couple's infertility problem. Porter & Christopher (1984:311) and Valentine (1986:61), state the incidence of combined infertility factors in couples to be 20% of all infertile couples.

A combined cause of infertility can include male and female factors contributing to infertility, as discussed in the two previous sections, as well as factors such as lack of knowledge regarding the ovulatory cycle and infrequent coitus. In Finland a study was performed on 98 infertile couples in this regard by Rantala & Koskimies (1988:27), and their average coital frequency was found to be 7 times per month. This is reasonably low and will decrease the chances of conception. The norm which was used at the infertility clinic at H.F. Verwoerd Hospital and which was prescribed to couples, was intercourse at least 4 times a week to achieve conception.

Other factors such as stress and emotions also play a large role in affecting fertility. Masters & Johnson (1976:548) define intercourse in this regard as: "... a natural reflexive physiologic phenomenon which can be disrupted by anxiety, depression and stress". Thus psychological and emotional factors together with physical factors can also play a role in disrupting sexual functioning and decreasing the chances of conception. The medical social worker should inform couples of this possibility and assess this during counselling to develop insight in this regard.

Psychogenic infertility will be discussed in the following section.

2.6.4 Psychogenic infertility

Psychogenic infertility refers to infertility caused by psychological or psychopathological factors. Greenfeld, Diamond, Breslin & De Cherney (1986:73-74) refer to psychogenic infertility as including psychological factors such as stress and its effect on the endocrine system. Psychogenic infertility, according to Bell (1983:46), on the other hand, refers to: "... a state where psychopathology is thought to play a part in the cause of infertility. Although there is no consistent evidence that those with neurosis and personality disorders have reduced fertility, some major psychiatric disorders such as schizophrenia, manic-depression, depression and anorexia nervosa, seem to be associated with decreased fertility". However, Platt, Ficher and Silver (1973:975) in their study of the personality traits and self-ideal concept discrepancies of infertile couples, provide evidence of neurosis and personality disorder playing a role in their findings, where a high level of anxiety, neuroticism and emotional disturbances were found among the infertile group, compared to the control group. Mai, Munday & Rump (1972:431) in a similar study found more hysterical and aggressive personality disorders, as well as ambivalence and difficulty concerning sexual relationships among infertile females, compared to fertile females.

Thus the causes of psychogenic infertility from the above-mentioned studies, seem to include psychopathology, such as psychiatric disorders, neurosis, personality disorders, anxiety disorders, hysteria and emotional disturbances, as well as psychological factors such as stress.

A description of psychogenic infertility including both psychological and psychopathological factors are provided by Christie (1980:231-234), dividing psychogenic infertility into three main categories:

* **"Group 1:**

Women whose infertility seems to disappear spontaneously, perhaps during investigation.

* **Group 2:**

Women with a more resistant block to conception seeming to

derive from some external stressful situation.

* **Group 3:**

Women whose infertility appears to represent a deep and persisting psychosomatic defence against an inner psychic danger, that is, some internal threat to the woman's mental health posed by the prospect of conception and motherhood".

These categories serve as an illustration of how psychogenic infertility can vary from a mild psychological or stressful origin to a severe psychopathological origin. The medical social worker can play an important role in assessing the possibility of psychogenic infertility during the initial assessment interview before the infertility investigations commence. If psychogenic factors are found to be the cause of the couple's infertility, time and money can be saved, by not going unnecessarily through all the infertility investigations, but referring the couple to a psychiatrist or psychologist.

It is interesting how the majority of these studies show a strong sexual prejudice against women, by only referring to the results found in the female group and not mentioning the male group, even though the titles of the studies focus on the couple. This gives the impression that it is mostly females who are the cause of psychogenic infertility. This of course is incorrect, as psychogenic factors in the male play a major role in causing erectile and ejaculatory dysfunction, which are two of the major causes of infertility in the male. Thus these studies do not provide an accurate picture of psychogenic infertility, but in fact, a rather one-sided one.

An interesting statement regarding the findings of studies is made by Rosenfeld & Mitchell (1979:178) by pointing out that most studies of psychogenic infertility are retrospective and can produce conflicting data. Rosenfeld & Mitchell (1979:178) state the following: "These studies should follow couples from the time of marriage until the completion of their desired family or until the recognition of involuntary childlessness". Researcher is of the opinion that this is an unrealistic recommendation, as couples at the time of marriage are usually unaware of their infertility problem. Furthermore, it would be a very costly study to undertake if couples,

not knowing whether they are fertile or infertile, are studied from the time of marriage until completing their family or until experiencing infertility, as only a small portion, if any of this group would represent infertile couples, which would not be a study which could represent the general infertile population. The comparison between the fertile and infertile couples would, however, be very interesting.

Often psychogenic infertility is caused by psychogenic sexual dysfunction in male and/or female. Renshaw (1983:453) defines sexual dysfunction as "... impaired, incomplete or absent expressions of normally recurrent human sexual desires and responses". Psychogenic sexual dysfunction thus refers to psychological or emotional problems causing sexual dysfunction. Hampson (1986:521) furthermore states: "It is helpful to understand sexual dysfunction by conceptualizing these male and female dysfunctions in the three phases of sexual response, namely the desire, the excitement and the orgasm phases". Renshaw (1983:66) of the Sexual Dysfunction Clinic at Loyola University, Chicago, U.S.A., describes these three phases of sexual response differently, as the arousal, the plateau and the orgasm/climax phases. Masters & Johnson (1966) of the Masters & Johnson Institute in St. Louis, U.S.A., with whom researcher had an interview (Masters, 1987) and Sarrel (1986:73-86) furthermore describe four phases of sexual response, namely, the excitement, plateau, orgasm and resolution phases. Psychogenic sexual dysfunction can therefore refer to psychological and emotional factors which impair the phases of sexual response.

The above-mentioned different sexual response phases have been integrated to create a unique approach and will subsequently be described as: **The five phases of sexual response:**

*** Desire phase:**

Sexual desire is a phenomenon which most people understand intuitively, but which is less well understood scientifically. Differences in sexual desire levels do occur, and patients often complain of a decline in desire. Sexual desire usually exists from childhood to late life. In males, the peak of sexual desire is between 16 and 20 years of age, with a gradual decline

thereafter, but at no time does sexual desire in the healthy male completely disappear. In the female sexual desire increases at puberty and continues to increase to peak later in life between 35 and 40 years of age, after which it slowly declines.

Sexual desire can be inhibited by anxiety, fear, depression, malaise, pain and many other factors. Renshaw (1983:65) refers to this as ISD or inhibited sexual desire. Women are more easily affected by emotional factors than men, especially during the early years of peak sexual desire. As males age, between 40 and 50 years of age, their vulnerability to psychological or emotional factors affecting sexual desire, becomes equal to that of the female. Thus as the individual ages, stress and emotional factors become a more and more important influence on sexual desire. According to Hampson (1986:524-526), anxiety, fear and anger are the most powerful of the psychological suppressants of sexual desire and performance. Furthermore, tenderness and affection provide an optimum environment for comfortable sexual expression and sexual desire. On the other hand, organic factors such as hormonal disorders can also cause impaired sexual desire.

Androgen (testosterone) is essential for sexual desire in both males and females and a decrease or absence of androgen results in diminished sexual desire or libido. Hampson (1986:522) classifies desire phase disorders into hyperactive or increased sexual desire and hypo-active or decreased sexual desire. Desire phase disorders can be primary, that is, of lifelong origin, or secondary, that is, of more recent origin.

Impaired sexual desire does not respond as well to sex therapy as do the excitement or the orgasmic phase disorders (Hampson, 1986:526). Thus the sex therapy techniques have to be modified for the desire phase by increasing the duration of treatment and by paying more attention to dealing with underlying emotional factors.

Sexual desire, as the first phase of sexual response, is mainly

impaired by emotional and psychological factors, or psychogenic factors, which create a turn-off mechanism and lead to decreased sexual desire. Organic factors can also play a role, such as endocrinological disorders, or more specifically decreased or absent androgen, can also contribute to decreased sexual desire or libido. If sexual desire disorders are psychogenic, emotional or interpersonal, it can be treated by means of sex therapy, or if endocrinological by means of hormone therapy. Desire phase disorders can be primary or secondary and can also be a combination of both organic and psychogenic factors. Primary disorders will most probably have a poorer prognosis compared to secondary disorders.

* **Excitement phase:**

The excitement phase begins within seconds of an arousing stimulus, according to Sarrel (1986:73), and is marked by increasing peripheral blood flow and vasocongestion. External genital responses of this phase, Sarrel (1986:74) states, include erection of the penis in the male and erection of the clitoris and labia in the female. Furthermore, Sarrel (1986:74) regards the most important change during this phase to be that of the internal female genitalia, which he states, "... is the hallmark of the excitement phase, and the formation of a transudate on the vaginal wall". This above statement, refers to the vaginal secretions which exude through the vaginal wall like sweat, to create a lubricant important for sexual intercourse. Sarrel (1986:75-76) also mentions that the penile erection which develops during this phase does not have the stability or degree of hardness of the erection in the following phase. Extra-genital changes of this phase, he also states, include changes in the skin, with skin feeling warmer, as a result of the increased blood flow, with noticeable changes in the face, neck and upper torso. Researcher is of the opinion that mutual tactile stimulation during this phase, is of utmost importance for the physiological changes to occur. Most sexual problems originate in this phase due to couples moving hastily through this phase and not stimulating each other sufficiently. This can be corrected by means of sex therapy.

Excitement phase disorders in the male, according to Hampson (1986:522), include erectile dysfunction or impotence and can be primary (lifelong) or secondary (of recent origin). Erectile dysfunctions are mainly of psychogenic origin, including emotional and psychological factors such as fear, anxiety and depression. Erectile dysfunction can also in some instances be of organic origin.

Excitement phase disorders in the female, according to Masters & Johnson (1970:37), include impaired vaginal lubrication and painful intercourse or dyspareunia due to emotional and psychological factors such as anxiety, fear, lack of sexual desire, inability to think or feel sexually, and fear of sexual performance, pain or pregnancy. Renshaw (1983:453) also mentions vaginismus or involuntary vaginal spasm as causing sexual dysfunction. This is usually related to fear and anxiety.

Excitement phase disorders can be treated by means of sex therapy if of psychogenic, emotional or interpersonal origin or by means of medical treatment if of physiological origin.

* **Plateau phase:**

The plateau phase, according to Sarrel (1986:76) is: "... composed of continuing vascongestion and increasing muscle tension. The changes appear to further coital connection and to prepare the male internal genitalia for emission and female internal genitalia for reception of seminal fluid". Furthermore, in the female, the Bartholin gland plays an important role in lubrication, the perineal muscles contract to widen the vaginal opening, the vagina expands, the uterus elevates and the vaginal secretions form an internal pool to support the survival of sperm. In the male, a full erection is established, Cowper's gland secretions coat the urethral passage, the testicles rotate and elevate and the foreskin retracts. (Compare Sarrel, 1986:76.) Thus the plateau phase is the phase in which muscle tension and blood flow increase and other important physiological changes take place which eventually lead to the next phase of orgasm. Any physiological, psychogenic, emotional or

interpersonal problems experienced in this phase will inhibit orgasm from occurring.

* **Orgasm phase:**

During the orgasm phase, as stated by Renshaw (1983:65), "... there is a build-up of vasoneuromuscular genital tension which culminates in a peak, with a sudden discharge of tensions and tonic-clonic muscle contractions of all large and small muscles of the body". Orgasm can thus be described as the height of sexual intercourse with muscle tension increasing to the breaking point, with ejaculation occurring in the male, with both the male and the female experiencing rhythmic muscle contractions. Many couples struggle to achieve an orgasm or climax, leaving them with an unfulfilled or frustrating sexual relationship, which often leads to marital problems.

Orgasmic phase disorders, according to Hampson (1986:522), include premature orgasm, or premature ejaculation and inhibited orgasm, that is, anorgasm, retarded orgasm or retarded ejaculation. Renshaw (1983:453) regards orgasmic dysfunctions as primary orgasmic dysfunction (lifelong) or situational orgasmic disorder (previously orgasmic) in females, and premature or delayed ejaculation in males.

Thus orgasmic phase disorders are mainly caused by psychological, emotional and interpersonal factors which inhibit orgasm, but other factors such as physiological factors can also play a role. Psychogenic, emotional or interpersonal disorders can be treated by means of sex therapy.

* **Resolution phase**

During this phase the female's uterus gradually descends in the pelvis, bringing the cervix in contact with the pool of mixed seminal and vaginal fluids. The engorged outer third of the vagina, slowly returns to a non-aroused state as does the expanded upper vagina. The gradual nature of these changes serves to hold seminal and vaginal fluids for a longer period of time. The male penis returns to its flaccid state in this phase (Sarrel, 1986:76).

The resolution phase is thus the final phase of sexual response and one in which the physiological changes return to their normal state and psychologically and emotionally a feeling of total fulfilment, satisfaction and relaxation is experienced.

The different sexual response phases provide an illustration of how amongst other factors, psychogenic factors can play a role in causing sexual dysfunction in both the male and the female. These phases should also be explained to couples during therapy, to develop insight regarding the possible factors contributing to sexual dysfunction and especially psychogenic infertility.

Stress is another factor which can contribute to psychogenic infertility, and with today's stressful way of life, stress is most probably playing an increasing role in contributing to psychogenic infertility.

It is important that a couple with suspected psychogenic causes of infertility, is referred to a medical social worker, psychologist or psychiatrist for a thorough assessment of possible contributory factors, as well as for individual, marital or sex therapy.

2.6.5 Idiopathic or unexplained infertility

Idiopathic or unexplained infertility, refers to infertility, where no organic (that is, physiological), psychogenic or combined male and female factors can be found to be the cause of the infertility problem. McBain & Pepperell (1980:164) define unexplained infertility as: "When conception fails to occur after one to two years has elapsed and no major or minor abnormality can be detected in either partner, their infertility is unexplained". They state further that this particular category of infertility is difficult to treat, as a rational basis for therapy cannot be determined.

Unexplained infertility is usually experienced as a frustrating situation by both the couple and the medical team, as a definite cause cannot be found and treated, in order to commence with infertility treatment. Van Hall (1984:361), points out in this regard that in cases of unexplained infertility, it is impossible for both sides to explain and difficult to accept the failure to conceive in

the absence of any abnormalities.

On the other hand, unexplained infertility should, however, as stated by Pepperell & McBain (1985:569), only be diagnosed when the woman has been shown to be ovulating regularly, to have patent Fallopian tubes, no peritubal adhesions, fibroids or endometriosis and to have a sexual partner with normal sperm production. Intercourse must have taken place regularly, especially around the time of ovulation, and the infertility must be at least of two years duration. Thus gynaecologists must complete a thorough infertility investigation before a diagnosis of unexplained infertility is made. Pepperell & McBain (1985:569) recommend three alternatives for couples with unexplained infertility: Awaiting spontaneous pregnancy, the use of clomiphene or in-vitro fertilization. Coulam, Moore & O'Fallon (1988:1374) on the other hand, propose as part of the infertility investigation, ultrasound monitoring of folliculogenesis, sperm antibody testing, hamster egg penetration assay and major histocompatibility antigen typing, which can reduce the diagnosis of unexplained infertility by 60%.

The incidence of idiopathic or unexplained infertility affects approximately 10% of all infertile couples, according to McBain & Pepperell (1980:165). They also estimate couples with primary unexplained infertility to have a 36.2% chance of conceiving over a period of seven years. Thus many infertile couples are faced with this problem and will need emotional support from the medical social worker. Harrison *et al.* (1984:374), found in their study that patients with idiopathic infertility are biochemically and psychologically more stressed than their fertile counterparts. Stress can therefore be a major contributing factor to idiopathic infertility. With today's fast, pressurized and stressful way of life, it is understandable that stress can cause infertility problems and why the incidence of infertility is constantly increasing. Once unexplained or idiopathic infertility is suspected, the couple should be referred to a medical social worker for supportive counselling regarding this state, which usually causes feelings of uncertainty, helplessness and frustration. A psycho-social assessment interview could be useful in determining possible factors causing stress and contributing to the unexplained infertility.

It is evident from this entire section regarding the causes of infertility that there are various female, male, combined, psychogenic and idiopathic factors which can contribute to infertility. It is important that the medical social worker has a thorough knowledge of the causes of infertility, as this is often an aspect which couples enquire about during a counselling session, or need clarification on, regarding their own situation or general misconception following their diagnosis being made by the gynaecologist. The aim of this section was to provide the necessary information regarding the causes of infertility for future medical social workers, other secondary team members, patients and their family.

2.7 INFERTILITY TREATMENT

There are various infertility treatment options available for the infertile couple nowadays. Depending on the cause of the infertility, a specific method of treatment will be recommended, using the gametes of both the husband and wife i.e. homologous infertility treatment. Sometimes, however, certain causes of infertility, as discussed in the previous section, have to be treated or rectified by means of surgery, medication, specialized treatment or therapy, before the couple can commence with infertility treatment. Often the cause of infertility is so severe that it cannot be treated or has a poor prognosis, and the couple has to be informed of their severe infertile state. The only options available for these couples would be infertility treatment using the gametes of a male or female donor, i.e. heterologous or donor infertility treatment, surrogate motherhood or adoption.

All couples should be thoroughly informed by the inter-disciplinary team of the medical, psycho-social and ethical-moral aspects regarding the treatment, as well as the legal aspects in the case of donor gametes or surrogate motherhood. This information should be provided before the couple makes their final decision regarding treatment, to help them in their decision-making process. The medical social worker is the ideal team member to perform this task, as this information can be provided in a warm and suitable atmosphere, during a counselling session, with sufficient time to discuss these aspects in depth, unlike the medical profession, who has too

tight a schedule to spend so much time with each couple. A prerequisite for a medical social worker in this field would of course be a thorough knowledge of infertility, the investigations, causes and treatment as discussed in this chapter. Furthermore, a knowledge of the legal, ethical-moral, religious and the psycho-social aspects related to each treatment option, as will be discussed in subsequent chapters in this thesis regarding donor infertility treatment, is also essential.

Furthermore, an important aspect couples often enquire about, is whether infertility treatment or advanced reproductive technology has a higher rate of malformations or abnormalities and miscarriages than normal pregnancies. Shoham, Zosmer & Insler (1991:1-9) performed a study in this regard in Israel and found no increased risk of congenital malformation, nor an increased incidence of any specific malformation in patients treated by means of ovulation induction, in-vitro fertilization and embryo transfer (IVF-ET) or gamete intra-fallopian tube transfer (GIFT), using Clomiphene Citrate, Human menopausal gonadotropin (hMG) (Pergonal), or Human chorionic gonadotropin (hCG) (Profasi), than in the general population. The abortion or miscarriage rate in pregnancies achieved after such treatment and procedures, was not higher than that of the general population, if advanced age, infertility and increased incidence of multiple pregnancies were taken into consideration. Thus couples should be reassured regarding their concerns about congenital abnormalities and miscarriages after treatment and should be provided with results from studies such as the above-mentioned.

Another question often asked by couples concerns the chances of a multiple pregnancy as a result of treatment. Bollen, Camus, Staessen, Tournaye, Devroey & Van Steirteghem (1991:314-317) from the Vrije Universiteit Brussel in Belgium, in their study regarding this issue, found IVF-ET and zygote intra-fallopian tube transfer (ZIFT) to produce the most multiple pregnancies and recommended that it could be limited by transferring fewer embryos in the case of IVF-ET and less zygotes in the case of ZIFT. This should also be discussed with the couple and the gynaecologist.

Infertility treatment includes homologous treatment, where the

gametes of the husband and wife are used, or heterologous treatment, where the gametes of a donor are used. Heterologous infertility treatment will be discussed in detail in chapter 3. Subsequently, the various homologous infertility treatment options will be discussed:

2.7.1 Homologous infertility treatment

Homologous infertility treatment is treatment using the gametes of both the husband and the wife. This form of infertility treatment is usually easily accepted by couples as a recommended form of treatment, as there are fewer ethical and no legal implications. The psycho-social implications are, however, still present. Couples need to be thoroughly prepared regarding the medical and especially the psycho-social implications, where the medical social worker can perform an important task in preparing them for this stressful period. The various methods of homologous infertility treatment will be discussed in this section.

2.7.1.1 Ovulation induction

Ovulation induction, according to Smith (1985:37), has developed as a valuable non-invasive therapy for the infertile couple. This method is used mainly in the treatment of female patients with disorders of ovulation. It is prescribed to induce or augment ovulatory function, as stated by Smith (1985:37), with various choices of therapy such as clomiphene citrate (Clomid), bromocriptine mesylate, Human chorionic gonadotrophin (hCG) (Profasi or Pregnyl), Human menopausal gonadotrophin (hMG) (Pergonal) and Gonadotropin-releasing hormone (GnRH). According to Brown *et al.* (1980:21), patients on ovulation induction usually have an ovulation rate varying between 40% and 70%. Indications for ovulation induction are mainly primary and secondary amenorrhoea and anovulation.

Ovulation induction usually takes on the following procedure: The prescribed fertility drug, for example clomiphene citrate (clomid), is prescribed from day 5 to 9 of a cycle and the patient is monitored by means of a basal body temperature chart (BBT) or hormone levels, until ovulation occurs. The couple is instructed to have intercourse during the estimated time of ovulation and this treatment continues until a pregnancy occurs. Approximately 75% of women on ovulation induction should start ovulating and 50% should fall pregnant.

(Compare Crosignani, Ragni, Finzi, De Lauretis, Olivares & Perotti, 1991:333-334; Smith, 1985:37-43; Barker, 1980:97-102 and Brown et al. 1980:20-28.)

If the patient does not respond to clomiphene citrate, other forms of therapy are implemented for ovulation induction, including human chorionic gonadotropin (hCG), human menopausal gonadotropin (hMG) or Gonadotropin-releasing hormone (GnRH). The patient is injected with a hormone such as Human Menopausal Gonadotrophin (hMG), which stimulates the ovary directly to produce an ovum. A luteinizing hormone, such as Human Chorionic Gonadotrophin (hCG), is also used. Treatment therefore consists of hMG and hCG injections, which are expensive, but which stimulate ovulation. The treatment procedure varies from clinic to clinic and is complicated. An example of a treatment procedure consists of: hMG injections on days 1, 3 and 5, as well as a 24-hour urine and blood sample monitoring on day 1. The estrogen levels are monitored daily from day 4, followed by a hCG injection on day 8, after which the couple is instructed to have intercourse for the next few days. The progesterone level is measured on day 14 to determine whether ovulation has occurred. This procedure requires co-operation on the part of the patient and is expensive. Various studies have provided pregnancy success rates ranging between 28% and 80%. (Compare Filicori, Flamigni, Meriggio-la, Cognigni, Valdiserri, Ferrari & Campaniello, 1991:1-10; Smith, 1985:37-43; Barker, 1980:102-104 and Brown et al., 1980:28-37.)

Ovulation induction is one of the most common forms of infertility treatment used if the causes of infertility are related to disorders of menstruation or ovulation. Couples should be provided with the necessary information regarding the menstrual cycle, ovulation and intercourse, as well as with regular supportive counselling by the medical social worker, as this treatment can be stressful.

2.7.1.2 Artificial insemination with husband's semen (AIH)

The history of AIH, according to Barker (1980:128), goes back as far as 220 AD, when Talmud doubted his part in a pregnancy, conceived in a bath of water. The first successful recorded human artificial insemination, Barker (1980:128) states, was by a British doctor, Dr. John Hunter, in 1790 in London.

Artificial insemination, according to Matthews (1980:182), is: "The introduction of foreign genetic material in the form of semen to the female reproductive tract for the purpose of achieving conception". Glezerman (1982d:295) mentions further in this regard, that the process of AIH may not be perceived by the couple as a purely medical procedure, but rather as a corrective measure of performance inability. AIH is a rather common and a less complicated procedure which is acceptable to most couples. It is performed by most gynaecologists in private practice, some general practitioners and at infertility clinics.

The indications for AIH are described by Glezerman (1982d:295) to be as follows:

- * **Subnormal semen**, such as oligozoospermia, or teratozoospermia and asthenozoospermia.
- * **Failure to deliver semen properly** to a position which allows contact to the external cervical os, such as impotence caused by diabetes or paraplegia, anejaculation, vaginismus or congenital male or female abnormalities.
- * **Disturbed migration of sperm cells** within the female genital tract.

Cervical mucus antibodies or cervical mucus of unfavourable physical properties are also added by Glezerman (1982c:329-330), which create an impenetrable barrier to sperm cells, as female indications for AIH and retrograde ejaculation as a male indication. Friedman, Juneau-Norcross, Sedensky, Andrews, Dorfman & Cramer (1991:1005) sum the indications for AIH up as: cervical factors, male factors or idiopathic infertility. Barker (1980:129), on the other hand, also considers frozen semen of a male cancer patient stored in advance, prior to testes removal or an orchiectomy and radiotherapy, as a candidate for AIH.

Thus, there are various male and female indications for AIH treatment, which will determine the appropriate artificial insemination technique to be used, such as intra-uterine insemination, intra-cervical insemination, intra-vaginal insemination, intra-peritoneal or cap insemination.

The AIH treatment procedure is usually as follows:

* **Screening and preparation:**

Couples are screened for AIH depending on the causes of their infertility and if there is an indication for AIH. Researcher recommends that an inter-disciplinary team approach be followed, and that couples be screened by the medical social worker regarding their psycho-social situation and their suitability for treatment. Once couples have been accepted for AIH, they should be prepared for AIH treatment regarding the medical aspects and the possible psycho-social implications.

* **Ovarian stimulation and monitoring:**

On day one of her menstrual cycle the female patient phones the clinic for an appointment. She receives a prescription for clomiphene citrate, a fertility drug, which she takes from days five to nine of her menstrual cycle. As from day ten she attends the clinic every morning for ultrasonography, i.e. monitoring of the ovaries for follicular growth and for blood tests to determine the period of ovulation. Human menopausal gonadotrophin (hMG) (Pergonal), can also be administered from day 8 of the cycle for further stimulation, depending on the follicular growth. A human chorionic gonadotrophin (hCH) (Profasi or Pregnyl) injection can also be given when the dominant follicle has reached 17 to 18mm in diameter.

* **Semen specimen and ovulation period:**

The husband has to produce a semen specimen by means of masturbation after three days of sexual abstinence for the insemination, which takes place during the wife's ovulation period for three consecutive days.

* **Insemination:**

The semen is prepared in the laboratory by means of the "swim-up" technique, every morning after the sample is produced by the husband. The wife is then inseminated in the consulting room by means of intra-uterine (IUI), intra-cervical, intra-vaginal, intra-peritoneal (IP), or cap insemination, which will be explained in detail in Chapter 3. In the case of intra-uterine

insemination, as implemented at the Infertility clinic of the H.F. Verwoerd Hospital, a catheter and a sperm-containing syringe are used to inseminate the sperm into the uterus. This occurs on three consecutive days during the ovulation period. The patient merely has to lie still for a few minutes after the insemination, after which she can resume her daily activities.

* **Pregnancy test:**

Ten to fourteen days after the last insemination, a blood specimen is taken and sent for a pregnancy test (serum, Beta hCG).

(Compare Crosignani *et al.*, 1991:333-334; Friedman *et al.*, 1991:1005; 1006; Karlström, Bakos, Palmstierna, Bergh & Lundkvist, 1991:939-944; Glezerman, 1982d:301-306; Glezerman, 1982c:331-334; Barker, 1980:128-129 and Matthews, 1980:194-198.)

AIH is therefore a less complicated procedure, as it does not require anaesthetic and is performed in the consulting room after which the patient can return to work and resume daily activities. Supportive counselling by the medical social worker during AIH treatment and especially if it is unsuccessful is, however, necessary as it is experienced as very emotional and stressful by couples.

2.7.1.3 In-vitro fertilization and embryo transfer (IVF-ET)

Research in IVF and ET has covered a wide span of time and was reported by Heape in 1890 to have been performed successfully on a rabbit (Shuber & Bain, 1982:313). The use of IVF in humans was researched from 1939 to 1978 by many researchers, including Pincus & Saunders, Menkin & Rock, Edwards & Steptoe, Soupart & Seitz, until Steptoe & Edwards achieved success in 1978 (Shuber & Bain, 1982:315-316).

On July 25, 1978 a normal healthy infant girl, Louise Brown was born, after successful IVF-ET by Steptoe & Edwards of the University of Cambridge, Cambridge, England (Steptoe & Edwards, 1978:366). IVF was introduced to the world as a method of infertility treatment, thus entering a new era of advanced reproductive technology. Since then

IVF-ET has been implemented world-wide, with much success. The American Fertility Society (1984:13) and (1990:225-226) published minimal standards for in-vitro fertilization treatment, which have to be adhered to by medical practitioners practising IVF-ET.

The general indications for IVF-ET, according to Reidel (1986:575), are: Tubal infertility including obstruction of the oviducts, as well as absence of the tubes following salpingectomy for infection or ectopic pregnancy; suspected male infertility; and idiopathic infertility.

The IVF-ET treatment procedure is usually very expensive and emotionally stressful, with some psycho-social implications, which will be discussed in Chapter 5. The IVF-ET treatment procedure is as follows:

*** Screening and preparation:**

Couples are usually screened for IVF-ET, depending on their infertility diagnosis and indications for IVF-ET. If an interdisciplinary team approach is followed, which researcher strongly recommends, patients should be screened psycho-socially by the medical social worker, as this procedure is expensive, complicated and very stressful, requiring the patient's cooperation, intelligence, responsibility and perseverance. Criteria for selection according to researcher should include assessment of the marital relationship, motives for wanting a child, emotional stability, ability to cope with stress, parental skills, responsibility, intelligence and socio-economic status. Once a couple has been accepted by the team as suitable for treatment, they should be prepared thoroughly for the treatment by the team, with the medical social worker preparing them regarding the psycho-social implications and stress involved and how to deal and cope with it.

*** Ovarian stimulation and monitoring:**

During a time suggested to the couple for treatment, they phone the clinic on day one of the wife's menstrual cycle to make a reservation for treatment in that specific cycle. On day two both spouses have to visit the clinic, the wife for

ultrasonography of the ovaries to exclude cysts of the ovaries, and the husband for a semen specimen to exclude infection. A prescription for fertility drugs, (Clomid and Pergonal (hMG)), is given to the wife to be taken from days five to nine of the menstrual cycle. From day ten of the cycle the wife has to visit the clinic every morning for blood tests and ultrasonography to monitor her hormone levels and follicular development. If the response is satisfactory and the patient's follicles are suitable, that is, she is close to ovulation, she is injected with the human chorionic gonadotropin (hCG) (Profasi), and thirty-six hours later an oocyte aspiration or ova retrieval is performed.

* **Oocyte aspiration:**

The oocyte aspiration or ova retrieval can be performed by means of either a laparoscopy or transvaginally by means of an ultrasound-guided needle aspiration.

- **Laparoscopic oocyte aspiration:**

The patient is hospitalized for the laparoscopy and oocyte aspiration, which is performed under local or general anaesthesia. An ultrasound scan is performed before the oocyte aspiration to make sure the patient has not yet ovulated. During the laparoscopy the ovaries are visually examined through the laparoscope and the oocytes are retrieved by means of aspiration through a fine-gauge needle, passed through the abdomen. The oocytes are placed in a test-tube and taken to the laboratory where they are placed in a petri-dish containing a nutrient solution.

- **Transvaginal oocyte aspiration:**

Hospital admission is not necessary with this technique. An ultrasound-guided needle aspiration of the pre-ovulatory follicles is performed in the gynaecologist's consulting room. With this technique and using a sharp needle, the vaginal vault is punctured only once for each ovary, limiting patient discomfort. The needle is moved from follicle to follicle aspirating each as completely as possible for ova, before moving on to an adjacent follicle. Pain relievers can be provided intravenously.

* **Sperm collection:**

Sperm is produced by means of masturbation by the husband two hours before the laparoscopy or oocyte retrieval, and is prepared and processed by the "swim-up" technique in the laboratory. Frozen-thawed sperm can also be used in cases where the husband is diagnosed with Hodgkin's disease or any other cancer requiring chemotherapy and radiotherapy which could cause gonadal damage. Sperm banking prior to cancer therapy, can thus enable these patients to possibly have children in the future by undergoing IVF-ET with their frozen-thawed sperm later.

* **In-vitro fertilization:**

The sperm is placed with the oocytes in a culture medium in a petri-dish in the laboratory. These gametes are then left in an incubator for two days (48 hours) for fertilization and cleavage to take place. Approximately forty eight hours later four cell to eight cell embryos should have formed. Excess embryos can be frozen and utilized later if the IVF-ET procedure is unsuccessful or if the couple later wish to have another child.

* **Embryo transfer:**

The embryo transfer can be performed by means of two different techniques:

- **Traditional embryo transfer:**

The wife is admitted to hospital and a maximum of four good embryos are placed into the uterine cavity through a thin catheter in the consulting room. She then has to remain in bed for four to six hours and is discharged from the hospital twenty four hours later. This technique is seen as the "traditional blind technique", as it relies on the "feel" of the clinician.

- **Transvaginal ultrasound-guided embryo transfer:**

A newer method is implemented by most clinics nowadays, where transvaginal ultrasound guidance is utilized to perform the embryo transfer more accurately with a catheter. This is also performed in the consulting room and the couple can watch the embryo transfer on the ultrasound monitor. This method is also more successful, as it can

be monitored and controlled whether the embryo is placed in the upper uterine cavity.

* **Pregnancy test:**

Ten to fourteen days later a blood specimen for a pregnancy test (serum Beta hCG), is taken to determine if the IVF-ET treatment was successful or not.

(Compare Hurley, Osborn, Leoni & Leeton, 1991:559-562; Tournaye, Camus, Bollen, Wisanto, Van Steirteghem & Devroey, 1991:443-445; The American Fertility Society, 1990:225-226; Laurence, 1989:47-49; Speirs, 1988:1390-1392; Reidel, 1986:575-581; Strickler, Christianson, Crane, Curato, Knight & Yang, 1985:54; Shuber & Bain, 1982:315-318; Barker, 1980:122-127; Lopata, Johnston, Leeton & McBain, 1980:211-216; Lopata, Brown, Leeton, McTalbot & Wood, 1978:27-34 and Steptoe & Edwards, 1978:366.)

IVF-ET is a more complicated treatment procedure and it is very expensive. At the Infertility Unit at the Jewish Hospital, Washington University Medical Centre, St. Louis, Missouri, U.S.A., where researcher worked for a year from 1986 to 1987, the cost per one IVF-ET cycle was \$20 000. In South Africa it ranges from approximately R4 000 at Infertility clinics in academic hospitals up to approximately R20 000 at private infertility clinics. This is why it is so important to select couples who are suitable for treatment.

An interesting case is described by Kovacs, Downing, Krins & Freeman (1991:987-988) from the Infertility Medical Centre at Monash University in Victoria, Australia, where three children were conceived simultaneously during an IVF cycle where 6 embryos were obtained, but they were born over a period of five years. The first fresh embryo transfer took place immediately, and the rest of the embryos were frozen (cryopreserved). A singleton pregnancy resulted from the first embryo transfer and a female baby was born. Three years later the couple returned and a second frozen-thawed embryo transfer took place with another successful pregnancy and a second female baby was born. Two years thereafter the couple again returned and the third and final frozen-thawed embryo was transferred, again resulting in a pregnancy, with a male baby born 38 weeks later. Two

embryos were originally fertilized with one donor's sperm and the other embryo was fertilized with the husband's sperm. Thus with one IVF cycle of hyperstimulation, one oocyte collection and one IVF using the husband's and a donor's sperm, the couple had "triplets", but they were born individually over a period of five years. This of course was very cost effective, but raises ethical questions. This is the first recorded case where this has been achieved.

IVF-ET is experienced as a very stressful treatment procedure by most couples because of the nature and intensity of treatment, the low success rate and the high costs involved. Various psycho-social implications can occur as a result of IVF-ET treatment and especially repeated unsuccessful IVF-ET, which will be discussed in Chapter 5. The medical social worker should follow these patients up during treatment and between different treatment cycles to provide the necessary intervention and emotional support regarding the implications.

2.7.1.4 Gamete intra-fallopian tube transfer (GIFT) or transvaginal gamete intra-fallopian tube transfer

Gamete intra-fallopian tube transfer (GIFT), another method of advanced reproductive technology, was first introduced by Asch, Ellsworth, Balmaceda & Wong in 1984 at The University of Texas, San Antonio, Texas, U.S.A. (Asch, Ellsworth, Balmaceda & Wong, 1984: 1034). GIFT has since then been widely used with high pregnancy rates. Indications for GIFT, according to Asch, Balmaceda, Ellsworth & Wong (1986:366-367), are unexplained infertility, a male factor and at least one patent Fallopian tube. The American Fertility Society (1988:20) published their minimal standards for GIFT wherein they also state that the patient must have at least one normal Fallopian tube. Hulme, Van der Merwe & Kruger (1990: 1095), from the Reproductive Biology Unit at Tygerberg Hospital, University of Stellenbosch, feel that neither endometriosis, endometriomas, nor peritubular adhesions are contra-indications for GIFT. Their only prerequisite is patency in at least one Fallopian tube. Penzias, Alper, Oskowitz, Berger & Thompson (1991:311-312), on the other hand, see endometriosis, tubal factors, ovulatory dysfunction, uterine fibroids, cervical factors, male factors, unexplained and immunological infertility as indications for GIFT.

Thus there are various indications for GIFT, which make it a method of treatment which can be implemented for more infertility patients. The GIFT treatment procedure is as follows:

* **Screening and preparation:**

Couples are usually screened for GIFT according to their infertility diagnosis and indications for GIFT. Researcher feels that couples should be screened on a psycho-social basis by a medical social worker if an inter-disciplinary team approach is followed, as this treatment is expensive and can be experienced as emotionally stressful as IVF-ET. The same selection criteria mentioned by IVF-ET would be applicable for GIFT patients.

* **Ovarian stimulation and monitoring:**

The same procedure as described by IVF-ET is followed with GIFT.

* **Sperm collection:**

The husband produces a semen sample, which is prepared in the laboratory.

* **Oocyte aspiration:**

The same two techniques for oocyte aspiration, as are applicable to IVF-ET, namely laparoscopic oocyte aspiration/translaparoscopic or transvaginal ultrasound-guided oocyte aspiration, can be implemented for GIFT. The most common procedure is the translaparoscopic aspiration.

* **Gamete intra-fallopian tube transfer (GIFT):**

The gamete intra-fallopian tube transfer (GIFT), takes place straight after the oocyte retrieval. If a translaparoscopic oocyte retrieval is performed, the oocytes and sperm will immediately be transferred into the Fallopian tube by means of translaparoscopic GIFT. If transvaginal ultrasound-guided oocyte aspiration is implemented, the oocytes and sperm will be transferred to the Fallopian tube by means of transvaginal ultrasound-guided GIFT. These different GIFT techniques are as follows:

- **Laparoscopic GIFT:**

During translaparoscopic GIFT, the patient is anaesthetized and during the laparoscopy up to two ova and the prepared sperm of the husband are transferred by means of a catheter into each Fallopian tube, hence called gamete intra-fallopian tube transfer. But the laparoscopy for gamete transfer is seen as a disadvantage in this procedure.

- **Transvaginal GIFT:**

In 1987 Anderson & Jansen introduced a technique where transvaginal ultrasound-guided Fallopian cannulation could be used for GIFT, visualizing a fine catheter on the ultrasound monitor, which is introduced through the cervical canal and guided to the tubes, according to Speirs (1988:1392) and Sevenster (1996). By using this technique, the laparoscopy for the transfer can be avoided. By combining this with the transvaginal oocyte aspiration the patient does not have to be hospitalized.

- **Hysteroscopic GIFT:**

Hysteroscopic GIFT or retrograde cannulation of the Fallopian tube is another technique for GIFT, according to Possati, Seracchioli, Melega, Pareschi, Maccolini & Flamigni (1991:496-499), which allows the use of sedation and no hospitalization or generalized anaesthesia, thus being cost-effective.

An interesting finding by Haines & O'Shea (1991:425) from the Prince of Wales Hospital in Hong Kong and Flinders University in Australia respectively, found the unilateral GIFT procedure, where gametes are transferred to one tube only, to be more successful than the bilateral approach where gametes are transferred to both tubes. Furthermore, the GIFT success rate can also be increased, according to Yovich, Matson, Blackledge, Turner, Richardson, Yovich & Edirisinghe (1988:363), if three to four oocytes are transferred, with pregnancy rates as high as 44%. Penzias *et al.* (1991:313) recommend four or five oocytes transferred to be the optimum. Thus by using the unilateral approach and transferring four to five oocytes a higher GIFT success rate could be achieved.

* **Pregnancy test:**

A blood specimen is taken for a pregnancy test (serum Beta hCG), twelve days later to determine if GIFT was successful.

(Compare Sevenster, 1996; Penzias *et al.*, 1991:311-312; Possati *et al.*, 1991:496-499; Haines & O'Shea, 1991:423-425; Hulme *et al.*, 1990:1095-1096; The American Fertility Society, 1990:225-226; Marconi, Auge, Oses, Quintana, Raffo & Young, 1989:357-359; Curole, Dickey, Taylor, Rye & Olar, 1989:363-364; Pouly, Janny, Canis, Vye & Boyer, 1989:1012-1017; Laurence, 1989:49; Yovich *et al.*, 1988:361-366; Speirs, 1988:1392-1393 and Asch *et al.*, 1986:366-370 and Asch *et al.*, 1984:1034.)

An interesting finding by Marconi *et al.* (1989:359) in their study in Buenos Aires, Argentina, was that couples in the GIFT programme who had sexual intercourse during the GIFT treatment cycle, close to the time of human chorionic gonadotrophin (hCG) administration, that is, from two days before till two days after the GIFT procedure, had a higher pregnancy rate than those who abstained from sexual intercourse during this time. They could not find a definite explanation for this. Curole *et al.* (1989:364) in their study in New Orleans, U.S.A. found that when a GIFT cycle is cancelled due to a patient's poor response to ovarian stimulation, artificial insemination (AIH) should immediately be attempted, instead of just leaving the patient with emotional and financial consequences. They found a 24% pregnancy success rate with AIH performed on patients who were in a cancelled GIFT cycle and would otherwise have been left with only bills to pay and unresolved emotions.

Thus gynaecologists should try to combine treatment methods if a treatment cycle is cancelled halfway due to poor response. At least couples would then stand a better chance of having success and would not have wasted their time and money and be left with unresolved feelings.

GIFT, according to Pouly *et al.* (1989:1012), from the Unité de Fécondation in Vitro, Centre Hospitalier et Universitaire in France, is a more difficult procedure to organize than IVF, as the sperm preparation and oocyte aspiration must be scheduled successively and

the complete operative procedure requires more time than IVF. Researcher, however, feels that if the latest ultrasound techniques of oocyte retrieval and gamete transfer are used, the patient does not need to be hospitalized and the procedure is less complicated and less time-consuming than with the traditional translaparoscopic technique.

The stress and psycho-social implications of GIFT experienced by couples should, however, not be underestimated, and couples should still be thoroughly prepared regarding possible psycho-social implications by the medical social worker before commencing treatment. Supportive counselling should also be provided throughout the treatment process.

2.7.1.5 Zygote intra-fallopian tube transfer (ZIFT) or Pronuclear stage tubal transfer (PROST)

Zygote intra-fallopian tube transfer (ZIFT) is another method of advanced reproductive technology which was first implemented successfully in 1986, with a resultant pregnancy, by Devroey, Braeckmans, Smits, Van Waesberghe, Wisanto & Van Steirteghem (1986:329) in Belgium, at the Vrije Universiteit, Brussel. Yovich, Blackledge, Richardson, Matson, Turner & Draper (1987:851-856), on the other hand, of the University of Western Australia, Perth, reported successful pregnancies in 1987 with their new procedure called pronuclear stage tubal transfer (PROST), which is the same as ZIFT. ZIFT and PROST are thus synonymous procedures.

The indications for ZIFT, according to Devroey, Staessen, Camus, De Grauwe, Wisanto & Van Steirteghem (1989:246), are unexplained infertility, male infertility and sperm antibodies. Pool, Ellsworth, Garza, Martin, Miller & Atiee (1990:483) reported non-tubal infertility as an indication for ZIFT, while Pool, Martin, Ellsworth, Perez & Atiee (1990:168) also state male infertility as an indicator. Yovich *et al.* (1987:852) list poor semen quality, female antisperm antibodies and poor patient response in other treatment procedures as indicators for PROST.

Thus there are a variety of indications for ZIFT or PROST, which makes it a procedure to be used for various infertility patients.

The ZIFT/PROST procedure is very much the same as a combination of IVF-ET and GIFT as follows:

* **Screening and preparation:**

Couples are usually screened for ZIFT, according to their infertility diagnosis and indication for ZIFT. They should, according to researcher, also be screened psycho-socially and prepared for the stress regarding the treatment, as with IVF-ET and GIFT.

* **Ovarian stimulation and monitoring**

The same procedure as described by IVF-ET and GIFT previously, is applicable to ZIFT.

* **Sperm collection:**

The husband produces a semen sample, which is prepared in the laboratory.

* **Oocyte aspiration:**

The same two techniques for oocyte aspiration, as are applicable to IVF-ET and GIFT, namely laparoscopic oocyte aspiration or transvaginal ultrasound-guided oocyte aspiration, can be implemented for ZIFT.

* **In-vitro fertilization:**

The aspirated oocytes and prepared sperm are placed in a culture medium in a petri-dish in the laboratory. These gametes are left in an incubator for eighteen to twenty hours for fertilization to take place and for a zygote or a two cell/pronuclear stage embryo to form.

* **Zygote intra-fallopian tube transfer (ZIFT):**

ZIFT can be performed by means of two procedures:

- **Laparoscopic ZIFT:**

Two to four zygotes are loaded into a translucent catheter fitted to a syringe. Under general anaesthesia a laparoscopic intra-fallopian tube transfer is performed. The zygotes are gently injected into one healthy Fallopian tube and the catheter is checked to ensure that it was complete-

ly emptied.

- **Transvaginal, Transcervical and hysteroscopic ZIFT:**

The first option Jansen, Anderson & Sutherland (1988:288-290) describe as non-surgical ultrasound-guided transvaginal cannulation of the Fallopian tube for embryos to be transferred in the pronuclear stage. TIFT or transcervical intra-fallopian transfer of zygotes, is described by Scholtes, Roozenburg, Alberda & Zeilmaker (1990:283-285), as a similar technique. Patton, Hickok & Wolf (1991:640-641), on the other hand describe hysteroscopic transvaginal Fallopian tube cannulation for embryo transfer, which can be implemented for zygote transfer.

Thus ZIFT can be performed by either ultrasound-guided transvaginal or transcervical catheterization or by hysteroscopic transvaginal cannulation, avoiding hospitalization, a laparoscopy and anaesthesia and being more cost-effective. These options should be discussed with the patient before treatment commences.

* **Pregnancy test:**

Twelve days later a blood specimen is taken for a pregnancy test (serum Beta hCG).

(Compare Chang, Soong, Chang, Lin, Guu & Wang, 1991:420-422; Patton *et al.*, 1991:640-641; Pool *et al.*, 1990:482-487; The American Fertility Society, 1990:225-226; Pool *et al.*, 1990:166-168; Jansen *et al.*, 1988:288-290; Devroey *et al.*, 1989:246-249; Yovich *et al.* 1987:851-856 and Devroey *et al.*, 1986:329.)

ZIFT is a popular procedure and seems to have high success rates. Devroey *et al.* (1989:248) found ZIFT to have a higher pregnancy rate than GIFT, while Pool *et al.* (1990:487) found ZIFT to have a higher pregnancy rate than IVF-ET. Yovich *et al.* (1987:856) found PROST to have advantages over GIFT, such as determination of fertilization, application of techniques to enhance fertilization and to allow the selection of fertilized oocytes for transfer to improve the chance of pregnancy.

Thus ZIFT/PROST seems to be an advantageous procedure, as it is a combination of IVF and GIFT and can be used for a wider variety of patients. Patients need to be prepared thoroughly for treatment, not only regarding the medical advantages, but also the stress and psycho-social implications involved, as with all the other advanced reproductive technology procedures discussed previously.

2.7.1.6 Tube embryo transfer (TET) or embryo intra-fallopian tube transfer (EIFT)

Tube embryo transfer (TET) is another alternative method of advanced reproductive technology which can be combined with IVF and is similar to ZIFT, where the embryo can be transferred to the Fallopian tube instead of to the uterus. This is then known as IVF-TET, TET or according to Kruger (1995) as embryo intra-fallopian tube transfer (EIFT). This method is also referred to in a newspaper article: "Met in-vitrobevrugting is daar nog altyd hoop vir kinderlose egpare" (1991:14). The first to describe TET in 1988 was Jansen *et al.* (1988:288-290).

This procedure entails ovarian stimulation and oocyte aspiration performed by means of non-surgical transvaginal ultrasound-guided needle aspiration and preparation of sperm. In-vitro fertilization takes place and the embryos are then transferred at the pronuclear stage to the Fallopian tube by means of Fallopian tube catheterization or intra-tubal catheterization. Tube embryo transfer (TET) provides an alternative technique for infertile patients with indications such as a functional Fallopian tube and unexplained infertility. Patton *et al.* (1991:641) reported successful TET with hysteroscopic-directed Fallopian tube cannulation for ET performed in January 1990.

The TET/EIFT procedure is as follows:

*** Ovarian stimulation:**

The same procedure is followed as for IVF, GIFT and ZIFT.

*** Transvaginal ultrasound-guided oocyte aspiration:**

The same procedure as for IVF, GIFT and ZIFT is followed.

* **Sperm collection and preparation**

The same procedure is followed as for IVF, GIFT and ZIFT.

* **In-vitro fertilization of gametes:**

The same procedure is followed as for IVF and ZIFT.

* **Tube embryo transfer (TET):**

Forty-eight hours after oocyte aspiration the embryo is transferred by means of Fallopian tube catheterization or hysteroscopic-directed Fallopian tube cannulation. During hysteroscopic-directed Fallopian tube cannulation the hysteroscope is placed into the cervical os and inserted into the uterine cavity. A catheter is introduced through the hysteroscope to a depth of approximately 1,5cm from the origin of the tubal ostium. After direct visualization to confirm catheter placement, the inner catheter is preloaded with the embryos and injected into the tube. Non surgical ultrasound-guided transvaginal cannulation of the Fallopian tube for the embryo to be transferred is another alternative.

* **Pregnancy test:**

Ten to 12 days after TET a blood specimen is taken for a pregnancy test (Serum Beta hCG).

(Compare Kruger, 1995; Patton *et al.*, 1991:641 and Jansen *et al.*, 1988:288-290.)

TET/EIFT is thus a reasonably new method of advanced reproductive technology which can be implemented offering a further option for patients with patent tubes and possibly a better chance of achieving a pregnancy. TET can be used for different indications and accommodate more patients.

2.7.1.7 Peritoneal oocyte and sperm transfer (POST)

Peritoneal Oocyte and sperm transfer (POST) is another new method of treatment of the 1990's which, unlike GIFT, according to Sharma, Pampiglione, Mason, Campbell & Riddle (1991:580-581) from Kings College School of Medicine, London, can be performed without risks of general anaesthetic and is therefore safer and less costly to

perform. POST is usually performed under local anaesthesia, as stated by Bongers, Bernadus, Schoemaker & Vermeiden (1991:147) of the Free University Hospital in Amsterdam, the Netherlands, and is recommended in cases where indications include idiopathic and/or male infertility. POST can be performed vaginally as well as trans-abdominally making the procedure more versatile. With POST the patient's own tubal pick-up mechanism must be functional to succeed.

The POST procedure entails ovulation induction and oocyte retrieval by means of ultrasound-guided transvaginal needle aspiration of follicles. The peritoneal cavity is then washed to remove blood. Sperm preparation is performed before the aspiration. The oocyte and sperm transfer is carried out using a transvaginal probe and biopsy guide. Replacement of gametes is performed through the posterior vaginal fornix, by means of a catheter and these gametes are then injected into the pouch of Douglas. This is visualized ultrasonically. A pregnancy test is performed twelve days later. Results are very similar to those of GIFT. (Compare Sharma *et al.*, 1991:580-581 and Bongers *et al.*, 1991:147-148.)

POST can be offered as an outpatient or office-based alternative to GIFT. It is less complicated and less costly and should become a popular form of treatment.

2.7.1.8 Transvaginal intra-follicular insemination

Transvaginal intra-follicular insemination is another new procedure of the 1990's according to Sevenster (1996). During this procedure, which is performed transvaginally by means of ultrasonography, an ultrasound-guided needle is used to extract follicular fluid from the ovarian follicles. This follicular fluid is examined for the presence of oocytes and then a certain amount of oocyte-free follicular fluid is replaced with the same amount of sperm, which is all inseminated back into the follicle. A pregnancy test is then performed later on in the cycle.

2.7.1.9 Micromanipulation

Micromanipulation is a reasonably new option available for couples nowadays. According to Sevenster (1996), micromanipulation is very expensive, but is available for couples with a severe male factor.

There are various techniques of micromanipulation which have been developed to enhance the chances of fertilization taking place in IVF procedures. Zona cutting is described by Chang *et al.* (1991:420) from Taipei, Taiwan, as a form of mechanical micromanipulation resulting from improved technology. Zona drilling with IVF patients with a poor prognosis at New York Hospital, Cornell University Medical Centre, is described by Cohen, Alikani, Trowbridge & Rosenwaks (1992:685-691). The rate of embryonic implantation in their zona drilled group was significantly higher than that of the control group. Zona drilling was performed by means of a chemical procedure using an acidic solution. Micromanipulation techniques circumvent the physical barriers to sperm penetration and the number of sperm needed to achieve fertilization in the laboratory. Zona cutting or drilling involves creating a hole, puncture or incision microscopically in the zona pellucida of the oocyte mechanically or chemically. The oocyte is then inseminated and fertilized with the sperm. Chang *et al.* (1991:420-422) combined zona cutting, cryopreservation and ZIFT with a resultant successful pregnancy. The use of a laser method for micromanipulation is described by Strohmer & Feichtinger (1992:212-214) and Feichtinger, Strohmer & Radner (1992:115-116) from the Institute of Sterility Treatment in Vienna, Austria. Pregnancy was obtained with IVF patients using a simple and quick laser method to obtain an opening in the zona pellucida of human embryos to facilitate the embryonic hatching after the embryo transfer. Thus the laser method can also be used instead of mechanical or chemical procedures.

In an interview with the Head of the Infertility Clinic at the Groote Schuur Hospital in Cape Town, Wiswedel (1991) told of the use of the micromanipulation technique called subzonal sperm injection (SUZI), where the subzona of the oocyte is injected with sperm for fertilization to take place. Barlow, Van der Zwalm, Delvigne, Van Hoeck, Schoysman & Leroy (1992:13-19) also refer to subzonal sperm injection (SUZI) as a popular method used in Belgium, as well as partial zona dissection (PZD), which involves zona cutting. Success has for the first time recently been achieved in South Africa with micromanipulation at a private clinic in Johannesburg in 1992 where microsperm-injection was performed with success, as was reported on TV1 News (1992) in September. Subsequently, a healthy female baby was born

at Garden City Clinic in Johannesburg on 23 February 1993 (Lamprecht, 1993:2). This couple had experienced infertility problems for 12 years, before achieving success by means of micromanipulation, i.e., microsperm-injection. Ng, Bongso & Ratnam (1991:1117-1121) from the National University of Singapore also describe their use of subzonal sperm injection, also known as subzonal transfer or micro-injection, for patients with severe sperm problems (OTA syndrome), but unfortunately a low pregnancy rate was achieved in their study. Alkani, Adler, Reing, Malter & Cohen (1992:97-101) refer to the same method as subzonal sperm insertion where insemination is used. The frequency of gamete fusion was found to be unexpectedly high in their study of patients with abnormal semen analyses. Ng, Sathanathan, Bongso, Ratnam, Tok & Ho (1990:253-260) refer to this same procedure as microinsemination sperm transfer (MIST). Furthermore Van der Sandt (1995:3) reported on a new method of micromanipulation used by the Department of Obstetrics and Gynaecology at the University of Pretoria, in in-vitro fertilization procedures called Intra Cytoplasmic Sperm Injection (ICSI), where immature sperm are removed from the testes, which are then injected into each oocyte and the fertilized eggs are then placed in the Fallopian tubes. Different forms of micromanipulation can thus be implemented to enhance the pregnancy rate in various IVF procedures. Micromanipulation could, however, raise ethical questions for some couples, and should first be discussed in-depth with patients before it is performed. The medical social worker can play an important role in discussing these ethical-moral issues with the couple regarding micromanipulation.

There are various forms of homologous infertility treatment where both husband's and wife's gametes are used, including ovulation induction, AIH, IVF-ET, GIFT, ZIFT/PROST, TET/EIFT, POST and various micromanipulation techniques which are performed mechanically, chemically or by means of a laser method. Infertile couples therefore have a wide variety of treatment options available to choose from nowadays, depending on their infertility diagnosis and indications for treatment. These treatment options should be discussed thoroughly with couples, including the stress and psychosocial implications involved, and the possible ethical-moral issues involved, to help them in their decision-making process and to prepare them for the treatment. Couples should also be screened on

a psycho-social basis before being recommended for any treatment, to ensure that both spouses are medically and psycho-socially suitable for the treatment and will co-operate, but also to prevent any possible problems. An inter-disciplinary team approach is thus of utmost importance in an infertility clinic, and a medical social worker should be part of the team.

2.8 SUMMARY

This chapter was dedicated to an in-depth study of infertility, the investigations, causes and treatment, with highlights from this chapter being as follows:

- * Infertility was defined as not being synonymous with sterility, but referring to the inability of a couple to conceive after a year or longer of regular sexual intercourse without contraception or the unlikelihood of a pregnancy proceeding to full term.
- * Infertility can be classified as primary, if the patient has never conceived; or secondary if the patient has previously conceived, had a miscarriage or has children from the present or previous marriage, and is now experiencing infertility problems.
- * The incidence of infertility is constantly increasing worldwide, with one out of every eight couples experiencing infertility problems. The chances are therefore also increasing that social workers will at some or other stage have infertile couples referred to them and will need sufficient knowledge of the condition to help these clients or patients effectively with their problems.
- * Once a couple has been referred to an infertility clinic, they should undergo a thorough infertility investigation. This should include the initial interview with the gynaecologist, during which routine gynaecological questions are asked. It should also include a psycho-social assessment interview by a medical social worker, to serve as a catchment area for couples who have marital, sexual or psychological problems contributing

to their infertility, thus saving unnecessary time and expenses which would have been wasted on fruitless infertility investigations.

- * The infertility investigations include various female and male examinations. The female examinations include: A physical examination; a gynaecological examination; a Pap smear; a basal body temperature chart; cervical mucus tests; ultrasonography; a laparoscopy; a hysterosalpingogram; a hysteroscopy; an endometrial biopsy and an endocrine evaluation for ovulation disorders, sex hormone imbalance, thyroid gland disorders and hypothalamic-pituitary gland disorders.
- * The male infertility examinations include a physical examination; an andrological examination; a semen analysis including macroscopic, microscopic, immunological and biochemical examinations; a testicular biopsy; an endocrine evaluation; and a varicocele investigation by means of a Doppler echography or a scrotal thermography.
- * Combined male and female examinations include a post-coital test, an antisperm antibody test, a sperm-cervical mucus penetration test and a sperm cervical mucus contact test.
- * There are various causes of infertility, including female, male and combined factors contributing to the condition, as well as psychogenic and idiopathic or unexplained infertility.
- * The female factors contributing to infertility include tubal, ovarian, cervical and uterine factors, endometriosis, vaginal and vulval factors, endocrine and immunological factors.
- * The male factors causing infertility include testicular causes contributing to primary and secondary testicular failure, disorders of sperm transport, erectile dysfunction and impotence, emission and ejaculatory dysfunction and disorders of spermatozoa.
- * There are various infertility treatment options available for

couples nowadays. These include homologous infertility treatment, where the gametes of both husband and wife are used, or heterologous donor infertility treatment, where the gametes of a donor are used. Artificial fertilization with donor gametes will be discussed in the following chapter.

- * Homologous infertility treatment options include ovulation induction, artificial insemination with husband's semen (AIH), in-vitro fertilization and embryo transfer (IVF-ET), gamete intra-fallopian tube transfer (GIFT) or transvaginal GIFT, zygote intra-fallopian tube transfer (ZIFT) or pronuclear stage tubal transfer (PROST), tube embryo transfer (TET) or embryo intra-fallopian tube transfer (EIFT), peritoneal oocyte and sperm transfer (POST), transvaginal intra-follicular insemination and various micromanipulation techniques which are either performed mechanically, chemically or by means of a laser to enhance the rate of fertilization taking place in IVF related procedures.

- * Couples should be selected for homologous infertility treatment options and should be thoroughly prepared for the stress and psycho-social implications involved. The medical social worker can perform this task.

- * The aim of this chapter was to provide extensive and in-depth information regarding the medical aspects of infertility, so as to improve the knowledge of future medical social workers in this field, as well as that of patients, family and secondary inter-disciplinary team members. It can be used as a future resource in this regard. A thorough knowledge of the medical aspects of infertility should be a prerequisite for any medical social worker working in the field of infertility, to ensure effective services.

The following chapter will concentrate on artificial fertilization with donor gametes or heterologous infertility treatment procedures.

CHAPTER 3

ARTIFICIAL FERTILIZATION WITH DONOR GAMETES

3.1 INTRODUCTION

Artificial fertilization using donor gametes or heterologous infertility treatment procedures are alternative methods of reproduction available for infertile couples. These methods enable couples a possible opportunity to experience a pregnancy, the delivery of a baby and parenthood, other than adoption which only offers a chance at parenthood. Contrary to our beliefs, the first method of artificial fertilization with donor gametes, namely, artificial insemination with donor semen (AID) is not a totally new method of artificial reproduction of today, but was already practised as far back as 220 AD, according to Barker (1980:128). The incidence of AID and the demand is constantly increasing throughout the world, as infants become less available for adoption. This is probably due to the increasing acceptance of single parenthood as well as the improved sex education for children. AID is therefore an actual phenomenon and one with which many social workers are going to be confronted with in their work in the future, and thus need to have a thorough knowledge. Since the introduction of new methods of infertility treatment such as IVF in 1978 and GIFT and ZIFT in the early 1980's, these methods are also being utilized lately using donor gametes. The social worker wanting to practise in the field of infertility, has to have sufficient knowledge of and expertise in infertility and the artificial methods of reproduction such as AID, in order to counsel, assess and prepare couples effectively for this specialized treatment.

This chapter fulfils part of the first aim of this study: "To **develop**, implement, evaluate and **describe** a guideline for the holistic preparation of couples for artificial fertilization with donor gametes." The objective is: To develop and describe the contents of a preparation session, that is, by means of this chapter to provide an in-depth description of all the medical aspects related to artificial fertilization with donor gametes. This chapter includes the definitions of terms used, the history, the incidence,

the medical indications, the selection and preparation of recipients and donors, donor-recipient matching, methods of artificial fertilization with donor gametes and the use of fresh versus frozen gametes.

3.2 DEFINITIONS OF KEY CONCEPTS

The following definitions are provided for the terms used predominantly in this chapter. Other medical terms used are defined in appendix 1 of this thesis.

3.2.1 Artificial

Artificial is defined by The Shorter Oxford English Dictionary (1990:110) as: "Made by art imitation of, or as substitute for, what is natural or real, factitious, feigned." Artificial in this study refers to the artificial or substitute use of donor gametes to fertilize infertile persons.

3.2.2 Artificial insemination

Artificial insemination is a technique used to inseminate the female patient during ovulation with either the semen of her husband (AIH) or with the semen of a donor (AID). Matthews (1980:182) defines artificial insemination as: "... the introduction of foreign material in the form of semen to the female reproductive tract for the purposes of achieving conception". Artificial insemination with donor semen (AID) is therefore a technique used to inseminate the female patient whose husband is infertile by using the semen of a donor, as will be the focus in this chapter.

3.2.3 Donor

"An individual that supplies living tissue to be used in another body" (Dorland's Medical Dictionary, 1988: 505). In this study donor refers to an individual who supplies gametes for the purpose of fertilization during infertility treatment.

3.2.4 Embryo

Embryo is defined by Stedman's Medical Dictionary (1990:501) as: "The developing organism from conception until approximately the end of the second month; developmental stages from this time to birth are

commonly designated as foetal." In this study embryo thus refers to the organism developing from conception to eight weeks, fertilized in-vitro or in-vivo in various treatment procedures and it could also be transferred into the patient by various methods. It also refers to a fresh or frozen embryo and an embryo donated by a donor to a recipient.

3.2.5 Fertilization

Fertilization is defined by The Shorter Oxford English Dictionary (1990:742) as: "The action or process of rendering fertile, fecundation." In this study fertilization refers to the artificial fertilization of an infertile person with the use of donor gametes.

3.2.6 Gamete

"A reproductive cell (ovum or spermatozoon) whose union is necessary in sexual reproduction to initiate the development of a new individual" (Dorland's Medical Dictionary, 1988:674). Thus **gamete** refers to the male and female reproductive or sex cells.

3.2.7 Oocyte/Ova

An oocyte or ova according to Dorland's Medical Dictionary (1988:1177, 1205) is: "A developing egg cell; the female reproductive cell." In this study oocyte refers to the female patient's reproductive cells or those of a female donor.

3.2.8 Recipient

"One who receives biological material from a donor" (Webster's Medical Dictionary, 1986:606). **Recipient** and **recipient couple** in this study refer to the infertile patient or infertile couple who receives gametes from a donor for infertility treatment.

3.2.9 Semen

"The thick whitish secretion of the male reproductive organ" (Dorland's Medical Dictionary, 1988:1504). In this study **semen** refers to the semen of the husband (homologous) or to the semen of the donor (heterologous) used to fertilize a female patient during treatment.

3.2.10 Sperm/Spermatozoa

"The sperm cell or spermatozoon (plural:spermatozoa), is a motile mature male gamete with rounded or elongated head, a neck, a middle piece and a tail with an end piece. It is an output of the testes." (Dorland's Medical Dictionary, 1988:1556).

3.2.11 Surrogate

This means: "One that serves as a substitute" (Webster's Medical Dictionary, 1986:694). In this chapter **surrogate mother** refers to a woman who is substituted for the mother (donor uterus) by agreeing to carry a baby to term for the recipient. She acts as a donor uterus.

3.3 HISTORY

The history of artificial means of reproduction such as artificial insemination, goes back as far as 220 AD, according to Barker (1980:128) and Hummel & Talbert (1989:919), when Hebraic Talmud doubted his fatherhood in a pregnancy which was conceived in a bath full of water. The first case of artificial insemination performed on animals, Barker (1980:128) reports, was in the fourteenth century when Sheik Hegira used the semen obtained from his rival's stallion to inseminate his own mares. In 1677, Louis van Hammen, a student in Leyden, Amsterdam, discovered spermatozoa. In the eighteenth century Jacobi experimented with fish and Spallanzani of Modena, Italy, with reptiles and animals, and the first successful insemination of a dog created the possibility of using this technique on human beings (Schellen, 1957). Spallanzani was also the first to report the freezing of spermatozoa in 1776. (Compare Hummel & Talbert, 1989:919 and Barkay & Zuckerman, 1982: 263.)

John Hunter, a doctor from London in the 1790's advised a man with hypospadias to inject his seminal fluid with a syringe into his wife's vagina and a normal pregnancy followed. (Compare Hummel & Talbert, 1989:919 and Barker, 1980:128.) Girault had success with 10 cases of AIH in France in 1833, as stated by Hermanns & Hafez (1982:101). Mantegazza developed the idea of a spermbank in 1866 as a practical method for the transportation of frozen semen for cattle, according to Barkay & Zuckerman (1982:263). Mantegazza also

recommended this method be used to store human spermatozoa to inseminate the wives of soldiers killed in the war, so that "... a man dying on a battlefield may beget a legal heir", as quoted by Wiswedel (1988:5).

J. Marion Sims in 1866 in the U.S.A. performed fifty-five intra-cervical inseminations on six women with one resulting pregnancy which ended in a spontaneous abortion, as stated by Barwin (1986:461). Sims' approach was a logical one, according to Kroeks & Kremer (1980:112), based on the findings of the presence and motility of spermatozoa within the cervical mucus following coitus and the post-coital test. During this same period French doctors, Girault and Déhaut, also made important contributions to this field (Brand & Saayman, 1986:4). In 1884 in Philadelphia, U.S.A., Pancoast used AID successfully in one case where the husband was azoospermic, as stated in Barwin (1986:461). Dickenson also began to perform AID treatment in secrecy in the U.S.A. with the first successful AID in a human reported in 1890. (Compare Barwin, 1986:461; Hermanns & Hafez, 1982:101 and Barker, 1980:128.) Thus it can be concluded from the above-mentioned historical developments that AID as the first method of artificial fertilization with donor gametes had its origin many centuries ago and is not a new method of reproductive technology of today, as imagined by most people.

A few highlights of the developments regarding AID and other methods of artificial fertilization with donor gametes in the twentieth century are as follows:

- * In 1909 Addison Davis Hard published a letter in the American journal "Medical World" claiming that the first human donor insemination had been performed at Jefferson Medical College in 1884 in Philadelphia. A couple who sought advice about their inability to have children was examined and the husband was found to be azoospermic. This case was discussed in the medical school where Hard was still a student and it was decided that the semen of the "best looking student" would be collected and the wife of the patient would be inseminated. This was done while the wife was anaesthetized and the couple was not informed of the process. The wife conceived and the husband was later

told and was fortunately pleased. The wife was never told and a son was finally born. When the son was 25 years old in 1909, Hard visited him and told him of this bold experiment which Pancoast had performed and had kept a secret till his grave. Was Hard perhaps the "best looking student"? This letter caused a storm of controversy and many debates followed (Snowden & Mitchell, 1981:13-14).

- * In 1913 Huhner reintroduced the post-coital test used by Sims in 1866 to indicate the presence and motility of spermatozoa prior to performing AID. This test is still used today and known as the Sims-Huhner test (Kroeks & Kremer, 1980:112).
- * In the 1930's Brewer & Muller, two top eugenists in Germany, propagated the improvement of the human race with the use of selected semen (Kok, 1952:148-155). Jahnel from Munich, Germany, published a report in 1938 on his findings in his experimentation with the freezing and thawing of mammalian spermatozoa, as stated in Wiswedel (1988:5). Many other publications regarding AID also appeared at this time, according to Schellen (1957:404).
- * In 1941 the Seymour-Koernoer report regarding the status and practice of AID in the U.S.A. was published, helping to develop this practice worldwide (Schellen, 1957:404).
- * In Britain in 1945, according to Snowden & Mitchell (1981:113-120) and Edwards (1980:1012), the Archbishop of Canterbury appointed a committee to examine the AID issue and recommended that it be seen as a criminal offence. In the same year 31 cases of AIH and 15 cases of AID were reported in Great Britain (Barwin, 1986:462).
- * Kobayashi of Japan, as stated by Matthews & Traub (1984:454), reported the commencement of AID at Keio University Clinic, Japan, in 1948 and the use of frozen semen since 1958.
- * AID was practised in the Netherlands since 1948 according to Kremer, Frijling & Nass (1984:628).

- * In Australia no medical reports prior to 1970 of AID were published, but a Dr. A. Hill published the first paper on AID in 1970, according to Leeton (1988:324), describing his treatment of 16 AID patients over 22 years of which 11 had conceived. Thus his AID treatment in Australia had commenced in 1948.
- * The first request for AID made to a gynaecologist in South Africa was in 1948 as reported by Van Delft (1983:685), which seems to have been implemented for the first time in South Africa in 1952.
- * Polge, Smith & Parkes, British scientists, made a breakthrough when they performed research in 1949 on the freezing and storing of spermatozoa and found the use of glycerol to be beneficial in the preservation of spermatozoa. (Compare Wiswedel, 1988:6; Nelson, 1984:88 and Barkay & Zuckerman 1982:263.) Polge & Rowson in 1952 published their more practical method of freezing sperm, which promised a degree of success, while Sherman & Bunge in 1953 stressed the importance of the rate of freezing with different methods (Wiswedel, 1988:6).
- * In 1954, according to Wiswedel (1988:3), the first sperm bank was founded in the U.S.A. by Sherman & Bunge and soon thereafter, sperm freezing and preservation became more acceptable and AIH or AID more practical methods of infertility treatment.
- * AID was not introduced in Denmark until the mid 1960's, according to Rosenkvist (1981:133) while Edvinsson, Forssman, Milson & Nordfors (1990:81) report the availability of AID in the same period in Göteborg, Sweden.
- * The Feversham Committee in 1960 in Britain recommended that AID be discouraged as a practice after estimating 1 150 AID births in Britain, and 5 000 to 7 000 AID births in the U.S.A. (Compare Barwin, 1986:462; Snowden & Mitchell, 1981:113-120 and Edwards, 1980:1012.)
- * In 1965 in the Netherlands the Dutch Law made provision for the

husband to be the father of the AID child, provided that he gave consent for AID treatment to be performed on his wife (Kremer *et al.*, 1984:628).

- * The Peel-Commission was appointed in 1970 when conditions were more favourable in Britain and they recommended in 1973 that an AID service be provided by the National Health Service in Britain. (Compare Templeton & Triseliotis, 1983:309; Snowden & Mitchell, 1981:113-120 and Edwards, 1980:1012.)
- * A symposium on the: "Law and ethics of AID", was held in 1973 in London by the CIBA Foundation, according to Templeton & Triseliotis (1983:309). These proceedings were published by Wolstenholme & Fitzsimons (1973).
- * In 1973 in France a national system of semenbanks (CECOS) was initiated, according to David & Price (1980:v).
- * In 1974, AID became a legitimate practice in New York, U.S.A., according to Waltzer (1982:100), when the New York Statute was published.
- * In April 1979 the First International Symposium on Human Artificial Insemination and Semen Preservation was held in Paris and these proceedings were published by David & Price (1980). This symposium was arranged by the CECOS, the French National Network of Semenbanks. Thirty-seven countries were represented, propagating the use of AID worldwide as acceptable, even though there were many legal, ethical and psycho-social uncertainties.
- * In South Africa an AID service was started in 1979 at the Infertility Clinic at Groote Schuur Hospital in Cape Town, after repeated requests were made by patients, doctors and social workers, according to Allen, Alperstein & Tsalacopoulos (1985:284).
- * In 1980 a "Suggested code of practice for artificial insemination by donor (AID) report" was compiled by a group of specialists on request of the South African government and published

in 1980 (Suggested code of practice for artificial insemination by donor (AID), 1980:781-783).

- * In 1981 the first experiments in the cryopreservation of human embryos began at Monash University in Melbourne, Australia (Trounson & Freemann, 1985:826).
- * The first pregnancy after transfer of a donated fresh embryo, fertilized in-vitro in 1983 at Monash University Melbourne, Australia, was reported by Trounson, Leeton, Besanko, Wood & Conti (1983:835-839).
- * The first human pregnancy from a frozen-thawed 8-cell donor embryo fertilized by means of IVF was reported at Monash University, Melbourne, Australia in 1983 (Trounson & Mohr, 1983:707-709). Unfortunately this pregnancy resulted in a stillbirth at 26 weeks following premature membrane rupture and the development of septic infection (Trounson & Freemann, 1985:825).
- * In 1983 The Human Tissue Act, 1983 (Act No. 65 of 1983) was assented to and published in South Africa on 1 June, approving the use of AID.
- * The first attempt to transfer a fresh donor human embryo to a recipient, using a donated ovum fertilized in-vivo was reported by Buster, Bustillo & Thorneycroft (1983a:816) from U.C.L.A., California, U.S.A.. Two pregnancies were reported later in 1983 by Buster, Bustillo & Thorneycroft (1983b:223), resulting from this procedure called Ovum Transfer.
- * In 1983 seventeen spermbanks were already established in the U.S.A. with approximately 100 000 sperm specimens available for resale (Nelson, 1984:88).
- * In 1984 Lütjen, *et al.* (1984:174-175) described the first successful pregnancy, using IVF and embryo donation in a patient with primary ovarian failure, performed at Monash University, Melbourne, Australia. A healthy boy was delivered at 38 weeks

of gestation by caesarean section.

- * In South Africa a spermbank was established at the Andrology laboratory at Groote Schuur Hospital in late 1984, according to Allen *et al.* (1985:287).
- * In May 1985 a one day seminar on: "Artificial Insemination" was held in Pretoria, which researcher attended (Artificial Insemination, 1985).
- * In September 1985, researcher presented a seminar on: "AID" on request of the MENZA society in Pretoria (Laurence, 1985).
- * In 1985 a committee of AID specialists was requested to compile a more detailed guideline for the safe, controlled practice of AID in South Africa on the request of the Department of National Health and Population Development, following the seminar held in May 1985.
- * In 1986 the Minister of National Health and Population Development in terms of Section 37 of the Human Tissue Act, 1983 (Act No. 65 of 1983) published the "Regulations regarding artificial insemination of persons and related matters R.1182", which was assented to and published on 20 June, 1986. (Compare Regulations regarding artificial insemination of persons and related matters, 1986.)
- * In January 1986 the Infertility Clinic at the H.F. Verwoerd Hospital in Pretoria started an AID treatment service and a spermbank for its own use.
- * On 10 February 1986 a workshop was presented by prof. W.F. van Delft at the Apostolic Church, Pretoria on: "Dealing with the infertility patient and AID" (Van Delft, 1986).
- * On 1 November 1986 researcher attended a Resolve/Serono Symposium for infertile people and health professionals at Washington University, St Louis, Missouri, U.S.A. (Insights into infertility, 1986).

- * The American Fertility Society compiled "Guidelines for the use of semen donor insemination", in 1986 (The American Fertility Society, 1988:827-833).
- * In 1986 there were 16 national sperm banks in France, 12 regional sperm banks in Australia and about 20 sperm banks in Austria, Belgium, Brazil, Canada, Colombia, Denmark, England, Greece, Ireland, Italy, Israel, Japan, Norway, Spain, Sweden, Switzerland and Taiwan (Ziporyn, 1986:13).
- * In South Africa, on 30 September 1987, the Children's Status Act, 1987 (Act No. 82 of 1987) was assented to and published on 14 October 1987. The aim of this act was to amend the law relating to paternity, guardianship and the status of certain children such as amongst others, children conceived by means of artificial insemination (Children's Status Act, 1987 (Act No. 82 of 1987)).
- * On 27 August 1987 researcher presented a workshop on: "Infertility and AID" at the Department of Social Work, Kalafong Hospital, Pretoria, to specifically educate black social workers on infertility and the treatment options, such as AID. (Laurence, 1987).
- * In 1987 according to Barratt, Chauhan & Cooke (1990:375) there were 30 registered sperm banks in the U.S.A.
- * On 26 January 1988 a simposium on: "Artificial methods of reproduction", was held at the N.G. Church in Pretoria, which researcher attended (Artificial methods of reproduction, 1988).
- * In 1988 The American Fertility Society (1988:211) revised their guidelines of 1986 in the "Revised new guidelines for the use of semen donor insemination", with stricter criteria for the practice of AID in the U.S.A.
- * In 1990, The American Fertility Society (1990:1S-13S) again revised their 1988 guidelines in the "New guidelines for the use of semen donor insemination", with even more strict criteria for

the practice of AID in the U.S.A.

- * In 1990 the Human Fertilization and Embryology Act of 1990 was passed in London, where amongst others, the issues in the "Report of the Committee of inquiry into Human Fertilization and Embryology, Warnock Report of 1984", were addressed (Oskarsson, Dimitry, Mills, Hunt & Winston, 1991:351).
- * On 26 Junie 1990, the Catholic Bishops Conference held a 5 day seminar on Medical-legal-ethics at St Vianney Seminary in Pretoria, which included a one-day seminar on: "AID and the new reproductive technologies", which researcher attended (New Reproductive Technology, 1990).
- * On 2 February 1991 the Catholic Bishops Conference invited researcher to present a workshop on: "Infertility and donor infertility treatment" in Warmbaths (Carbonatto, 1991).
- * On 17 May 1991 in South Africa the new draft "Regulations regarding the artificial fertilization of persons and related matters" was published for public comments in terms of section 37 of the Human Tissue Act, 1983 (Act No. 65 of 1983) in Government Notice 433 of 1991. These draft regulations had not yet been finalized at the completion of this study (Regulations regarding the artificial fertilization of persons and related matters, 1991.)
- * On 27 May 1991 the University of Stellenbosch, Institute of Bio-ethics held a seminar on: "Genetic manipulation", which researcher attended, where donor infertility treatment and micromanipulation techniques featured (Genetic Manipulation, 1991).
- * In November 1991 the S.A. Society for Reproductive Biology presented a two-day international seminar on reproductive technology, including research on donor infertility treatment, where researcher presented a paper on "The psycho-social effects of infertility on a couple: A medical social work perspective" (Laurence-Carbonatto, 1991).

- * In 1991 The American Fertility Society (1991:396) once again revised and updated their guidelines in the "Revised guidelines for the use of semen donor insemination".
- * On 11 November 1992, in South Africa the South African Law Commission (1992) published an extensive report on Surrogate Motherhood, including a proposed bill on Surrogate Motherhood to be called the Surrogate Motherhood Act. This still has to be approved and was not yet approved at completion of this study (South African Law Commission, 1992.)

From the above-mentioned it can thus be concluded that AID has been implemented for centuries in certain countries and for many years in most other countries, including South Africa. It is therefore not a new method of reproductive technology, contrary to the beliefs of most people. The developments regarding AID and other donor infertility treatment procedures in the twentieth century especially have been astronomical, where oocytes and embryos can now be frozen and donated fresh or frozen. In South Africa the practice of donor infertility treatment is, due to the provision of adequate medical services and laws, slowly becoming a well-controlled and ethically more acceptable practice. Hopefully other countries will follow this fine example. The legal and ethical aspects regarding artificial fertilization with donor gametes will be discussed in detail in Chapter 4.

Other new reproductive methods have been developed over the past few years, as discussed in Chapter 2. With cryopreservation of oocytes and embryos developed since the 1980's and the donation of oocytes and embryos now possible, all these treatment options can be implemented using donor sperm for male infertility or donor oocytes or embryos for female infertility. These include gamete intra-fallopian tube transfer (GIFT), zygote intra-fallopian tube transfer (ZIFT), tube embryo transfer (TET) or embryo intra-fallopian tube transfer (EIFT), peritoneal oocyte and sperm transfer (POST) or transvaginal intra-ovarian/intra-follicular insemination and ovum transfer (OT). These procedures using donor gametes will be discussed later in this chapter.

3.4 INCIDENCE

AID as an alternative method of treatment for infertility is increasing worldwide, as the number of infants available for adoption decrease constantly, with single parenthood becoming more acceptable to society.

In the Netherlands Kremer *et al.* (1984:628) estimated the number of AID children born annually to be approximately between 400 and 600. The total amount of conceptions as a result of AID in Australia was estimated by Clayton & Kovacs (1982:338), to be 1 000 per year. In 1984 in Britain, AID births already accounted for 2 000 children each year, according to Abel (1984: 662). Stone (1980:667) estimated between 5 000 and 10 000 infants conceived by means of AID to be born annually in the U.S.A., while Waltzer (1982:93) estimated the total number of children born up until 1982 in the U.S.A., conceived by means of AID, to be 500 000. Sokoloff (1987:13), on the other hand, stated that reports showed that 20 000 AID children are born annually, only in the state of California in the U.S.A. This shows how the practice of AID has increased and how in seven years in the U.S.A. alone, it has increased from between 5 000 and 10 000 AID children in the whole U.S.A., to 20 000 in one state only. Barratt *et al.* (1990:375) provide more recent and modest figures compared to the above, based on a study including 1 473 medical practitioners and 15 of the 30 sperm banks registered with the American Fertility Society and the American Association of Tissue Banks in 1987, of over 30 000 documented births in the U.S.A., as a result of donor insemination. Shapiro (1991:869) provides a slightly lower figure for 1987 of 23 000, whereas Moghissi (1990:400) provides an accurate figure from the office of Technology Assessment of 30 000 infants conceived annually by means of donor sperm in the U.S.A. Thus the known recorded incidence in the U.S.A. seems to be 30 000 infants conceived by means of donor sperm per year, which could possibly only be the tip of the iceberg, with other authors providing more astronomical figures of the estimated cases.

While working in the U.S.A. researcher heard of the practice of self-insemination by lesbian women using the semen of their gay friends. Self-insemination kits are apparently sold at the local

drugstores and semen can be bought at any local spermbank. Therefore AID has to a certain extent become an uncontrolled, unscreened and common household practice in some parts of the U.S.A., resulting in many implications for the people involved, as well as for the whole country.

In South Africa 93 gynaecologists reported 904 requests by patients for AID from 1977 to 1981 and 30 gynaecologists reported 317 AID pregnancies during this period according to Van Delft (1983:685). Thus one becomes aware of the extent to which AID was practised in South Africa in the past.

In Belgium in 1979 the total AID births were estimated to be 2 000, according to Schoysman & Schoysman-Deboeck (1980:27-29). In Scandinavia, Milsom & Bergman (1982:125) estimated the number of AID births to be 200 per year. Lebech (1980:41-43) estimated the number of AID births in Denmark by 1979 to be over 1 000 and projected about 500 AID cases per year for the future. In 1979 in Switzerland, 5 AID clinics provided for over 1 000 AID births per annum, according to Campana, Gigon, Maire, Szalmaj & Wyss (1980:35-39).

In Italy and Spain no figures could be found in the literature, as a result of the condemnation of AID by the Roman Catholic Church. Traina (1980:51-53) however, mentions a semenbank which was established in 1974 in Italy to provide for the AID demand. Marina (1980:57-58) also mentions a spermbank established in Barcelona, Spain to provide for the AID demand. Thus despite the condemnation of AID by the Roman Catholic Church, AID services are being rendered in these Catholic dominant countries.

Israel has a high rate of AID even though the Jewish-Orthodox Church does also not approve of this practice. Semenbanks have also been established there to meet this demand, according to Barkay & Zuckerman (1980:45-46).

According to Rioux & Ackman (1980: 31-34), 15 teaching hospitals in Canada provide an AID service and there are 4 spermbanks. Between 1968 and 1978 there was a total of 1 500 AID births in Canada.

Since 1986 AID in South Africa has to be practised under strict control according to the criteria spelt out in the new regulations of 1986 of the Human Tissue Act, 1983 (Act No. 65 of 1983). Sevenster (1989), former Head of the Infertility Clinic at the H.F. Verwoerd Hospital in Pretoria, reported the following figures for AID and IVF-Donor infertility treatment results at the clinic from January, 1986 to November, 1988 as follows:

- * Fifty pregnancies occurred in the ninety-six patients treated;
- * in thirty cases fresh semen was used and in twenty cases frozen semen was used; and
- * twenty-two infants were born during this period.

These are merely the results from one centre in South Africa where AID was practised, unfortunately the AID and donor infertility treatment programme was discontinued at the end of 1989 at H.F. Verwoerd Hospital in Pretoria. It was initiated again in January 1993. AID is also practised at the Groote Schuur and Tygerberg Hospitals in the Cape, and in various private clinics and in private practices throughout South Africa.

The incidence of AID in South Africa is, however, much lower presently than in other countries. This is because it is practised in a controlled manner, according to the criteria spelt out in the: "Regulations regarding the artificial insemination of persons and related matters" (1986), in terms of Section 37 of the Human Tissue Act, 1983 (Act No. 65 of 1983), with donors and couples having to be thoroughly selected and prepared for treatment and the necessary implications. An attempt was made to acquire the incidence rates of artificial fertilization with donor gametes in South Africa, as recorded in the Central Register by law at the Department of Health. This was an impossible task and nobody could (or were not allowed to) provide such figures, due to the anonymity issue by law. It was worse than trying to enter Fort Knox in the U.S.A.! According to Sevenster (1996), the demand for artificial fertilization with donor gametes is increasing in South Africa due to the public accepting it better than in the past and as a result of fewer babies being available for adoption. Furthermore no figures are available at present regarding the incidence of artificial fertilization with donor gametes using different treatment procedures, as these are

relatively new treatment options using donor gametes.

3.5 MEDICAL INDICATIONS FOR ARTIFICIAL FERTILIZATION WITH DONOR GAMETES

There are various male and female indications for artificial fertilization with donor gametes

3.5.1 Male indications:

The male indications for artificial fertilization with donor gametes using donor sperm include the following factors:

- * Abnormal semen analysis causing:
 - Azoospermia;
 - oligozoospermia; and/or
 - teratozoospermia.

- * Oligoterato-asthenospermia syndrome (OTA syndrome).

- * Deformities of the male genital organs as a result of:
 - Testicular atrophy;
 - cryptorchidism;
 - orchitis;
 - hypospadias; or
 - epispadias.

- * Vasectomy.

- * Ejaculatory dysfunction causing:
 - Anejaculation;
 - retrograde ejaculation; or
 - impotence.

- * Irradiation causing:
 - Azoospermia;
 - oligozoospermia; and/or
 - teratozoospermia.

- * Paraplegia or tetraplegia causing:
 - Azoospermia;
 - oligozoospermia; and/or

- teratozoospermia.

- * Hereditary or genetic disorders:
 - Tay sachs;
 - Haemophilia; or
 - Huntington disease.

- * Psychiatric disorders:
 - Schizophrenia.

- * Psycho-sexual factors.

- * Rh iso-immunization and Rh incompatibility.

- * Immunological infertility:
 - Immune reaction; or
 - Sperm auto-antibodies.

- * Unexplained/idiopathic infertility.

(Compare Friedman, *et al.*, 1991:1005; Sevenster, 1989; Schoysman-Deboeck, Van Roosendaal & Schoysman, 1988:714; The American Fertility Society, 1988:827; Kovacs, Baker, Burger, De Kretser, Lording & Lee, 1988:354:355; Brand & Saayman, 1986:16; Barwin, 1986:464; Allen *et al.*, 1985:285; Beck, 1983:382; Templeton & Triseliotis, 1983:310; Glezerman, 1982d:295-300 and Glezerman, 1982c:330-331.)

A study of the attitudes of persons with Huntington Disease towards AID as an alternative to having an offspring with this genetic disease, was performed by McCormack, Leiblum & Lazzarini (1983:5-12). Interestingly they found women (who would in any case not benefit from AID) to be much more positive toward AID than men. They ascribed this to the negative feelings men had at the thought of having to relinquish the option of genetic paternity and not facing the reality of the risk of a child with Huntington Disease.

Thus persons with indications for artificial fertilization with donor gametes, especially in the case of genetic disease, should first be interviewed regarding artificial fertilization with donor gametes as an option to having a child with this condition. They should be allowed sufficient time to make this decision as many people still

have negative attitudes regarding donor infertility treatment.

3.5.2 Female indications:

The female indications for different treatment procedures will be discussed.

* The female indications for **AID** are as follows:

- Where the female patient's husband is infertile with azoospermia or severe OTA syndrome.
- Where her husband has an X-linked genetic disease which will affect the offspring. (Compare Sevenster, 1992; Friedman *et al.*, 1991:1005; Schoysman-Deboeck *et al.*, 1988:714 and Leto & Paulson, 1982:179-180.)

* The female indications for **methods of artificial fertilization with donor gametes** are as follows:

- The indications for heterologous IVF, GIFT, ZIFT, TET/EIFT, POST or Ovum Transfer (OT) will be the same as for homologous infertility treatment procedures described in Chapter 2, except that donor sperm will be used.

* The female indications for **donor oocytes or donor embryos** are as follows:

- **Women with functioning ovaries and normal menstrual flow with:**
 - . Risk of genetic disease in offspring;
 - . inaccessible ovaries for oocyte aspiration due to massive adhesions;
 - . failed treatment due to:
 - + Abnormality of oocytes;
 - + unfertilizability; or
 - + degenerate oocytes.
 - . Little remaining ovarian tissue due to multiple ovarian operative manipulations, causing repeated poor or lacking oocyte harvest.
 - . Medical contra-indications to ovum harvest.
- **Women with non-functioning ovaries and no menstrual function with:**
 - . Primary ovarian failure due to:
 - + Genetic disorder;

- + insensitive ovary syndrome; or
- + auto-immunity.
- . Secondary ovarian failure due to:
 - + Premature menopause, genetic or auto-immune;
 - + bilateral oophorectomy; or
 - + chemo- or radiotherapy-induced ovarian failure.

(Compare Rosenwaks, 1986:276; Lütjen, *et al.*, 1985:799-800; and Lütjen *et al.*, 1984:174.)

In the case of **donor uteri** or **surrogate motherhood**, uterine factors are the main indicators, such as a hysterectomy or abnormalities of the uterus.

From the above-mentioned male and female indications for AID and other methods of artificial fertilization with donor gametes, it is evident that many infertile couples have these indications for donor infertility treatment and should be advised on the treatment options available.

3.6 SELECTION AND PREPARATION OF RECIPIENT COUPLES FOR ARTIFICIAL FERTILIZATION WITH DONOR GAMETES

One of the most important aspects of artificial fertilization with donor gametes is the selection and preparation of the recipient couples prior to treatment. An overview of the selection and preparation of recipient couples will be provided in this chapter only, with a more detailed discussion of especially the preparation of couples to be provided later in this thesis in Chapter 8. It is important that recipients are healthy individuals and that there is no history of drug abuse, alcoholism, sexually transmissible diseases, such as the HIV-virus, genetic disorders or any psychiatric disorder. Bray, Soltes, Clarke, Minkoff, Sierra & Reyes (1991:17-18) in their study in New York, including 182 infertile couples, found 3 individuals to be HIV seropositive and discontinued infertility treatment. Balasch, Pumarola, Jové, Coll & Vanrell (1991:1026-1027) in their study in Spain, found 1 patient out of 335 to be HIV seropositive. Only after the results were shared with her, did she admit to previous intravenous (IV) drug abuse. Although the percentage of infertility patients testing positive for the HIV

infection was low in these 2 studies, it is a reality that has to be faced and a test which should be compulsory for patients with a high-risk history. As infertility treatment is time-consuming and expensive, thorough selection including an HIV test if applicable, is necessary, to prevent HIV transmission to the foetus or newborn baby.

If couples have been diagnosed as infertile, with indications for artificial fertilization with donor gametes, these alternatives are suggested to them along with adoption or childlessness. It is essential that the couples are given a few weeks to a few months to make a decision about this alternative, once they both have come to terms with their infertility. It is inappropriate, according to Templeton & Trise-liotis (1983:311), to mention azoospermia in one breath and AID in the next, without giving the couple time to come to terms with their predicament. Couples thus need time to first of all come to terms with their infertility diagnosis and only then can they realistically start considering alternative options. Schoysman-Deboeck *et al.* (1988:715) also emphasize that it takes a true mourning process to come to the point of thinking of different possibilities for the future. Berger (1982:54) similarly describes two problem-solving stages necessary before a decision regarding AID can be made, namely, coming to terms with the infertility; and confronting the problems of AID.

The total secrecy surrounding AID interferes with the successful progression throughout these two stages, according to Berger (1982: 54). Couples often have to work through these issues on their own, without the necessary support. Sometimes, because of the secrecy surrounding treatment, they have to pretend in front of family and friends, that they are still trying to achieve a pregnancy. This all interferes with the process of coming to terms with infertility and confronting the decision regarding artificial fertilization with donor gametes.

If a couple is interested in artificial fertilization with donor gametes, they should be assessed psycho-socially by a medical social worker during an assessment interview. The couple's marital, emotional and social situation should be assessed, as well as the way

in which they have coped emotionally with their infertility, the stress of the medical investigations and the influence these investigations had on them. The psycho-social effect of infertility on the couple should be assessed thoroughly, as well as the process of coming to terms with their infertility and their motives for seeking AID treatment or other infertility treatment. Hermanns & Hafez (1982:107) emphasize that: "It might be ideal to include a medical social worker in the consultation to help the couple clarify any problems or questions concerning AID". Allen *et al.* (1985:286) also state that each couple should be counselled to assess their suitability for AID and their marital and psychological stability. Researcher agrees with this statement and is of the opinion that it is important to discuss the alternatives childlessness and adoption, as it is possible that they have not yet considered these alternatives and will need to consider them before making a final decision regarding artificial fertilization with donor gametes. If the couple is regarded as suitable for AID or any other donor infertility treatment procedure, a preparation session should be held, including a thorough discussion of the medical, legal, ethical-moral, religious and psycho-social aspects related to donor infertility treatment. The American Fertility Society (1988:828) states in this regard that couples should be made aware that there may be adverse emotional and psychologic consequences to these procedures. This they state, "... may require in some instances referral for evaluation and counselling in the behavioral sciences prior to performing the insemination procedure". Evaluation and counselling of each recipient couple prior to artificial fertilization with donor gametes should therefore be made compulsory. Hermanns & Hafez (1987:112) in this regard, recommend that couples with ambivalent attitudes towards AID, with alcoholism or drug abuse and with medical contra-indications should be rejected as recipients for AID. Marital or personal problems, psychiatric disorder history, level of intelligence and inability to financially afford treatment should also be added to this.

In the preparation sessions at the Infertility Clinic, at the H.F. Verwoerd Hospital, carried into effect by researcher from January 1986 to December 1987, the couples were made aware of and prepared regarding the medical, legal, ethical-moral, religious and psycho-

social aspects related to artificial fertilization with donor gametes. Once thoroughly prepared, the couples were given a few months to ponder on all the issues discussed in these sessions and to make their final decision. They were also encouraged to discuss these issues further and to contact the medical social worker at the clinic if they had questions or a need to discuss any of the aspects in further detail. Jequier (1986:145) stresses the importance of couples being fully and carefully counselled for AID and suggests supplying patients with a booklet describing all these issues, which may be helpful in answering certain questions they forgot to ask while in the session. This would indeed be a helpful resource for couples considering AID. The preparation and counselling of these couples will be discussed in detail in Chapter 8.

The importance of the couples being counselled regarding the ethical, religious, legal and practical implications of AID is emphasized by Beck (1983:385) and Thompson & Boyle (1982:218). Thompson & Boyle (1982:218) also recommend that a period of time, up to six months, should elapse between the diagnosis of male infertility and the implementation of AID, and that one should recognize when a couple is at ease with their final decision. Templeton & Triseliotis (1983:311) also emphasized the importance of a time-interval between acceptance into the AID programme and starting the actual insemination, while Milsom & Bergman (1982:127) in their study found a long interval necessary to ensure that sufficient time is available to make the correct decision concerning AID treatment. According to Sokoloff (1987:13) most studies have shown the benefits of a required waiting period for patients to rationalize their thoughts and accept AID. This, Sokoloff (1987:13) emphasizes, includes the enormous psychological consideration included in a decision to use this technique. Thus all couples should, once counselled and prepared for treatment, be advised that they should consider this option over a few months before making their final decision.

Once a couple has made their final decision to go ahead with artificial fertilization with donor gametes, they should again attend a counselling session with the medical social worker. During this session their decision-making process and the motives behind their decision should be discussed, together with their present emotional

states and marital relationship. The various implications of donor infertility treatment should again be looked at briefly to assess whether the couple is sure of their decision. The donor infertility treatment procedure should also be explained thoroughly to the couple, so that they know what is expected of them and what lies ahead. Once the gynaecologist has interviewed the couple and explained the treatment procedure to them, various aspects of their physical appearances and background, have to be included in their file for the matching process with a suitable donor. The necessary consent forms then also have to be signed by the husband and wife.

3.7 DONOR SELECTION AND PREPARATION

Donors for artificial fertilization with donor gametes have to be recruited, selected and prepared, which is usually a difficult task, as not many people are willing to donate their gametes. The selection and preparation of donors is one of the most important aspects of a donor infertility programme, according to Beck (1983:384). The donor thus has to go through a thorough selection and preparation process, including various laboratory tests and an interview, before he or she is accepted as a donor for artificial fertilization with donor gametes, such as AID or IVF-D.

It is no longer acceptable for the physician performing AID to use the nearest medical student or house officer, regardless of their history, as it was done in the past according to Beck (1983:384). Zimmerman (1982:234) on the other hand mentions that physicians generally prefer medical students as donors because they are considered to have a stronger appreciation for and awareness of the need for confidentiality, are better able to provide an accurate family medical history and are more accessible for insemination purposes. Many authors mention the use of medical, dental, graduate and other university students as male donors, for similar reasons, including a high level of intelligence. (Compare Odem, Durso, Long, Pineda, Strickler & Gast, 1991:977-978; Barratt, Chauhan, Cooke & Cooke, 1990:181; Schroeder-Jenkins & Rothmann, 1989:903; Leeton, 1988:324 and Beck, 1983:384.) The recruitment of male donors who are friends of donors as well as the fertile husbands of infertile women are also mentioned by Leeton (1988:324). Templeton & Triseliotis

(1983:312) interestingly state that their main source of donors is through the recruitment of the husbands of post-natal patients, as also mentioned by Annas (1981:166), who furthermore includes hospital personnel and friends. In South Africa in practice, advertising for donors is not allowed and thus most male donors are medical students or post-graduate students and often fertile spouses of infertility patients who have had successful treatment. As donors are scarce, recipients in a donor programme were only accepted once they had recruited a friend or family member as a donor for the programme, but not for them to be recipient of. Therefore it seems as if university students are mostly used as male donors, along with patients and friends or family of patients, which, could be a good means of recruitment, but a thorough selection and preparation process should be compulsory for all donors.

Female donors are described by Buster (1985:817-818) as:"... highly willing, regularly ovulating women of proven fertility between the ages of 26 and 35 years, who are free of major medical or psychiatric illnesses, willing to accept the risks and discomforts of an invasive procedure". Lütjen *et al.* (1985:802-803) on the other hand mentions oocyte donors to be relatives or friends of the recipient couple, which is acceptable in Australia and has been approved by the Waller Committee in Melbourne. This could of course complicate matters, as the donor is known. A similar situation occurred in South Africa in 1987, when a uterus donor or surrogate mother, was the mother of the recipient daughter. The surrogate "grandmother" had a successful triplet pregnancy, and subsequently gave birth to her own grandchildren for her daughter and son-in-law (Michelow, Bernstein, Jacobson, McLoughlin, Rubenstein, Hacking, Preddy & Van der Wat, 1988:31-33). This, however, raised many ethical questions.

The recruitment of egg donors is obviously more difficult than that of sperm donors according to Kemeter, Feichtinger & Bernat (1987:148) from Vienna, Austria. They state that it should be relatively easy to find egg donors among patients in an IVF programme, especially those who have developed more eggs than could be used for their own purpose. Donor anonymity could also be a problem in such a situation though. All donors, whether male or female, should of course remain anonymous. This is also one of the criteria in the Regulations of

the Human Tissue Act (1986). Most literature refers to the male donor when describing donor selection, but these aspects are also applicable to the female donor. Matthews (1980:189) mentions that male donors should be men who are physically and mentally healthy, with acceptable genetic and medical backgrounds, whose semen is fertile and free from the risk of transmissible diseases. Donors who are married and already have children and a complete family, are also recommended as donors and are often sought by most clinics for a donor programme. Beck (1983: 384) states similarly that the ideal would certainly be the use of donors who have fathered children, as their fertility is already established. But they are not always willing to donate. Barratt *et al.* (1990:377) recommend two methods of recruitment, the first, the recruitment of men who have fathered a child, and the second, donors with semen characteristics above minimal limits. Kemeter *et al.* (1987:148-150) similarly recommend the same for female donors, i.e. women who already have children and who do not want further pregnancies, or women who have already experienced infertility treatment successfully, as they should have maximum insight into the problem. Thus married persons who already have children, would be the most suitable donor candidates.

The donor should of course always remain anonymous and should agree never to seek his biological offspring as stated earlier. Jequier (1986:144) states in this regard that when the donor is first interviewed, he already needs to be reassured concerning the total anonymity which will be associated with his donation of semen. The same should of course also apply to the female donor.

If a donor is married, the spouse must be included in the selection interview and he or she should also give consent for the partner to donate his or her gametes for the use in a donor infertility programme. This aspect is also emphasized by Matthews (1980:190): "... a donor's wife should consent to the procedure and understand its implications", and by Annas (1981:168): "... it is clearly a requirement of personal integrity, of love and loyalty, that the donor's wife should be consulted by him (the donor) and agree to the role he plays". With female donors the same applies concerning the consent of the husband. Buster (1985: 818) describes the consenting process as addressing the interests of four consenting parties, the infertile recipient and her husband and the oocyte donor and her husband. The

consenting process should always include the recipient couple and the donor couple and should be made compulsory by law.

The screening process for donors in a donor infertility programme usually entails the following screening process and criteria:

- * A thorough **medical and family history**.
- * **History and various laboratory tests** to determine the presence of any of the following:
 - **Genetic or hereditary disorders:**
Thalassaemia, colour blindness, Tay-Sachs disease, haemophilia, mental retardation, Huntingtons' chorea, diabetes mellitus, sickle cell trait, phenylketonuria, alkaptonuria, eczema, cystic fibrosis, asthma, epilepsy, glaucoma, Parkinsons' disease, spina bifida, and neurologic disorders. Certain genetic disorders are more common in certain ethnic groups or nationalities, for example sickle cell disease in Blacks and Tay-Sachs in Ashkenazi Jews. The donor should specifically be tested for these genetic disorders if from a specific ethnic group. A three to four-generation genetic history is advisable. Donors specifically with a history of diabetes, congenital heart disease, neural tube anomalies, congenital hip dislocation, psychiatric disease, mental retardation, thyroid disorders, seizure disorders, congenital deafness or blindness, congenital neurologic disorders, dyslexia, polycystic kidney disease, cancer of the colon, multiple congenital anomalies or any medical problem with genetic cause, should be excluded as donors.
 - **Venereal and other transmissible diseases:**
These include: Syphilis, gonorrhoea, haemophilis, cytomegalovirus (CMV), candida, trichomonas vaginalis, chlamydia trachomatis, hepatitis B, herpes-virus 2, human immunodeficiency virus (HIV) and acquired immune deficiency syndrome (AIDS). Donors with any of these diseases must be excluded as donors. Since it is possible to transmit HIV by fresh donor semen before the donor has become seropositive for HIV, a phenomenon which can take up to 3 months or longer

to occur after initial HIV infection, the potential for transmission of AIDS must be eliminated and thus the use of fresh semen is no longer recommended. Frozen semen specimens must be quarantined for 180 days and the donor retested and if found to be seronegative for HIV, the specimen can be released for use in a donor infertility programme.

* **Sexual history of the donor:**

Donors with a history of homosexual experience, prostitute contacts and promiscuous sexual relationships should be excluded as donors.

* **A physical examination of the donor.**

* **A semen analysis or an oocyte or embryo analysis.**

* **Blood type and Rh factors:**

Details are necessary for the matching process if the same blood group as the husband is requested.

* **Age:**

Male donors should be younger than 40 years; and female donors should be younger than 35 years.

* **Intelligence level - must be acceptable and is necessary for the matching process.**

* **Educational level and occupation - details are necessary for possible matching.**

* **Race - details are necessary for the matching process.**

* **Nationality - details are necessary for the matching process.**

* **Religious denomination - details are necessary for the matching process.**

* **Interests and hobbies - for information for the recipients.**

- * **Motives** for wanting to be a donor are assessed.

- * **A history of any previous sperm, oocyte or embryo donation** is determined.

(Compare The American Fertility Society, 1991:396; Bordson & Leonardo, 1991:399-401; The American Fertility Society, 1990:2S-4S; Barratt *et al.*, 1990:375-379; Moghissi, 1990:399-400; Schroeder-Jenkins & Rothmann, 1989:903-904; Hummel & Talbert, 1989:920-925; Sevenster, 1989; Kovacs *et al.*, 1988:355-356; The American Fertility Society, 1988:829-831; Leeton, 1988:324-325; Schoysman-Deboeck *et al.*, 1988:718-719; Jequier, 1986:144; Regulations regarding the artificial insemination of persons and related matters, 1986; Human Tissue Act, 1983 (Act No. 65 of 1983); Buster, 1985:817-818; Templeton & Triseliotis, 1983:312; Beck, 1983:384-385 and Hermanns & Hafez, 1982:102-106.)

Thus donors with a poor health, risky family and/or sexual history, poor semen, oocyte or embryo analysis, a history of any genetic or hereditary disorder and venereal or transmissible diseases should be excluded as donors. Hummel & Talbert (1989:920) specify the exclusion of donors with a history of genital warts, chronic hepatitis, homosexual experiences, sexual contacts with prostitutes, past or present intravenous (IV) drug use, or origin from a geographic area high in incidence of AIDS. The American Fertility Society (1990:6S) also specify the exclusion of donors who firstly fall under the AIDS risk groups, including any homosexual contact in the last 8 years, intravenous drug users, sexual partners of persons in the AIDS risk groups and donors from geographic areas where the sex ratio of AIDS patients is close to 1:1. Secondly they exclude donors who have had more than 1 sexual partner within 6 months. Thirdly they exclude any donor with evidence of sexually transmissible diseases (STD) within the last 6 months, including dysuria, urethral discharge, genital ulcer, hepatitis or a sexual partner with frequent episodes of trichomonas. Lastly they exclude donors with a past history of genital herpes, genital warts or chronic hepatitis. Bordson & Leonardo (1991:399-401) and The American Fertility Society (1991:396) strongly recommend sperm donors to be under the age of 40 years, as the incidence of genetic disorders in offspring increase with paternal age. Hermanns & Hafez (1982:102) add the risk of degenerative

changes in the testes and hence quality of the ejaculate, stillbirth which is more common where the father is older than 40 years, foetal death rate increasing with maternal and paternal age, as well as increased genetic abnormalities. Thus the main factors according to which donors are excluded from a donor programme seem to be: Any persons who fall into the AIDS high-risk groups, any person with multiple sexual partners, any person with evidence of sexual transmissible diseases or hepatitis and persons above 40 years of age.

Due to the worldwide increase in the transmission of the human immunodeficiency virus (HIV) which leads to the acquired immune deficiency syndrome (AIDS), The American Fertility Society in the U.S.A. revised their guidelines for the use of donor insemination (AID) in 1986, 1988, 1990 and 1991. These new guidelines have been revised to exclude donors in the AIDS high-risk groups, as well as the use of fresh donor semen. Some important aspects mentioned to justify these steps are as follows:

- * AIDS can be transmitted before the donor becomes seropositive, a phenomenon which takes up to three months or longer to occur after the initial infection was contracted.
- * The potential for the transmission of the human immunodeficiency virus (HIV) by fresh semen can not be entirely eliminated.
- * The use of fresh semen in donor insemination is therefore no longer warranted in the U.S.A..
- * All frozen specimens should be quarantined for 180 days and the donor should be retested and found to be seronegative for the HIV, before the semen is acceptable for AID.

(Compare The American Fertility Society, 1991:396; The American Fertility Society, 1990:3S-4S; The American Fertility Society, 1988:829-831 and Peterson, Alexander & Moghissi, 1988:209.)

These guidelines have imposed many problems for artificial fertilization with donor gametes, such as the use of frozen semen, which sometimes has a lower success rate than fresh semen, the need for more sperm banks and the need for more tests to be performed after 180 days quarantine. As the presence of AIDS is increasing throughout the world with astronomical figures, these guidelines are of utmost importance. No specific guidelines have yet been formulated regar-

ding donor oocytes or embryos and AIDS, but the same guidelines could most probably be applied.

Only a few cases of AIDS transmitted by means of AID have occurred thus far in the world. Peterson *et al.* (1988:209) mention four women in Australia to have become HIV seropositive after AID treatment using a HIV seropositive donor. A few cases have also occurred in the U.S.A. No such cases have been recorded in South Africa thus far, fortunately, according to Sher (1989) at an AIDS symposium in Pretoria.

Fewer than 30 cases worldwide of sexually transmitted diseases such as gonorrhoea, trichomonas vaginalis, chlamydia trachomatis and human immunodeficiency virus (HIV) have been transmitted from donor semen to inseminated women as reported by Mascola (1987:1093). Furthermore, Berry, Gottesfeld, Alter & Vierling (1987:1079) report cases where the hepatitis B virus was transferred to 3 female recipients by means of donor semen where the donor had hepatitis B virus.

Other important aspects also taken into consideration during the selection process are the motives for wanting to be a donor, the level of intelligence and the educational level. These aspects are especially necessary for the matching process between the donor and the recipient couple, which will be discussed in the next section in this chapter.

Donors are usually compensated in South Africa for each specimen they produce, to cover their travelling expenses at a sum of anything from approximately twenty rand. In most countries such as in South Africa, donors are compensated a minimal amount to cover their expenses and in other countries such as certain states in the U.S.A., donors are paid fixed and often substantial amounts (Schoysman-Deboeck *et al.*, 1988:719). Annas (1981:165) appropriately refers to donors as "... sperm vendors", because they are paid to produce an ejaculate. Compensation is, however, inevitable and essential, as it is difficult to recruit donors and their expenses should at least be covered.

According to South African legislation, in the "Regulations regarding

the artificial insemination of persons and related matters" (1986), in accordance with Section 37 of the Human Tissue Act, 1983 (Act No. 65 of 1983), each donor may only be utilized until five pregnancies have resulted using his sperm. Records also have to be kept of each donor in South Africa. According to Sevenster (1996), a limitation in the South African legislation is that the donors own children conceived by marriage or relationships are not taken into consideration besides the 5 per donor treatment. What if he gets married 2 or 3 times and has a few children by each wife and mistress? He could then possibly have 20 children and the chances of inter-marriage could be much greater than made provision for by law.

In the U.S.A., according to The American Fertility Society (1990:4S), the limit is set at no more than 10 pregnancies per donor, as the population is much larger than that of South Africa. The Council of Science and Society (1984:40) states in this regard that it is very desirable that a particular donor should not be used for too many inseminations and for this reason, records of the sperm donations by each donor should be kept. The same limitations should, however, also apply for the use of donor ova or embryos.

In Australia it was uncertain as to where the ideal location of data storage would be (Leeton, 1988:325). The Waller Committee in Victoria decided that a registry of gamete donors should be kept by the Health Commission, whereas the New South Wales Law Reform Commission favoured an opposing view that there should be no central register containing details of parties involved. It is not certain whether this problem has been resolved as yet. The American Fertility Society (1990:4S) in their guidelines for AID state that the ideal record keeping system is not yet available in the U.S.A., but that it is desirable to maintain permanent confidential records of donors. In South Africa, Allen *et al.* (1985:285) for example reported that they kept no records of the donors in their AID programme at Groote Schuur Hospital. Since the "Regulations regarding the artificial insemination of persons and related matters" (1986), were assented to in terms of Section 37 of the Human Tissue Act, 1983 (Act No. 65 of 1983), confidential records of donors have to be kept by the medical practitioner, and all donors and recipients utilized for a pregnancy have to be recorded in the Central Register for AID at the

Director-General, Department of Health. This makes provision for a controlled artificial fertilization with donor gametes service in South Africa and it is a fine example other countries can strive for. The legal aspects will be discussed in detail later in this thesis in Chapter 4.

The donor should be thoroughly prepared for the donor infertility treatment programme by the gynaecologist or medical practitioner. This should include aspects such as confidentiality, anonymity, responsibilities such as sexual abstinence before donating semen, the period he or she has to be available for the donating, the place where he has to donate and submit his semen sample or when she has to be available for the oocyte aspiration, the compensation involved and the overall responsibility regarding the donor infertility programme. Furthermore, the psycho-social, legal, ethical-moral and religious aspects regarding artificial fertilization with donor gametes should also be discussed with the donor. Templeton & Triseliotis (1983:312) state in this regard: "The selection of donors is a neglected area in the practice of AID, not so much from the medical aspect, but more from social and ethical considerations". The social, religious and ethical aspects are thus seldom discussed with the donor, although the legal aspects are sometimes discussed to a certain extent and the medical aspects are always concentrated on. Leeton (1988:324) suggests that counselling must be given to all sperm donors prior to their selection and should be available during and after their services. This would be the ideal, but in practice one finds that the donors do not want counselling or contact with anyone else except the medical practitioner. They are not willing to return to the clinic other than to donate semen and want no contact thereafter. It is suggested that donors be counselled on a routine basis prior to selection by a medical social worker, but whether this will become a reality is another question, as the recruitment and maintaining of donors remains a problem, with medical practitioners not willing to complicate the process further by counselling. The donor, however, is still a human being with problems, concerns and needs and should be counselled and prepared more thoroughly by medical practitioners regarding not only the medical aspects, but also the legal, ethical-moral, religious and psycho-social aspects.

3.8 RECIPIENT - DONOR MATCHING

Once donors have been selected and prepared for artificial fertilization with donor gametes, the recipient couples who have also been selected and prepared, have to be matched with the donors according to race, nationality, religion and physical appearance, as stated in the "Regulations regarding the artificial insemination of persons and related matters" (1986), in accordance with Section 37 of the Human Tissue Act, 1983 (Act No. 65 of 1983). These physical characteristics include colour of hair, eyes and complexion, physical build and height. Hummel & Talbert (1989:920) state similarly that the donor's height, weight, colour of hair and eyes, complexion, race, religious background and blood type are matched and that colour photographs of each donor are used to match donor and recipient at the University of North Carolina-School of Medicine at Chapel Hill in the U.S.A. Hermanns & Hafez (1982:106) also state racial background, body build, hair and eye colour, complexion, blood type and Rh-factor as matching characteristics.

It also seems, according to Beck (1983:385), as if the matching process instills a great deal of confidence and trust in the recipient couple. But one must remember that this match is never 100% and the child may not resemble the couple at all. Glezerman (1982c:337) states the following in this regard: "Patients requesting that the physical characteristics of the donor be matched to those of the husband, should be fully informed that matches of this kind in the human, by no means guarantee resemblance and that the child may well inherit physical characteristics of a remote and unknown relative and not resemble either of the parents. Attempts should be made to choose donors of the same ethnic origin, body proportions, hair and eye colour, as well as blood type". This issue concerning resemblance is usually raised by most couples during the preparation session prior to artificial fertilization with donor gametes. It is important that the matching process between donor and recipient is discussed thoroughly with the couple as well as the possibility of no resemblance between parents and child.

The Infertility Clinic at the H.F. Verwoerd Hospital, where researcher was part of the team, took certain aspects into considera-

tion when matching a recipient couple with a specific donor in their artificial fertilization with donor gametes programme from January 1986 to December 1989 according to Sevenster (1989) as follows:

- * Race;
- * nationality;
- * religion and church denomination;
- * physical appearance:
 - Colour of hair;
 - colour of eyes;
 - complexion; and
 - physical stature (height and build).
- * Intellectual level;
- * educational level; and
- * socio-economic status.

According to Sevenster (1996), the 2 main criteria taken into consideration nowadays in practice are race and religion. The recipient couple are requested to describe what the donor's physical appearance should be and this is matched as far as possible. Blood group is not so important unless if the wife is O⁻. If the recipients request the donor to have the same blood group as the husband, this has to be respected.

The donor and the recipient couple may also state their wishes regarding religion and church denomination of the recipient couple and donor respectively. These above-mentioned aspects can then be matched between the donor and recipient couple as far as possible.

The trend nowadays, according to Lourens (1996), is that recipient couples book their matched donor in advance for their second child as well. One couple apparently booked and payed for their matched donor in advance for all 5 the pregnancies allowed per donor and had their 5 children over a number of years with the same donor as father of all 5 their children. This makes sense to a certain extent, as all the children are then 100% blood related and inter-marriage with other unknown donor children of the same donor is prevented. Whether it is ethically correct, remains an open question, as this donor now has a family of 5 children with one recipient female who he will never know. These aspects must be discussed with recipients and the

donor if possible. Donors and recipients should also be provided with sufficient non-identifying information on the recipients and donor respectively, unless they prefer to know nothing.

3.9 METHODS OF ARTIFICIAL FERTILIZATION WITH DONOR GAMETES

Heterologous infertility treatment is treatment using the gametes of a donor or third party as a result of a poor prognosis of the husband, wife or both spouses. Mahlstedt & Greenfeld (1989:908) state in this regard: "For those couples who cannot conceive through procedures involving their own biological gametes, numerous non-coital procedures have been developed which utilize donor eggs, donor sperm, donor embryos or donor uteri (surrogacy)". Heterologous infertility treatment is more complicated than homologous infertility treatment, as there are legal, ethical, moral and religious issues involved as a result of the donor or third party participation. The psycho-social implications are subsequently more intense. Thorough selection of donors and recipients is of utmost importance, as is the thorough preparation of donors and recipients regarding the medical, legal, ethical, moral, religious and psycho-social aspects of artificial fertilization with donor gametes.

Donor sperm has been utilized for the treatment of couples with male infertility since 1884 when the first successful AID was performed by Pancoast in the U.S.A. (Barwin, 1986:461). Since then it has been widely used as a form of treatment throughout the world. Oocyte donation, on the other hand, is a more recent development in this field with the first successful IVF pregnancy following the use of a donor oocyte, reported in Melbourne, Australia in 1984 by Lütjen *et al.* (1984:174-175). Oskarsson *et al.* (1991:351-355) in a study in London to determine patients' attitudes toward gamete donation, found people to be more willing to donate sperm than oocytes. Thus it is still a relatively new concept to people, which will still need getting accustomed to. As the use of donor oocytes is a more complicated procedure than donor sperm, most clinics and private gynaecologists prefer treatment using donor sperm only.

In an artificial fertilization with donor gametes programme, donors have to donate gametes which can be used fresh or frozen. Fresh

semen in the case of male donors has up until recently been used more commonly, but with the increased incidence and fear of AIDS, many countries in the world have recommended the use of frozen semen or have made it compulsory. Morshedi, Oehninger, Veeck, Ertunc, Bocca & Acosta (1990:1093), found certain spermatozoal functions to be preserved after freezing/thawing with an acceptable prognosis. This issue will be discussed in detail in the following section. As the use of frozen oocytes is a relatively new form of donor treatment, fresh and frozen oocytes are still used. Non-stimulated or hormone-stimulated donor oocytes can be used according to Cha, Koo, Ko, Choi, Han & Yoon (1991:112) from Korea and Lütjen *et al.* (1985:799).

It is important that donors and recipients should be matched as discussed earlier. Donors, however, should remain anonymous to the recipients and should also be screened thoroughly on medical grounds, before entering a donor treatment programme. This is not common practice in most countries, but is slowly becoming a more controlled practice with applicable laws and minimum standards being laid down in a few countries, such as in South Africa. The importance of selection and preparation on psycho-social grounds is emphasized and the preparation will be discussed in further detail in Chapter 8.

The following heterologous treatment options or options of artificial fertilization with donor gametes are available for couples with a poor prognosis as a result of severe infertility in one or both spouses.

3.9.1 Artificial insemination with donor semen (AID)

This treatment procedure is the same as AIH, discussed previously under homologous infertility treatment in Chapter 2, except that the semen of a donor is used to inseminate the wife. The required amount of frozen donor semen is thawed or fresh semen prepared and the wife who is stimulated and monitored for ovulation, is inseminated during her period of ovulation for two to three consecutive days.

* Ovarian stimulation, monitoring and timing:

On day one of her menstrual cycle the female patient phones the clinic for an appointment. She receives a prescription for clomiphene citrate (clomid), a fertility drug, which she takes

from days five to nine of her menstrual cycle to enhance ovulation. As from day ten she again goes to the clinic every morning with a full bladder, for an ultrasound scan or trans-vaginal ultrasound, where the bladder can be empty, which assess the ovarian follicular growth. Furthermore blood tests to measure the serum estradiol level or the total estrogens in the urine are determined.

* **Donor semen specimen:**

Fresh or frozen semen can still be used for the AID procedure. If fresh semen is used, the donor is informed beforehand of the insemination and after three days of sexual abstinence, he has to produce a semen specimen by means of masturbation, usually at home for the sake of anonymity and convenience, after which the sterile container with the semen is immediately taken to the clinic or practice where it is prepared for the insemination. This is done for two to three consecutive days, during the patient's ovulation period. The patient is then inseminated for two to three consecutive days during her ovulation to improve the success rate. If frozen semen is used, as is more common nowadays, only one specimen is required for the two to three inseminations, as only the necessary amount is thawed everyday for each insemination, which makes it more convenient.

* **The artificial insemination technique:**

The procedure artificial insemination may be performed in five different ways: intra-uterine, intra-cervical, intravaginal, intra-peritoneal or cap insemination, or a combination of these. The infertility clinic at the H.F. Verwoerd Hospital used the intra-uterine technique. These four different techniques of insemination entail the following:

- **Intra-uterine insemination:**

The uterine cervix is bypassed and sperm is injected directly into the uterine cavity. This is performed by means of a catheter attached to a sperm-containing syringe. Intra-uterine cramps and expulsion of semen may however be resultant complications if more than 0,2ml of sperm is injected. The patient remains lying down for 15-20 minutes.

- **Intra-cervical insemination:**

While the patient is lying in the supine position, the blunt tip of a plastic syringe is applied to the external os of the cervix and the sperm is slowly injected into the cervical canal. Loss of semen is usually minimal. The patient remains lying down for 15-20 minutes.

- **Intra-vaginal insemination:**

The sperm is injected in the area of the vaginal vault with a plastic syringe, while the patient is lying in the supine position. The patient remains lying down for 15-20 minutes after the insemination. Loss of sperm from expulsion is usually high and a complete ejaculate should be used.

- **Intra-peritoneal insemination:**

Sperm is injected into the pouch of Douglas through the posterior fornix. Peritoneal fluid is usually aspirated before the sperm is injected.

- **Cap insemination or peri-cervical insemination:**

A soft plastic cap or non-absorbable sponge is placed over the cervix of the patient, and the spermatozoa is injected through a tube which opens into the cap. This cap prevents the semen from pouring out and must be left in for approximately eight hours, after which the patient can remove it at home.

* **Pregnancy test:**

Ten to twelve days after the last insemination a blood specimen is taken for a Beta-hCG (pregnancy test).

(Compare Sevenster, 1993; Odem *et al.*, 1991:976-978; Kirby, Flaherty, Godfrey, Warnes & Matthews, 1991:103-104; Pratt, Bieber, Barnes, Shangold, Vignovic & Schreiber, 1991:984-985; Dodson & Haney, 1991:457-462; Crosignani *et al.*, 1991:333-334; Edvinsson *et al.*, 1990:81-83; Silva, Meisch & Schauburger, 1989:243-244; Schoysman-Deboeck *et al.*, 1988:722-724; Kovacs *et al.*, 1988:355-356; The American Fertility Society, 1988:831-832; Sunde, Kahn & Molne, 1988:97-98; Jequier, 1986:146; Barwin, 1986:465-467; Olshansky & Sammons, 1985:49S-52S; Keller *et al.*, 1984:213-216; Corson, Batzer & Baylson, 1983:289-291; Glezerman, 1982d:301-306; Glezerman, 1982c:331-334 and Matthews, 1980:194-198.)

The presence of the husband during the insemination procedure is of utmost importance, as it will make him feel part of the procedure emotionally and of the resultant conception. Some gynaecologists even go as far as to let the husband do the actual insemination procedure under their guidance, such as described by Mazzola & Stangel (1984:654). They describe the husband as, "... experiencing initial trepidation, fearing that they would hurt their wives. After overcoming this initial fear, the husbands begin to experience a sense of pride and a sense of true participation. The previous feeling of exclusion no longer exists. Couples come to the office together on time, and fewer appointments are broken. If the pregnancy does not occur each member of the couple is able to offer greater support to the other". Allowing the husband to do the actual insemination could thus be very beneficial for the couple, especially for the husband. It could, however, raise certain ethical questions.

3.9.2 In-vitro fertilization and embryo transfer with donor sperm (IVF-ET-D)

This procedure is used in the case of severe male infertility where donor sperm is used and where female indications for IVF-ET exist. The female indications for IVF-D, according to Morshedi *et al.* (1990:1096), are mainly diagnoses of tubal disease. The same procedure implemented in IVF-ET and discussed in Chapter 2 under homologous infertility treatment, is implemented, except that the sperm of a male donor is used. Englert, Delvigne, Vekemans, Lejeune, Henlisz, De Maertelaer & Leroy (1989:664) from Brussels, Belgium, state that frozen donor sperm used in IVF-D does not impair the chances of success and reduces the risk of AIDS contamination. In the laboratory, after the oocyte aspiration, the thawed sperm of the donor is added to the wife's oocytes in a petri-dish, and left in an incubator for two days for fertilization to take place and for four to eight cell embryos to form. Three to four embryos are transferred into the uterus of the wife by means of a catheter and a pregnancy test is performed ten to twelve days later. Excess embryos can be frozen and stored for use in another IVF cycle if the first is unsuccessful. Thus a recipient couple with combined infertility, specifically male infertility and indications for IVF, can be helped by means of this procedure.

3.9.3 In-vitro fertilization and embryo transfer with donor oocytes (IVF-ET-D)

This procedure is used firstly in the case where a patient is without ovaries, or due to primary or secondary ovarian failure, where no oocytes can be obtained, or secondly where the female patient was not fertilized by her husband's sperm after several attempts (Sevenster, 1993). The same procedure for IVF-ET, as discussed previously under homologous infertility treatment in Chapter 2, is implemented, except that the oocytes of a female donor are used. Thus the indications for IVF have been extended to any etiologic infertility factor not successfully treated by conventional therapeutic modalities, as stated by Rosenwaks (1986:270). Candidates for oocyte donation, according to Rosenwaks (1986:271-272), fall into three general categories, namely recipients with normal menstrual function who are unsuitable candidates for IVF, recipients with normal menstrual function who have had repeated unsuccessful IVF and recipients without ovarian function. Lütjen *et al.* (1984:174-175) also mention primary ovarian failure as an indicator for donor oocytes or a donor embryo. They reported the first successful IVF-ET using donor oocytes in 1984, at Monash University in Melbourne, Australia. Lütjen, Healy, Chan, Findlay, Kola & Trounson (1987:131) mention that by the end of 1985, 6 offspring had been born as a result of the oocyte and embryo donation programme at Monash University, Australia.

Fresh oocytes can be used, making the procedure more complicated, as both the female donor and the female recipient have to undergo ovarian stimulation and their cycles and day of ovulation have to correspond exactly. Buster (1985:816) from the U.S.A. describes how this synchronization takes place between the recipient and the donor woman, by synchronizing the luteinising hormone (LH) peaks to with plus or minus two days. Cha *et al.* (1991:112) from Seoul, Korea, on the other hand suggest in-vitro maturation of immature oocytes collected from unstimulated ovaries as an alternative to hormone-stimulated cycles in a donor oocyte programme. This could of course be more convenient for both the donor and the recipient.

The stimulated IVF-D procedure using fresh donor oocytes is described by Sauer, Kaufman, Paulson & Lobo (1991:1198) from the University of Southern California, U.S.A. The oocyte donor undergoes controlled

ovarian hyperstimulation with hMG. HCG is administered to the donor preceding transvaginal ultrasonography - directed oocyte aspiration. The oocytes obtained are incubated with the recipient husband's sperm until fertilization and cleavage takes place. The embryos are transferred to the recipient's uterus by the transcervical route with an embryo transfer catheter on stimulated cycle day 18. Thus this procedure is slightly more complicated than the unstimulated procedure discussed above.

On the other hand, Lütjen *et al.* (1987:125-130) from Monash University, Australia, describe their procedure using fresh donor oocytes for recipients with absent ovarian function. They recommend that the oocyte aspiration be performed between days 14 and 16 of the recipient's treatment cycle, as a result of the steroid replacement cycle in patients with absent ovarian function: "Cyclical steroid replacement therapy (CSRT) is used to mimic as closely as possible the changes throughout the normal menstrual cycle and to achieve effective endometrial stimulation to allow for implantation after ET" (Lütjen *et al.*, 1987:125-130). Thus for women with absent ovarian function, a specific IVF-D procedure using fresh donor oocytes, is also available. Laufer, Navot, Rabinowitz, Lewin, Birkenfeld, Mangalioth & Schenker (1987:138-144) from Hadassah University Hospital, Jerusalem, Israel, describe a similar IVF-D procedure for patients with primary ovarian failure.

The description of these IVF-D procedures using fresh oocytes and embryos, gives one an idea how with different methods in one treatment procedure such as IVF-D, many patients with different diagnoses can be accommodated. This also illustrates the use of fresh oocytes and embryos requiring the stimulation of both donor and recipient, making it more complicated, and an unstimulated cycle possibly being less complicated.

The use of frozen oocytes can make the procedure less complicated, as the thawed donor oocytes can be used at any time to suit any recipient's cycle. Trounson & Freemann (1985:825-830) describe the cryopreservation techniques used in oocyte and embryo donation programmes thoroughly. The thawed donor oocytes are mixed with the recipient husband's sperm in a petri-dish and are placed in an

incubator for fertilization and cleavage to take place and for four to eight cell embryos to form. Three to four embryos are transferred into the uterus of the recipient female by means of a catheter and a pregnancy test is performed ten to twelve days later. Excess donor embryos can be frozen and stored, to be used in later IVF cycles, if the first one is unsuccessful, or for other recipients. Ashwood-Smith & Simons (1987:97-100) from the United Kingdom and Canada respectively, describe their successful use of frozen-thawed blastocysts, rather than eight-cell embryos with higher success rates. Thus a variety of IVF-D options are available for couples with female infertility and indications for IVF, seeking artificial fertilization with donor gametes.

Donor embryos can also be transferred to the recipient patient's uterus by means of embryo transfer. This donor embryo can be "adopted" by the recipient couple and they can experience the pregnancy and birth of their "adopted" child. This option will soon be legally possible in South Africa if the pending: Regulations regarding the artificial fertilization of persons and related matters (1991) is accepted, which had not yet occurred at the time of this study. Researcher was interviewed for an article in the Beeld newspaper regarding this option of adopting an embryo which was titled: "Onvrugbare vrou kan embrio 'aanneem'" (Van Wyk, 1991:10).

3.9.4 Gamete intra-fallopian tube transfer with donor sperm (GIFT-D) or transvaginal GIFT-D

This procedure is used in the case of severe male infertility and female indications for GIFT. The same procedure as implemented for GIFT, discussed earlier under homologous infertility treatment in Chapter 2, is used, where the wife's oocytes are aspirated, the only difference being the fresh or frozen-thawed donor sperm of a male donor being used, which is injected into the wife's tube together with her oocytes. Twelve days later a pregnancy test is performed. This is still a reasonably new option for artificial fertilization with donor gametes available for couples with male infertility and indications for GIFT.

3.9.5 Gamete intra-fallopian tube transfer with donor oocytes (GIFT-D) or transvaginal GIFT-D

This procedure is used in the case where the female partner has no ovaries, or has primary or secondary ovarian failure and no oocytes can be obtained, but has patent tubes and indications for GIFT. The same procedure as implemented for GIFT, discussed under homologous infertility treatment in Chapter 2, is used, except that donor oocytes are used. If fresh oocytes are used, the donor will undergo ovarian stimulation by means of clomid, and the recipient will receive hormones (progesterone and estrogen) to prepare her uterus for implantation of the donor embryos (Seventer, 1993). Their cycles will thus have to correspond exactly for the donor oocyte aspiration and GIFT to take place. In-vitro maturation of immature oocytes from unstimulated ovaries can also be used (Cha *et al.*, 1991:112). Lütjen *et al.* (1987:125) mention that with ultrasonic oocyte recovery procedures and with GIFT, many excess oocytes can be available for use in artificial fertilization with donor gametes. Frozen donor oocytes make the procedure less complicated and GIFT can be performed at any time, transferring the thawed donor oocytes and the husband's sperm into the Fallopian tubes of the wife. Feichtinger, Benkö & Kemeter (1987:101-108) from the Institute of Reproductive Endocrinology and In-vitro Fertilization in Vienna, Austria, describe the successful freezing and thawing of oocytes. Such frozen-thawed donor oocytes can be used in GIFT to transfer to the recipient's Fallopian tubes with sperm of her husband. Twelve days later a pregnancy test is performed. Thus a few different options of GIFT-D are available for couples with female infertility and indications for GIFT.

3.9.6 Zygote intra-fallopian tube transfer with donor sperm (ZIFT-D)

This procedure is used in the case of severe male infertility and female indications for ZIFT. The same procedure for ZIFT is used, as discussed earlier under homologous infertility treatment in Chapter 2, except that the sperm of a male donor is used. In the laboratory, after the oocyte aspiration of the wife, the thawed donor sperm is added to the wife's oocytes in a petri-dish and left in the incubator for eighteen to twenty hours for fertilization and development of two-cell or pronuclear embryos or zygotes to take place. Three to four zygotes are transferred into the wife's

Fallopian tubes and a pregnancy test is performed twelve days later. This is still a reasonably new option for artificial fertilization with donor gametes available for couples with male infertility and indications for ZIFT.

3.9.7 **Zygote intra-fallopian tube transfer with donor oocytes (ZIFT-D)**

This procedure is used in the case of a female patient without ovaries or with primary or secondary ovarian failure and indications for ZIFT (Sevenster, 1993). The same procedure for ZIFT, as discussed earlier under homologous infertility treatment in Chapter 2, is used, except that the oocytes of a female donor is used. Fresh oocytes can be used, making the procedure more complicated, as the female donor has to undergo ovarian stimulation and the female recipient has to undergo hormonal stimulation of the uterus to prepare it for the zygotes, and their cycles have to correspond exactly (Sevenster, 1993). In-vitro maturation of immature oocytes from unstimulated ovaries can also be used (Cha *et al.*, 1991:112). The use of frozen oocytes makes the procedure less complicated, as the thawed donor oocytes can be used at any time to suit the recipient's cycle. The thawed donor oocytes are mixed with the husband's sperm in a petri-dish and are placed in an incubator for fertilization and development of two-cell or pronuclear embryos or zygotes to take place. Three to four zygotes are transferred into the wife's Fallopian tubes and a pregnancy test is performed twelve days later. Excess zygotes can be frozen and stored for later ZIFT cycles if the first is unsuccessful, or for other recipients. Thus a variety of options for ZIFT-D are available for couples with female infertility and indications for ZIFT.

3.9.8 **Donor Tubal embryo transfer (TET-D) or embryo intra-fallopian tube transfer (EIFT-D)**

This procedure is used to transfer the embryo into the Fallopian tubes of the recipient wife after the donor oocytes have been fertilized in-vitro with the husband's sperm. Donor sperm can be used in the case of severe male infertility and where female indications exist for TET/EIFT. The same procedure as TET/EIFT, discussed previously under homologous infertility treatment in chapter 2, is used, except that the sperm of a donor is used to

fertilize the wife's oocytes in-vitro and then the in-vitro fertilized embryos are transferred into the Fallopian tubes of the wife. Excess embryos can be frozen and stored for further cycles if the first is unsuccessful.

Donor oocytes or embryos can be used in the case of severe female infertility, with patent tubes, where the same procedure is used, except that donor oocytes are used with the husband's sperm and the in-vitro fertilized embryos are transferred into the Fallopian tube of the wife or a donor embryo is transferred into the Fallopian tube of the wife. Jacobson & Galen (1990:546) describe their case of a 49 year old woman, where 6 donor oocytes were fertilized with the recipient's husband's sperm and three four-cell embryos were transferred by means of a laparoscopy, using the tubal embryo transfer (TET/EIFT) procedure for embryo replacement. The embryos were transferred into the ampulla of the right Fallopian tube 48 hours after the oocyte recovery. Excess donor embryos can be frozen and stored for further Donor-TET cycles if the first is unsuccessful. A pregnancy test is performed ten to twelve days later.

When donor embryos are used, an embryo can be donated by a donor couple and the recipient couple then "adopt" the embryo as described by IVF-D. This embryo using TET/EIFT-D is transferred into the wife's Fallopian tube. The recipient can then experience the pregnancy and birth of their "adopted child", unlike traditional adoption. This could enhance the bonding process with their adopted child and being accepted as their own. Van Wyk (1991:10) interviewed researcher regarding this option in an article in the Beeld newspaper.

TET/EIFT-D is very similar to IVF-Donor, except that the embryo transfer (ET) procedure is replaced with TET/EIFT-D. Thus another option is available for recipient couples.

3.9.9 Donor Ovum transfer (OT)

Donor ovum transfer (OT), according to Buster (1985:815), is a technique where the donor ovum is fertilized in-vivo and embryo donation takes place by non-surgical uterine flushing and embryo transfer to the uterus of the recipient. The term ovum transfer is

used as it is frequently not possible to distinguish between a fertilized and an unfertilized ova (Buster, 1985:815). This technique entails the synchronization of ovulation between the donor and recipient woman. Insemination of the donor with the recipient's husband's sperm is performed and fertilization occurs in the reproductive tract of the donor woman. Lavage of the uterus is performed transcervically without anaesthesia on days 5, 6 and 7. Once the embryo is recovered, the lavage sequence is terminated. The embryo is then transferred transcervically into the recipient's uterus. (Compare Buster, 1985:815-824 and Bustillo & Buster, 1987:122-124.) Buster *et al.* (1983b:223) reported the first two pregnancies using this procedure with donor oocytes at U.C.L.A. California, U.S.A. in 1983. Thus it seems a viable option for recipient couples.

This technique is thus only used in heterologous treatment where the gametes of a female donor are used, fertilized in-vivo and transferred in embryo form to the recipient's uterus. It requires no surgery or anaesthesia and is more cost-effective than IVF, making another option available for infertile couples.

3.9.10 Donor peritoneal oocyte and sperm transfer (POST-D)

This procedure is used if severe male infertility exists and female infertility exists, with indications for POST. The same procedure, as discussed earlier under homologous infertility treatment in Chapter 2, is implemented, except that for POST-D donor sperm and the wife's oocytes are transferred ultrasonically into the pouch of Douglas, or the husband's sperm and donor oocytes are transferred ultrasonically into the wife's pouch of Douglas. A pregnancy test is performed twelve days later. Thus another option for artificial fertilization with donor gametes for recipient couples with the necessary indications.

3.9.11 Transvaginal intra-follicular donor insemination

This procedure, according to Sevenster (1996), is performed transvaginally by means of ultrasonography. An ultrasound-guided needle is used to extract a certain amount of follicular fluid from the ovarian follicles. This follicular fluid is then examined for the presence of oocytes and then a certain amount of oocyte-free

follicular fluid is replaced with the same amount of donor sperm, which is then inseminated back into the follicle. A pregnancy test is then performed later on in the cycle.

3.9.12 Donor uterus/Surrogate motherhood

Surrogate motherhood is an option available mainly for couples where the wife has severe infertility in the form of uterine factors and is unable to carry a pregnancy. It is also a possible option for couples where both husband and wife are infertile. With this option, a uterus donor/surrogate female is chosen to bear a child for the couple after transfer of a donor embryo, which was "adopted" by the recipient couple after conception from a donor couple. This child is then given to the "adopting" parents at birth, according to a legal contract or agreement between the parties involved.

In South Africa recently, the South African Law Commission (1992) published a report on surrogate motherhood, including the proposed bill on surrogate motherhood. This is discussed in detail in Chapter 4 of this thesis, regarding the legal aspects of donor infertility treatment. The main aspects which can be mentioned for the purpose of this chapter, however, are:

- * Both the recipient couple and the surrogate mother have to be married and the gametes of both or at least one recipient must be used.
- * The surrogate mother's gametes or that of her husband may not be used.
- * The child born as a result of the artificial fertilization of the surrogate mother is the legal child of the recipient couple.
- * The surrogate mother is compelled to hand the child over to the recipient parents at its birth, or within a reasonable time thereafter.

According to the South African Law Commission (1992), this option mentioned earlier, where both the recipient husband's and wife's gametes are used, is an acceptable option also recommended in the proposed bill on surrogate motherhood.

Although these above-mentioned criteria have been specified for practice in South Africa only, other countries still use different

criteria and surrogate motherhood can thus be performed in the following ways:

* **Surrogate motherhood using the gametes of both recipient husband and wife:**

When both the husband and wife have acceptable gametes, but the wife's uterus has been damaged or removed, their gametes can be transferred into a chosen surrogate mother in-vivo by means of GIFT or POST. The gametes can otherwise be fertilized in-vitro in the laboratory which is more acceptable and the embryos or zygotes can be transferred into the surrogate mother by means of IVF-ET, IVF-TET, EIFT or ZIFT. A legal contract is signed by the parties involved prior to treatment. The surrogate mother then carries their baby for nine months during the pregnancy and the recipient couple then receive their "child" at birth, according to their pre-pregnancy legal agreement.

The first surrogate motherhood case was announced in South Africa 1987, with a successful triplet pregnancy. The surrogate mother, who was 47 years old and from Tzaneen, was the mother of the 24 year old recipient. Their cycles had been synchronized with the administration of an oral contraceptive pill for 2 cycles, after which it was stopped and both had a menstrual period with day 1 being the first day of their treatment cycle. Induction of ovulation in the surrogate mother was undertaken on days 5 to 9 with clomiphene citrate. Ovulation was triggered using human chorionic gonadotropin (hCG) on day 15, for the ultimate transfer of her daughter's embryo 48 hours after ovulation. Hyperfolliculation of the daughter was achieved by administering clomiphene citrate from days 3 to 7 of her cycle and human menopausal gonadotropin (hMG) was administered from days 7 to 13 of her cycle. On day 15 a laparoscopic oocyte aspiration was performed. Eleven mature oocytes were retrieved and inseminated with the husband's spermatozoa 6 hours later. Ten oocytes fertilized and cleaved, and 5 two-cell embryos were transferred to the surrogate mother's uterus without anaesthesia. An ultrasound examination after approximately 1 month revealed three intra-uterine gestational sacs each containing a live foetus, a fourth irregular sac showed no heart activity.

(Compare Michelow *et al.*, 1988:31-32.) This surrogate "grandmother" gave birth to her "triplet grandchildren", in 1988. This case, however, raised many ethical questions. A variety of possibilities are thus available in this option, but it is advisable for the surrogate mother not to be a relative as this could complicate matters. This is, however, not stipulated in the report of the South African Law Commission (1992). As both recipient spouses' gametes are used in this option, they are equally involved in this procedure and the child is biologically theirs. This option should thus have less complications than the subsequent options.

* **Surrogate motherhood using the recipient husband's sperm and donor oocytes:**

If the recipient husband is fertile, but the wife is infertile, with indications for a donor uterus, this option could be considered. The sperm of the recipient husband would be used and donor oocytes would be acquired from a female donor in an artificial fertilization with donor gametes treatment programme. A surrogate mother would be sought and a pre-pregnancy legal surrogate agreement would be drawn up. These gametes could be transferred into the surrogate mother in-vivo, by means of GIFT or POST. Another more acceptable option would be to fertilize the gametes in-vitro in a laboratory and to transfer the zygotes or embryos into the surrogate mother by means of IVF-ET, IVF-TET, EIFT or ZIFT. The surrogate mother would then carry this pregnancy to term and give birth to the recipient couple's child, which they would receive after the birth in terms of their agreement. As only one recipient spouse's gametes are used, it could complicate the situation, causing psycho-social implications for the wife, who may feel excluded. This option is acceptable in terms of the South African Law Commission (1992:162-169) in their report on surrogate motherhood and the proposed bill on surrogate motherhood.

* **Surrogate motherhood using the surrogate's oocytes and the recipient husband's sperm:**

This option is unacceptable in South Africa and not recommended in the report of the South African Law Commission (1992:162-

169). It is, however, practised in other countries. If the recipient wife is infertile, but the recipient husband is fertile, a surrogate mother can be sought and a pre-pregnancy legal surrogate agreement can be drawn up. The surrogate's oocytes can be used together with the recipient husband's sperm. Treatment procedures such as AID, or IVF-D are usually implemented, depending on the surrogate mother's and the recipient husband's indications. The surrogate mother should preferably have no infertility problems and thus AID would be the most common procedure implemented for surrogate motherhood. As only one recipient spouse's gametes are used, it could complicate matters, with the female recipient feeling left out, as the child is biologically only her husband's. As the surrogate mother's gametes are used, it could make it more difficult for her to part with the baby after birth, causing possible long-term implications.

* **Surrogate motherhood using the surrogate's oocytes and her husband's or donor sperm:**

This option is unacceptable in South Africa and is not recommended by the South African Law Commission (1992:162-169) in their report. This option is available in other countries, but not practised so commonly. It could be a possible option for couples where both spouses have severe infertility and their gametes are unacceptable for any form of treatment. In this case, a legal agreement can be reached between the surrogate couple and the recipient couple, for the surrogate couple to conceive and to bear a child for them or for the surrogate mother to undergo AID for the couple. The recipient couple receive "their" child upon birth. In this situation both recipient spouses are uninvolved biologically, as their gametes are not used. Both are thus on an equal level concerning their biological relation to the child and this could possibly have fewer implications or maybe more than the previous option. This could be called an open planned early adoption. Only future research on these options could help to shed light on these more unknown options and their implications.

* **Surrogate motherhood using a donor embryo or zygote:**

In this case the recipient couple, for example couple A, are both infertile. A donor couple, couple B, donate excess frozen embryos or zygotes after having undergone successful IVF or ZIFT, which they donate to the recipient couple, couple A, for treatment. The recipients, Couple A, however, not being able to carry a pregnancy, then approach another couple, for example, surrogate couple C, to bear the child for them, setting up a legal contract. The donated embryo or zygote donated by couple A, "adopted" by couple B, is then transferred into the surrogate mother C by means of IVF, TET/EIFT or ZIFT, who bears the child for them and gives it to the recipients, couple A, upon birth. As three couples are involved in this option, it is much more complicated than the previous options and would most probably have many more legal, ethical-moral, religious and psycho-social implications. One feels very sceptical about this specific option, as it becomes too complicated with so many people involved.

Surrogate motherhood is a relatively new treatment option or alternative for infertile couples in South Africa. It has been practised in other countries for many years and became well known as an alternative during the famous "Baby M" surrogate mother court case in the U.S.A. during 1986 and 1987, when the surrogate mother refused to give the newborn baby to the recipient couple, despite their pre-pregnancy contract. Researcher was working at the Infertility Unit of the Jewish Hospital, Washington University Medical Centre, St. Louis, Missouri, U.S.A., at the time of this controversial case, and followed it closely in the media.

Surrogate motherhood has mostly been implemented in the U.S.A. it seems, according to the literature. In South Africa surrogate motherhood was first implemented with the famous Tzaneen "grandmother surrogate triplets" in 1987 as discussed earlier. This was followed by other cases.

On 7 September 1991 it was made known in the media, on TV1 News (1991), that new pending South African legislation regarding surrogate motherhood had been drafted and were available for

comments. On 11 November 1992 The South African Law Commission (1992) published their final report on surrogate motherhood and the proposed bill on surrogate motherhood. It should be assented to shortly, making surrogate motherhood an actual alternative for infertile couples in South Africa.

There are many legal, ethical-moral and religious issues involved in heterologous or donor infertility treatment, as well as many psychosocial implications as a result. The importance of selection of donors and recipients and thorough preparation of both recipients and donors regarding the medical, legal, ethical-moral, religious and psychosocial aspects of donor infertility treatment should be a prerequisite before commencing with treatment. This is unfortunately not practised at all clinics performing artificial fertilization with donor gametes. It seems as if the common practice at infertility clinics is to screen donors and recipients on medical grounds and to prepare them for the medical aspects only. In some instances the legal aspects are merely referred to.

This insufficient selection and preparation of donors and recipients was confirmed during interviews with heads of various infertility clinics in 1991, such as Dr Wiswedel (1991), Head of the Infertility Clinic at Groote Schuur Hospital and Prof Kruger (1991), Head of the Reproductive Biology Unit at Tygerberg Hospital and various practitioners from private clinics and practices. Researcher, however, while working as medical social worker at the Infertility Clinic of the H.F. Verwoerd Hospital, initiated a preparation programme as a prerequisite for all couples undergoing artificial fertilization with donor gametes treatment in 1986. Artificial fertilization with donor gametes was available from January 1986 until December 1989, and all recipient couples were screened for treatment and prepared thoroughly regarding the medical, legal, ethical-moral, religious and psychosocial aspects relating to artificial fertilization with donor gametes. Unfortunately the donors were not willing to make contact with anyone else than the gynaecologist and were therefore only screened and prepared on medical grounds.

It is evident that there is a variety of infertility treatment options available for couples nowadays. Homologous treatment using

the gametes of both husband and wife is easily accepted by couples, with fewer ethical-moral and religious issues and no legal issues involved. Yet couples still experience their infertility and the treatment as stressful, with certain resultant psycho-social implications. These psycho-social implications of infertility will be discussed in Chapter 5.

Heterologous treatment or artificial fertilization with donor gametes is more complicated, because of the donor involved, with definite legal, ethical-moral, religious and psycho-social implications. That is even more the reason why the selection of both donor and recipient couples is important and especially the thorough preparation of recipient couples regarding the medical, legal, ethical-moral, religious and psycho-social aspects is proposed in this study. These issues will be discussed in-depth in this thesis in Chapters 4 and 5.

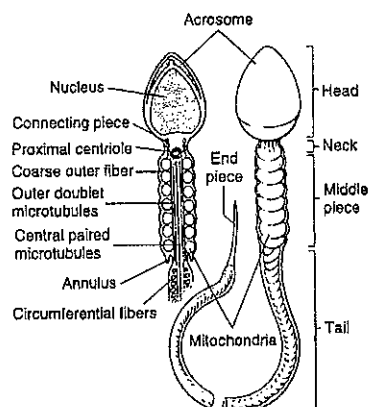
3.10 THE USE OF FRESH GAMETES VERSUS FROZEN GAMETES

In artificial fertilization with donor gametes fresh or frozen gametes can be used, each with certain advantages and disadvantages. The use of fresh or frozen donor semen, in the case of male infertility and fresh or frozen donor oocytes or embryos, in the case of female infertility, will subsequently each be discussed separately:

3.10.1 Fresh versus frozen semen

Subsequently a diagram of a male gamete or spermatozoon is provided:

FIGURE 7: MALE GAMETE/SPERMATOZOON



(Dorland's Medical Dictionary, 1988:1554).

As the use of fresh or frozen semen has been resorted to for many years for AID, this will be discussed first and thereafter fresh and frozen oocytes and embryos. Fresh or frozen semen was used for AID treatment until recently, when the threat of the transmission of sexually transmitted diseases such as AIDS became apparent and the use of frozen semen had to be resorted to preferably, as discussed earlier. In 1988 The American Fertility Society recommended the use of frozen semen for AID, with a specific quarantine period of 180 days, after which an HIV test is performed again on the donor. (Compare Peterson *et al.*, 1988:209-210 and The American Fertility Society, 1988:211.)

Fresh or frozen semen is still, however, being used for donor infertility treatment. When fresh semen is used for AID, for example, it has to be donated every day by the donor during the insemination period of the recipient for two to three consecutive days, a few hours before the insemination takes place. This is often inconvenient for the donor, who has to make arrangements to donate every morning, and has to abstain from sexual intercourse for three days prior to the insemination period, as well as during the insemination period. These are also some of the reasons why donors are compensated for their semen donations. If a donor is ill or unable to be present to provide a semen specimen during this specific time, the patient's AID treatment cycle therefore has to be cancelled, causing a great deal of disappointment and inconvenience for the patient. The use of frozen semen during AID treatment therefore has many advantages. The donor only donates semen once and afterwards the sperm is cryopreserved and can be used for a few inseminations by merely thawing the amount needed for each insemination each day.

The process of semen preservation, according to Matthews (1980:187), requires that semen ejaculated at body temperature, after being mixed with a cryopreservant, be cooled to -196°C , which is the temperature of liquid nitrogen, the best long-term storage medium. According to Matthews (1980:187), there are a few risks involved in this procedure of semen preservation:

- * The effect of a temperature drop from 20°C (room temperature) to 5°C (refrigeration temperature) is known as thermal shock and

has a tendency to loosen the acrosome membrane of the spermatozoa; and

- * the decrease from 5°C to -20°C (freezer temperature) is associated with a danger that water within the spermatozoa will form ice crystals with consequent intra-sperm damage.

The use of preservatives in which to store the spermatozoa, can prevent these above-mentioned risks. Glycerol, egg-yolk and glucose can be used as a preservative medium, mixed in a 1:1 proportion or a simple glycerol medium, mixed in a 10:1 proportion. This semen-preservative mixture is stored and preserved in plastic straws of 0.25ml or 0.5ml and frozen in the vapour phase of liquid nitrogen. This above-mentioned process is called cryopreservation. (Compare Allen *et al.*, 1985:287 and Matthews, 1980:187.)

The advantages of the use of frozen semen above the use of fresh semen, are provided by Friedman (1977:1232) and Sanger, Schwartz & Housel (1979:267) as follows:

- * A large donor pool permits a matching of the husband's physical characteristics, which is not always possible with fresh semen;
- * the medical practitioner has a greater variety of donors to choose from;
- * semen from the same donor is always available with no limit to the timing and number of inseminations in a given cycle;
- * semen can be sent to medical practitioners who do not have near access to semen donors;
- * semen need not be discarded or used fruitlessly if the patient is not ready;
- * semen can be studied prior to insemination and discarded if it is not acceptable;
- * the inconvenience of having a particular donor present at a specific time is avoided; and
- * this method permits maintaining viable spermatozoa for several days and thus allows insemination at the appropriate time of the woman's menstrual cycle.

The use of frozen semen therefore seems to have many advantages above the use of fresh semen. Behrman (1979:250-251) on the other hand mentions a few negative effects of freezing on sperm as follows:

- * Membrane damage to acrosome and neck piece;
- * molecular depolymerization;
- * decrease in motility by 10% or greater;
- * decreased oxygen (O₂) consumption;
- * 40% death by freeze-thaw test;
- * poorer cervical mucus penetration;
- * longevity decrease in storage;
- * pregnancy rate less than with fresh sperm.

These effects of freezing on sperm make the use of fresh sperm seem a better alternative, but unfortunately the use of frozen semen has become a more acceptable and recommendable procedure. Many of these advantages and disadvantages are, however, described differently in the literature. Friedman (1977:1232) found no significant difference in the pregnancy rate using fresh and frozen semen for AID, while Behrman (1979:250) reported a 10% to 15% reduced success rate using frozen semen, and Templeton & Triseliotis (1983:312) a 20% reduced success rate. Campana, Gigon, Maire, Litschgi, Tauber & Balerna (1982:177) also reported a similar figure to Behrman (1979:250) of a 12% decreased success rate using frozen semen. Meijer & Hamerlynck (1980:591) on the other hand, state: "Ongeacht de wijze van berekening, ligt ons conceptie percentage voor diepvriessperma hoger dan het in de literatuur vermelde. Vermoedelijk heeft het invriezen volgens vast programmema, het frequent insemineren per cyclus en het gebruik van ovulatie stimulerende middelen hierto bijgedragen". Thus they found their pregnancy rate using frozen semen to be higher than fresh semen. Bromwich, Kilpatrick & Newton (1978:643) similarly found in their study of AID with frozen semen that the initial conception rate was higher with fresh semen, with no difference by the end of six months. They guarantee that the use of fresh or frozen semen will achieve a pregnancy in up to seventy percent of treated couples at the end of one year of AID treatment. Thus there does not seem to be such a marked difference between the success rate using fresh or frozen semen. The figures provided by Sevenster (1989) regarding the incidence and success of AID at the H.F. Verwoerd Hospital from January 1986 to November 1989 furthermore show that frozen semen can be used successfully. Fresh semen was used in 30 cases and frozen semen in 20 cases, resulting in 50 pregnancies out of 96 patients who underwent AID treatment during this period.

These different opinions regarding the AID success rate using fresh versus frozen semen show that both can be used with success, each with certain advantages and disadvantages.

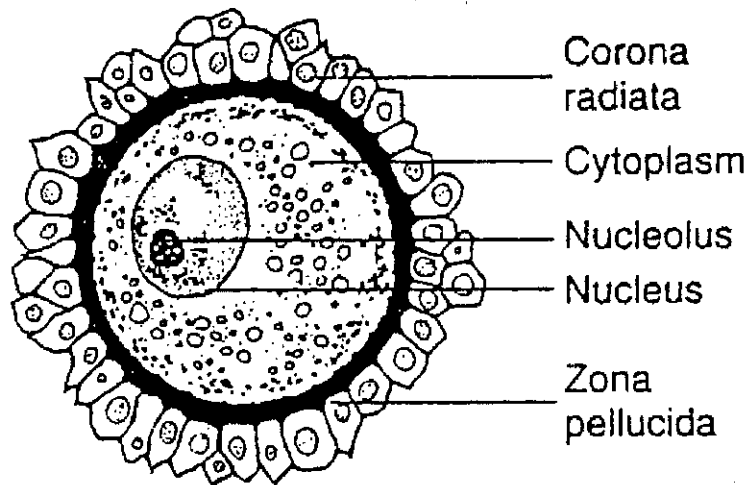
In their study of frozen semen, Sanger *et al.* (1979:268) found no difference in post-thaw evaluation of semen volume, density or motility compared to pre-freeze evaluation. Therefore the semen quality remained the same. Barratt *et al.* (1990:379), however, state that cryopreservation generally results in a reduction in the number of motile spermatozoa. Furthermore, Silva *et al.* (1989:243) found the frozen semen at commercial semen banks to represent only a portion of the ejaculate, thus producing an oligospermic specimen. Cryopreservation techniques, in addition, were also found to produce asthenospermia. They recommended at least four to six vials of semen per treatment cycle. Thus it is evident that the freezing of sperm can have certain effects on the quality of the sperm. But with the use of fresh semen not recommended any longer, frozen semen has to be resorted to. Centola, Mattox & Raubertas (1990:1089-1091) in their study found 2 inseminations per AID cycle with frozen-thawed semen to be more successful than 1 insemination. Thus 2 to 3 inseminations per AID cycle seem to be recommendable for frozen-thawed semen.

The use of frozen semen during artificial fertilization with donor gametes thus has certain advantages and disadvantages. However, there does not seem to be such a marked difference in the success rate, when using either fresh or frozen semen as shown in the above-mentioned studies. Therefore the new guidelines of The American Fertility Society for AID treatment using frozen semen only to prevent the transmission of AIDS, as discussed earlier, according to Peterson *et al.* (1988:209) and The American Fertility Society (1988:829-831 and 1990:3S-4S), do after all not seem to have too many disadvantages, for the future success of AID treatment and the protection of recipient couples involved against sexually transmitted diseases such as AIDS.

3.10.2 Fresh versus frozen oocytes and embryos

Subsequently a diagram of a female gamete or ovum is provided:

FIGURE 8: FEMALE GAMETE/OVUM



(Dorland's Medical Dictionary, 1988:1208).

Oocytes and embryos can be used fresh or frozen in artificial fertilization with donor gametes. The use of fresh oocytes and embryos, however, require synchrony between the ovarian cycles of the donor and the recipient and can thus be more complicated and costly, resulting in it being less popular by practitioners. Frozen or cryopreserved oocytes and embryos can be thawed for use at any time, to suit a recipient's treatment cycle, but certain factors in the freezing-thawing process can possibly affect the quality of the oocytes or embryos.

Initial experiments studying the cryopreservation of human embryos were begun at Monash University in Melbourne, Australia, in 1981, according to Trounson & Freemann (1985:825). This was aimed at preserving excess embryos from patients undergoing IVF, which could later be thawed and replaced in subsequent ovulatory cycles. The first successful freezing and thawing of an eight-cell embryo, fertilized by means of IVF was reported at Monash University in Melbourne, Australia in 1983 by Trounson & Mohr (1983:707-709). This

pregnancy, however, resulted in a stillbirth at 26 weeks due to membrane rupture and development of sepsis. According to Lütjen, *et al.* (1987:129), the development of techniques for the successful establishment of pregnancies from frozen-thawed human embryos, has reduced the need for the synchronization of cycles between the donor and recipient. Oocytes can be recovered from the donor, fertilized with the recipient's husband's spermatozoa, cryopreserved and later transferred to the recipient at the appropriate time in a subsequent treatment cycle. This of course could also allow for greater matching between donors and recipients. Buster *et al.* (1983a:816) reported the first successful attempt to transfer a human embryo to a patient, using a donated ovum fertilized in-vivo by means of artificial insemination at U.C.L.A., California, U.S.A. Two pregnancies were reported later in 1983 by Buster *et al.* (1983b:223), using this procedure, which they called Ovum transfer (OT), discussed earlier. These two examples of success achieved with frozen-thawed embryos by Trounson & Mohr (1983:707-709) and fresh embryos by Buster *et al.* (1983b:223), show how both fresh and frozen embryos can be used successfully during treatment.

The embryo freezing technique is described by Trounson & Freemann (1985:826) as: "... cooling at 0.3°C/min from -6°C to -80°C in a Planar Biological Freezer. A large liquid nitrogen storage tank is also needed and is essential to maintain liquid nitrogen levels for long-term storage". The thawing process is also described by Trounson & Freemann (1985:828) as involving the cooling of embryos slowly to -36°C before placement in liquid nitrogen, after which they are thawed rapidly in a water bath at 30°C. Whittingham (1987:61-62) similarly describes the method of cryopreservation as: "... an addition of dimethyl sulfoxide (DMSO) to a concentration of 1,5M and cooling embryos to -6°C at 2°C/min and thereafter cooling embryos at 0.3°C/min from -6°C to -80°C and then transferring them directly to liquid nitrogen (-196°C) for storage". Embryos are thawed at 8°C/min from -80°C to +4°C and the cryoprotectant is removed by stepwise dilution at room temperature (Whittingham, 1987:61-62). This gives one an idea of the complicated procedures developed for the cryopreservation and thawing of embryos which could be costly but will be more convenient for the recipient and donor, as synchronization of cycles is no longer necessary.

Factors which affect the survival and viability of cryopreserved embryos, according to Trounson & Freemann (1985:828-830), include:

- * State of embryo development;
- * degree of regularity of fragmentation of embryos;
- * damage of the embryos following freezing and thawing;
- * the number of embryos frozen;
- * the freezing technique; and
- * the time of transfer relative to the age of the embryo.

These aspects have to be taken into consideration when deciding on the use of fresh or frozen embryos. The medical practitioner's experience in embryo freezing-thawing or the location of an embryo freezing-storage tank, as well as the availability of donors also have to be taken into consideration.

In Austria Feichtinger *et al.* (1987:101-108) from the Institute of Reproductive Endocrinology and In-Vitro fertilization in Vienna, performed various studies on the freezing and thawing of oocytes. They used oocytes which had failed to fertilize during IVF, oocytes which remained in the pronuclear stage or pre-ovulatory oocytes. These oocytes were frozen using different freezing techniques and then thawed and attempts made to fertilize them. The oocytes were assessed "good" or "bad" after thawing, depending on the state of the membranes, intact zona pellucida, translucent normal cytoplasm, intact polar bodies or pronuclei and a maintenance of these conditions (no shrinkage), after several hours in culture. Interestingly the highest percentage of good oocytes after thawing were obtained by the modified vitrification technique (76%) and the conventional freezing (66%). These oocytes were inseminated and fertilization attempted. A few were replaced in the patients after normal fertilization and cleavage. No pregnancies resulted from these transfers.

Thus oocytes can be frozen and thawed successfully and be used for artificial fertilization with donor gametes. Maybe oocyte and embryo banks can be available in the future for patients wanting to undergo further treatment cycles or for a donor programme where sufficient matching and immediate use at any time by recipients is important.

Especially excess oocytes and embryos which cannot be used by patients, should be donated for artificial fertilization with donor gametes with the necessary consent of the patient. Testart, Lassalle, Belaisch-Allart, Hazout, Forman & Frydman (1987:91) from France, state in this regard: "It is now indisputable that freezing is the preferred way to preserve human embryos obtained after In-Vitro fertilization (IVF) which cannot undergo embryo transfer (ET). The only alternative to avoid the destruction of such embryos may be ET into the uterus of other sterile patients with the approval of the donor couple". Thus embryos should be made available for artificial fertilization with donor gametes, whether fresh, which will require synchronization and immediate transfer to a recipient, or frozen which can be kept at an embryo bank for later use in an appropriate matching recipient. Feichtinger *et al.* (1987:101) also mention: "Embryo freezing allows replacement during cycles subsequent to the IVF cycle and avoids the pressure to replace large numbers of fresh embryos with the risk of multiple pregnancy". Thus patients with excess embryos should be made aware of the chance of multiple pregnancy with a larger number of embryos replaced and of the possibility of donating these excess embryos for cryopreservation and to be used for artificial fertilization with donor gametes. This should be discussed thoroughly with the prospective donor couples.

Oocyte and embryo donation allows the establishment of pregnancy in patients who cannot otherwise conceive. Since frozen-thawed oocytes and embryos can be used, the cycle synchrony between donor and recipient is no longer required and it is a more convenient method to use. A pregnancy in a patient with primary ovarian failure after replacement of a frozen-thawed donor embryo, opens up many new possibilities for such patients. This procedure indicates how an atrophic endometrium can become receptive after adequate substitution therapy with estradiol and progesterone. The use of fresh embryos in artificial fertilization with donor gametes requires complete synchronization between the ovarian cycle of the donor and recipient. This problem can, however, be solved when cryopreserved embryos are used. (Compare Devroey, Braeckmans, Camus, Khan, Smits, Staessens, Van den Abbeel, Van Waesberghe, Wisanto & Van Steirteghem, 1987:136.)

Fresh or frozen oocytes and embryos can be used successfully for artificial fertilization with donor gametes with the advanced techniques of cryopreservation available nowadays. Depending on the availability of a donor, the recipient's treatment cycle, diagnosis and indications, the costs involved and cryopreservation facilities, it can be decided which procedure is to be implemented and whether fresh or frozen oocytes or embryos should be used. With the risk of AIDS nowadays, oocyte and embryo donors should also be screened for HIV before being accepted. Frozen oocytes and embryos should then be more viable, as they can be cryopreserved for a quarantine period of 180 days as in the case of donor sperm, after which the donor should be retested for HIV and, if negative, the oocytes or embryo can be released for artificial fertilization with donor gametes.

Artificial fertilization with donor gametes is an option available for couples who could otherwise not have children. Oocyte and embryo donation is an important development available for female patients with ovarian dysfunction, unsuccessful infertility treatment, genetic risks, primary ovarian failure or other indications for artificial fertilization with donor gametes. The same applies for sperm donation in patients with azoospermia, OTA syndrome or other indications for artificial fertilization with donor gametes. When the husband's sperm is used, only the donor oocyte is alien biologic material. This is, in fact, the reversed situation to the use of donor sperm. The important difference between donor sperm and donor oocytes is that in the latter both male and female partners participate in the procedure, the male partner giving sperm and the female receiving the donor oocyte or in-vitro fertilized embryo, carrying the pregnancy and delivering the baby. With donor sperm, however, only the female partner participates, with her oocytes being used and donor sperm being the alien biologic material used to fertilize her oocytes in-vivo or in-vitro. The recipient husband is totally left out of the participation in this "conception", which may pose many problems. Thus the idea discussed earlier of letting the husband perform the actual artificial insemination does not seem too profound. Maybe it should be considered to let the husband at least always be present when the actual treatment procedure is performed. This could help to make him feel emotionally a part of the actual "conception". If both male and female are infertile, a donor embryo

fertilized by donor spermatozoa can be transferred to the recipient. This would then correspond with pre-natal adoption. Surrogate motherhood is another option for a female recipient who is unable to carry a pregnancy. The recipient's husband's sperm or that of a donor can be used and the oocytes of the female recipient, a donor or a surrogate mother can be used.

Artificial fertilization with donor gametes with the different treatment options which are available nowadays, thus opens a whole new world of possibilities for couples who would otherwise only have had adoption or childlessness as alternatives. This chapter can serve as a knowledge base and resource for the medical aspects of artificial fertilization with donor gametes for medical social workers planning to practice in this field.

It is important though that the legal, ethical-moral, religious and psycho-social aspects related to artificial fertilization with donor gametes are discussed with couples planning for this alternative and that they are thoroughly prepared. These aspects will be discussed in subsequent chapters.

3.11 SUMMARY

In this chapter the medical aspects related to artificial fertilization with donor gametes was discussed as follows:

- * Artificial insemination with donor semen (AID) is a technique used to inseminate the female recipient during ovulation with the semen of a donor, was specifically concentrated on in this chapter, as it was the first technique introduced where donor gametes, i.e. sperm, was used. Other new reproductive technologies which were later introduced were also discussed, as some of these procedures are relatively new and it is only recently that they have been implemented using donor gametes.
- * The history of artificial means of reproduction goes back as far as 220 AD, when Talmud doubted his fatherhood in a pregnancy which was conceived in a bath full of water. John Hunter, a doctor from London in the 1790's, was the first to advise a man to inject his seminal fluid with a syringe into his wife's

vagina which resulted in a pregnancy. Pancoast in 1884 used AID successfully in Philadelphia, U.S.A. and the patient gave birth to a son. The first request made to a gynaecologist in South Africa for AID treatment was in 1948 and it was implemented for the first time in 1952. Since then AID has been implemented worldwide.

- * Since the implementation of AID other new reproductive technologies have been introduced using donor gametes. The first pregnancy from a frozen-thawed donor embryo fertilized by means of IVF was in Australia in 1983. The first successful pregnancy after the transfer of a fresh donor embryo fertilized in-vivo was in the U.S.A., also in 1983. The first successful pregnancy in a patient with primary ovarian failure by means of IVF and a donor embryo was reported in 1984 in Australia. All the infertility treatment procedures can now be implemented using donor gametes for couples with severe male, female or combined infertility diagnoses. Surrogate motherhood offers possibilities such as using both the recipient couple's gametes, or the recipient husband's sperm and a donor's oocytes, or the gametes of the surrogate couple, or a donor embryo transferred to a surrogate mother. These procedures open a whole new world of options for couples with male, female or combined infertility, who would otherwise have had to resort to adoption or childlessness.
- * Legislation and guidelines concerning the implementation of artificial fertilization with donor gametes has also been developed in many countries.
- * The incidence of AID is constantly increasing and has reached uncontrollable proportions in the U.S.A., with 20 000 AID children reported to be born annually in one state only. Self-insemination kits are also available to the public in the U.S.A. and are especially used by lesbians, enabling them to have children, inseminating themselves with the semen of gay friends.
- * AID in South Africa on the other hand is practised under strict control, according to the: "Regulations regarding the artificial

insemination of persons and related matters (1986) in accordance with Section 37 of the Human Tissue Act, 1983 (Act No. 65 of 1983).

- * The specific male indications for AID treatment include an abnormal semen analysis, the OTA-syndrome, deformities of the male genital tract, a vasectomy, ejaculatory dysfunction, irradiation, paraplegia or tetraplegia, hereditary or genetic disorders, psychiatric disorders, psycho-sexual factors, Rh ISO-immunization and immunological or idiopathic infertility.

- * The female indications for AID treatment can include unexplained or idiopathic infertility, immunological infertility, cervical factors and vaginismus.

- * The female indications for other methods of artificial fertilization with donor sperm are the same as for homologous infertility treatment. If donor oocytes or embryos are used, the female indications would include:
 - Functioning ovaries and normal menstrual flow with: Genetic factors, inaccessible ovaries due to adhesions, abnormality of oocytes and remaining ovarian tissue being sparse.
 - Non-functioning ovaries and no menstrual flow with: Genetic disorders, insensitive ovary syndrome, auto-immunity, premature menopause, bilateral oophorectomy or chemo- or radiotherapy induced ovarian failure.

- * Selection and thorough preparation of recipient couples for artificial fertilization with donor gametes is essential. Once suitable couples are screened and selected by the interdisciplinary team, it is important that they are thoroughly prepared for donor infertility treatment including the medical, legal, ethical-moral, religious and psycho-social aspects. The medical social worker should play an important role in the selection and preparation of patients. Once the preparation session is completed, couples should be allowed a few months time-interval to make their final decision before commencing with donor infertility treatment.

- * Donors for artificial fertilization with donor gametes should be subjected to an extensive selection and preparation process before being considered as a suitable donor for the donor programme. This selection process should include the following screening tests and information: A medical and family history, tests for genetic or hereditary disorders and venereal and other transmissible diseases, such as the HIV-virus, a sexual history, a physical examination, a semen analysis, blood type and Rh-factor, age, intelligence and educational level, race, nationality, religious denomination, interests and hobbies, motives and previous gamete donations. The preparation of the donor should include the donor couple and aspects to be concentrated on should include the confidentiality, the anonymity, the responsibilities, time, place and period of donation, the compensation involved and the maximum number of pregnancies permitted per donor gametes utilized, which is 5 pregnancies in South Africa. Furthermore, the medical, legal, ethical-moral, religious and psycho-social aspects should be discussed thoroughly with the donor couple if at all possible. The medical social worker should be a member of the interdisciplinary team and should be an active part of the selection and preparation process.

- * Recipient-donor matching should take the following aspects into consideration, namely: Race; nationality; religious denomination; physical characteristics such as colour of hair, eyes, complexion and physical stature; intellectual and educational level and socio-economic status. Donors and recipients can also state their wishes regarding the race, religion and church denomination of the recipient or donor respectively in the consent forms completed prior to artificial fertilization with donor gametes.

- * Artificial fertilization with donor gametes treatment options include: Artificial insemination with donor sperm (AID), donor sperm or donor oocyte in vitro fertilization and embryo transfer (IVF-ET-D), donor sperm or donor oocyte gamete intra-fallopian tube transfer (GIFT-D), donor sperm or donor oocyte zygote intra-fallopian tube transfer (ZIFT-D), Donor tubal embryo transfer, (TET-D or EIFT-D) Donor ovum transfer (OT), donor

peritoneal oocyte and sperm transfer (POST-D), donor transvaginal intra-ovarian/intra-follicular insemination and surrogate motherhood using both husband's and wife's gametes, or using husband's sperm and a donor's oocytes or the surrogate mother's oocytes or a donated embryo. Each procedure was discussed in this chapter.

- * The use of fresh or frozen gametes was discussed, starting with fresh or frozen semen. Certain advantages and disadvantages associated with both were looked at. The use of frozen semen to be kept in a 180 day quarantine period after which the donor is retested for HIV and only, if negative, is the semen released, was discussed. This is a safer practice, with the increasing incidence of AIDS. There also does not appear to be such a significant difference in the AID success rate using fresh or frozen semen and therefore the use of frozen semen provides more protection for the recipients and this seems to be used by the majority of countries nowadays.

- * The use of fresh and frozen oocytes and embryos was discussed, comparing the use of fresh oocytes and embryos with that of frozen oocytes and embryos. Fresh oocytes and embryos require synchronization of the ovulatory cycles between the donor and the recipient and is a more complicated procedure. In-vitro maturation of immature oocytes, collected from unstimulated ovaries, is a further option not requiring hormone-stimulated cycles. Oocytes and embryos can be frozen successfully with different techniques of cryopreservation implemented. Frozen oocytes and embryos thus seem to be more convenient, as the donor and recipient's cycles do not have to be synchronized. Excess oocytes and embryos from infertility treatment which would otherwise have had to be discarded, can now be cryopreserved and possibly donated for artificial fertilization with donor gametes. These cryopreserved donor oocytes and embryos should also be kept in quarantine for 180 days and the donor retested for HIV before it is released, as is practised with frozen donor semen at present.

- * A thorough knowledge of artificial fertilization with donor gametes as discussed in this chapter is essential for the

medical social worker to counsel, and prepare couples effectively for donor infertility treatment. Such knowledge should be a prerequisite for medical social workers and other disciplines practising in this field.

The next chapter will focus on the legal, ethical-moral and religious perspectives regarding the artificial fertilization of persons with donor gametes.

CHAPTER 4

THE LEGAL, ETHICAL-MORAL AND RELIGIOUS PERSPECTIVES REGARDING THE ARTIFICIAL FERTILIZATION OF PERSONS WITH DONOR GAMETES

4.1 INTRODUCTION

Artificial fertilization with donor gametes and surrogate motherhood are reproductive technologies with many legal, ethical-moral and religious issues and uncertainties. Some countries have legislation regarding these reproductive technologies, while others have insufficient or no legislation whatsoever. Many ethical-moral questions still remain unanswered or differ depending on each person's own ethical-moral viewpoint regarding these reproductive technologies, using donor gametes. The different churches also each have their own viewpoint regarding certain religious issues and condemn certain practices.

This chapter fulfils part of the first aim of this study: "To **develop**, **implement**, **evaluate** and **describe** a guideline for the holistic preparation of couples for artificial fertilization with donor gametes." The objective is: To develop and describe the contents of a preparation session, that is, by means of this chapter to give a broad overview and discussion of the legal aspects and legislation pertaining to artificial fertilization with donor gametes in South Africa and other countries, as well as to give a broad overview and discussion of the ethical-moral and religious aspects regarding artificial fertilization with donor gametes.

In this chapter the legal perspectives of different countries will be discussed regarding artificial fertilization and surrogate motherhood, followed by the South African legal perspective. The ethical-moral perspectives will subsequently be dealt with followed by the religious issues raised by various churches and theologians.

4.2 DEFINITIONS

The following key concepts as used in this chapter will be defined.

4.2.1 Ethical

Ethical is defined by The Shorter Oxford English Dictionary (1990: 685) as: "Relating to morals; the rules of conduct recognized; the science of human duty in its widest extent". Davis & Aroskar (1983:1) refer to ethical as: "The branch of philosophy called ethics, also referred to as moral philosophy, which deals with important questions of human conduct, that have great relevance to us as individuals and as health professionals". Heyns (1986:1) on the other hand gives a more detailed definition of ethical as: "... het te doen met die handelinge van die mens. Dit is egter slegs daardie handelinge wat op die persoon van die mens betrekking het. Etiese handelinge is dus daardie handelinge wat die persoon van die mens, sy status en sy funksie, sy roeping en sy bestemming, sy wese en sy toerusting raak. Die etiese is persoonsbehandeling. Hierdie persoonsbehandeling geskied volgens bepaalde norme". Krabill (1988:21) sums it up in a concise definition as follows: "Ethics can be a complex philosophical study. But what we are really talking about here are the shoulds and oughts of life. We are talking about the right principles by which we make decisions".

Thus ethical seems to refer to the discipline which studies aspects related to human, conduct which are acceptable or unacceptable and which look at criteria to evaluate certain practices. In this chapter it specifically refers to the artificial fertilization of persons and decisions regarding this practice.

4.2.2 Legal

Legal is defined by The Shorter Oxford English Dictionary (1990:1195) as: "Pertaining to, characteristic of, observant of the law". Legal thus pertains to the law and in this chapter specifically refers to the laws regarding the artificial fertilization of persons.

4.2.3 Moral

Moral is defined by The Shorter Oxford English Dictionary (1990:1354) as: "Pertaining to the distinction between right and wrong, or good and evil". Loewenberg & Dolgoff (1988:3) define moral as: "... what action is morally right and how things ought to be. It is intended to help social work practitioners recognize the morally correct way to practice". Abramson & Black (1985:165) add to this by explaining

moral as: "... rational, critical reflection about the problems of the professional as a moral agent". Blanchet (1988:83) provides a more specific description of morality as the internalized aspect of right and wrong, usually explained in moral rules and viewpoints, which individuals use to guide their decision making.

Thus moral seems to refer to the internalized distinction between right and wrong which enables a person to make decisions. In this chapter moral specifically pertains to peoples' moral viewpoints regarding the artificial fertilization of persons with donor gametes.

4.2.4 Religious

Religious is defined by The Shorter Oxford English Dictionary (1990:1789) as: "Exhibiting the spiritual or practical effects of religion, pertaining to or appropriate to religion". In this chapter religious refers to the religious viewpoints of different churches regarding the artificial fertilization of persons with donor gametes.

4.3 THE LEGAL PERSPECTIVES OF ARTIFICIAL FERTILIZATION OF PERSONS WITH DONOR GAMETES

Artificial fertilization of persons with donor gametes especially AID, has been practised in various countries in the past two decades. Initially there was no legislation in any of these countries protecting the status and paternity of the child. The child was regarded as an illegitimate child. The father or husband of the recipient had to adopt the child. Furthermore, there were no regulations regarding specifications for premises, for the practice of AID and other methods of artificial fertilization later introduced, for the selection of donors or recipients, for files, for anonymity, or for any other aspects related to the practice of artificial fertilization and the protection of all parties involved. Over the years certain committees were established to look into these matters in different countries and as a result legislation regarding these issues was approved. As the need for and methods of treatment changed, new more updated specifications were enacted in the legal system.

Countries where artificial fertilization with donor gametes has been

practised to a greater extent, with resultant legislation reviewed in the literature, are the United States of America, United Kingdom, European countries such as France, Germany, Spain and Italy, as well as Australia, New Zealand and Canada. The legal perspectives of each of these countries will subsequently be discussed. The South African legal perspective will follow thereafter.

4.3.1 The legal perspective in the United States of America

In 1974, AID became legitimate in New York, U.S.A. according to Waltzer (1982:100). The 1974, New York Statute declared that a child born through artificial insemination was deemed to be legitimate and the natural child of the husband and wife for all purposes if:

- * The child was born to a married woman;
 - * the artificial insemination was performed by persons duly authorized to practise medicine; and
 - * written consent of both the woman and her husband was obtained.
- This was one of the earliest legislative changes in favour of AID, but was in the state of New York only, unfortunately.

According to Hulka (1981:500) the American Association of Tissue Banks (AATB) in the United States addressed the problem of frozen semen in 1979 by preparing guidelines for the banking of human semen. These guidelines, together with the Canadian guidelines by the Family and Children's Law Commission of 1975 and the European Committee on legal co-operation's draft of 1979, were all reviewed and modified in the recommendations of the Board of the American Fertility Society in 1980 (Hulka, 1981:501).

In 1983 Beck (1983:386) reported that one-third of the states had enacted statutes concerning AID and that the status of the AID child did not appear vulnerable, even though the husband's name was inserted as the name of the father on the birth certificate. The purpose of the birth certificate was to establish citizenship and not paternity. Adoption was thought to be inappropriate and would add to the fear of disclosure. This practice, however, was illegal. Corson *et al.*, (1983:299) and Slovenko (1986:174) quote a specific number of states to have statutes dealing with AID, namely, 19 and 21 states respectively. The New York Statute of 1974, however, seems

to be the only one, according to Corson *et al.* (1983:299), with sufficient controls for donor selection, as well as for the paternity of the child. Elias & Annas (1986:66) add to the above-mentioned problem by stating that the solution would be to have a national commission similar to those in the UK and Australia to deal with the problem on a national level in the U.S.A. This recommendation would help to alleviate the problem in the U.S.A. of fragmented and different legislation occurring from state to state. Elias & Annas (1986:67-68) also suggest useful foundations for comprehensive legislation including surrogate motherhood. These recommendations include: the protection of the interests of resulting children and the legitimacy of non-coital reproduction; complete and accurate records should be kept of all participants, especially the donor; uniform and complete standards for donor selection and screening should be developed; a national body of experts in all the fields concerned should be established; professional organizations should develop guidelines and a model state law concerning all aspects of noncoital reproduction should be enacted. These recommendations could be useful in the U.S.A., especially concerning a national commission and possible national legislation.

While working in the U.S.A. from 1986 to 1987, researcher observed that AID is performed at hundreds of clinics and private practices, with little or no screening taking place. Preparation of couples for AID was usually limited to medical aspects only. Only a handful of clinics had a multi-disciplinary team approach, which included a medical social worker or psychologist involved in the screening and preparation of couples regarding the legal, ethical-moral, religious, and psychosocial aspects. Donors were not screened very thoroughly and often the recipient's husband's semen and the donor's semen were mixed, so as to let the husband believe it could be his child.

In a study in the U.S.A. Currie-Cohen, Luttrell & Shapiro (1979:585-590), found the following results including sixty-six percent of the AID practitioners in their research: "Genetic screening of donors was inefficient; the same donors were used for an unlimited number of inseminations; as in one case for example where one donor was used for fifty pregnancies; and ten percent of the practitioners used one donor for nine or more pregnancies". These practices could be due

to the fact that only fourteen states in the U.S.A. have specific laws dealing with AID, as also mentioned earlier by D'Andrea (1984:77). Therefore laws dealing with AID, which provide specific guidelines for the practice of AID treatment, are essential for the control and thorough practice of AID.

The Ethics Committee of the American Fertility Society (1986:16S-31S) states in this regard that in the United States where there is an excess of infertility clinics, no central governmental mechanism exists for regulating them. Because laws vary from state to state, there is no uniform approach to the regulation of non-coital reproduction. Furthermore, a limited number of laws and regulations have been developed concerning the new reproductive technologies. These fall into four categories: those that apply to technologies at research stage; those that describe the physician's responsibilities in clinical practice; those that determine the family relationships among the parties and child involved and those regarding the payment of donors or surrogates. This description, researcher feels, provides a clearer picture of how complicated the legal system regarding non-coital reproduction is in the U.S.A., as it differs from state to state and each state concentrates only on certain or some on all of the four categories mentioned.

By 1987, according to Andrews (1987:639), 29 states in the U.S.A. had already adopted laws that provide that the artificial insemination offspring is the legal child of the sperm recipient and her consenting husband. Thus more and more states are providing laws to protect the parties involved. Hummel & Talbert (1989:927) state that numerous grounds for litigation might be derived from complications of reproductive technologies such as infection, congenital disease and chromosomal abnormality. Fertility clinics may also be held legally responsible for transmission of disease, unless all known efforts were made to do a thorough screening of the donor. They also stress the importance of the donor signing the consent forms to avoid later legal problems. Why the signing of consent forms by recipients is not mentioned by these authors is a limitation, as it is just as important. Thus the U.S. legal system regarding reproductive technologies is not catered for in all states yet and in those where statutes exist, it differs from state to state. The legal situation

in the U.S. regarding reproductive technology thus still needs much work to refine it and make it more consistent from state to state. The only solution seems to be a national body and a national law, which at this stage seems highly unlikely.

The American Fertility Society has over the past few years compiled regulations for each method of reproductive technology implemented. These are mere guidelines for medical practitioners and are advised but cannot be enforced as they are not legal documents. The latest guidelines available as compiled by The American Fertility Society (1990:225-226) and (1991:396) are: The AFS Revised Minimum Standards for in-vitro fertilization, gamete intrafallopian transfer and related procedures and the AFS Revised Guidelines for the use of semen donor insemination. These guidelines of The American Fertility Society are more specific and should be included in the U.S. legislation from state to state, to ensure a better controlled medically and ethically more acceptable practice of the methods of artificial reproduction.

Concerning surrogate motherhood, some states have a complete ban against it, while others merely recommend to do away with financial gain or commercial surrogacy. Some efforts are made to regulate surrogate motherhood in some states and to allow only for necessary expenses. Some efforts have, however, been made by the National Conferences of Commissioners on Uniform State Laws in 1988 to standardise legislation regarding surrogate motherhood. (Compare South African Law Commission, 1992:77; and Pretorius, 1991:138-139.)

Thus the main problem in the U.S. legal system seems to be the fact that not all states have legislation regarding artificial fertilization of persons, making it very difficult for infertile couples in those states, who still have to either adopt the child or falsely write the husband's name on the birth certificate. Those states that do have legislation, differ so immensely that this also creates problems for couples moving from one state to another. Some states have also only referred to some issues, for example, the status and paternity of the child, or others to the screening procedures for donors. Therefore it seems as if the various states should try to be more uniform concerning their individual legislation regarding

sensitive issues such as artificial fertilization of persons with donor gametes and surrogacy. This will help control the practice and protect the people involved throughout the U.S.A.

4.3.2 The legal perspective in the United Kingdom

In the United Kingdom in 1981 the legal situation, as reported by MacNaughton (1981:31), was that the child born by AID was legally illegitimate and had to be adopted by the father. But what usually happened, was that the husband and wife said nothing about AID when registering the birth of the child and falsified the birth certificate by stating the husband as the father of the child. Recommendations made by MacNaughton (1981:31) were that the status of the child should change to the child of the parents and that written consent to AID from husband and wife should be obtained prior to treatment. These recommendations of MacNaughton were very positive and he was apparently later also to serve on the Warnock Committee.

In July 1982 the Committee of Inquiry into Human Fertilization and Embryology was established under the chairmanship of Dame Mary Warnock, to examine the social, ethical and legal implications of recent and potential developments in the field of human assisted reproduction (The Warnock Committee, 1984:238). The Warnock Committee (1984:238) was furthermore established to consider recent and potential developments in medicine and science related to human fertilization and embryology; to consider what policies and safeguards should be applied, including consideration of the social, ethical and legal implications of these developments; and to make recommendations.

The Law Society recommended in 1983 that a compulsory register of AID births be kept in the U.K., with discreet lettering as a code on the birth certificates (Brahams, 1983:729). This use of a code on birth certificates is not such a good suggestion as it would most probably only cause speculation from people regarding the child's origin.

The recommendations made on 18 July 1984 by The Warnock Committee (1984:238-239) were as follows:

- * **The licensing body and its functions** include the licensing of practitioners and premises; which procedures should or should

not be available; the need for a centrally maintained register; and the freezing and storage of gametes and embryos.

- * **The principles of provision** include anonymity of donors and recipients; counselling; written consent; limit of 10 children per donor; compensation of donors for expenses; the automatic 5 yearly review of donated gametes; and rights to dispose of embryos.
- * **Service provision** includes the collection of statistics; facilities and services; establishment of a national working group; and inclusion in the health authority strategic plan.
- * **Legal limits on research** include recommendations against certain practices and criminal offences.
- * **Legal changes** recommended include: The AID child to be viewed as the legitimate child of its mother and her husband if they both consented to treatment; it must be presumed that the husband consented; the husband should be registered as the father; the donor should have no parental rights or duties; concerning donation of eggs, the woman giving birth should be regarded the mother of the child; surrogate motherhood is illegal; guidelines for the disposal of frozen gametes; and the succession and inheritance of the children.

Some of the recommendations of the Warnock Committee were positive such as those recommending AID, IVF, egg donation and embryo donation, whereas others were very drastic, such as prohibiting surrogate motherhood.

In July 1984 a report by The News Editor (1984:269) on, "Artificial fertilisation made natural" was written criticizing the Warnock Report for firstly prohibiting surrogate motherhood and secondly for being less stringent regarding AID, specifically in not stating anything about tests for sexually transmitted diseases for donors. Other points of criticism made were regarding research with embryos. In 1985 the Surrogacy Arrangements Act, 1985, was passed to introduce criminal penalties against the operation of commercial surrogacy, following the public outcry as a result of the Baby Cotton case (Sloman, 1985:978.) This act, however, drew much criticism. In December 1986 the British Government released a consultation document to generate further comment on the issues raised by the Warnock

Report of 1984. This, in turn, was followed by a White Paper in November 1987. The eventual result was the Human Fertilisation and Embryology Act, 1990, as quoted by the Department of Health in the South African Law Commission (1992:70).

In June 1990 the Human Fertilization and Embryology Bill had completed its committee stage according to Braude, Johnson & Aitken (1990:1410) and was returned to the House of Commons for report. Apparently two major ambiguities were contained in the bill and had to be resolved before the bill became law. The first major ambiguity was the anonymity of semen donors. The recommendations concerning files of donors which have to be kept with identifying information and the fact that the child at the age of 18 may request information about his or her genetic origin were the issues of main concern which could affect the anonymity of semen donors. The second major ambiguity was whether or not gamete intrafallopian transfer (GIFT) was included in the draft bill, and if not, it should be, requiring licensing.

On 1 November 1990 the Human Fertilization and Embryology Bill, 1990, was assented to, according to Templeton (1991:343). This act made provision for the establishment of the Human Fertilisation and Embryology Authority empowered with the authority to issue licences. Any persons wanting to practise any technique had to be licensed. Licences had to be obtained for the treatment, for the storage of gametes or embryos and for research. This authority also had to monitor the development of embryology and the rendering of services. A written report on its activities had to be submitted annually to the Secretary of State. (South African Law Commission, 1992:70-71.) The anonymity of donors was also specified in this bill, according to Templeton (1991:343), and the word "non-identifying" information regarding the donor was included concerning information which could be shared with the child, born as a result of the donated sperm, egg or embryo, upon request once reaching the age of 18 years. Thus, even though this specific ambiguity was straightened out in this bill, the question still remains whether this right of the child to seek non-identifying information about the donor should be encouraged and what the implications could be.

Furthermore the Human Fertilisation and Embryology Act, 1990, with regard to surrogate motherhood, includes the following, according to Montgomery (1991:527-530):

- * The woman who carried the child is the mother of the child.
- * In the case of artificial insemination of a married woman, her husband is regarded as the father of the child, provided he consented to the insemination.
- * The Surrogacy Arrangements Act, 1985 was amended to the effect that no surrogate arrangement is enforceable.

Provisions were also made for the status of the child carried by a surrogate mother in the Foster Children's Act, 1980, section 30, according to Pretorius (1991:121-124). Following this, a Surrogacy Report with guidelines for medical practitioners was published in 1990 (Pretorius, 1991:58-61).

The legislation of the United Kingdom has included many important aspects for the practice of artificial fertilization with donor gametes and surrogacy, but as mentioned in the discussion, there are other aspects which could still be improved on, as possible long-term implications could be created.

4.3.3 The legal perspective in Europe

The Directorate of Legal Affairs for the Council of Europe, stated that there was no legislation in Europe which specifically governed the administration of artificial insemination (Albanese, 1980:479). Concerning the question of paternity, Albanese (1980:479) mentioned three countries with specific rules, that is, the Netherlands, Portugal and Switzerland. In these countries the Civil Code specified that the husband could not repudiate the legitimacy of the child if it was born in wedlock, and he had consented to artificial insemination. In all other European countries, however, it is possible to bring an action to repudiate the child's legitimacy. This could create implications for the child and the family.

In 1979 the Council of Europe (1980:615-623) compiled "Draft Recommendations on Artificial Insemination" for those European countries intending to enact legislation. These draft recommendations by the Council of Europe (1980:615-623) were published in 1980 and

contained many appropriate specifications regarding AID. These include that AID be performed on married women; that the husband will give consent; that AID either be forbidden for single women; or that an action for the child to establish paternity should be permitted; the donor's identity be kept secret; AID be administered under the responsibility of a doctor only; no payment shall be made for donation of semen; and the work involved in receiving, treating and conserving semen shall not be carried out for profit. Many European countries later compiled their own legislation regarding AID, using these recommendations as a basis. Some examples are mentioned by Cusine (1980:485-487). According to Cusine (1980:486) the husband's consent is required before he will be regarded in the Netherlands, Portugal and Switzerland as the father. In France, Italy and the Netherlands the law imposes a criminal sanction on those who disclose any professional secrets such as the identity of the donor.

The legislation in France, according to Regnier & Rouzioux (1983: 171), where there were 2957 sperm banks by 1981, includes the following conditions concerning donor sperm: An individual donor may not be financially compensated; a married man with children can offer his sperm only after his wife's agreement; a limit of five children per individual donor's sperm exists; only married women may be inseminated; a discussion of the psychological factors of AID must take place with the recipient couple prior to treatment. These aspects stipulated by the French are very important and create a positive outlook for couples considering AID.

In Germany, Spann (1983:416-417), mentions that a child who stems from heterologous (donor) fertilization in-vitro is considered legitimate if it is born after the marriage ceremony or within 302 days after the dissolution of the marriage. Furthermore, according to German law, the child born during marriage is, at least to begin with, legitimate. Spann (1983:419) also states that despite all legal assurances, artificial heterologous in-vitro fertilization is certainly not without risk for the physician, especially as regards claims for damages. The best situation for the doctor is an adoption of the child in advance. Thus the German law still needed to make their legal situation regarding artificial fertilization less complicated. In May 1984 a Working Group on In-vitro Fertilization,

Genome Analysis and Gene Therapy was established in Germany, according to the South African Law Commission (1992:79). Its report was published in 1985, opposing any form of surrogacy, but making provision for exceptional cases of a special nature that could be exempted. Furthermore the Minister of Justice in Frankfurt, in October 1987, also recommended an amendment of the adoption law to prohibit surrogate motherhood. In June 1986 at a meeting held in London, the Federal Republic of Germany's document was discussed together with those of other European countries (Peinado & Russell, 1990:634). This German document was published on 6 January 1987 with new recommendations for artificial fertilization. However, in January 1991 German legislation commenced to permit in-vitro fertilization in surrogacy arrangements, provided the surrogate mother's ova are used (Pretorius, 1991:141-143). Thus the German legislation has made more provisions over the past few years for recommendations regarding artificial fertilization and surrogate motherhood.

In Spain, Peinado & Russell (1990:634-636) state, that the Spanish Law governing assisted reproduction techniques was approved by the Spanish Parliament on 10 November 1988 and published on 22 November 1988. According to these authors, Spain became the first country to pass a law that deals exclusively with this field. This Bill includes the following aspects, summarized by researcher as follows:

* **The techniques of assisted reproduction include:**

Artificial insemination, in-vitro fertilization and embryo transfer and gamete intrafallopian transfer; and these techniques may only be performed by specialized teams at authorized centres.

* **Recipients:**

Must give consent and receive complete information about the techniques.

* **Donors:**

No donations will be made for lucrative or commercial ends; a contract will be formalized in writing and the donor must be informed of the ends and consequences of the act; all donations will be anonymous, and data concerning the donor's identity will be kept in the strictest secrecy and in coded form in the data banks of the National registry of Donors; children born as a

result of these techniques have the right to general information about the donor, excluding his identity; the recipient enjoys the same right; only in exceptional circumstances in which the child's life is in danger or when stipulated may the identity of the donor be revealed; donors must be 18 years of age and older and in full possession of his faculties; and the psycho-physical condition of the donor must meet the standards established in the protocol.

* **Users of the techniques:**

Any woman who has consented freely and in writing may be a recipient; she must be 18 years of age and in full possession of her faculties; she must be informed of the possible risks to her children or herself during pregnancy; the husband must give his consent freely and in writing, unless she is legally separated or divorced; the medical team will select a donor; and the donor must be matched on a maximum degree of phenotypical and immunological similarity and compatibility with the recipient and her social environment.

* **Parents and children:**

The Civil Register may not reflect data from which the character of the birth may be inferred; the donor will not be subject to legal claims of paternity; filiation may not be established legally between a child born with the application of these techniques and the deceased husband, if the reproductive material is not in the uterus of the wife at the time of the husband's death; the husband may give his written consent that his reproductive material may be used in the 6 months following his death to fertilize his wife; and under no circumstances will the biological father be subject to legal claims of paternity.

* **Cryopreservation:**

Semen may be cryopreserved in authorized centres for a maximum period of 5 years; pre-embryos not transferred during IVF-ET will be cryopreserved in authorized centres for a maximum period of 5 years; and 2 years after being frozen, those gametes and embryos not obtained from donors will be at the disposal of the centre.

* **Diagnosis and treatment:**

Any diagnostic or therapeutic procedure carried out on pre-

embryos may have no other aim than to establish the viability, to detect, prevent or treat hereditary diseases or to advise against transfer; any therapeutical procedure performed with pre-embryos or embryos and fetuses in the uterus may only be carried out when: The couple or woman must have given their informed consent to perform the procedures knowing the chances and risks; the diseases must be diagnosed very accurately and their prognosis deemed to be serious, and the procedures must offer a reasonable guarantee of either improving or solving the problem if a certain scientific therapeutic approach is possible in certain diseases; if the procedure does not affect non-pathological, hereditary characteristics and is not used with the intention of seeking either individual or race selection; and if it is performed in an authorized centre with the necessary equipment by a qualified team.

* **Research and experimentation:**

Gametes can be independently used for either basic or experimental research purposes; the hamster test is allowed only until the 2-cell stage is reached; research on live embryos will only be allowed if: Written consent is obtained from the person who contributed the gametes; pre-embryos must not be developed after the 14th day after fecundation; research must be carried out by multi-disciplinary, qualified, legal and authorized teams; in-vitro research in viable pre-embryos will only be allowed in certain instances as specified; in-vitro research in pre-embryos seeking ends other than preventive or therapeutic ones will only be allowed in certain instances as specified; experimentation with live embryos obtained in-vitro is prohibited; experimentation on pre-embryos in the uterus or the Fallopian tubes is prohibited; pre-embryos which have miscarried will be considered dead or non-viable. They may be used for experimentations for scientific, diagnostic and therapeutic ends; and the use of non-viable human pre-embryos is permitted for pharmaceutical, diagnostic and therapeutic ends.

* **Medical centres and biomedical teams:**

The law establishes all requirements that the centres and clinical and scientific groups must adhere to, as well as the procedures to follow with patients.

* **National Commission for assisted reproduction:**

This commission will be formed by representatives of the

government and specialized medical societies and by a council representing a wide social spectrum.

(Compare Peinado & Russell, 1990:634-636.)

This Spanish Law regarding assisted reproduction techniques is very thorough and specific and sets a fine example of detailed legislation other countries could follow. The only limitation, is regarding the recipient, where no mention is made of the psychological condition, as is done by the donor, which should also be applicable to the recipient.

In Italy it seems as if the courts have given no express decisions on surrogate motherhood and no provision is made for it in the most recent legislation dealing with these issues, namely, Decree No. 1238 of 9 July 1939. In this decree the woman who gives birth to the child is seen as the mother of the child (South African Law Commission, 1992:80). Thus it seems as if Italy will have to make legal provisions for artificial fertilization with donor gametes and surrogate motherhood, as some of these methods are being practised in Italy, and the parties involved thus have no legal protection. The only protection provided for is for anonymity, as the Italian Civil Code, Section 622, imposes a criminal sanction on those who disclose professional secrets, according to Cusine (1980:486).

From these few examples of the existing and past legislation of certain European countries, it can therefore be seen how the legislation concerning assisted reproduction has developed and improved over the past few years in certain countries, to protect the parties involved and to regulate treatment in controlled centres with specialized teams. In other countries, however, legislation is still to be enacted.

4.3.4 The legal perspective in Australia

In 1978 in Australia, according to Whelan (1978:58), as the donor and father of the child is unknown to the mother, the child can, according to law, not take on legitimacy from the father and thus is the child of no one. In practice, however, the mother's husband usually registers the child as his own, and all subsequent legal documents refer to him as the father. This is probably illegal and

the validity of these documents could be legally challenged, according to Whelan (1978:58). Recommendations were made to incorporate AID children in the Status of Children legislation in Australia and that the child becomes the legal child of the mother's husband.

In 1983, committees of inquiry were established in Australia by the governments of Queensland, Western Australia and South Australia. In late 1983, the New South Wales Government gave a major reference to the New South Wales Law Reform Commission to conduct an inquiry into all aspects of human artificial conception (Scott, R, 1985:902). In 1984, according to Scott, R (1985:893), statutes were enacted by the Federal Parliament and by three state parliaments in Australia, variously regulating the status of children born as a result of the use of donated gametes in IVF and AID, as Whelan (1978:58) had hoped would happen.

The Australian legislation can be classified into three different sections, according to Scott, R (1985:902). The first classification contains the national guidelines. The second covers a number of statutes concerned with the legal status of children, born following the use of donated gametes in IVF and AID. The third involves legislation that controls in some detail the procedures of IVF and AID, the parties involved and related activities. Scott, R (1985:903) states that under the second classification concerning the status of children, five pieces of legislation were enacted from 1983 to 1985. By 1983 a uniform Australian legislative approach had not emerged, with the result that New South Wales and Victoria were ready to proceed independently in consultation with the Commonwealth. The first step taken by the Commonwealth was the amendment of the Family Law Act in November 1983, which ensured that any state introducing the new concept of paternity would find matching federal legislation waiting for it in the federal law as on divorce and other matters controlled in the Family Law Act (Scott, R, 1985:903).

The first self-contained Australian statute on status was the New South Wales Artificial Conception Act of 1984, as stated by Scott, R., (1985:903). This act rejects paternity in favour of social paternity, when a husband consents to the use of donor sperm to

achieve his wife's pregnancy by means of IVF or AID. The sperm donor has no rights or obligations of paternity.

In New South Wales, quoted from a bulletin of the Australian Law Commission in the South African Law Commission (1992:37-39), it is stated that the New South Wales Law Reform Commission's Report on Surrogate Motherhood was published in March 1989 with recommendations for the practice of surrogate motherhood in New South Wales.

In Queensland the Demack Report was published in March 1984 with recommendations relating to artificial insemination and related matters. In 1988 the Surrogate Parenthood Act, 1988 (Act No. 65 of 1988) was assented to in Queensland, prohibiting surrogate motherhood, as stated by the New South Wales Law Reform Commission (South African Law Commission, 1992:39-40). Thus Queensland is the only Australian state that at present prohibits surrogate motherhood in any form.

In 1983 a working party on in-vitro fertilization and artificial insemination by donor was established in South Australia. They were opposed to any change to enable surrogacy. In October 1984 a select committee on artificial insemination by donor, in-vitro fertilization and embryo transfer procedures and related matters was appointed. They opposed commercial surrogate motherhood for financial gain. Their recommendations were implemented in the Family Relationships Act Amendment Act, 1988 (Act No. 2 of 1988), which came into operation in April 1988, according to the New South Wales Law Reform Commission as noted by the South African Law Commission (1992:41-43). The act does in other words not apply to informal surrogate arrangements. In May 1982 the Government of Victoria established a committee to consider the issues arising from in-vitro fertilization according to the New South Wales Law Reform Commission as quoted by the South African Law Commission (1992:44). The much publicized Waller Report subsequently appeared in August 1984 (Compare Elias & Annas, 1986:62 and Annas & Elias, 1989:614). The Government of Victoria were not in favour of commercialized surrogacy agreements. In Victoria surrogate motherhood arrangements are now regulated to some extent by the Infertility Act, 1984, according to which commercial surrogacy is prohibited as stated by the New South Wales

Law Reform Commission (South African Law Commission, 1992:44).

In Western Australia the In-Vitro Fertilization Ethics Committee issued a report in October 1986 also prohibiting commercial surrogacy or the advertising thereof as stated by the New South Wales Law Reform Commission in the South African Law Commission (1992:45). In Tasmania the Chalmers Report was published in 1985, concluding that surrogate motherhood, especially commercial surrogacy, was unacceptable at the time, but made recommendations for the future, should it be regulated as stated by the New South Wales Law Reform Commission in the South African Law Commission (1992:44).

Thus most Australian states excluding Queensland seem to prohibit commercial surrogacy, but allow regulated surrogate motherhood to some extent.

In March 1988 the Australian Health Ministers' Conference established the National Bioethics Consultative Committee (NBCC), who submitted a report in 1990. They recommended that surrogacy arrangements be allowed under strict control with certain criteria for the regulation thereof. The NBCC was, however, disbanded in April 1991 and replaced by the Australian Health Ethics Committee (AHEC) forming part of the National Health and Medical Research Council. The AHEC also put forward recommendations regarding surrogate motherhood in 1991 as stated by the Australian Law Commission in the South African Law Commission (1992:46-50). It seems as if these recommendations should be included in all the legislation in Australia and that uniform legislation would solve many problems.

The Australian legal system seems similar to that of the U.S.A. in that it differs from state to state. Uniform national legislation on such issues as surrogate motherhood and artificial fertilization using donor gametes, would regulate these practices much more efficiently and solve many of the problems these countries have been experiencing regarding these issues.

4.3.5 The legal perspective in New Zealand

The Law Reform Division of the Department of Justice released a paper on artificial insemination with donor gametes, in-vitro fertilization

and surrogate motherhood in March 1985, presenting an overview of issues only. The Status of Children Amendment Act, 1987, furthermore regulates the status of children conceived as a result of medical reproductive procedures, as stated by the New South Wales Law Reform Commission in the South African Law Commission (1992:60). Other than the above-mentioned, New Zealand has no other legislation dealing with surrogate motherhood or artificial fertilization in depth.

4.3.6 The legal perspective in Canada

The Ontario Law Reform Commission commenced its studies on human artificial reproduction in November 1982, after which a report was published in 1985 as stated by the Ontario Law Reform Commission in the South African Law Commission (1992:50). This report contained a large number of recommendations concerning surrogate motherhood which are very thorough.

In Saskatchewan, the Law Reform Commission in March 1987 published a report on proposals for a Human Artificial Insemination Act. Surrogate Motherhood was not included as stated by the Law Reform Commission of Saskatchewan in the South African Law Commission (1992:59). The main aspects dealt with in this act were paternity and the status of the child.

The Alberta Law Reform Institute did not directly address the problems of surrogate motherhood, but proposed the Status of Children Act in Alberta, as stated by the Alberta Law Reform Institute in the South African Law Commission (1992:59).

Thus Ontario seems to be the province to deal most effectively with surrogate motherhood, followed by Saskatchewan and Alberta, having no specific laws dealing with it, but rather the status of children. Canada could therefore also benefit from national uniform legislation.

Thus the legislative systems of the countries discussed differ immensely, with the majority of countries having a federal system and thus different legislation in each state, except for the United Kingdom, New Zealand and each of the European countries discussed. Some countries have strict regulating legislation, while others have

legislation still needing many improvements.

Subsequently the South African legal perspective regarding artificial fertilization with donor gametes and surrogate motherhood will be discussed.

4.4 THE SOUTH AFRICAN LEGAL PERSPECTIVE ON THE ARTIFICIAL FERTILIZATION OF PERSONS WITH DONOR GAMETES

Various Acts and regulations have been approved in South Africa over the past few years as new methods of reproductive technology were introduced regarding the artificial fertilization of persons, while others are still pending. These will each be discussed subsequently.

4.4.1 The Human Tissue Act, 1983 (Act No. 65 of 1983)

In South Africa The Human Tissue Act, 1983 (Act No. 65 of 1983) was assented to by the State President on 1 June 1983, legalizing the practice of artificial insemination with donor semen (AID). This Human Tissue Act, 1983 (Act No. 65 of 1983) includes the following regarding artificial insemination (AID) which has been summarized as follows:

- * **Section 18:** No gamete shall be removed from the body of a living person except in accordance with the prescribed conditions; and unless written consent thereto has been granted.
- * **Section 19:** Any gamete removed from the body of a living person shall, subject to the regulations, only be used for medical purposes, including in the case of gametes, the artificial insemination of another person, provided that:
 - Any gamete of a person who is mentally ill within the meaning of the Mental Health Act, 1973 (Act No. 18 of 1973); or
 - any gamete of a person who is a minor; or
 - any gamete of a person who has been declared a habitual criminal in terms of section 286 of the Criminal Procedure Act, 1977 (Act No. 51 of 1977), shall not be used for artificial insemination.
- * **Section 22:** A gamete removed from the body of a living person shall not be used for the artificial insemination of another person unless the person effecting the artificial insemination

acts in accordance with a code of practice for artificial insemination published by the Department of Health and Welfare and specified in the regulations.

- * **Section 23:** No person, except a medical practitioner or a person acting under his supervision, may effect the artificial insemination of a person.
- * **Section 25:** No person, other than a person to whom the Director-General has issued a permit in terms of section (2), may import or export any prescribed gamete; and the Director-General may on application in the prescribed form issue a permit in the prescribed form to a person authorizing him to import or export, subject to such conditions as the Director-General may determine, any gamete.
- * **Section 26:** When any prescribed gamete has in the opinion of the Director-General been imported contrary to the provisions of section 25 or the conditions of a permit issued under this section, the Director-General may order the importer in writing to remove from the Republic the gamete so imported. If the importer fails to remove the gametes from the Republic within the period specified, the Director-General may seize the gametes and dispose thereof in such a manner as he may deem fit. He may recover the costs in connection with such disposal from the importer concerned.
- * **Section 27:** Any person who considers himself aggrieved by a decision made by the Director-general may appeal to the Minister of Health within 60 days after the date of such a decision, who may confirm, alter or set aside that decision or order.
- * **Section 28:** No persons except an authorized institution, or the importer in the case of imported gametes, may receive any payment in respect of the import, acquisition or supply of gamete for or to another person; and these provisions shall not prevent a medical practitioner from receiving remuneration for professional services rendered by him to any person.
- * **Section 31:** Any inspector of anatomy may at any reasonable time for the proper performance of his functions and without prior notice enter the premises in or upon which the artificial insemination of any person is effected or is reasonably suspected to be effected. He may examine any such premises or any product or container which contains such a product in order to

ascertain whether the provisions of this Act with regard to the premises or product are being complied with. He may demand at any time or place any register, record or document and examine such registers, records or documents.

- * **Section 32:** An inspector of anatomy shall furnish to the Director-General as soon as possible after the thirty-first day of December of each year a report in respect of his work during the year which ended on that day or any other report required by the Minister of Health from time to time in respect of the activities of the inspector.
- * **Section 33:** No person shall publish to any other person any fact whereby the identity of:
 - A living person from whose body any gamete has been removed or withdrawn for any purpose referred to in section 19; or
 - the person who has given his consent to the removal of any gamete from the body of a living person for such a purpose.
 - No person shall publish to another person any fact whereby the identity of the recipient of any tissue removed from the body of another person before or after the death of the said person may possibly be established.
- * **Section 34:** Any person contravening or failing to comply with any of the provisions of this Act shall be guilty of an offence and liable on conviction to a fine not exceeding R2000 or imprisonment for a period not exceeding one year or both the fine and imprisonment.
- * **Section 35:** No medical practitioner or person under his supervision who has removed any tissue from a person shall incur any liability whether civic or criminal, in respect to this Act, if performed in good faith and if any donation made or consent given is found to be invalid.
- * **Section 36:** Any person who acquires gametes by virtue of any provision of this Act, shall, provided he uses the gamete for the purposes for which it has been donated, on receipt of that gamete, acquire exclusive rights in respect thereof.
- * **Section 37:** The Minister of Health may make regulations regarding certain aspects and sections of this Act, such as for example the disposal of, conditions for use and removal, regulation and control, artificial insemination and fees payable. These draft regulations must appear in the Gazette

for comments of interested persons not less than three months before a regulation is made.

(Compare The Human Tissue Act, 1983 (Act No. 65 of 1983).)

Unfortunately The Human Tissue Act, 1983 (Act No. 65 of 1983), as described above regarding artificial insemination, makes no provision for the aspects to be taken into consideration regarding selection of the recipient and donor, nor for the preparation of recipients and donors regarding legal, ethical-moral or any psycho-social aspects involved. Another limitation is the fact that no mention is made of the maximum amount of pregnancies each donor can be responsible for, thus preventing the chances on consanguinity or intermarriage. Compensation of the donor and particulars for the files are other aspects not mentioned. Furthermore no provision is made for the status of the child nor for the recipient's husband. This means that the child is considered an illegitimate child of the mother.

In this regard Van Delft (1983:162), mentions: "...in Suid-Afrika is 'n KIS verwekte kind nog 'n buite-egtelike kind ... die enigste werklike wyse waarop so'n kind die wettige kind van die vrou se man kan word, is wanneer die kind aangeneem word volgens die Kinderwet". Thus a child had to be adopted by the mother's husband after birth to become a legitimate child of the couple in the past. Van der Vyfer (1985:1) also discusses a few of the legal issues regarding AID in South Africa, as a result of the Human Tissue Act, 1983 (Act No. 65 of 1983):

- * Firstly, AID does not constitute adultery and he quotes Hahlo saying: "... the procedure was so far removed from the normal act of intercourse, that it is unlikely that the courts will regard it as adultery".
- * Secondly, the illegitimacy of the child has an effect on the following:
 - The child's relationship with its mother's husband (an illegitimate child legally has no father);
 - maintenance (the duty of support is based on consanguinity);
 - inheritance (the child would not share in the intestate estate of its mother's husband); and
 - adoption (consent of the mother's husband is not required for the child's adoption).

- * Thirdly, there were the chances of incestuous marriages between blood relatives.

It can clearly be seen how many implications AID created for couples requesting AID treatment as a result of the limitations of the Human Tissue Act, 1983 (Act No. 65 of 1983) and before the regulations regarding artificial insemination were made in 1986 in South Africa, which will subsequently be discussed.

4.4.2 The Regulations regarding the artificial insemination of persons and related matters, R.1182, 1986

The "Regulations regarding the artificial insemination of persons and related matters" R.1182, made in terms of section 37 of the Human Tissue Act, 1983 (Act No. 65 of 1983), on 20 June 1986, made specific provision for all these above-mentioned issues discussed. This permitted AID to be practised more readily since 1986 and has since posed very few legal and other problems for couples and professionals involved.

The "Regulations regarding the artificial insemination of persons and related matters" (1986) have been summarized as follows:

* **Donors, donor files, donations and related matters:**

- No person except a medical practitioner or a person acting under his supervision may remove or withdraw a gamete from the body of a living person for the purpose of the artificial insemination of another living person.
- A medical practitioner, before removing or withdrawing gametes or permitting of gametes, shall:
 - Ascertain that the prospective donor concerned has, no more than one year prior to such donation undergone:
 - + medical tests for sexually transmitted diseases;
 - + a sperm analysis in the case of male donors; or
 - + a gynaecological examination in the case of a female donor;
 - ensure that the results of the tests, analysis and examination mentioned are filed in the donor's file;
 - obtain a written declaration from the prospective donor stating whether such donor previously donated gametes with another medical practitioner and, if so,

- when and where the donation concerned took place; and
- be in possession of written permission from the donor's spouse for the donation of gametes for the purpose of artificial insemination and such permission shall be filed in the donor's file.
- A medical practitioner intending to withdraw or remove a gamete from the body of a living person for the purpose of artificial insemination shall:
- Open a personal donor's file with a specific identification number for each donor.
 - Record the following particulars in each donor's file:
 - + Full names, surname, date of birth and identity number;
 - + age, height, mass, eye colour, hair colour, complexion, population group, nationality, sex, religion, occupation, highest educational qualifications and fields of interest;
 - + family history, specifically regarding possible genetic carrier conditions and mental disorders;
 - + wishes in respect of the population group and religion of the recipient;
 - + wishes in respect of the number of artificial inseminations for which his gametes may be used.
 - Record the following details in each donor's file:
 - + Details of medical tests concerning possible communicable or infectious diseases and genetic evaluation where applicable;
 - + details and results of a sperm analysis in the case of a male donor or of a gynaecological examination in the case of a female donor;
 - + an evaluation of the psychological suitability of the donor for artificial insemination;
 - + details of each removal or withdrawal of gametes from the donor concerned immediately after a donation of gametes and the date of donation;
 - + details of each artificial insemination effected with such gametes in terms of these regulations; and

- + details of any child born of such an artificial 'insemination displaying any genetic defect or mental disorder and whether it can be traced back to the donor or the recipient, with the results of tests carried out in this regard.
- . File all the appropriate documents concerning each donor, the donations of gametes by the donor and the artificial inseminations resulting from such gametes in the donor' file.
- . Obtain written statements from the prospective donor wherein the donor consents to:
 - + A physical examination and interview by a medical practitioner;
 - + the taking by, or under supervision of a medical practitioner of samples of gametes for the purpose of testing, analysing or other processing as deemed necessary;
 - + the following particulars only (age, height, mass, eye colour, hair colour, complexion, population group, nationality, sex, religion, occupation, highest educational qualifications and fields of interest) being made available to the recipient;
 - + all the particulars and details referred to earlier being made available to the medical practitioner intending to perform artificial insemination with the gametes of the donor; and
 - + the medical practitioner confidentially informing the Director-General between 1 January and 31 January of each year of the following details of each donor used during the preceding year:
 - ++ Identity number;
 - ++ identification number of the donor's file;
 - ++ number of donations and dates;
 - ++ identification number of the appropriate recipient's file; and
 - ++ number of live births.
- . File the written declaration from the prospective donor in his file stating whether such donor previ-

ously donated gametes with another medical practitioner and, if so, when and where the donation concerned took place.

- . File the written permission from the donor's spouse for the donation of gametes for the purpose of artificial insemination in the donor's file.
- . If at least five children have been artificially produced with the donor's gametes, the donor has to be informed that no further donations of gametes may be made for the purpose of artificial insemination of a person.

* **Artificial Insemination, recipients and recipient files:**

- A competent person shall not perform the artificial insemination of any person other than a married woman and he may only perform such an artificial insemination with the written consent of her husband.
- No gamete which is removed or withdrawn outside the provisions of these regulations shall be used for the purpose of the artificial insemination of a person.
- No gamete removed or withdrawn from the body of a particular donor shall be used for the artificial insemination of another person if the competent person at the time of that artificial insemination suspects that:
 - . Two or more artificially produced pregnancies exist as a result of artificial insemination with such a donor's gametes;
 - . the possibility exists that after such artificial insemination, more than two simultaneous pregnancies may exist or develop; or
 - . at least five artificially produced living children have been born as a result of the use of the particular donor's gametes.
- A medical practitioner intending to perform the artificial insemination of a recipient shall:
 - . Open a personal recipient's file with a specific identification number for each recipient.
 - . Record the following particulars in each recipient's file:
 - + Full names, surname, date of birth and identity

- number;
- + family history, specifically regarding possible genetic carrier conditions and mental disorders;
- + details of medical tests concerning possible communicable or infectious diseases and genetic evaluation;
- + **psychological and social suitability for the purpose of artificial insemination;**
- + wishes in respect of the population group and religion of the donor and any other wishes of the recipient concerning such donor.
- File all documents in the possession of or concerning the recipient and all previous artificial inseminations effected on such recipient.
- Obtain written statements from the prospective recipient wherein the recipient consents to:
 - + A physical examination and interview by a medical practitioner;
 - + the taking by, or under supervision of a medical practitioner of samples and the removal or withdrawal of gametes for the purpose of testing, analysing or other processing as deemed necessary;
 - + her artificial insemination;
 - + the medical practitioner confidentially informing the Director-General between 1 January and 31 January of each year of the following details of each recipient used during the preceding year:
 - ++ identity number;
 - ++ identification number of the recipient's file;
 - ++ date of successful artificial insemination;
 - ++ identification number of the appropriate donor's file; and
 - ++ result of pregnancy, if known.
- A medical practitioner shall make sure that:
 - **Before any artificial insemination is effected on a recipient, the recipient and her husband shall**

receive advice and information from appropriate experts concerning:

- + The possibilities, if any, of the recipients being able to conceive in a natural manner; and
 - + all the implications of artificial insemination including the problems that exist regarding the technique of artificial insemination, the chances that the artificial insemination will be successful, the financial aspects, the consequences to the marriage, and the ethical, psychosocial and educational implications of artificial insemination, the risks attached to the genetic properties of a gamete, the prognosis regarding the child and legal advice which may be obtained with regard to artificial insemination.
- The recipient is biologically, physically, socially and mentally suited for artificial insemination;
 - the wishes of both the donor and the recipient are respected regarding the population and the religious group of the child to be procreated;
 - where the recipient or the donor comes from a population group in which the individual runs a high risk of being a carrier of a specific genetic defect, for example Tay-Sachs disease or thalassaemia, the recipient and the donor are tested for the characteristics concerned and that the gamete of a donor with the same characteristics as that of the recipient is not used for artificial insemination; and
 - where, on account of the family history a possibility exists that the recipient or the donor is a carrier of a defect which can be transmitted by genes or chromosomes, examinations and tests are carried out to determine whether the recipient or the donor is a carrier of the defect, in which case:
 - + If it has been determined that the recipient is a carrier of the defect concerned, genetic counselling shall be provided for the recipient and her husband;

- + if it has been determined that the donor is a carrier or a probable carrier of the defect concerned, the gametes of such donor shall not be used for artificial insemination; and
 - + the medical practitioner who supervised the donation shall be informed of the defect found in the donor's gametes.
- The medical practitioner shall:
- Keep a recipient's file in safe custody and shall not destroy the files without the written permission of the Director-General;
 - not make available to any other person for inspection a recipient's file except where the law otherwise provides or any court so orders;
 - confidentially inform the Director-General between 1 January and 31 January of each year of the following details of each recipient regarding artificial inseminations effected by such medical practitioner on recipients during the preceding year:
 - + Identity number;
 - + identification number of the appropriate recipient's file; and
 - + date of successful artificial insemination;
 - + identification number of the appropriate donor's file; and
 - + result of pregnancy, if known.
- * **The medical practitioner and premises:**
- A medical practitioner whose name has been entered in the register is entitled to effect the artificial insemination of a person under the general conditions determined by the Director-General or such conditions as determined in a specific case in premises approved by the Director-General.
 - The Director-General shall keep a register wherein he shall enter the name and other particulars he deems necessary of a medical practitioner:
 - Who within 12 months of the commencement of these regulations, makes an application and together with such application provides proof acceptable to the Director-General that at the commencement of above-

mentioned regulations he:

- + In the practice of his profession, effected the artificial insemination of persons; or
 - + was in the process of arranging the artificial insemination of a person; or
 - who, together with an application informs the Director-General that in the practice of his profession, he intends to carry out the artificial insemination of a person.
 - An application for registration and approval of the premises shall be made to the Director-General and shall be accompanied by:
 - Full details and the street address of such premises;
 - a brief summary of the procedure to be followed at the artificial insemination of a person;
 - a brief exposition of the medical practitioner's qualifications and abilities to carry out the procedure.
 - The Director-General may, when considering such application request:
 - Further information, from the applicant or any other person, which he may deem necessary in order to consider the application;
 - an inspection by an inspector of anatomy of the premises connected with an application.
 - The Director-General may, after an inspection by an inspector of anatomy, instruct that a person's name be removed from the register or prohibit such a person for a fixed period from exercising the right.
- * Artificially produced child:**
- The medical practitioner who effected the artificial insemination of a person or under whose supervision such artificial insemination was effected, shall, where he has attended the birth of a living child as a result of such artificial insemination or where such birth has been reported to him within 30 days of such birth or the reporting thereof as the case may be, inform in writing the medical practitioner who effected the donation of gametes with regard to such artificial insemination, of:
 - the date of such birth;

- the identification number of the donor and of the recipient files concerned with such artificial insemination;
- any defect of such child.
- The mother of a child born of such artificial insemination, in the case where the birth of the child was not attended by the medical practitioner, shall report the birth within 30 days of such birth to the medical practitioner.
- A medical practitioner under whose supervision an artificial insemination was effected, shall, should it come to his notice that a child born of such artificial insemination displays any genetic defect or mental disorder:
 - Attempt to determine whether cause of the defect concerned can be traced back to the donor or the recipient; and
 - should the defect concerned be traced back to the donor, notify in writing the medical practitioner who effected the donation of such defect, any tests carried out with regard to such defect, the results of such tests and his comments on the matter.
- A parent of a child born of such artificial insemination shall, where it comes to his attention that such child displays any defect, report such defect to the medical practitioner.
- Any person contravening or failing to comply with any of the provisions of these regulations shall be guilty of an offence and liable on conviction to a fine not exceeding R 1000 or imprisonment for a period not exceeding six months.

(Compare Regulations regarding the artificial insemination of persons and related matters, R.1182, 1986.)

Thus it is evident what an immense improvement there has been in these Regulations regarding the artificial insemination of persons and related matters (1986). Basically all the limitations mentioned earlier regarding the Human Tissue Act, 1983 (Act No. 65 of 1983) have been accounted for in these regulations. These improvements include aspects concerning the donor such as specifications for donor selection and tests, particulars for donor files, consent of donor's

spouse, compensation and number of pregnancies per donor's gametes used. The donor has been limited to 5 pregnancies in order to prevent intermarriage amongst the offspring. Something not taken into consideration, however, is the donor's own natural offspring as well. The donor could for instance be married more than once in his life and could have a few children by each wife, not to mention possible illegitimate children as well. Thus a donor could have 10 to 20 children in total one day, including the donor children, with the risk of intermarriage being very great. Thus there is a loop-hole in this legislation. Furthermore aspects concerning recipients are included such as the selection and suitability of recipients, particulars for recipient files and aspects to be concentrated on during the preparation of recipients (legal, ethical, psycho-social, educational and medical), which are mentioned briefly and are very non-descriptive. Especially the psycho-social aspects are very briefly and vaguely mentioned and should be more detailed and specific, as there are many psycho-social aspects which are of importance and should be concentrated on in the preparation, as well as the selection of both the donors and recipients. More detailed guidelines are necessary for the selection on psycho-social grounds. Furthermore the confidential records at the central register of the Director-General and the responsibility of the mother to notify the medical practitioner of the birth or any defect of the child born by artificial insemination is also included. The registration of the medical practitioner and the premises where the artificial inseminations will be performed and the responsibilities of the medical practitioner are also further provisions improved on. The steps to be taken in the case of any defect displayed by the child born of artificial insemination are also important provisions stipulated. Interestingly the fine for any person contravening or failing to comply with the provisions was reduced compared to that of the Human Tissue Act, 1983 (Act No, 65 of 1983).

An aspect which is still not provided for in these regulations is the status of the child and the recipient's husband. Another limitation is the fact that provision is made for male and female donors in the regulations concerning the medical examinations and results which should be kept on file, but in the rest of the regulations the donor is always referred to as a male. Furthermore, no provision is made

for the recipient's husband's consent for artificial insemination.

Besides these few limitations the regulations are very thorough and make provision for a holistic multi-disciplinary approach in donor infertility treatment. By comparing the above-mentioned South African regulations with those of the U.S.A., the U.K., European countries, Australia, New Zealand and Canada discussed earlier in this chapter, it is very clear that the 1986 South African regulations are by far the most thorough, specific and detailed, regarding all the necessary guidelines for artificial insemination. As a result of these 1986 regulations, artificial insemination could be practised in South Africa according to thorough specific legal guidelines and provisions, thus reducing many ethical and legal issues and preventing an uncontrollable mass production, as is the case in other countries with many resultant implications.

4.4.3 **The Children's Status Act, 1987 (Act No. 82 of 1987)**

In South Africa in 1987 the **Children's Status Act, 1987 (Act No. 82 of 1987)** was assented to. This act was to amend the law relating to paternity, guardianship, and the status of certain children and to provide for matters connected therewith. It makes specific provision for the status of children conceived by means of artificial insemination summarized as follows:

*** Effects of artificial insemination**

- Whenever the gamete or gametes of any person other than a married woman or her husband have been used with the consent of both that woman and her husband for the artificial insemination of that woman, any child born of that woman as a result of such artificial insemination shall for all purposes be deemed to be the legitimate child of that woman and her husband as if the gamete or gametes of that woman or her husband were used for such artificial insemination.
- It shall be presumed, until the contrary is proved, that both the married woman and her husband have granted the relevant consent.
- No right, duty or obligation shall arise between any child born as a result of the artificial insemination of a woman and any person whose gamete or gametes have been used for

such artificial insemination and the blood relations of that person, except where:

- That person is the woman who gave birth to that child; or
 - that person is the husband of such a woman at the time of such artificial insemination.
- Artificial insemination in relation to a woman means:
- The introduction by other than natural means of a male gamete or gametes into the internal reproductive organs of that woman; or
 - the placing of the product of a union of a male and a female gamete or gametes which have been brought together outside the human body in the womb of that woman.
- For the purpose of human reproduction gamete means either of the two generative cells essential for human reproduction.

(Compare The Children's Status Act, 1987 (Act No. 82 of 1987).)

This act helps to alleviate the limitation researcher mentioned regarding the status of the child, omitted in the Regulations regarding the artificial insemination of persons and related matters (1986). This Children's Status Act, 1987 (Act No. 82 of 1987) has, however, solved this problem by addressing the issue regarding the position of the child, mother and husband and specifically the status of the child if consent was given by both husband and wife. Thus the child born of artificial insemination is regarded as the legal child of that recipient husband and wife and does not have to be adopted as referred to in the Human Tissue Act, 1983 (Act No. 65 of 1983).

4.4.4 Draft regulations regarding the artificial fertilization of persons and related matters, 1991

In South Africa on 17 May 1991 new draft regulations were published in the Government Gazette for general information and comment. These Draft Regulations regarding the artificial fertilization of persons and related matters (1991:19-30) under section 37 of the Human Tissue Act, 1983 (Act No. 65 of 1983), have, however, never been finalized and so the 1986 Regulations are still valid. Certain changes have been made in the 1991 draft regulations regarding the artificial

fertilization of persons and related matters (1991).

Firstly the name has changed from "artificial insemination" to "artificial fertilization". This is a positive change as it includes more forms of donor infertility treatment and not only artificial insemination. It is described as "artificial fertilization in relation to a person" which means "any form of fertilization contemplated". In-vitro fertilization has also been included throughout this draft regulation and provision has been made for the freezing of zygotes. The medical practitioner has been replaced with the term "competent person" referring to "an enlisted medical practitioner, or a person acting under his supervision, but in the case of in-vitro fertilization, a gynaecologist only". The changes in these draft regulations as interpreted by researcher will subsequently be discussed.

*** Control over removal or withdrawal and use of gametes:**

- Here specifications are made regarding the competent person who can remove gametes for artificial insemination and the gynaecologist only who may remove a gamete for the purpose of an in-vitro fertilization. Provision is also made for such gametes to be stored in a frozen state.

*** Restriction on donations of gametes:**

- No gametes shall be removed from a gamete donor if the competent person knows or suspects that at least five children have been conceived through the artificial fertilization of a person with the gametes of that donor.
- The competent person shall inform the gamete donor that he may make no further donation of gametes.

*** Prerequisites for removal or withdrawal of gametes:**

This subregulation refers to the competent person who intends to withdraw or remove gametes or cause a gamete to be removed or withdrawn from the body of a gamete donor who shall before the donation of gametes:

- Be in possession of or open a donor file to which an identification number is allocated;
- keep all the details, particulars, written statements and wishes in the donor's file, as referred to in the previous 1986 regulations concerning donor's files.
- The only change here is that the written consent required

by the donor's spouse to donate gametes has been omitted. This is a pity as researcher considered this to be a very valid and important provision which could help avoid many problems from occurring in the future if the donor's spouse is unaware of the donation.

* **Gamete donor files, availability of information and destroying of gametes:**

- Here the specific details, particulars, wishes, test results, written statements, evaluations and other relevant documents or information required for the gamete donor file are specified as in the previous 1986 regulations.
- The safe-keeping of the donor files are referred to in this subregulation; also the making available of certain details to the recipient and her spouse; the making available of certain details to a competent person who is to effect artificial fertilization of the recipient; certain details to be furnished yearly to the Director-General concerning the gamete donor; not being able to make the donor file available to any person than a person acting under his supervision or where the court so orders; steps to be taken once it is known that at least five children have been conceived through artificial fertilization of a person from the gametes of a specific gamete donor; and the destroying or keeping of gametes.

* **Specific places where artificial fertilization may be effected:**
(This subregulation is different to the previous one and is more specific as to where artificial fertilization may take place.)

- In a hospital; or
- in another place the name of which has been entered in the register kept by the Director-General.

* **Control over artificial fertilization, storage and destroying of zygotes:**

This subregulation has many new conditions which have been added:

- A medical practitioner may not effect or supervise an artificial fertilization unless he has notified the Director-General in writing of the name/s of the hospital or enlisted place where he intends to effect the artificial fertilization and he has in his possession a written

acknowledgement of the receipt of such notification.

- A competent person shall not effect the artificial fertilization of a person who is not married.
- A competent person shall not effect the artificial fertilization of a person except with the written consent of the spouse of that person.
- An in-vitro fertilization may be effected by a gynaecologist only.
- No gamete which has not been imported for artificial fertilization in terms of the conditions in the Act, or has not been removed or withdrawn in terms of the provisions of the Act or these regulations, or which has been removed from the body of a deceased person, may be used for the artificial insemination of a person, except in the following circumstances when the competent person:
 - . May with the consent of such recipient and her spouse, use such a zygote for the in-vitro fertilization of another specific recipient; or
 - . may use such zygote for a purpose, other than artificial fertilization, which purpose shall be stated by the Director-General in that consent.
- A competent person who for the purposes of a subsequent in-vitro fertilization wishes to store a zygote for a further period or use such a zygote for another purpose, shall:
 - . Address a substantiated request to the Director-General for his consent; and
 - . may refrain from destroying the zygote until the Director-General notifies the competent person of his decision.

*** Prerequisites for artificial fertilization:**

- A competent person intending to effect the artificial fertilization of a recipient shall before effecting the artificial fertilization:
 - . Be in possession of or open a recipient file to which an identification number is allocated;
 - . keep all the details, particulars, written statements and wishes as referred to in the previous 1986 regulations concerning recipient files; and
 - . shall determine if the recipient or the donor is a

member of a population group with a high risk to be a carrier of certain genetically transmissible disorders. All the same conditions for tests and discontinuation of the donor are noted as before in the previous 1986 regulations.

- A gamete shall not be used for artificial fertilization if the competent person intending to effect the artificial fertilization knows or suspects that two or more pregnancies already exist as a result of previous artificial fertilizations of persons with the gametes of that donor; the possibility exists that after the intended artificial fertilization more than two pregnancies may exist simultaneously as a result of the artificial fertilization of persons with the gametes of that donor; or five children conceived through the artificial fertilization of a person have already been born alive from the gametes of that donor.
- A competent person shall not effect a zygote for the purpose of an in-vitro fertilization save for the in-vitro fertilization of a specific recipient and then only by the union of gametes removed or withdrawn from the bodies of:
 - . Such recipient and an individual male gamete donor;
 - or
 - . an individual male and a female gamete donor.
- Any such zygote may also be stored in a frozen state in a hospital or other place referred to in these regulations.
- A competent person shall destroy a zygote which he has in storage:
 - . As soon as the recipient for whom the zygote has been effected conceives;
 - . as soon as it is decided not to go ahead with the in-vitro fertilization of that recipient, unless the Director-General consents in writing that the competent person may for the duration of such recipient's existing marriage, store such zygote for a further period for the purpose of subsequent in-vitro fertilization of the recipient; or
 - . if as a result of the family history the possibility exists of the recipient or the donor being a carrier.

The tests, the process of informing the persons involved and the discontinuence of the donor, are referred to as was in the previous 1986 regulations.

*** Recipient files and availability of information:**

- All the specific details, particulars, wishes, test results, written statements, evaluations and other relevant documents or information required for the recipient file are specified as in the previous 1986 regulations.
- A new subregulation is: Any other relevant document or information that the medical practitioner may obtain including a document or information regarding a previous artificial fertilization of the recipient.
- In the case of in-vitro fertilization:
 - . the number of zygotes for in-vitro fertilization;
 - . the number of zygotes used for each in-vitro fertilization;
 - . the number of zygotes in storage in term of the regulations; and
 - . the number of zygotes destroyed in terms of the regulations.
- The safekeeping of the recipient file is referred to in this subregulation, specifically not being able to make available details of the recipient to any person except a person acting under his supervision or where the court so orders, and certain details are to be furnished to the Director-General concerning the recipient on a yearly basis.

*** Recording of names of medical practitioners and certain places in register:**

- The Director-General shall keep a register in which he shall:
 - . Enter the name, address, practice, qualifications and other particulars deemed necessary of a medical practitioner;
 - . enter the name and address and other particulars deemed necessary of a place other than a hospital in respect of the owner, manager or person in charge.
- The Director-General shall delete from the register the name of:

- . Any enlisted medical practitioner who has died;
 - . any enlisted medical practitioner who requests in writing to have his name removed;
 - . an enlisted place where the owner, manager or person in charge requests the name of the place to be removed from the register.
- An enlisted medical practitioner or enlisted place whose name or address has changed shall notify the Director-General within 30 days of such a change.
 - An application shall be accompanied by all the details of the medical practitioner or place and written statements as mentioned in the previous 1986 regulations.
- * **Provisional deletion of name of enlisted place from register:**
- The conditions under which the Director-General may delete the name of an enlisted place from a register are provided as mentioned in the previous 1986 regulations.
- * **Reporting of births:**
- The conditions for the reporting of births as stipulated in the previous 1986 regulations are again listed here.
- * **Reporting of disorders and mental illness:**
- The conditions for the reporting of births as stipulated in the previous 1986 regulations are again listed here.
- * **Offences and penalties:**
- The offences and penalties as mentioned in the previous 1986 regulations are the same in these regulations.
- (Compare Regulations regarding the artificial fertilization of persons and related matters, 1991.)

These draft regulations are very similar to the Regulations regarding artificial insemination of persons and related matters (1986). Only a few changes have been made as was pointed out above, mainly to include aspects regarding donor in-vitro fertilization. An important aspect omitted in these regulations is that of the donor's spouse providing written consent for the donation of gametes to another person for artificial fertilization. This is an unfortunate change as it implies that a person can now donate his/her gametes without the spouse being aware of it. This could create major implications for the couple. Furthermore, certain conditions regarding the medical practitioner or gynaecologist have also been added and also

regarding the premises where the artificial fertilization is practised, which is positive. On the whole though these regulations regarding the artificial fertilization of persons are very thorough and provide adequate guidelines for the safe, controlled practice of artificial fertilization with donor gametes.

4.4.5 The Surrogate Motherhood Act

In South Africa on 11 November 1992 a Proposed Bill on Surrogate Motherhood was published by the South African Law Commission (1992:162-169) following an in-depth report on surrogate motherhood. In this proposed act the following terms are defined:

- * **"Artificial fertilization"** means the artificial fertilization of a female person.
- * **"Commissioning parents"** means spouses who enter into a surrogate motherhood agreement with a surrogate mother.
- * **"Surrogate mother"** means a woman who enters into a surrogate motherhood agreement with commissioning parents.
- * **"Surrogate motherhood agreement"** means an agreement between a surrogate mother and commissioning parents in which it is agreed that the surrogate mother will let herself be artificially fertilized for the purpose of bearing a child for the commissioning wife and in which the surrogate mother undertakes to hand over the child to the commissioning parents upon its birth or within a reasonable time thereafter.

This proposed Act has been summarized as follows:

- * **The surrogate motherhood agreement:**

No surrogate motherhood agreement shall be valid unless:

- The agreement is in writing and is signed by all parties;
- the agreement is entered into in the Republic of South Africa;
- the commissioning parents, the surrogate mother and her husband, if any, are at the time of entering into this agreement living in South Africa;
- the agreement is confirmed by a court within whose area of jurisdiction the surrogate mother resides.

- * **Criteria for qualifying:**

- The surrogate mother must already have given birth to at least one child in a natural way and must at the time of entering into the agreement be married, divorced or

widowed.

- Only lawfully married husbands and wives, who act jointly as a couple can be considered as commissioning parents.

* **Genetic origin of child:**

- The conception of the child contemplated in the agreement is to be effected using the gametes of either both commissioning parents or of at least one of the commissioning parents.
- The gametes of the surrogate mother or her husband may not be used to effect the conception of the child contemplated in the agreement.

* **Confirmation by court:**

A court shall only confirm an agreement once it is satisfied that:

- The commissioning wife is unable to give birth to a child and the condition is permanent and irreversible.
- The commissioning parents are competent to enter into the agreement, are in all respects suitable persons to accept parenthood of the child that is conceived, and understand and accept the legal consequences of the agreement, their rights and obligations.
- The surrogate mother is competent to enter into this agreement, is in all respects a suitable person to act as surrogate mother, and understands and accepts the legal consequences of the agreement, her rights and obligations.
- The husband of the surrogate mother, if she is married, has given his written consent to the agreement and is a party to the agreement.
- The non-material interests of any child of any of the parties would not be prejudiced by the execution of the agreement.
- The agreement includes adequate provisions for the custody, care, upbringing and general welfare of the child that is born in the event of the death of the commissioning parents or one of them, or their divorce before the birth of the child.
- Regarding the personal circumstances and family situations of all the parties concerned, but above all the interests of the child that is to be born, the agreement should be

confirmed.

In order for the court to properly consider the applications, conclusive evidence should be submitted regarding:

- The incapacity of the commissioning wife to give birth to a living child and the permanency and irreversibility of the incapacity.
- The physical and psychological suitability of the surrogate mother.
- The psychological suitability of the commissioning parents to accept parenthood of the child.
- The family circumstances of the parents.
- The interests of any descendants or adopted child of the commissioning parents.

The surrogate motherhood agreement should be submitted to the court.

*** Artificial fertilization of surrogate mother:**

- No artificial fertilization of the surrogate mother shall take place before the surrogate motherhood agreement is confirmed by the court or after 12 months have lapsed from the date of the confirmation of the agreement by the court.
- Any artificial fertilization of a surrogate mother in execution of a surrogate motherhood agreement shall be done in accordance with the provisions of the Human Tissue Act, 1983 (Act No. 65 of 1983)

*** Effect of surrogate motherhood agreement:**

The effect of a valid surrogate motherhood agreement shall be that:

- Any child born as a result of artificial fertilization of the surrogate mother in accordance with the agreement shall be the child of the commissioning parents as if the commissioning wife had given birth to the child within her marriage to the commissioning husband;
- the surrogate mother shall be obliged to hand the child over to the commissioning parents as soon as is reasonably possible;
- the surrogate mother or her husband shall have no rights of parenthood or custody of or access to the child;
- no surrogate motherhood agreement may be terminated after the artificial fertilization of the surrogate mother has

taken place;

- the child shall have no claim for maintenance or of succession against the surrogate mother, her husband or any of their relatives, and they have no obligations towards the child.

Any surrogate motherhood agreement that does not comply with the provisions of this Act shall be invalid and any child born as a result of any action taken in execution of such an arrangement shall for all purposes be deemed to be the child of the woman that gave birth to that child.

*** Abortion:**

- A surrogate motherhood agreement shall be terminated by an abortion that may be carried out in terms of the Abortion and Sterilization Act, 1975 (Act No.2 of 1975).
- For the purposes of the Abortion and Sterilization Act, 1975, the decision to undergo an abortion shall lie with the surrogate mother and if she decides against an abortion, the pregnancy continues and on birth the commissioning parents must comply with their obligations towards the child.
- The commissioning parents shall in an event contemplated of the Abortion and Sterilization Act, 1975, be informed of the circumstances and allowed to consult with the surrogate mother before an abortion is carried out.

*** Payment in respect of surrogacy prohibited:**

- No person shall in connection with a surrogate motherhood agreement give or promise to give to any person, or shall receive from any person a reward or compensation in money or kind. This should discourage commercialization.
- No promise or agreement for the payment of any compensation to a surrogate mother or any other person in connection with a surrogate motherhood agreement or the execution of such an agreement shall be enforceable, except compensation for expenses that relate directly to the artificial fertilization and pregnancy of the surrogate mother, the birth of the child and the confirmation of the surrogate motherhood agreement.
- Any person that renders a professional, legal or medical

service with a view to the confirmation of a surrogate motherhood agreement shall be entitled to compensation for this service.

*** Identity of parties:**

- The identity of the parties to court proceedings with regard to a surrogate motherhood agreement shall not be published without the written consent of the parties concerned. This protects the privacy of the parties involved.
- No person shall publish any facts that reveal the identity of a person born as a result of a surrogate motherhood agreement. The identity of the child is thus protected.

*** Offences and penalties:**

- No person shall artificially fertilize a woman in the execution of a surrogate motherhood agreement or render assistance in such an artificial fertilization, unless that artificial fertilization is authorized by a court in terms of the provisions of this Act.
- No person shall in any way for or with a view to compensation make known that any person is or might possibly be willing to enter into a surrogate motherhood agreement in the form of an advertisement.
- Any person who contravenes or fails to comply with a provision of this Act shall be guilty of an offence and liable on conviction to a fine not exceeding R20 000 or to imprisonment for a period not exceeding one year or to both.

(Compare The Surrogate Motherhood Act, South African Law Commission, 1992:162-169.)

This proposed Surrogate Motherhood Act is a very positive step for South Africa and especially for infertile couples who will now be able to benefit by this procedure for which no provision was made legally prior to this pending Act. The provisions of this Act are very specific and will promote a strictly controlled practice of surrogate motherhood in South Africa for couples who have only this option as alternative to childlessness or adoption.

Thus if one compares the South African legislation to those of other

countries, it compares well to some and is much more detailed and specific compared to others. The fact that South Africa currently has legislation regarding AID, In-vitro fertilization and soon regarding surrogate motherhood, if approved, makes us one of the countries with the most specific and strict legislation regarding specific methods of artificial fertilization. This legislation offers protection to all parties involved, specifically to the child regarding his status, to the recipients and donors, as well as to the medical profession. Screening procedures, certain aspects regarding the preparation of persons, the limitation on the number of gametes used per donor, compensation, files, registration, storage and cryopreservation of gametes, the premises where practised, the qualifications of the medical practitioner and other related aspects of importance are all concentrated on, to make the practice of these methods ethically-morally more acceptable. The South African legislation regarding artificial fertilization with donor gametes and surrogate motherhood are a fine example for other countries to follow.

Subsequently, the ethical-moral and religious aspects regarding artificial fertilization with donor gametes will be discussed.

4.5 THE ETHICAL-MORAL AND RELIGIOUS PERSPECTIVES REGARDING THE ARTIFICIAL FERTILIZATION OF PERSONS WITH DONOR GAMETES

Artificial insemination with donor semen (AID), and other methods of artificial fertilization with donor gametes raise many ethical, moral and religious issues. Most churches condemn the practice of AID, because it is unacceptable from a religious point of view to have a third anonymous person involved in a marital union, who merely donates his semen for AID to inseminate another man's wife and then has no responsibility toward his own offspring. Many ethical-moral issues have also been raised concerning the donor, the child, the couple and the procedure. This has also been due to the absence of laws and guidelines regarding the practice of AID and other methods of artificial fertilization with donor gametes.

Most people have a lack of knowledge or a misconception concerning artificial fertilization with donor gametes, and therefore have a

negative attitude. Leridon (1980:519) in this regard studied the attitude of the general population regarding AID in Canada by doing a survey with one hundred people. He found that AID was widely known of, but was far from being widely approved of. Only one out of every three people knew and approved of AID. The distrust of the others was based on a concern about the "artificial" nature of the procedure, the existence of a donor, the drawback which AID shares with adoption and the fact that the child is biologically not completely the child of the couple. Before a couple considers AID, they should first sort out their own ethical-moral and religious problems related to AID, otherwise they will find it difficult to come to terms with the AID situation.

4.5.1 The ethical-moral perspectives regarding artificial fertilization with donor gametes

Most ethical viewpoints raised by people regarding AID, have been related to the way in which AID has been practised, without any uniform guidelines, control, records or law to protect the people involved. Many countries still do not have specific guidelines or laws regarding AID and are therefore still confronted with many ethical-moral issues and problems related to AID. Roy (1980:507-509) mentions some typical ethical questions regarding AID as follows: "Should AID be contemplated when adoption is possible? Should AID be considered for married couples only? Should donors be single or married, and if married, should their wives give consent? Should donors be screened? Should donors be paid? Should there be a limit to the number of times a donor is used for AID?" These ethical questions have been accounted for by the specific guidelines in the new 1986 and pending 1991 regulations regarding artificial fertilization of persons with donor gametes according to Section 37 of the Human Tissue Act of 1983 (Act No. 65 of 1983), therefore posing less ethical questions in South Africa since then.

The following moral aspects were raised by Reidy (1982:132): "Artificial insemination by donor is not respectful of the human person. Children are born whose fathers are numbers on a file. This procedure bypasses both the act of intercourse and the natural context of father and mother. The donor begets, without ever knowing the child that will be conceived of him or its mother. This

contradicts the whole notion of parental responsibility and the bonding that should take place between father, mother and child. Spouses confer on one another a right to intercourse together, by which means a child may be born to them. It is immoral for a wife to seek a child by another man and equally wrong for a husband to seek a child by another woman".

Researcher cannot agree with the viewpoint of Reidy (1982:132). The recipient and her husband, as applies to South Africa in most cases, especially at the Infertility Clinic at H.F. Verwoerd Hospital while researcher was working there till 1987, both had to endure counselling sessions regarding the preparation for artificial fertilization with donor gametes and the possible implications as well as an assessment of their suitability for this form of treatment. They were usually encouraged to go through a long decision-making period and discuss all the possible implications with each other. Once they had made their final decision they were again seen together in a session to assess their psycho-social situation, to discuss their motives and the implications of artificial fertilization with donor gametes. If they then decided to go ahead with treatment, the husband and wife both had to sign consent forms. Therefore it was a joint decision made after a long process of preparation and assessment. The wife is not going to seek an infant by another man. She is being artificially inseminated with an anonymous donor's semen and her husband has given his consent and is present during the actual insemination in most instances. It is a joint venture undertaken by this couple to fulfil their only chance and dream of having their own child. They will be able to experience the artificial conception, the pregnancy and birth of the infant together, forming a strong bond between the father, mother and child. The child is also biologically fifty percent their child, other than an adopted child who is not at all biologically related to the parents. These spouses do of course still have the right to intercourse together, but they are unable to conceive and bear a child as they wish, because of their infertility problem. AID and other methods of artificial fertilization are their only chance to fulfil this need for a child and a family. How can one see this as being totally immoral, in the light of their unique circumstances, their dream and love for each other?

The following similar moral questions were also raised by Roy (1980:501-508): "Does AID involve a dehumanization of human sexuality for the wife, husband and donor? Does AID violate the integrity of the marital relationship of the receptor couple and the donor couple? Does AID as a method of human reproduction, permit an environment favourable to responsible parenthood and to the harmonious development of the child?" These questions are often asked by people who have never been in a similar situation, or who do not have any relatives in a similar predicament.

Some of these issues are also referred to by Engelhardt & Wildes (1991:651), particularly that of sexual piety, where the intrusion of gametes from a donor to aid a partner to become pregnant, is regarded as immoral and violative of important values. Wood & Singer (1988:427) on the topic of surrogacy go even further and refer to it as an act of adultery, as it is seen by many. They do, however, state that when this act of adultery is planned to overcome infertility, it is a different kind of act than the usual adultery, as it is carried out with the consent of the spouses and at their desire. The motivation is neither lust nor love for another person and there is no deception between the couple. The adulterous act is performed in favour of family and life.

Researcher regards the term "adulterous act" as being irrelevant to donor infertility treatment, as no sexual intimacy is ever engaged in between recipient and donor, the fact is they never even see each other, as they remain anonymous to each other. Their gametes are the only parts of them that ever meet! So how can this be viewed as synonymous with adultery?

This issue is similarly raised by Engelhardt & Wildes (1991:646) as that of objectifying the intimate. This refers to the use of gametes outside of intercourse, which involves an explicit choice to reproduce at a particular time. The gametes are severed from the conditions of intimacy and passion that usually clothe most reproductive acts. This child they state is born, seen as a product of human artifice rather than as a gift of God. In other words man is taking the creation of the human being into his hands.

Masturbation is another issue referring to the use of gametes outside of intercourse. This is of course the means by which the donor donates his sperm for donor infertility treatment. Engelhardt & Wildes (1991:645) mention masturbation as being seen morally as an unnatural act, which leads not only to condemnation of AID, but also artificial insemination with the husband's sperm (AIH). This issue of using masturbation for the donation of sperm thus makes this form of infertility treatment unacceptable to many people. If sperm were to be removed surgically from the testes, or if the donor used a non-spermicidal condom during intercourse with his wife and then brought it to the sperm bank for donation, researcher asks the question whether it would then be a more acceptable form of treatment, or would it complicate matters further? Masturbation will also be touched on later in the discussion of the religious issues.

One method of practice which researcher views as very unethical, is the mixing of donor and husband semen during donor infertility treatment. The couple are merely placed in an uncertain position of whether the husband or the donor is the biological father. (Compare Hummel & Talbert, 1989:919 and Reading, 1990:382.) This could only lead to various psycho-social implications. Engelhardt & Wildes (1991:648) also state that: "... the mixing merely creates some doubt in the minds of the couple, revealing an emotional insecurity on the part of the husband and contributing to him not coming to terms with his infertility. The Council for Science and Society (1984:40) sees the mixing of husband and donor sperm as a confusing issue and Hafez (1982:209) views it as ethically unjustifiable.

The compensation of donors is another ethical issue raised by the Council for Science and Society (1984:37-39) who asks the question whether donors would donate their gametes if compensation was not involved. This is a tricky issue as donors would most probably not donate if they were not compensated in some way. In South Africa donors can only be compensated to cover their expenses incurred. In some countries donors are paid phenomenal rates and donation of gametes has as a result become commercialized.

Screening of donors for genetic disease, family history, transmissible diseases, psychiatric conditions and so forth is very important

and is prescribed by law in South Africa, as was discussed in the previous section on the legal aspects in this chapter. From an ethical viewpoint though it is not so acceptable. The Council for Science and Society (1984:40) states that donor selection is in a sense a practice of negative eugenics, that is, the elimination of disability, or positive eugenics, that is, the selection of special abilities and talents. Thus ethically speaking, donor selection and most probably donor-recipient matching as well, is not seen in such a positive light by all persons involved. Hafez (1982:207) also mentions in this regard: "The andrologist exercises a certain positive eugenic selection, since he only uses donors who he believes are physically and mentally sound, with a good medical record and semen of high quality".

The aspect of recipient selection also seems to raise some ethical questions. Poyen, Penochet, Mattei & Choux (1980:415-416) state: "If we select and refuse certain recipients, on what grounds, as everyone has a right to reproduce. Do we have the right to refuse? When should we refuse? How do we refuse?" Thus from an ethical viewpoint the selection of recipients is not viewed as being correct. If selection, however, takes place according to a thorough assessment by a suitable professional such as a social worker and specific criteria are spelt out according to which couples are not accepted, would this be more acceptable ethically?

Maintaining of medical records of both donors and recipients is essential and is prescribed by law in many countries, such as South Africa. A few ethical questions concerning these records have, however, been raised by Slovenko (1986:173) and the Council for Science and Society (1984:40): "Should files of donors and recipients be kept? What information should they contain? Where should they be kept? For how long should they be kept? Who should have access to them? Should a central national register be kept in each country?" Most of these questions have been answered and accounted for in the South African law as discussed earlier in this chapter, and should be specified by law in each country practising these methods of treatment.

The integrity of the family is important, as the family, as a

cultural ideal, is seen as a stable union of a man and woman with their children (Engelhardt & Wildes, 1991:643). Some ethical concerns in this regard which could be raised are: Should the child and the family be told and if so, when? Should it remain a secret of the parents? Is it ethically correct to withhold such information from the child and family, placing them under false pretence regarding blood relations? Should parents feel guilty about their secrecy regarding their child? These issues should be discussed with recipient couples during the preparation session and in ongoing counselling.

Other ethical concerns raised are regarding when gametes from outside the marital union are used. Slovenko (1986:173) and Warnock (1991:766) ask the question whether unmarried, single or lesbian women should be entitled to AID and whether it is ethically acceptable that they be treated with donor sperm. In South Africa the law prescribes that recipients have to be married, as discussed previously under the legal perspectives in this chapter. This, however, is not the case in other countries and does raise ethical concerns. Heywood (1991:62) similarly raises the ethical issue of "virgin mothers". This includes single or lesbian women who are virgins and who want to conceive a baby by artificial reproductive technology, rather than by sexual relations. This, researcher agrees with, is ethically unacceptable. Self-insemination using a syringe is also a possible "DIY arrangement". Self-insemination kits, researcher saw, are for example available for sale at some local drugstores in the U.S.A. Heywood (1991:62) also mentions: "These women want the fun of having a baby, without paying the price of sexual intercourse". Furthermore it is difficult as it is, in a single-parent or lesbian household to tell a child of his origin and this donor situation could merely complicate matters.

Donor anonymity and secrecy are other ethical issues raised by the Council for Science and Society (1984:37-39). Issues raised include: "If secrecy was not maintained, then the child could trace the genetic father and possibly make claims. If there were abnormalities present in the child, could the donor be traced to inform him to discontinue as a suitable donor? Because of secrecy the husband is mistakingly identified as the child's father and the infertility is

kept secret. The child's birth certificate is falsified to include the husband's name as father". These issues raised concerning secrecy are not the most serious negative implications which can result from secrecy. Secrecy and the psycho-social implications involved will be discussed in depth in the following chapter.

Concerning these issues raised above, researcher would like to comment as follows: Nobody really wants the child to be able to trace the genetic father and this is also specified in most laws dealing with these issues, as can be seen in the first part of this chapter. The husband being mistakenly identified as the father of the child is exactly the reason why couples prefer artificial fertilization with donor gametes, as the husband's infertility can be kept secret. By law if the husband and wife consent to donor infertility treatment, the child is legally theirs and the husband's name can appear on the birth certificate.

The child has a right to know his genetic origin according to Engelhardt & Wildes (1991:647) and the Council for Science and Society (1984:39). The Council for Science and Society (1984:39) furthermore mentions: "As children learn about AID, they might become suspicious and go for bloodtesting or tissue typing to determine whether they are genetically related to their parents". Thus the whole issue of secrecy is once again raised and whether the parents should tell the child or not. Walker, Gregson & McLaughlin (1987:746) also agree that the child should have right of access to information regarding his origin, but they add that the couple should also have the right to decide what information should be given to the offspring and when.

Other issues mentioned by the Council for Science and Society (1984:39) include secrecy possibly leading to recipient's or children's insurance forms being invalid, as they require disclosure of parentage. Thus if the mothers' husband and not the donor is specified as the father, such an insurance form could be invalid. The chances of this ever being traced or discovered are very small though, because medical records are confidential and many laws regard the recipients as the legal parents if both consented. The same argument, as raised by the Council of Science and Society (1984:39)

above, could thus just as well apply to adoption. Furthermore, the Council for Science and Society (1984:39) also mention genetic counselling, diagnosis of illness and treatment being affected and complicated by secrecy and anonymity, as the true family and genetic history of the donor and thus biological parent, cannot be provided. Jones (1986:298-299) on the other hand strongly recommends anonymity and questions why AID is ethically more acceptable than donor-IVF or the use of donor oocytes. This can be ascribed to the fact that these are newer methods of reproductive technology, especially the use of donor gametes, other than AID which has been practised for many years.

The choice between adoption versus donor gametes is another point of interest mentioned by Engelhardt & Wildes (1991:646). They state that this decision by couples can only be fully understood within a particular moral framework. Some couples prefer the prospect of having a child related to one of them and the ability to experience the pregnancy and birth, whereas others prefer adoption. Thus some couples are more in favour of donor infertility treatment whereas others are for adoption. Researcher is of the opinion that this must be discussed with couples, allowing them the opportunity to make a decision regarding which option is ethically-morally more acceptable to them.

Sperm and oocyte banks and commercialization are further aspects raising ethical-moral questions according to the Council for Science and Society (1984:41). They state: "Ethically-morally a person can question the correctness of keeping stocks of gametes which are frozen and ready to be matched and dispatched". Furthermore, they see the commercialization of sperm banks, where men with desirable sperm will be paid large sums of money to be ethically unacceptable. This, however, does not occur in practice in South Africa according to researcher, even though it might occur in other countries occasionally.

A similar aspect raising ethical-moral questions is the aspect of paying or remunerating donors for their services. Is this acceptable? Are students not becoming donors just for the money? Large sums of money are paid in certain countries and donors who are

unemployed or students can be attracted for this motive. It is important in researcher's point of view, that the motive of the donor for wanting to donate his sperm, should be explored during donor selection. Hafez (1982:208) states in this regard that paid donors have demonstrated the medical and economic inferiority of blood transfusion services in which donations are paid for. This encourages the indigent to conceal relevant facts in their medical history and so increases the supply of infected blood. Payment to semen donors with no evidence of genetic suitability other than unverified assurances about parenthood and medical record, implies the taking of highly unethical risks from which the patient to be inseminated, her husband and the child to be conceived might prove to be victims.

It seems, however, as if the majority of donors in South Africa, donate their sperm for humanitarian reasons and not for the money, as it is very little and barely covers their travelling expenses. According to Lourens (1996), a Reproductive Biologist at Du Buisson & Partners Sperm Bank, states that these donors see their donation similar to donating blood and they also want to help people. Sevenster (1996), a Gynaecologist, states that human life is the biggest gift that any person can bestow on another and that is the reason why these donors want to donate their sperm. Thus the main motives of donors seem to be altruistic and humanitarian and not financial.

On the subject of sperm banks, Engelhardt & Wildes (1991:651) raise another ethical issue by stating that gametes should be distributed geographically by sperm banks, so as to diminish the problem of risk of incest or intermarriage between children of the same donor. The laws in some countries, such as South Africa for example, do also contribute to decreasing this problem by prescribing a limited number of gamete donations per donor. There are loop-holes, however, as the donor's own natural children are not taken into consideration and if married more than once, he could have many children and increase the risk of intermarriage.

Another aspect Mahlstedt & Greenfeld (1989:912) raise is the situation of multiple parents created by the situation of donor oocytes. This can raise many ethical-moral questions and complicate matters, especially in the case of surrogate motherhood. In surro-

gate motherhood there can be up to six "parents" involved with one child. This could occur when one couple donates their gametes or an embryo to another couple, who in turn gets a surrogate mother to bear the child for them. The famous "Tzaneen surrogate grandmother triplets" case is also a good example, where the daughter (recipient) had her mother act as surrogate and this grandmother actually gave birth to her own triplet grandchildren (Compare Michelow et al., 1988:31-33.) Mahlstedt & Greenfeld (1989:908) also ask the following questions related to the issue of multiple parents: "Does biological relatedness influence one's ability to love a child? Will the child's means of conception be a stigma? If the child should know about the donor, will this knowledge be enlightening or confusing? Will the non-biological parent accept the child? Will the child be accepted by grandparents, aunts and uncles?" These questions still remain open to research, as few long-term studies have been performed to determine the effect of "multiple parents". The Ethics Committee of the American Fertility Society (1986:175) states in this regard that it is important to distinguish between the genetic, gestational, and rearing mothers and genetic and rearing fathers as multiple parents. From studies performed it does not seem to be a problem though, as the other parents remain anonymous and most of these questions still remain unanswered, with a need for more research regarding these issues. Wood & Singer (1988:427) question the ethical unacceptability by many of surrogate motherhood which they refer to as "rent a womb". They state: "... surrogacy can be one of the most generous, loving and humane acts that one woman can carry out for another woman". Surrogacy, however, because it is still practised less frequently in many countries, remains somewhat unfamiliar and an ethically less acceptable practice to many, as a strange woman bears a child for an unknown couple and then gives it back to them at birth. This can also be seen as ordering a baby and then fetching it when ready!

A controversial issue debated about more regularly, is that of the ethical status of the embryo and the beginning of life. Du Doit (1991:19-25) discusses the whole issue of when does life begin and in the final analysis refers to conception as the starting point. Wood & Westmore (1985:916-920) also refer to the issue of the embryo and the beginning of life. They discuss the aspects of transferring

of embryos, freezing and storing, surrogacy and research. They also mention that the development of human life is a gradual continuum, not four separate steps, from sperm and egg to embryo, from embryo to foetus, from foetus to baby and from baby to adult. Wood & Westmore (1985:916-920) state: "Ethics, society and the law should reflect this gradual change and not create artificial categories of legal rights at widely separated intervals of time, such as conception and birth". This recommendation could make ethical decisions which have to be taken easier, by separating life into separate stages. The Ethics Committee of the American Fertility Society (1986:16S), however, state that making babies in laboratories - even perfect babies - is a degradation of parenthood. Grobstein & Flower (1985:879-880) add to the above-mentioned by asking a few ethical questions relating to the embryo. "What is the moral status of the developing human being beginning at conception? Who bears moral responsibility for decisions about the fate of embryos and foetuses? Is there a moral right to procreate? Should human embryos not required for continued development in the uterus be available for research purposes? Will the social effects of IVF and associated techniques have deleterious effects on the moral status of the family? Are the moral aspects of IVF and associated technologies so sensitive and central that their use should be subject to special oversight or surveillance?" These ethical questions are very difficult to answer and remain controversial issues seen differently by different people.

Three principle viewpoints concerning the moral status of the human embryo are mentioned by The Ethics Committee of the American Fertility Society (1986:16S-17S):

- * Human embryos are entitled to protection and respect as human beings from the time of fertilization forward. Thus experimentation with or damage to embryos are ethically unacceptable. The Ethics Advisory Board in 1979 as stated by The Ethics Committee of the American Fertility Society (1986:30S), however, said: "The human embryo is entitled to respect, but this does not necessarily encompass the full legal and moral rights attributed to persons".
- * There are no moral obligations to human embryos. Only 30%-40% of embryos produced through human sexual intercourse develop to

maturity in utero and are delivered as live infants. Thus human embryos in a laboratory situation do not need special moral obligations and can be experimented with.

- * Our moral obligations to human embryos can be outweighed by other moral duties, such as the development of new methods of technology. Thus embryos are not a moral issue.

These three principles are thus the three different ethical-moral viewpoints people generally have concerning embryos. This can also be discussed with couples concerned to illustrate to them how one ethical viewpoint can differ from another and that their own viewpoint is of importance in their decision-making.

This issue of embryos Shuster (1990:976) takes even further with absurd questions such as: "Should we provide burial services for embryos? Should there be cemeteries for embryos? What kind of burial would be appropriate? Should we mourn the death of a thawing embryo after failed implantation?" These questions make one see how far some ethicists will go to complicate matters with small inappropriate concerns. Shuster (1990:975) also mentions the outcome of an actual custody case in Tennessee U.S.A., following the divorce of a couple where the wife was granted custody of seven embryos which had been stored after a few unsuccessful IVF attempts which the couple had undergone during their marriage. This makes one wonder about the ethical correctness of the judge's decision.

A list of ethical issues related to reproductive technology are provided by Grobstein & Flower (1985:878-879) which researcher comments on as follows:

- * **The freezing of early embryos:** Is this ethically correct?
- * **The marital status of patients:** Should single women be treated? Hanscombe (1983:133-135) on the other hand strongly advocates the right of lesbian women to be treated. Should not all couples treated be married?
- * **Embryo adoption:** Should an embryo be adopted and transferred to a surrogate mother?
- * **Fertilization across species boundaries:** The Hamster Egg penetration test - should it be allowed?
- * **Extended embryo culture (ectogenesis):** Should embryos be

cultured externally until they are equivalent to newborns, in other words human hatcheries?

- * **Involvement of third parties:** Should a third party (donor) be permitted to help with procreation?

These issues are more realistic ethical issues one wonders about and which many couples also have uncertainties about. The medical social worker can discuss the ethical issues with a couple to clarify certain misconceptions and to allow them to make their own decision.

Further ethical issues are added by The Ethics Committee of the American Fertility Society (1986:18S-21S) regarding new reproductive technology, which have been summarized as follows:

- * **Respect for autonomy:** The individual should be free to exert control and to choose what they will do, that is, informed consent, only if they are well-informed can they make autonomous choices. This stresses the importance of preparing and providing couples with the necessary information to help them make a decision, which the medical social worker can do as part of a preparation session.
- * **Beneficence:** Promoting the welfare of other or doing no harm to others. In other words the risks of the new reproductive technologies should promote the welfare of people and not do them any harm. A thorough assessment of couples by the medical social worker can help to determine this aspect.
- * **Justice:** What is due to various people and on what basis? Should people thus be treated and should they be screened?
- * **Procreative liberty:** Do couples have the freedom to employ new available techniques for assisting in reproduction. In other words, are all couples or persons entitled to make use of the treatment and should they be screened? Is the right to reproduce a fundamental human right?
- * **Moral right:** "Men and women of full age, without any limitation due to race, nationality, or religion have the right to marry and found a family". Scott, J (1985:15) adds to this: "One of the noblest of human desires is to have a family". Thus all people have the right to children and should be given the opportunity.

The Ethics Committee of the American Fertility Society (1986:21S-22S) go a step further and also mention aspects which should be taken into consideration and which could signify a moral duty for certain persons not to reproduce, which researcher has commented on:

- * **Transmission of disease to offspring:** When genetic defects are present couples should be discouraged. McCormack, Leiblum & Lazzarini (1983:5) advocate the use of donors and new reproductive technology for people with Huntington Disease. The same could also apply to people with other genetic or transmissible diseases. Grobstein & Flower (1985:881) also support this viewpoint.
- * **Unwillingness to provide proper prenatal care:** AIDS and sexually transmitted diseases should come into consideration here. Grobstein & Flower (1985:881) state that this issue also could apply to donors and the question of whether they should not have a responsibility toward the child.
- * **Inability to rear children:** People who are psycho-socially not in the position to take on the responsibilities of parenthood or to provide for a child should not be selected.
- * **Psychological harm to offspring:** If the child finds out about the assisted or donor reproductive technology, will it have harmful effects and should the child be told?
- * **Overpopulation:** Should reproductive technology be available in countries where overpopulation is a problem, such as Africa?
- * **Non-marriage:** Should single and lesbian women be treated?

These ethical issues should thus be taken into consideration and selection should occur by means of thorough screening and psycho-social assessment. These issues can also be discussed with couples to determine their ethical viewpoint.

It can therefore be concluded that couples seeking donor infertility treatment should undergo a thorough psycho-social assessment, a preparation process and a decision making period, and only then will they be ready to go ahead with donor infertility treatment and to provide a favourable environment for responsible parenthood and for the harmonious development of the child. This should be a joint decision of a couple and is one way and their only hope to have a child conceived artificially, as they are unable to conceive on their

own because of their infertility problem. Together with an intensified love for each other, after having been through this long period of infertility investigations, sessions and a period of decision-making and having finally decided to go ahead with donor treatment, these couples can share the experience of the artificial conception, the joys of the pregnancy and the birth of their baby. After all, the child is biologically at least fifty percent theirs, other than an adopted child who is not at all biologically related to the adopting parents. These parents also have the period from conception through to the actual birth, unlike adopting parents, to form a bond with their baby and can finally become a family after all those years of waiting and praying. Can this really be seen as an ethically unacceptable and an immoral act?

Other controversial experimental developments in reproductive technology not mentioned or just referred to in this section, raising many ethical questions are:

- * **Sex selection**, where the sex of your child can be ensured;
- * **ectogenesis**, where the embryo and foetus can be kept alive outside of the uterus in an entirely artificial environment, that is, extra-uterine life;
- * **extra-genital pregnancies**, where the foetus can anchor itself in the abdominal cavity directly on the peritoneum and the growth can be astonishingly normal;
- * **cloning**, this is the production of man in his own image by means of DNA manipulation or a "xerox-copy" of an individual;
- * **genetic engineering**, where genetic defects can be prevented by means of DNA manipulation;
- * **surrogate related mammals**, where another mammal is used as surrogate, such as in the veterinary world where a zebra has been delivered from a horse or donkey; and
- * **trans-species or transgenic fertilization**, where different species or genes are intermixed. This has been done with success in the veterinary world with the creation of a new species, for example a kudu and an eland - kuland. In humans the introduction of another human's genes could create a superman or wonderwoman. Human-animal hybrids or the insertion of human genetic material into an egg cell of an animal is also possible.

(Compare Harris, 1992:7-27; Van Niekerk, 1991:10-12; Donald, 1987:76-77; Chalmers, 1987:117-119; Lejeune, 1984:35-43; Council for Science and Society, 1984:17-20; Singer & Wells, 1984:131-189 and Walters, 1982:110-118.)

Thus concerning these future developments in reproductive technology many ethical-moral questions come to mind and these developments should not be allowed to go beyond the experimental stage.

4.5.2 **The religious perspectives regarding artificial fertilization with donor gametes**

Most religions are opposed to the new reproductive technologies, and especially the use of donor gametes. Couples who are unable to conceive on their own, however, can be helped to conceive and bear a child by means of these technologies. As a result of the viewpoints of different churches, many couples have the desire for a child by means of artificial fertilization with donor gametes, but are confronted with feelings of guilt and uncertainty.

The Orthodox Jewish, Roman Catholic, Lutheran and Anglican Churches are particularly opposed to AID according to Hummel & Talbert (1989:926). Schoysman-Deboeck *et al.* (1988:716) add to this the Muslims who are opposed and the Protestant churches who generally have a more moderate teaching. Edwards (1980:1012) mentions the Church of England and that it has considerably eased its attitude toward AID. Keller *et al.* (1984:207) furthermore add the Presbyterian Church, U.S.A., as having a very positive viewpoint and that they endorsed in 1962 the merits of AID and legislation to legalize AID and to protect the AID child. They also mention that "... within the world religious community, there are deep divisions of diverse opinion, each dedicated to the preservation of family welfare". Thus it is important to discuss the viewpoints of various churches with couples, so as to help them in making their own decision according to their religious orientation.

MacNaughton (1981:31) goes a step further and states more specifically that there is a variety of church laws about what marriage means and its relationship to procreation. Some religious groups feel that AID is not something that should be done within marriage.

Schoysman-Deboeck *et al.* (1988:716) state that it is expected that these issues will be discussed with the patients and that the team does not refrain from giving them the full information. MacNaughton (1981:31), however, stresses the importance of the couple deciding about the religious, moral and ethical aspects themselves. The medical social worker as team member, if of course there is no minister of religion or pastoral consultant available, can discuss these issues with couples and provide them with sufficient information to be able to make their own decision, or refer them to their pastor.

The bearing of children for couples is emphasized as important in the Bible. It is a gift from God. Psalm 127:3 in the Good News Bible (1976:684) refers to children as follows: "Children are a gift from the Lord; they are a real blessing. The sons a man has when he is young are like arrows in a soldier's hand. Happy is the man with many such arrows". Childlessness is referred to in Psalm 113:9 in the Good News Bible (1976:673) as follows: "He honors the childless wife in her home; He makes her happy by giving her children. Praise the Lord". Furthermore, the Bible also illustrates the desperateness of infertile women as follows: Hannah in 1 Samuel 1:11 in the Good News Bible (1976:295) pleaded to the Lord in this regard: "Lord Almighty, look at me, your servant! See my trouble and remember me! Don't forget me! If you give me a son, I promise that I will dedicate him to you for his whole life". This conveys the desperate need of infertile women to bear children. These couples should not be refused the possibility of having a child by means of new reproductive technologies because of different churches or because of our religious viewpoints. The final decision regarding conception, whether natural or artificial, rests in the Hands of the Lord, and only He can decide whether it is right or wrong and whether conception should or should not take place.

The Bible also contains a few examples of a woman bearing a child for another woman - similar to surrogate motherhood today, except that sexual intercourse between the woman's husband and the "surrogate" actually took place. In Genesis 16:1-16 in The Holy Bible (1984:9) Sarai, Abram's wife, could bear him no children. She told Abram to go sleep with their maidservant Hagar, to build a family through her.

So he slept with her and she conceived. Abram was 86 years old when Hagar bore him Ishmael. Wood & Singer (1988:427) refer to this case of Abram and Sarai as surrogacy by natural intercourse.

Similar cases are also referred to by Annas (1981:164) in the Bible in Genesis 30:1-13 and Deuteronomy 25:5-6. Genesis 30:1-13 in The Holy Bible (1984:18) states: "When Rachel saw that she was not bearing Jacob any children, she became jealous of her sister. So she said to Jacob: Give me children or I'll die. Jacob became angry with her and said: Am I in the place of God, who has kept you from having children. Then she said: Here is Bilhah my maidservant. Sleep with her so that she can bear children for me and that through her I too can build a family. So she gave him her servant Bilhah as a wife. Jacob slept with her, and she became pregnant and bore him a son. Then Rachel said: God has vindicated me, he has listened to my plea and given me a son". Deuteronomy 25:5-6 in The Holy Bible (1984:119) states as follows: "If brothers are living together and one of them dies without a son, his widow must not marry outside the family. Her husband's brother shall take her and marry her and fulfil the duty of a brother-in-law to her. The first son she bears shall carry on the name of the dead brother so that his name will not be blotted out from Israel". These cases from the Bible illustrate how other women or brothers of deceased husbands are used to achieve conception and bear children within the family.

This is also a common practise in South Africa amongst most African ethnic cultures, for whom childbearing provides status and is very important in being accepted in their community. This practise of using the husband's brother, if the husband is infertile, or the wife's sister if the wife is infertile, to conceive by means of natural intercourse, is acceptable in the black cultures. Artificial fertilization with donor gametes is unacceptable in these cultures. In actual fact, the wife is always seen as the infertile one or "guilty party" when infertility is present in a couple, even if the husband is the infertile spouse. It is hidden from others and the husband's mother would then encourage her daughter-in-law to have intercourse with one of his brothers, until she is pregnant, without her husband being aware of this. He would then think it is his child and that he still is fertile, as he had in any case believed all

along - not accepting his infertility, as men cannot be infertile in their culture. If the wife is infertile, it would be acceptable to her and the parents that he bears a child by her sister or another woman, and the child is accepted as their child.

Some issues which are unacceptable to various churches regarding the new reproductive technologies, and especially the use of donor gametes, have been summarized by researcher as the following:

* **Masturbation:** In this regard Roy (1980:502) states: "The consciously stimulated ejaculation of semen is only justified within the context of a legitimate procreation that is, within marriage. Masturbation involving an interruption of this ordination of procreation, such as the donor masturbating for a semen donation, is condemned by the Roman Catholic Church as being against the natural orientation of the sex act and purpose of semen ejaculation". Annas (1981:164) confirms this by stating that the Catholic Church sees masturbation as an unnatural and evil act. Allen *et al.* (1985:285) furthermore state that semen invariably produced by masturbation is a source of disquiet among many churches. Thus not only the Roman Catholic Church condemns this act. Engelhardt & Wildes (1991: 645) state in this regard that St. Thomas Aquinas for example argued that masturbation was a greater evil than a simple act of fornication, because masturbation involved a violation of God's law embedded in nature. The retrieval of sperm by masturbation, they state furthermore, is also regarded as unnatural by the church in a stronger sense than the instrumental retrieval of ova, though the former is unnatural in the sense of requiring technological artifice and the former is natural in the sense of being dependent on a statistically usual human act. This moral language of unnatural and perverse acts really depends on a particular moral vision though. The Anglican Church, according to Schenker (1987:157), allows the giving of semen by masturbation for examinations, AIH, IVF-ET, but does not favour AID. The Orthodox Jewish Church, according to Amelar, Dubin, Gordon & Tendler (1977:177), also condemn masturbation as a forbidden act on the basis of the talmudic interpretation of biblical verses. It has been interpreted that the commandment: "Thou shalt not commit adultery" in Exodus

20:13, implies that "thou shalt not practice masturbation either with hand or with foot...". Coitus interruptus or withdrawal and the use of a condom are ordinarily prohibited on the basis of the biblical injunction against "spilling of the seed needlessly". The Holy Bible (1984:25) quotes in this regard in Genesis 38:8-10: "Then Judah said to Onan, lie with your brother's wife and fulfil your duty to her as brother-in-law to produce offspring for your brother. But Onan knew the offspring would not be his, so whenever he lay with his brother's wife, he spilled his seed on the ground to keep from producing offspring for his brother. What he did was wicked in the Lord's sight; so He put him to death also". Rosner (1978:628) refers to this as improper emission of seed or emission of semen for naught or not to fulfil procreation. But researcher disagrees, as the semen produced by means of masturbation by the husband for AIH or by a donor for AID, will be used to fulfil the commandment of procreation. Semen collection for Orthodox Jews by coitus interruptus and ejaculation directly into a collection jar with the whole or split ejaculate or by use of a condom during intercourse is acceptable to most rabbinic authorities. Thus AIH could be performed by obtaining semen in this manner, requiring non-spermicidal or sperm-friendly condoms which will not kill the sperm and which are now available in South Africa, but AID is totally condemned. In a similar way Duignan (1982:48) states that AIH and AID would be more permissible to the Roman Catholic Church if semen was obtained in a licit and non-masturbatory way. Thus AIH could also be performed by obtaining semen in the above-mentioned manner, but AID would be difficult.

- * **Depersonalization of sex:** The Roman Catholic Church sees AID as a highpoint of the depersonalization of sex, as this technique achieves procreation outside the context of the human sexual relationship, according to Roy (1980:503). He adds a quote from a Roman Catholic textbook referring to AID: "This goes clearly against the divine plan for the procreation of human life: It completely dissociates procreation from conjugal love. The end of procreation is to be realized according to human dignity which requires that new life be the fruit of the intimate and exclusive marriage partnership of love". Further-

more the Archbishop of Canterbury argues that AID could not be morally accepted because it violates the exclusive union between husband and wife and involves a breach of the marriage. Pope Pius XII is also quoted in Roy (1980:505) as stating: "Only marriage partners have mutual rights over their bodies for the procreation of new life, and these rights are exclusive, nontransferable and inalienable". Robertson (1989:354) also mentions the view of the Roman Catholic church opposing gamete donation because of its intrusion of a third party into the marital relation and thus egg donation as well. While Duignan (1982:48) states that the Pope seems to suggest that only intercourse between husband and wife properly expresses the personal procreative co-operation of parenthood. Thus AID seems to be rejected as it violates these mutual rights in marriage. In this regard Engelhardt & Wildes (1991:646) furthermore state the use of gametes outside of intercourse involves a forthright, explicit choice to reproduce at a particular time and that the conditions of intimacy and passion that clothe most reproductive acts are severed. As a result there is an objectivity and scientific coolness associated with the decision to reproduce when employing donor gametes. Thus the child produced is seen as a product of human artifice rather than as a gift from God. The Roman Catholic Church in Engelhardt & Wildes (1991:646) sums up the whole issue as follows: "The use of donor gametes not only endangers the realization of values associated with intimacy, but also threatens to change the moral sense of having a child". Thus the use of donor gametes results in a depersonalization of sex and loss of intimacy associated with sexual intercourse and puts the production of a baby into the hands of man. This is one of the most important debated religious issues which make most churches have a negative viewpoint regarding the use of donor gametes.

- * **Marriage and third party intrusion:** AID cannot be accepted, as it violates the exclusive union between husband and wife, involving a breach in marriage, as stated by the Archbishop of Canterbury in Roy (1980:505). Reidy (1982:132) also states in this regard: "The gift of a child complements the bond of husband and wife, and furthermore, it complements for them the unitive meaning of their sexual encounter. The gift of a child

is an affirmation of the parents and it is an affirmation of the meaning of the act of intercourse when normally carried out. This is part of a more modern perception in which marriage is defined in terms of two essential and complementary ends, the unitive and the procreative". In other words the third party intrusion by the donor to the marriage is seen as confusing the normal perception of marriage. Robertson (1989:354) similarly states that the Roman Catholic Church opposes gamete donation because of its intrusion of the third party into the marital relation. Schenker (1987:157) summarizes this as follows: "The main argument of the Roman Catholic Church against AID is that it violates the concept of the union of the couple and the exclusive link between marriage and conception, where the latter results from love and coitus between husband and wife which has been sanctified by the church. AID introduces a third party into the intimate sphere of the marital state". Thus the intrusion of a third party into this marital union seems to be a strong religious viewpoint contributing to the churches' condemnation of AID. Donald (1987:77) supports this as follows. "The intrusion of the third party into the matrimonial relationship ... constitutes a very real threat to Christian life and the concept of the family and the sacrament of marriage". Thus the third party intrusion in the marital union is unacceptable to the church.

- * **Adultery:** According to Reidy (1982:132) it is immoral for a wife to seek a child by another man and it is equally wrong for a husband to seek a child by another woman. This, however, is not exactly what happens with donor gametes as the donors remain anonymous and the couple decide together to make use of donor gametes to conceive, without any contact with the donor. Neither a breach in marriage or adultery is thus involved. Schenker (1987:157) confirms that the Roman Catholic Church is against the practice of AID on the basis that it is an adulterous act. Researcher, however, disagrees with this viewpoint as the practice of donor infertility treatment does not in any way come close to being adulterous, as both decide together and the donor remains anonymous.
- * **Invading God's territory:** Many people see artificial methods of reproductive technology as man taking God's work into their

own hands. Du Doit (1991:30) states in this regard: "No man shall be in the position of final authority over another man's life - no man is allowed to play God". Wood & Westmore (1985:918) confirm this by stating: "Artificial conception may be seen as the scientist invading God's or Nature's territory. Religious doctrine states that once human life begins, it is sacred. Human life begins by an act of God. Embryos are the beginning of human life, therefore all embryos are sacred". Thus the research with embryos, as discussed earlier regarding the ethical issues, is not accepted by various churches. Wood & Westmore (1985:918) furthermore ask the question: "Could it be that artificial conception is perceived as a threat to the glory of God?" Researcher answers no to this question, as people have been granted the necessary gifts to develop medical technology to help couples who desperately want a child but cannot conceive naturally.

The issue of playing God, is similarly discussed by Harris (1992:146) who states that we must in certain instances believe it can be right to disturb and redirect the course of nature, otherwise the practice of medicine itself would be wicked.

These issues discussed above are the main issues raised by churches, but more specifically by the Roman Catholic Church, the Orthodox Jewish Church and the Anglican Church. The Orthodox Jewish Church, according to Schenker (1987:156) furthermore prohibits AID because of a variety of other reasons according to Jewish Law such as incest, a lack of geneology and the problem with inheritance. These issues should be discussed with couples during the preparation phase of donor infertility treatment. A pastor or minister of religion would be an ideal team member, but if there is not one on the team the medical social worker could also perform this task.

In the Islamic religion, according to Schenker (1987:157) the practice of AID is strictly condemned by Islamic Family Law, and is a ground for divorce for Muslims. It is not at all practised by the Moslem population of Israel or by any Islamic countries. Thus different religions seem to have very definite viewpoints

and laws prohibiting these practices in certain countries.

According to Somfai & Lynch (1982:217) a virtually unanimous consensus exists also in Protestantism on the necessity of the loving union between husband and wife to safeguard the dignity of human reproduction. Artificial methods of reproduction should, however, only be considered as last resort when natural methods fail. Furthermore, liberal Protestantism finds little difficulty with accepting into the framework of a family the product of a donor's seed or ovum. In South Africa the different Protestant Churches are more conservative in their viewpoints concerning artificial fertilization with donor gametes.

Some of the religious issues raised by the Dutch Reformed Church in South Africa opposing AID are mentioned by Louw (1985:10-21), which have been summarized as follows:

- * **The unpredictability factor:** No-one can predict the unique long-term reaction of the mother or husband to AID. It can cause feelings of jealousy, low self-esteem or aggression by the husband and feelings of possessiveness, dominance, stress or overprotectiveness by the mother towards the child.
- * **Incest:** The chances of heterosexual relationships or marriages between AID brothers and sisters are possible.
- * **Anonymity of the donor:** He has a responsibility toward his offspring.
- * **Marriage:** AID could damage the marital relationship. The wife could fantasize about the donor.
- * **The responsibility factor:** The semen should not be separated from the donor. Human responsibility cannot be without biological and physical responsibility. The donor should have a responsibility toward his biological child.
- * **Adultery:** Even though AID is referred to as technical or medical adultery, it cannot be seen as part of the Seventh Commandment.

These negative issues raised concerning the viewpoint of the Dutch Reformed Church of South Africa should also be discussed with couples, as these are issues which they could be concerned about.

The risk of incest has, however, been lowered by reducing the number of pregnancies per donor's sperm to five, as discussed in the previous section on the South African legal perspective. The other issues really depend on each person's own ethical-moral viewpoint and should be discussed in detail with couples during preparation.

Some of the positive issues of the Dutch Reformed Church regarding AID discussed by Louw (1985:7-9) are summarized as follows:

- * **Biological:** The child is the biological child of the mother.
- * **Genetical:** The baby possesses genetic characteristics of the mother.
- * **Emotional:** AID fulfils the woman's emotional need for a child.
- * **Psychological:** The psychological pain and disruption caused by infertility is removed, once AID is successful.
- * **Love:** The husband's love for his wife and need for a child must be very intense to choose AID as an alternative.
- * **Social:** Infants available for adoption are constantly decreasing, leaving childlessness and AID as the only other alternatives.
- * **Legal:** The legal system protects the rights of the AID child.

It seems as if the Dutch Reformed Church at least recognizes AID as having some advantages, but still they say no to AID in South Africa. Louw (1985:21) explains the reasons for this as follows: "'n Teologiese etiek kan moeilik ongekwalifiseerd 'ja' antwoord. Die 'nee' op KIS geskied in die lig van die teologiese bestemmingsfunksie van die huwelik - die psigofisiese persoonseenheid van die monogame huwelik, asook die persoonlike verantwoordelikheid van die skenker met betrekking tot saad as 'n potensiaal-lewenskeppende klembeginsel van menslike lewe. Hierdie 'nee', moet as riglyn en nie as voorskrif met betrekking tot die reglementering van die voortplantingsgebeure dien nie. Op die ou end het ons in die geval van KIS, wel met 'n 'grysarea' te doen, wat die uitsonderingsklousule en die etiese kompromie na vore roep".

AID is therefore seen by the Dutch Reformed Church as an issue in a "grey area" which can qualify for a "yes" or a "no" answer. From a theological viewpoint though, it seems safer to give a "no" answer as a guideline for professionals and couples involved, and not a

prescription, rather than saying "yes" to AID. This "no" as a guideline should encourage thorough preparation and assessment of couples prior to AID and other donor infertility treatment methods. Couples should explore these issues further thereafter and finally make their own decision, in the presence of God, who will give them the correct guidance in their decision-making process. This could then qualify for a "yes" answer.

The religious perspectives of the different churches thus seem to differ in certain instances and are again very similar in other. It is important to discuss these religious perspectives with couples. The medical social worker includes this as part of the preparation session for artificial fertilization or donor infertility treatment. Couples should also be encouraged to discuss these issues further and in-depth with their own pastor or minister of religion, as their own viewpoints could also differ from those of the church. These different perspectives could help couples, especially during the decision-making period.

4.6 SUMMARY

In this chapter the legal, ethical-moral and religious issues regarding the artificial fertilization of persons were discussed.

The legal perspectives of various countries were discussed, namely, the U.S.A., the United Kingdom, certain European countries such as France, Germany, Spain and Italy, and also Australia, New Zealand and Canada. The South African legal perspective was subsequently discussed in more detail. These countries' legal perspectives can be summarized as follows:

- * Many bills have been passed in the U.S.A. in various states regarding the artificial fertilization of persons with donor gametes and surrogacy. The main problem in the legal system, however, seems to be the fact that not all states have legislation regarding the artificial fertilization of persons and those who do have legislation, differ immensely, which creates problems for couples moving from one state to another. The only solution is that the different states try to coincide the

contents of these bills, or that a national legislative or regulating body is established regarding this issue of artificial fertilization of persons with donor gametes and surrogate motherhood.

- * In the United Kingdom the Warnock Committee played a major role in making recommendations regarding human fertilization and embryology. A Surrogacy Arrangements Act was passed in 1985 and was later amended and improved on in the Human Fertilization and Embryology Act, 1990, which also included many of the recommendations of the Warnock report. This act is comprehensive with many important aspects included regarding artificial fertilization with donor gametes and surrogacy, but still a few issues could possibly be improved on.

- * In Europe the legislation differs from country to country. The Netherlands, Portugal and Switzerland have laws relating to the paternity of the child, whereas France, Italy and the Netherlands have laws imposing criminal sanctions on anyone who discloses the identity of the donor. France also has specific legal guidelines related to the donation of sperm, the donor and the recipient. Germany has specific laws regarding artificial fertilization with donor gametes and surrogate motherhood. Spain has a very comprehensive law governing assisted reproduction techniques which was passed in 1988. This was described in more detail, as it is a fine example with only minimal limitations.

- * In Australia the legal system is similar to that of the U.S.A., differing from state to state or province to province. Uniform national legislation regarding artificial fertilization with donor gametes and surrogate motherhood would solve many problems.

- * New Zealand has no specific legislation dealing with artificial fertilization with donor gametes or surrogate motherhood, but has a Status of Children Amendment Act, 1987, which regulates the status of children conceived as a result of medical reproductive technology.

- * Canada also has a similar legal system to the U.S.A. and Australia, with each province having its own unique legislation regarding artificial fertilization with donor gametes and surrogate motherhood. Canada could also benefit from national uniform legislation.

- * In South Africa the legislation regarding artificial fertilization with donor gametes is very thorough and specific and is dealt with in The Human Tissue Act, 1983 (Act No. 65 of 1983), the 1986 Regulations and the 1991 Draft Regulations regarding artificial fertilization of persons and related matter. The status of the child is dealt with in the Children's Status Act, 1987 (Act No. 82 of 1987). Surrogate Motherhood is also specifically addressed in the pending Surrogate Motherhood Act. Thus South African legislation is very thorough and specifically deals with all the aspects of importance to all parties to ensure a controlled, ethically-morally more acceptable practice of artificial fertilization with donor gametes and surrogate motherhood.

The ethical-moral and religious aspects regarding the artificial fertilization of persons with donor gametes were subsequently discussed, with many ethical-moral controversial issues raised firstly. The discussion of the religious issues raised by various churches regarding artificial fertilization with donor gametes followed to complete this chapter.

The psycho-social implications of artificial fertilization with donor gametes will be discussed in the following chapter.

CHAPTER 5

THE PSYCHO-SOCIAL ASPECTS OF ARTIFICIAL FERTILIZATION WITH DONOR GAMETES

5.1 INTRODUCTION

Artificial fertilization with donor gametes has various psycho-social aspects involved, which have to be taken into consideration and discussed with the recipient couples during a preparation session prior to treatment. These aspects include their infertility experience and whether they have come to terms with this predicament, as well as their motives for wanting a child and choosing this option of artificial fertilization with donor gametes above adoption or remaining childless. Furthermore, the decision-making period is crucial and they have to go through a certain decision-making process before they are ready to go ahead with this option. Secrecy and anonymity have to be discussed with them and they have to consider their circumstances and make a decision before they commence with treatment. This form of treatment can also create certain psycho-social implications for the individuals involved, as well as for their marital relationship. The experience and possible psycho-social implications of the pregnancy, the childbirth, parenthood, the child and the artificial family, are other aspects which have to be explored and discussed with the recipient couple. All these above-mentioned psycho-social aspects of artificial fertilization with donor gametes will be described in this chapter. As many of these aspects are interrelated, certain issues will seem repetitive, but are an essential part of the discussion of each aspect and needs to be repeated in a different context again. Secrecy, for example, has to be discussed throughout the whole chapter in the context of the recipient, the donor, the marital relationship, the pregnancy and childbirth, the child and the artificial family.

Each psycho-social aspect has to be discussed thoroughly to provide sufficient knowledge on these aspects, as this chapter will serve as a knowledge base and resource on the psycho-social aspects of artificial fertilization with donor gametes which should be discussed during the preparation and counselling sessions. This chapter

fulfils part of the first aim of this study: To **develop, implement, evaluate and describe** a guideline for the holistic preparation of couples for artificial fertilization with donor gametes. The objective for this chapter is: To develop and describe the contents of a preparation session, that is, by means of this chapter to provide an in-depth description of all the psycho-social aspects regarding artificial fertilization with donor gametes. This chapter also fulfils part of the second aim of this study: To do a longitudinal study of the same respondents to determine the **long-term psycho-social implications of successful or unsuccessful artificial fertilization with donor gametes**. The objective for this chapter is: To provide an in-depth description of all the **psycho-social implications of artificial fertilization with donor gametes**.

This chapter will thus provide an in-depth focus on the psycho-social aspects of artificial fertilization with donor gametes.

5.2 DEFINITIONS OF KEY CONCEPTS

The key concepts for this chapter will subsequently be defined.

5.2.1 Implication

Implication is defined by The Shorter Oxford English Dictionary (1990:1032) as: "The condition of being implicated, the fact of being implied or involved, that which is involved or implied in something else, contained by implication." Webster's New Dictionary of Synonyms (1973:423) similarly define implication as: "An inference, something that is hinted at, but not explicitly stated," while Webster's Desk Dictionary of the English Language (1983:453) refers to implication as: "Something implied or suggested, the act of implicating or being implicated."

Implication in this study refers to the implied or suggested effect of artificial fertilization with donor gametes on the couple or persons involved.

5.2.2 Psycho-social

Psycho-social is referred to by Dlamini (1982:31) as: "... the inner psychological realities of the person and the social context within

which he lives." Webster's Medical Dictionary (1986:588) defines psycho-social as: "Involving both psychological and social aspects, with psychological referring to the mental, emotional and behavioural aspects and attitudes, and social referring to the social problems." Turner (1979:69) describes psycho-social as: "A concept that serves to prevent overemphasis on either the inner life of man or his relationships with society. When applied to a system of clinical practice, it refers to the body of theory that stresses the need for a dual and integrated focus on psychological man and sociological man, that is, on intrapersonal man, and interpersonal man and intersystemic man."

Psycho-social is thus defined as the **psychological aspects** (mental, emotional and behavioural) and the **social aspects**, (social functioning and relationships between individuals and their family and community system within which they function). Thus psycho-social in this study refers to the way in which artificial fertilization with donor gametes has an implication for the individual, in terms of his personality, emotions and behaviour and how he functions in his relationships with his family and the community within which he functions.

5.3 THE PSYCHO-SOCIAL IMPLICATIONS OF INFERTILITY

Infertility is something people are not prepared for and as a result it has many psycho-social effects on the couple and significant others. Children are raised in a milieu where fertility, having children and being parents, are taken for granted. Furthermore, during the socialization process, children begin their preparation for parenthood at a young age, playing games which mimic parenting and family life. This role-modelling behaviour is also encouraged by parents and praised. During adolescence sex education is either provided for the first time or has been provided from a younger age and the danger of sex before marriage and illegitimate pregnancies are highlighted, thus strengthening the thought of fertility being natural and again being taken for granted.

During young adulthood and courtship, individuals are again made aware of the risks of sex before marriage and illegitimate preg-

nancies. This further strengthens the thought of being very fertile. Newly weds usually take contraceptive measures automatically, thinking that they are very fertile and do not want children immediately. They develop expectations, wishes and fantasies about their biological children they plan to have. They plan names, the gender, how many they want and these children live in their dreams and future and they make a mental commitment. Couples then wait till the time is right to start their family, that is, studies are completed, they are settled in their jobs and they have adequate housing and finances. They then discontinue the use of contraceptives and try to become pregnant for a while without any success and become confused and cannot understand why conception is not happening immediately, as they had always taken for granted. In the opinion of Van Staden (1989:155-156), "...these couples make room in their relationship for at least their first child. The preparation for parenthood is consistently reinforced by their attempts to conceive and frequently escalates into a 'baby-hunger' process which permeates many aspects of their lives. When no child is forthcoming, they experience a major loss." In other words, that which they had always planned suddenly does not realize.

Couples usually plan their families, like they do their education, career and housing. When the time is right to have a child, they discover they cannot conceive and it comes as a shock, with feelings of helplessness and anxiety. They keep on trying to achieve a pregnancy until they realize that professional help is necessary. Menning (1980:313) quotes a statement, made by an infertility patient, relating to this as follows: "Six years ago my husband and I got married. We knew that children would definitely be a part of our life. The question was not IF but **WHEN**. We waited a few years so I could complete my college degree, bought a house and established ourselves financially before we were ready to bring children into the world ... I sit here many years later with a wonderful husband, the house of my dreams, years of teaching experience, established roots. But the children we had presumed we would have ... are denied us." This statement only starts to help one understand how intense an infertile couple experiences this loss emotionally. Thus Covington (1988:24) refers to infertility as: "...an unanticipated crisis in the developmental life-cycle of the family."

Couples are unsure of how they must deal with this crisis of being diagnosed as infertile. This, together with the social pressure to produce a child, creates a situation where they tend to prefer to keep their infertility a secret. Others confide in a close family member or friend. Lots of advice is usually given by these people, which merely strengthens the couple's feelings of helplessness, uncertainty, incompetence and confusion. This usually leads to isolation from friends and family and their social life deteriorates in the process. Couples usually then start seeking medical advice, only to realize that approximately one out of every eight couples are infertile and experience similar psycho-social problems. The fact that infertility has a psycho-social impact on couples, is also confirmed by Swart (1985:84): "Infertiliteit het 'n psigo-sosiale impak op die egpaar wat onsuksesvol is in hul poging om 'n biologiese gesin te verwek". Once seeking help it is important that both the husband and wife undergo various examinations and tests which could take a few months, until a diagnosis is made and a treatment procedure recommended.

In this regard Mahlstedt & Johnson (1988:71) state: "Infertility touches the lives of the couple. It can disrupt normal functioning in the family, the workplace and the community". Thus the couple's whole life is affected by this diagnosis. The very nature of the testing and treatment process is also physically and psychologically intrusive, according to Covington (1988:22), who states: "Patients can experience anxiety, pain and emotional trauma as their bodies are touched, poked and prodded. A couple's sex life, a very sensitive subject, is thoroughly probed, examined and recorded. Patients often feel inadequate and defective, whether or not a diagnosis is made."

Researcher did her M.A.(S.W.)(Medical Social Work) dissertation on: "The psycho-social effects of infertility on a couple: A medical social work perspective" (Laurence, 1989). The respondents were patients undergoing treatment at the Infertility Clinic at the H F Verwoerd Hospital in Pretoria. Some interesting findings emerged to support the following assumption: "Infertility has various psycho-social effects on a couple". These findings of Laurence (1989:92-106) included the following: Both male and female respondents experienced a variety of emotional reactions as a result of their

infertile diagnosis, they were preoccupied with constant thoughts of their infertility (87% in males and 73% in females) and had a need to discuss their infertility with someone (71% in males and 86% in females). Laurence-Carbonatto (1991:7) in a paper presented on this study at the "International Reproductive Biology Work Seminar" at the Faculty of Medicine, University of Pretoria, reported the emotional reactions experienced by couples as a result of infertility to be: disappointment (92.4%) and heartbroken (78.6%) in males, and disappointment (78.3%) and depression (57.2%) in females. Laurence (1989:104-106) found some women to feel responsible for the problem, even though it was a male infertility diagnosis. McEwan, Costello & Taylor (1987:114) also refer to this phenomenon where 30% of the women felt responsible for their infertility, even though they knew it was due to the husband's diagnosis. This phenomenon could most probably be ascribed to the traditional role of the woman to bear children and the fault to be assumed to always lie with her.

Furthermore Laurence (1989:104-106) found the female respondents to feel relieved to know the diagnosis, they felt lonely, depressed, empty and imperfect. The male respondents felt responsible for the problem, that they were being punished, were imperfect, a disappointment to others, guilty and empty. Laurence (1989:109-112) also found infertility to have affected the male respondents' emotional functioning, personality, role-fulfilment, self-image and functioning at work, while it affected the female respondents' emotional functioning, self-confidence, relationships, role-fulfilment and personality.

These findings are also confirmed by Sabatelli, Meth & Gavazzi (1988:340-342), who found 55% of female respondents reporting a decrease in their self-confidence since learning of their infertility. Seibel & Taymor (1982:138) in their study in the U.S.A. also mention the effect of infertility on the male and female ego, regardless of the cause, with both men and women feeling damaged and defective. In this regard Rantala & Koskimies (1988:29) in their study in Helsinki, Finland, concluded that infertility may create psychosexual problems and emotional stress. Furthermore, the infertility investigations were reported to be complicated, stressful and confusing for the patients. McEwan *et al.* (1987:113-115) found particularly the women to experience more stress than men and to see

reproduction as a central component of their identity. They therefore showed poorer adjustment to the infertility than men. Women viewed their dominant goals in life as being those of marriage and motherhood. Berger *et al.* (1986:819) in their study in Toronto, Canada, found males to experience impotence of approximately three months duration, subsequent to the discovery of the infertility. Sarrel & De Cherney (1985:899-900) found sexual problems to develop during the infertility investigations, such as impotence and vaginismus. The importance of sex counselling for an infertile couple is subsequently stressed. The stress and anxiety associated with the infertility investigations thus seem to create certain sexual dysfunctioning in couples.

The effect on the individual is evident from these different studies. Infertility affects the individual's ego, self-confidence and sexual identity and functioning. To complicate matters even further, Moghissi (1979:11) adds that: "Infertile couples often feel guilty, useless, unproductive and inferior, with pressure from family and friends frequently adding to their anxiety and emotional upheaval. It is no wonder therefore, that many infertile patients willingly accept lengthy evaluations, diagnostic studies and various medical and surgical treatments." These couples thus seem to feel so helpless, pressurized and desperate, that they eventually resort to specialized infertility evaluation and treatment.

The marital relationship can also be affected by infertility. Many couples have only their spouse as the major support system concerning their infertility and this definitely places strain on the marital relationship. In this regard Berk & Shapiro (1984:37-47) mention that the majority of couples find that infertility problems create great strains on the marriage. Shapiro (1982:389) adds to this: "Indirect channelling of anger over infertility causes marital tension to surface and become distorted in areas previously handled adequately." Thus the tension and stress on the marital relationship is confirmed.

Due to the nature of the infertility investigations the sexual relationship is often affected, as sex is associated with reproduction only and is usually performed primarily during the ovulation

period of the female's cycle. Sex is then no longer spontaneous, but forced and unenjoyable. Needleman (1987:136) states similarly that: "The couple's marital relationship may be tested by the infertility workup and therapy, with resulting strains. Sex may no longer be spontaneous and pleasurable ... and the timing of intercourse is prescribed." Valentine (1986:66) also states in this regard: "Lovemaking becomes a clinical experience and preoccupations with infertility overshadow the marital relationship. Disruption of satisfactory sexual relations, regardless of duration, places additional stress on the individual and relationship." Thus the sexual relationship seems to deteriorate as a result of the infertility investigations and treatment. Berger *et al.* (1986:819) report that the discovery of infertility was often associated with marital discord. In some couples this led to separation, divorce or extra-marital affairs. A study undertaken in the U.S.A. by Sabatelli *et al.* (1988:340) to determine the effects of infertility on couples, found 56% of the women to report a decrease in frequency of intercourse and 59% a decrease in sexual satisfaction. Forty-one percent reported an increase in marital conflict and 63% an increase in emotional support from their spouses. Fifty-five percent of the males also reported a decline in coital frequency and 42% decreased sexual satisfaction. This study emphasizes the influence of infertility on the sexual relationship and also how it contributes to marital conflict. An interesting finding was that the support from husbands increased, which could be as a result of the husbands also experiencing these problems and hence being emotionally involved.

These couples, according to Laurence (1989:62), must be helped to separate their infertility from their sexuality and to see their infertility as a physical defect over which they have no control. Thus their sexuality does not need to be affected by their infertility problem and they should work at achieving a normal sexual relationship without the sole aim of conception. They should therefore not feel less masculine or feminine or unable to perform sexually because of their infertility problem.

This viewpoint is confirmed by D'Elicio, Campana & Mornaghini (1980:409) who performed a study in Locarno, Switzerland, including

21 AID couples. They found 61% of the couples to have experienced the diagnosis of infertility as a crisis and had confused sexual potency and reproductive potency. Masters (1987), of the Masters and Johnson Institute in the U.S.A., confirmed during an interview with researcher that many couples who undergo sex therapy at their clinic are infertile, thus confirming this problem. It is therefore important that the medical social worker discusses this issue of sexual potency versus reproductive potency with the couple during a counselling session.

Aspects affected by infertility in the marital relationship, as reported by Laurence-Carbanatto (1991:7) in a paper presented at the "International Reproductive Biology Work Seminar" at the Faculty of Medicine, University of Pretoria, included: 100% males and 84.6% females feeling they were closer as a result of their infertility, while 21.4% males felt their love for each other was affected and 20% females felt their spontaneity was affected.

Thus some positive results and an enhancing effect on the marital relationship was also found. Infertility therefore definitely affects the individual and the marital relationship, which could probably be ascribed to the nature and duration of the treatment, as well as to the emotional stress involved.

5.3.1 Coming to terms with infertility

An infertile diagnosis evokes various emotional reactions due to the loss of fertility, which is usually seen as synonymous with a loss of masculinity or femininity, sexual identity and virility. This diagnosis is mostly experienced as a crisis and causes immense emotional stress and various emotional reactions. These emotions are described by Laurence (1989:51-61) according to the following phases:

* Pre-diagnostic emotional reactions

Couples who suspect that they might have infertility problems undergo various investigations and tests to determine their diagnosis. They usually experience a variety of emotional reactions during these investigations, which can include: Fear, anxiety, helplessness, humiliation, embarrassment and stress. These are all as a result of the length and nature of certain tests performed which could be embarrassing and often probe into

a couple's private life. Certain tests, according to Laurence (1989:51), require anaesthetic and hospitalization, which can be very anxiety-provoking and frightening. The time span over which these tests are performed, is usually very long and couples become anxious for the test results and tired of all the trips to the clinic. Berger (1980:553) is of the same opinion stating that: "The infertility workup exacerbates feelings of inadequacy and despair, probing into the couple's private sex life". Valentine (1986:63) similarly states that all participants in her study experienced intense emotional reactions as a result of their infertility. Participants described years of emotional pain and suffering with feelings of sadness, depression, anger, confusion, desperation, hurt, fear, embarrassment, humiliation, disappointment, unfairness and unfulfillment. Seibel & Taymor (1982:137) furthermore point out that it is frequently a source of emotional trauma for couples, placing considerable stress on their relationship. Thus this pre-diagnostic stage is experienced stressfully by most couples, which could most probably be attributed to the nature and duration of certain tests.

* **Post-diagnostic emotional crisis**

The infertility diagnosis is usually experienced as a crisis by most couples, as fertility is always taken for granted and when the contrary is proven, it is shocking news. D'Elicio *et al.* (1980:409) found the couples in their study to have experienced a crisis following the diagnosis of infertility. Valentine (1986:63) adds that emotional and behavioural reactions to infertility, such as anxiety, disorganization, distractibility, moodiness, unpredictability and fatigue, suggest that infertility is experienced as a crisis. This crisis usually involves an actual or threatened loss. This viewpoint is also supported by Covington (1988:24) who states that: "The infertility crisis reflects a multifaceted loss." One of the major losses experienced, in researcher's opinion, is the loss of fertility and hence sexuality. This loss of fertility is often associated with, or seen as synonymous with sexuality or sexual potency. During this post-diagnostic crisis the issue of sexual potency versus reproductive potency must be discussed with the couple, to help them come to terms with this loss, but to still be able

to function in their marriage as a normal couple.

In this regard Laurence (1989:54) states that infertility does represent a significant loss. It implies the loss of a pregnancy, genetic continuity, potential children, a life goal, parenthood and control over one's own body. These couples experience many different emotions and are extremely vulnerable but also open for growth and change. Laurence (1989:92-95) found the following emotional reactions reported by male respondents, to include: disappointment, relief to finally know the diagnosis, acceptance and heartbreak. The female respondents reported: Acceptance, disappointment and relief to finally know the diagnosis. The fact that the emotional reactions of respondents in this study were not so intense, could be attributed to the respondents not having been diagnosed recently, that they were already undergoing treatment and had most probably already resolved their crisis. Berger *et al.* (1986:819) similarly found that the diagnosis commonly evoked depression, withdrawal and low self-esteem in husbands and anger tempered by guilt, as well as a wish to protect the husband, in women. Thus the intense emotions evoked by the diagnosis in both men and women are evident.

Intervention by the medical social worker at this stage is of utmost importance to help the couple through this crisis to a normal level of functioning, as well as to achieve increased emotional growth and insight regarding their infertile status. It is important, however, that a couple's hope is never taken away totally and that if there is a slight chance of a spontaneous pregnancy ever occurring, that this slight chance is mentioned, together with options like micromanipulation, adoption or artificial fertilization with donor gametes. To enable couples to come to terms with their diagnosis and to resolve the crisis, various emotional reactions are experienced in different stages.

* **Emotional stages**

The process of coming to terms with infertility is usually experienced in different stages of emotional reactions as

described by Laurence (1989:51-61). This is also furthermore confirmed by Swart (1985:84) as follows: "Die verwerking van infertiliteit vind in sekere stadiums met verloop van tyd plaas. Intense gevoelens/emosies manifesteer in hierdie stadiums." These emotional stages can vary from person to person, but are part of the process of coming to terms with infertility. Laurence (1989:54-55) states that more or less the same types of emotional reactions were experienced by infertile couples counselled over the years, with some variations in the intensity or order of stages from person to person. These emotional reactions include the following:

- **Surprise**

As fertility is taken for granted, an infertile diagnosis comes as a shock and surprise. Rosenfeld & Mitchell (1979:179) confirm this by stating: "The initial reaction to the discovery of reproductive difficulty is that of surprise."

- **Denial**

Couples react with disbelief and denial to this overwhelming news. "This is not true" or "Can this be happening to us?", are common reactions. Often a second opinion is sought. Rosenfeld & Mitchell (1979:179) agree that there is a feeling of denial and that perchance the diagnosis might be wrong. This might create an unwillingness to participate in the infertility work-up.

- **Anger**

A predictable response to loss of control brought on by this diagnosis, is anger, according to Laurence (1989:55). Anger is also often projected on the gynaecologist, the spouse or towards God. These feelings should be ventilated to bring about a feeling of "getting it off my chest" and helping the person through this stage. Menning (1980:315) confirms this by stating: "Whatever the source or type of anger, it is very necessary for the person to be able to ventilate it."

- **Isolation**

Infertility is often kept secret and being a private matter, people do not want to share the news with others

and become objects of pity or ridicule. Menning (1980:315) confirms this as follows: "Couples may keep their infertility secret because they do not wish to be objects of pity or fear, receiving isolated advice, often based on myths and superstitions, such as: "Relax" or "Take a second honeymoon". They then tend to isolate themselves, feeling they are the only persons in the world with such a problem. Rosenfeld & Mitchell (1979:179) are of a similar opinion that: "...there is this tremendous feeling of isolation experienced by the infertile couple." This could also cause stress and put strain on the marital relationship and support systems should be utilized and encouraged.

- **Guilt**

Guilt is experienced about bodily and sexual functioning according to Valentine (1986:63). People feel guilty about the diagnosis and examine their past for something they are being punished for, which could include premarital sex, an abortion or an extramarital affair, as mentioned by Laurence (1989:56). They then go to great lengths to try and atone and achieve forgiveness.

- **Grief**

Once all hope for a pregnancy is abandoned, grief is experienced. This is as a result of the feelings of loss being experienced as a grief reaction and mourning being the process of coming to terms with this loss (Covington, 1988:25). This grief is, however, a difficult grief, as there is no ritual such as a funeral or grave-site they can visit and often people do not even know of their loss. Valentine (1986:64) is of the opinion that loss and grief are significant features of infertility. The grief of an infertile patient is described by Menning (1980:316-317) as follows: "**Death** - death of a lot of things. It is the end of the Bowes family and family name. It dies with us because of me. My husband is the last of the male children in his family. **Death before life** - before we even knew our child, because he never existed. The hardest part of this kind of death is that it is the **death of a dream**. There are no solid memories, no pictures, no things to remember. You can't remember your child's blond hair or brown eyes

or his favourite toys or the way he laughed, or the way it felt to be pregnant with him. **He never existed.**" This quote explains exactly how intense this grief and these losses are experienced by these patients. Other losses, grieved for, associated with infertility, are described by Conway & Valentine (1988:44-45) as including: lost fantasies, the loss of genetic continuity, loss of one's self-image as a fertile person, loss of the successful pregnancy and birth experience, loss of the experience of breast-feeding, loss of the opportunity to move to the next stage in the family life cycle, relationship losses, loss of the parenting experience and loss of their family members such as potential grandparents. One can thus hardly imagine how intense this grieving process must be with such a multitude of losses experienced by these couples.

- **Resolution**

The desired goal of a crisis is a successful resolution, as stated by Laurence (1989:57). Resolution is a better term to use for this stage than acceptance, as these feelings concerning these losses are never forgotten and can sometimes be reactivated by certain reminders, such as a pregnant woman, with the emotions experienced then, however, not being as intense. Fleming & Burry (1988:40) acknowledge that throughout the life cycle, persons experience reminders of their infertility. They do, however, learn to cope with infertility as others learn to cope with a chronic illness. Swart (1985:85) states in this regard that these couples: "...moet aanpas by die gedagte dat hulle infertiel en dus kinderloos is en sal bly, maar in hierdie aanpassingsproses vind probleemoplossing, herstel van ekwilibrium, terugkeer na tevredenheid, vermindering van dryfkragte, verwydering van permanente stimulasie, minimalisering van verleentheid en maksimalisering van genot plaas. Op hierdie stadium doen aanneemouers aansoek om aanneming." Thus this is the stage where couples are ready to decide on the alternatives available to them and they can go through a decision-making process regarding that alternative. (Compare Laurence, 1989:51-61.) As part of the process of coming to terms with

infertility, certain aspects in the couple's lives have to be evaluated and redefined in terms of childlessness, before they can move on to considering other options.

During this period of coming to terms with infertility, Van Staden (1989:152), a South African psychologist, maintains that these couples evaluate this event according to the following:

- * **"Generativity** - what procreating genetically - linked children, parenting and family life mean to them;
- * **gender identity and sexuality;** and
- * **the defined foundation of their marital relationship** - the goals and roles in terms of which their marital relationship is defined."

When this event of infertility is in disjunction with the couple's above-noted network of premises, infertility is seen as a problem, that is, it is not the event of infertility that determines the couple's response, but the meaning they attribute to it. Van Staden (1989:152-153) describes a case from her study to illustrate this premise: "Mr A identified himself as a male in terms of his virility and as provider of his family. He played rugby, spoke about his youth in terms of 'sowing his wild oats', and used metaphors which equated masculinity with fertility. Mrs A's femininity was defined in terms of nurturing and mothering roles. Parenting was construed as essential in fulfilling their identities as man and woman within their relationship. Their marriage was built around the goal of becoming parents. They had a child-orientated life-style. Their nursery was fully furnished and outdoor play equipment had also been bought. Their home had been bought according to its proximity to a school. Both their families were close-knit. This couple furthermore called each other "Pappa" and "Mamma", even though they had no children." This couple's configuration of their reality conceptions was, according to Van Staden (1989:154), defined in terms of creating a biologically-linked family, their procreative abilities and parenting. Although committed to their marital relationship, it seemed to play a secondary role to parenthood. The resulting childlessness was experienced as an extreme crisis and they decided on donor reproduction, as was initially suggested by Mr A, as it would enable his wife to at least experience pregnancy and have a child of her own.

Thus, as part of the process of coming to terms with infertility, it is not only the emotional stages that couples go through until resolution is achieved, but also a process of evaluating themselves and their marital relationship. During this process they have to assess their own interpretation of and the meaning of having genetically-linked versus donor-linked children. Furthermore they have to assess their own interpretation of sexual potency and reproductive potency and not see it as synonymous, but as two different entities. Finally, they also have to redefine the goals of their marital relationship, as well as their roles as initially taken for granted. Once they have gone through this process of coming to terms with their infertility emotionally and psycho-socially, they are ready to start considering the other options available to them, such as artificial fertilization with donor gametes. Supportive counselling during this process of coming to terms with infertility, is of utmost importance. The psycho-social process can be discussed with the couple to help them develop insight in their situation.

If a couple's diagnosis is of severe infertility, with no option for homologous treatment, that is treatment using the gametes of both husband and wife, as discussed in Chapter 2, the other options have to be considered. These include remaining childless, adoption or heterologous treatment, that is, the use of donor gametes, as discussed in Chapter 3. Counselling during this decision-making process is thus of utmost importance to provide couples with sufficient information regarding all the options, to enable them to make a rational decision. A guideline for counselling these couples is provided in Chapter 8 of this thesis.

5.4 THE PSYCHO-SOCIAL ASPECTS OF ARTIFICIAL FERTILIZATION WITH DONOR GAMETES

A diagnosis of infertility is experienced as a crisis by most couples, as discussed above, even though the alternative is available of being treated using their own gametes in various methods of artificial reproduction. One can hardly imagine how devastating a diagnosis of severe infertility must be, knowing that one's own gametes cannot be used to achieve fertilization. The only options

that then remain are: To remain childless, to adopt a child, or to undergo artificial fertilization using donor gametes. The psychosocial aspects regarding artificial fertilization with donor gametes tend to be more complicated and are usually experienced more intensely by these couples, due to the presence of a third anonymous person, the donor. This procedure is, however, becoming more acceptable as people are hearing more about it and talking about it. The demand for such treatment is therefore increasing, as well as the incidence. Babies are also becoming less available for adoption with young mothers keeping them, and thus this treatment is becoming a more acceptable option.

It is important that these couples are prepared on all the possible aspects related to artificial fertilization with donor gametes and are aware of all the possible psycho-social implications. This can be done in the form of a preparation session, as proposed in this study. A guideline for the preparation of couples for artificial fertilization with donor gametes is provided in Chapter 8 of this thesis. Blaser, Maloigne-Katz & Gigon (1988:18) confirm this as a result of their study in Bern, Switzerland, where they recommend that couples should be informed about all the technical, moral and social consequences and should also be made aware of the psychological dangers.

The various psycho-social aspects regarding artificial fertilization with donor gametes which should be discussed with couples during the preparation session prior to treatment, as well as during counselling will subsequently be discussed in-depth. These include the motives, the decision-making period and process, secrecy and anonymity regarding recipients and donors, emotional reactions resulting from treatment, the effect on the individual, that is, the recipient and the donor, the marital relationship, the pregnancy and the child-birth, parenthood, the child and the artificial family.

5.4.1 Motives

Once a couple has decided to go ahead with artificial fertilization with donor gametes, it is important to discuss their motives with them. It is important that both spouses have strong and sound motives for wanting a child and that each knows what the other's

motives are. No individual should feel pressurized by the other to go ahead with this treatment using donor gametes. During this discussion with the couple the medical social worker should assess their motives and help to make them aware of each other's motives, if they do not already know. Insight should thus be developed regarding their motives, firstly for a child and parenthood, and secondly for a child by means of artificial fertilization with donor gametes. The motives of the donor can also be discussed with them.

5.4.1.1 Motives for a child and parenthood

There are various motives which motivate people to want to experience a pregnancy, the birth of a child and parenthood. Van Delft (1983:35-55) in a South African study, provides an in-depth discussion of motives for wanting a child, which has been summarized as follows:

- * **Biological determination and instinct:** This includes the biophysiological process of the human body, such as a female's monthly menstrual and ovulatory cycle, the natural urge to reproduce and the intrinsic need for children. Sexuality and reproduction can, however, be separated, with the help of contraceptives and people can choose when they want to have children.
- * **The child-parent wish as a function of sociocultural realities and relevant pregnancy and parental expectations:** Socialization helps form one's identity regarding different role expectations, such as parenthood. During this socialization process each person forms his/her own ideas and expectations concerning pregnancy, motherhood and fatherhood. This could determine if they want to have children and how they will be as parents. People do, however, still feel a need to conform to the norms of society and feel pressured into having children.
- * **Intra- and interpersonal motives:** Intrapersonal - a child is necessary to fulfil the woman's identity as a female and mother. Interpersonal - people feel a need to conform to peer group expectations.

These motives for wanting a child should be assessed by the medical social worker. Couples should portray a combination of all three of these motives, to have normal, balanced motives for wanting a child.

If the couple's motives differ vastly, their motivation should be discussed and insight developed regarding their different motives. Both should feel strongly motivated and have sincere motives, before they go ahead with artificial fertilization with donor gametes. This is essential, as this form of treatment is more complex, with the donor, who is an anonymous third party, being involved.

The motivation for parenthood is also similarly described by Brand & Saayman (1986:64-72) as follows:

- * **The essentialness of parenthood:** The experience of parenthood is a normal developmental stage for any adult. This need for reproducing a child can thus be seen as a basic human need. Parenthood offers a couple a unique opportunity for the combined experience and development of their own relationship and that of their children. It also fulfils certain needs for the female and male self-concept. It thus fulfils a combination of instinctive, natural, inner, external-social, religious and traditional needs. Thus the need for a child and parenthood is a natural phenomenon, fulfilling various needs in the person's functioning as a social being.

A six-dimensional classification of motives for parenthood was designed by Veevers in Van Delft (1983:55-57) as follows:

- * **Morality:** The need to be a parent is a religious obligation and being a parent is morally correct.
- * **Responsibility:** The need to be a parent is a social obligation and being a parent means you are responsible.
- * **Naturalness:** The need for parenthood is instinctive and being a parent is natural and taken for granted.
- * **Sexual identity and competence:** The need for parenthood is proof of your sexual identity as well as sexual competence.
- * **Marriage:** The need for parenthood is the actual meaning of marriage. Parenthood improves and enriches the marital relationship.
- * **Normality and mental health:** A need for parenthood is proof of mental health and parenthood contributes to maturity and stability. This is divided into four categories:
 - **Altruism:** A need for parenthood implies an unselfish, altruistic need to care affectionately for a child.

- **Fatalism:** Men and women were created to ensure the continuation of the human race.
- **Narcissism:** The child will bring happiness and confirm and enrich the parent's sexual identity.
- **Instrumental:** The child continues the family name, traditions and business.

These motives provide a different outlook on the motivation for a child and parenthood. They are, however, more complicated compared to the previous three motives of Van Delft (1983:35-55), which were more straightforward, understandable and easier to identify with.

The motives for wanting a child and for parenthood, should be assessed and discussed with couples prior to the decision-making period, to help them understand their own need for a child and for wanting to experience parenthood.

5.4.1.2 Motives for artificial fertilization with donor gametes

When one assesses the different motives couples have for wanting to undergo artificial fertilization with donor gametes, these motives become more specifically related to their experience of infertility and desperate need for a child.

Various motives for artificial fertilization with donor gametes have been identified by different authors. Herrmann, Wild, Schumacher, Unterberg & Keller (1984:719) in their study at the Universitäts-Frauenklinik in Tübingen, Germany, found: "Die Paare ziehen die AID der Adoption vor, weil dann wenigstens die Frau leiblicher Elternteil sein kann." Couples thus preferred AID rather than adoption, because for the woman this alternative offers the chance of real parenthood. The chance of experiencing a pregnancy and real parenthood was a strong motive in this study. David & Avidan (1976:532) in their study at Chaim Sheba Medical Centre, University of Tel Aviv Medical School in Tel Aviv, Israel, on the other hand found the main motives of their respondents to be the fact that there was a genetic link with the mother, nobody had to know of their cause of infertility and the masculine pride of the husband could be respected. Thus they could maintain their status in society. Adoption is also less acceptable for families of Middle-Eastern origin. Finegold in Brand (1987:952) in a study in the U.S.A. identified several motives such

as: The hereditary link with the mother, stronger emotional and psychological bond with the child, going through the full experience of pregnancy and concealing the male's infertility. In a study comparing adoption and donor insemination, Daniels (1994:5-14) explored the factors influencing couples' choices, and for many the preferred option was donor insemination. Their reasons for choosing AID ranged from the practical to the emotional and from perceived negative aspects of adoption to perceived advantages of donor insemination. In another study in the U.S.A. Sokoloff (1987:13) found the secrecy and short waiting period to be the motives for AID. Thus the experience of a pregnancy and parenthood, the genetic link with the mother, hiding the husband's infertility to maintain his status and more perceived advantages and less practicalities compared to adoption, seemed to be the main motives reflected in these studies.

In their study Brand & Saayman (1986:67-68) also refer to the long waiting list and lack of babies available for adoption, the opportunity to experience a pregnancy and a genetic link with the child as motives. They also, however, state that the various studies which have been performed to determine the motives so far, are questioned, as some questionnaires are posted and can hardly determine or reflect more complex motives. Other questionnaires were only sent to either the female or male respondents, while some were sent to both, but were only filled in by a small percentage and do thus not provide a true reflection of the research population. Thus it seems from these comments that a need exists for a more in-depth long-term study to determine the nature of the more complex and concealed motives.

In a study in Belgium Brewaeys, Ponjaert-Kristoffersen, Van Steirteghem & Devroey (1993:23-35) compared the motives of heterosexual and homosexual couples and found different motivations. For heterosexual couples this offered them the opportunity to become a "normal family" and for homosexual couples creating a two-mother family unit meant going one step further in "being different". Thus the motives of families from different cultures, religions, countries and with different lifestyles, also have to be taken into consideration.

Many couples, according to Brand (1987:953-954) and Brand & Saayman

(1986:69-71), have concealed motives. These can include differences in opinion, external pressure, motives of the sterile husband to maintain his status, to have an heir, obsession with pregnancy, to manipulate and ignore sterility, to save the marriage, to make the wife happy, not to feel guilty anymore, to have a child for long-term financial gain when elderly and due to rejection of adoption. Brand (1987:954) furthermore states that: "Patients with unsound motives linked to defence mechanisms, egocentricity and impulsiveness should undergo psychotherapy before artificial insemination by a donor is considered." Thus it is important to assess the motives of couples for artificial fertilization with donor gametes before they make their final decision regarding treatment and before they are selected.

The motives for artificial fertilization with donor gametes, specifically AID, were studied and described in-depth by Van Delft (1983:59-65) and have been summarized as follows:

* **Personal motives:**

These are linked to the individual as follows:

Husband: AID will keep his sterility a secret; his wife can experience pregnancy and birth; his need to see her pregnant is met; his wife gives birth to the child and it is her own child; his need for an heir who is not a complete stranger is met and the child is accepted as theirs, unlike an adopted child.

Wife: AID conceals her husband's sterility; he gives his permission; she can be part of her peer group's motherhood and child-rearing conversations; she can experience pregnancy and natural parenthood and be the recipient of the social aspects such as consideration, congratulations and excitement; she can finally feel whole as a woman being able to experience a pregnancy.

* **Family motives:**

This is linked to the couple's awareness of how the family thinks and feels about an adopted child. Adoption is thus not chosen with the risk of the child being rejected. The adopted child can be seen as an intruder in the family and falsely claiming the family name, traditions and inheritance.

* **Couple motives:**

These are the combined motives couples express together:

Unpleasant experience of adoption; the long waiting period related to adoption and confrontation with a child who is often unacceptable; a closer bloodrelation between an AID child and an adopted child; AID is merely a medical procedure correcting the imperfection of nature; AID is similar to a blood transfusion or organ transplant; AID is merely an intervention right in the beginning and the child's life only begins once it is born; parenthood is more natural with AID than waiting for a child to be adopted; the offspring of the AID child will be more acceptable than that of an adopted child; the AID child will at least have a genetic link with the mother; the father of the adopted child is usually unknown and can be a risk factor; the AID child will inherit the good characteristics of his mother and her ancestors; the fear of being rejected for adoption no longer exists with AID; the donor's presence is merely incidental and he remains anonymous, while they are the life-long parents of the child.

* **Social motives:**

Due to prejudice regarding adoption, couples decide against adoption and for AID due to the following motives: A sensitivity for stories regarding adoption; negative attitudes towards adoption; and the adopted child will search for his biological parents making the adoptive parents feel unsuccessful.

* **Child-centred motives:**

The AID child is a carefully planned and wanted child; bonding with the AID child will be easier; the AID child has genetic characteristics of the mother and the child will be accepted by family and friends as a natural child.

* **Administrative motives:**

The waiting lists, forms, time span, endless interviews, a detailed file, as well as discrimination against their backgrounds and religion and repeated evaluations as in adoption are bypassed.

These motives which Van Delft (1983:59-65) has linked to AID versus adoption, can also be applicable to other methods of artificial fertilization with donor gametes as discussed in Chapter 3 of this thesis, excluding surrogate motherhood, which is much more complicated as there can be up to six "parents" involved. This is a

subject on its own and cannot be dealt with in this study as well, but requires a separate study for this purpose, although the motives would most probably be very similar.

The motives for artificial fertilization with donor gametes are also described by Brand & Saayman (1986:64-72) and have been interpreted as follows:

* **Social parenthood versus biological parenthood:**

When biological parenthood is not possible, as is the case with infertile couples, adoption or artificial fertilization with donor gametes are the options available to compensate for childlessness. Adoption is seen as social parenthood while artificial fertilization with donor gametes is seen as a combination of social and biological parenthood, as the mother would be a biological parent and the father a social parent in the case of AID. The couple's need for a genetic link, the attitude of their community and family towards AID or adoption, the couple's own attitude concerning both options, the secrecy involved with AID and the need to experience a pregnancy are factors which will determine the couple's motives and what option they will choose.

The motives of recipients to contemplate using donated oocytes, according to Templeton (1991:344), are that the woman can experience the pregnancy, the birth of the child and this child is in effect her own. In this situation therefore, secrecy can conceal their childlessness and people will think it is their own child.

The reason that couples decide to go ahead with treatment using donor gametes instead of adoption, is definitely related to the fact that this is their only chance of experiencing a pregnancy and the delivery of a child, who will at least be 50% genetically theirs. David & Avidan (1976:531) reported 100% of the 40 AID couples in their study in Israel, to have favoured AID above adoption. They felt that they could experience the pregnancy, the delivery of the baby and the child could inherit the qualities and characteristics of the mother. They felt the child was more theirs than an adopted child would ever be.

An in-depth discussion of the motives for this form of treatment should form part of the preparation session with couples prior to treatment. Assessment of the motives of couples for artificial fertilization with donor gametes is therefore essential and should be a prerequisite to treatment or form part of the selection process. Couples should also develop insight concerning their individual and combined motives and should both feel equally motivated and comfortable with their motives, before they consider making a final decision regarding treatment. If there are any traces of unsound or concealed motives, or impulsiveness, this couple should not be selected or they should undergo counselling to solve this problem.

5.4.1.3 Motives of the donor

The donor also has certain motives why he or she is willing to donate his or her gametes for artificial fertilization with donor gametes. Limited studies are, however, available on specifically the donor. As most donors are usually students, the main motive would most probably be financial gain. Other donors can also include infertility patients who have undergone successful infertility treatment with a resultant child. Their motives would probably be of an altruistic nature, to help other infertile couples to be able to have a child. Another motive could be to donate their excess oocytes or embryos which they will no longer be utilizing for their own treatment, to another infertile couple and to donate their gametes for a good cause, instead of it being discarded or used for experimentation. Furthermore, family or friends of infertile couples could also feel pressurized or compelled to donate, in order to help them or other couples in a similar situation.

An attitudinal survey of sperm donors in Los Angeles, U.S.A. by Sauer, Gorrill, Zeffner & Bustillo (1989:362-364) revealed that their donors donated merely for financial remuneration. In fact, their donors did not only accept payment, but expected it and would not participate further if it was withheld. Thus remuneration was the sole motive. The motives of sperm donors in France were determined during personal interviews with them at the clinic, prior to donation by Huerre (1980:461-465). These donors had in one way or another been made aware of problems concerning infertility through family or friends or by a personal experience, or a recent event had triggered

their offer. Their motives were mainly altruistic, as the donations are not remunerated. Most of the donors had children of their own and wanted to help other childless couples, as one donor stated: "I was on the receiving end and now I am in the position of donating." Furthermore, Huerre (1980:461-465) concluded that their motivation could also lie in the seeking of gratification or in ego reinforcement. Thus the main motive in this study was altruism with gratification and ego reinforcement as possible secondary motives.

In Denmark, Pedersen, Nielsen & Lauritsen (1994:701-705) reported 8% of their male donors to have stated purely altruistic motivation for their donation, 32% purely financial and 60% a combination of both. Thus financial gain and altruism were the main motives for donation in this study. Nijs, Steeno & Steppe (1980:455) in their study in Belgium, state, "...a socially helping attitude is the predominant motivation." The donors had also, in one way or another, encountered the problem of infertility in family or friends and wanted to either share the happiness of parenthood or contribute to somebody else's happiness. Thus an altruistic motive is evident from these findings.

In Sydney, Australia, Handelsman, Dunn, Conway, Boylan & Jansen (1985:95-101) studied the psychological and attitudinal profile in donors. Ninety-one per cent of the donors gave altruism as the dominant motive. Secondary motives included the desire to find out about own fertility (43%), curiosity (43%), fathering children (49%) and financial gain (11%). Thus altruism was found to be the primary motive of semen donors, similar to the above-mentioned findings.

The motives of male sperm donors for donation thus include altruism, remuneration, seeking gratification, ego reinforcement, a desire to father children and a desire to find out about their own fertility and an interest in infertility. These motives of the donors can be shared with the recipients during the preparation session to help them gain insight in the donor's situation.

5.4.2 The decision-making period and process

To make a decision regarding artificial fertilization with donor gametes is not an easy task, as this alternative is much more complicated than infertility treatment using one's own gametes. The

couple's motives, as previously discussed, should be assessed and discussed with them in-depth before a decision can be made. This decision should be made together over an extended period of time by the couple, allowing an opportunity to go through a process of discussing their uncertainties and fears, as well as sorting out any unresolved issues concerning artificial fertilization with donor gametes and childlessness. An in-depth discussion follows, as this is one of the most important aspects to be discussed with couples.

Research has shown the significance of a time delay between suggestion of donor treatment and the implementation of the procedure (Mahlstedt & Greenfeld, 1989:909). They recommend a period of several months, with better adjustment to subsequent treatment choices. Berger (1980:557) also confirms this as follows: "Those who took more time to arrive at their decision, did considerably better psychologically than those who did not." Brand & Saayman (1986:75) on the other hand emphasize the importance of support during this period: "Praktisyns stem saam dat 'n besluit om KIS te ondergaan nie oorhaastig geneem moet word nie, maar weldeurdag moet wees. Die ideale toedrag sou wees dat egpare sielkundig begelei en emosioneel ondersteun word deur hierdie hele krisisperiode". Berger (1982:54) recommends: "There should be a cooling off period of one to several months before a final decision can be made." The decision-making period should thus involve a few months to allow couples to go through the decision-making process. At least a three month period is recommended.

Thus the couple must have resolved their crisis and grief regarding infertility before making a decision. A similar opinion is provided by D'Andrea (1984:76) who emphasizes the importance of encouraging both husband and wife to complete the grieving process before beginning the treatment procedure. This decision should therefore only be made after they have achieved resolution of their infertility crisis and should not be made hastily or impulsively, as this could only lead to psycho-social implications. The importance of a precise, clear decision on the matter before entering treatment is emphasized by Englert, Van den Bergh, Rodesch, Van der Vorst, Berberoglugil, Laruelle, Biramane, Gervy & Schwers (1991:305-314). In this regard Mahlstedt & Greenfeld (1989:908) state that: "By the

time most couples begin to consider procedures which use donor gametes, they have explored all possibilities and are willing to do almost anything medically possible to conceive." A hasty decision made as a result of a state of desperation, must be guarded against. A difference in the partner's motivation was found by Rosenkvist (1981:133) in a study in Copenhagen, Denmark, as well as pressure from the spouse during the decision-making period. This was found in couples who had experienced the decision-making period negatively. This decision should thus be a joint-decision between husband and wife, with no individual feeling pressurized into a situation.

This decision-making process with the different possible outcomes is described by Van Staden (1989:158-159) as having three possible paradigm transformations:

- * "Childlessness is no longer construed as a problem. A transition to non-parenthood is thus triggered. This transition disrupts the coherence of the couple's interactional patterns and a new coherence, as channelled by their reconstruction of reality, ensues.
- * When a couple do not co-construct a consensual reality which re-establishes mutual commitment to their marital relationship, the unity of the interpersonal system is disrupted. That is, the specific system ceases to exist. This extinction is manifested in marital break-up and divorce.
- * Childlessness is still construed as a problem, but the wells of premises underlying the creation of a family radically changes. Biologically-linked family life is reconstrued to include the notion of social parenthood."

Thus it seems as if this decision-making process can have three different outcomes. Firstly, they learn to accept and live with their childlessness and redefine their relationship to adapt to this situation. Secondly, they realize that they cannot continue in this relationship if they cannot have children and they get divorced. Thirdly, they accept the option of artificial fertilization with donor gametes by making the paradigm shift from biological parenthood to social parenthood and creating a donor family.

Before this third outcome of creating a donor family can be decided on, certain changes in the couple's relationship have to take place.

These changes as described by Van Staden (1989:159-164) include:

- * Redefinition of the marital relationship to exclude the procreation of a shared biological child and create a donor child as a symbol of the concrete unity of their marriage.
- * Reconstructing gender identity by overcoming one's procreating role and to maintain one's identity as a male or female without traditional stereotype roles.
- * Reconstructing paternity of a donor child, instead of a biologically-linked child. Traditional family kinship founded on genetic heritage and bloodlines is exchanged for a child who is socially created within the marriage, but is genetically in and out of the family as a result of the donor used.

Thus the couple have to first of all redefine certain aspects of their lives and in a sense make certain paradigm shifts. These changes have to be made in terms of the marital relationship and the creation of a donor child as a symbol of their love. The infertile individual has to accept his/her gender identity as excluding the ability to procreate and the traditional idea of biologically-linked parenthood has to be replaced with social parenthood. Once these paradigm shifts have been made, the couple are ready to make a joint-decision regarding artificial fertilization with donor gametes.

It is recommended by Czyba & Chevret (1979:243) in Lyon, France, on the contrary, that the ultimate decision be made by the husband once he has accepted that the child will not be biologically his own. Researcher agrees that the husband must first come to terms with his infertility before he can make a decision. Once he has mentioned this option to his wife, they should discuss and consider it together. But, firstly, they have to make certain paradigm shifts in their marital relationship concerning artificial fertilization with donor gametes and the donor child, before they are ready to make a joint-decision.

This process of coming to terms with this predicament is therefore a difficult and long process. The husband must first come to terms with himself, that is, as a male with a sexual identity and sexual potency, versus his inability to sexual reproduction, that is, his infertility. Then he has to consider and sort out his own feelings

and issues regarding artificial fertilization with donor gametes. He has to therefore go through a process of coming to terms with the fact that he is still a virile male, but cannot reproduce or be the biological father of his child due to physical circumstances beyond his control. He can, however, at least become a "social father" by means of artificial fertilization with donor gametes. He merely has to make the paradigm shift and accept the alternative of using a third anonymous person, the donor, together with artificial fertilization, to help them conceive a child. This is thus a paradigm shift which has to be made from biological parenthood to social parenthood. This whole process of coming to terms with his infertility, himself as a male and his inability to reproduce, that is, his sexual potency versus his sexual reproduction, needs to be sorted out over time and he should not be pressurized. Once he is ready, he will approach his wife with the idea and then they can start discussing it and making the paradigm shift to finally enable them to make a joint-decision in this regard.

This is also confirmed by D'Elicio *et al.* (1980:409) who agree that it is the husband who usually makes the suggestion, as the problem is felt to be his. The wife is actually afraid of hurting him or provoking an unexpected reaction by broaching the subject of AID. It is probably the fears of the wife that lead to the husband making the decision. The wife, however, does everything in her power to persuade the husband to finally suggest AID. The partners thus support each other during the decision-making process, but consider the possibility over a period of time.

This decision should thus be made over a period of time, of at least three months duration. This process of decision-making, described above, would also be applicable to the couple where the female was the infertile spouse, but would be less intense, as she would still experience the pregnancy by means of a donor embryo or donor oocytes, unless surrogate motherhood is the only option. This would then become a much more complicated matter.

In the case of an oocyte donation, Templeton (1991:344) states that the woman experiences the pregnancy and birth, and the child is, in effect, her own. On the other hand the male partner of a couple

having sperm donation has contributed nothing, besides his permission and despite his subsequent role as father and protector and he may feel vulnerable to the possibility of others knowing that the child is not his.

If one takes this viewpoint into consideration, it becomes easier to compare the difficulty of the decision for the male, in the case where donor semen is used, compared to the female, where donor oocytes are used. The female can still experience the pregnancy and the birth of the child, in the case of oocyte donation and the husband is the biological father. Thus this decision would be easier for the couple to make, as both are involved, the husband biologically and the wife physically in experiencing the pregnancy and birth of the child. This situation could very easily remain a secret as it appears very natural and could be accepted as normal by the couple as well. When an embryo is donated, with husband and wife both being infertile, the wife could still physically experience the pregnancy and birth, and as both are non-biological parents, the decision could also be made easier, as both are in more or less the same position, except that the wife has the added advantage of still experiencing the pregnancy and the birth of their non-biological child. In the case of semen donation, the decision remains difficult for the male, as his wife is the biological mother and she is biologically, physically and emotionally involved in experiencing the pregnancy and birth of the child. He could thus easily feel alienated, as he is not at all involved, only in terms of providing permission, support and becoming committed as a "social parent".

This process of the husband, but also of the couple in making a decision to go ahead with artificial fertilization with donor gametes, as a result of infertility, remains a difficult and complex decision-making process. Van Staden (1989:157-164) refers to this as: "The transition to non-biological parenthood as a paradigm shift," and states in this regard: "When couples construe the event of irreversible infertility and the resulting childlessness as a problem, they are confronted with a cul-de-sac situation which cannot be resolved within the confines of their present reality construction, as this is founded on the assumptions of creating a biologically-linked family. In order to overcome this obstacle a radical

transformation of their reality construction is necessitated. That is, the couple has to co-invent and construct a new map which fits their past, but opens solutions for the future. This shift entails redefinitions of the couple's premises on family life, parenting, the basis of their marital relationship, gender identity and the meaning and goals of their lives. The new reality construction offers a variety of alternate solutions to the problem of infertility and childlessness, not previously available within the confines of their original premises. This new construction then describes and guides the couple's resolution of these problems. Biologically-linked family life is reconstrued to include the notion of social parenthood. This shift generates new alternative solutions to the problem of childlessness. A paradigm shift has to occur in the evolution to create a donor family."

Thus the couple in attempting to make a decision regarding artificial fertilization with donor gametes has to go through a very complex, interpersonal and intrapersonal process of making a paradigm shift from being the traditional biological parents, to being a social parent and a biological parent in the case of one spouse being infertile, or social parents, in the case of both spouses being infertile. They both therefore have to come to terms with using a donor and thus creating a donor family. This seems to be a vital part of the decision-making process. Furthermore, Van Staden (1989:171) also confirms that "Although the male donor situation does not require a reconceptualization of the wife's mothering role, in cases where both husband and wife had consensually reconstrued their ideas on parenting, a congruence in their interactional decision-making process was evident and they reported few conflicts between them."

Stress is often experienced by these couples during this decision-making period, as it is a major decision which will affect the rest of their lives. Owens, Edelmann & Humphrey (1993:880-885) in this regard, found less distress in couples in the United Kingdom, who decided for or against AID, than couples who were still in the decision-making process. The need for mutual support is highlighted as of importance until the couple's quest for a child has been either achieved or abandoned. This study confirms the emotional stressful

period these couples go through during this decision-making period and the importance of mutual support amongst couples.

Supportive counselling is recommended during this difficult and stressful period. Furthermore, it is of utmost importance that couples are provided with as much information as possible concerning artificial fertilization with donor gametes, before they can embark on this decision-making journey. The ideal way to provide couples with this information is during a preparation session, as recommended by Carbonatto (1995:53) in her paper on this topic, presented at the "First International Conference on Social Work in Health and Mental Health Care," at the Hebrew University of Jerusalem, in Jerusalem, Israel. This preparation session, according to Carbonatto (1995:53) should include thorough information on all the medical, legal, ethical-moral, religious and psycho-social aspects regarding artificial fertilization with donor gametes. This session and the information provided will help couples in making their final joint-decision to embark on this endeavour. This is supported by Mahlstedt & Greenfeld (1989:909) who feel that patient preparation for alternative reproduction techniques with donor gametes, is essential. Van Staden (1989:165) also confirms this as follows: "...These couples found it difficult to make a fully considered decision and expressed the wish for more information. These couples furthermore expressed the need for a counselling service to facilitate the decision-making process, specifically with reference to highlighting and exploring potential problems, conflicts and uncertainties."

Thus if a couple has more information on artificial fertilization with donor gametes and all the related aspects which can be provided during a preparation session, they are better equipped to go through this decision-making process on their own time. Once they have spent sufficient time discussing their viewpoints, feelings and uncertainties, are comfortable with this option and all the possible implications and have come to terms with the issue of "social parenthood versus biological parenthood," they can finally move toward making a joint-decision regarding their future and the option which will be best for them.

5.4.3 Secrecy and anonymity regarding recipients and donors

Secrecy is an important issue surrounding artificial fertilization

with donor gametes, which must be discussed with the couple in the preparation session. Most people tend to want to keep this form of treatment a secret for many different reasons, but specifically because a third anonymous person, the donor, is biologically involved. Different family members and friends have to be taken into consideration and how they would possibly react to such news. These are factors which will help the couple when deciding whether to keep it a total secret or not. There are also many advantages and disadvantages surrounding secrecy and anonymity which should be discussed thoroughly with the couple during the preparation session, as proposed in this study and described in the guideline in Chapter 8. It is important to discuss the terms secrecy and anonymity with couples, as they have been associated with each other for so long and many people see them as one and the same thing. Mahlstedt & Probasco (1991:751) refer to this as follows: "**Anonymity** means no identity, and it has always been associated with the donor's need for confidentiality. Physicians try to protect the donor's confidentiality by restricting information. The anonymity triangle includes the physician, the donor and the recipient couple. **Secrecy** is another matter. It involves decisions about how the information is or is not shared. The secrecy triangle includes the recipient couple, the donor offspring and extended family and friends. It does not involve the physician or the donor, unless the donor is known to the couple. The issue of secrecy is controlled by the recipient couple alone." Anonymity and secrecy must be discussed in-depth with couples planning to undergo artificial fertilization with donor gametes to help them gain insight in the situation of all parties involved and to allow them to be able to make a decision regarding treatment and secrecy.

The secrecy surrounding artificial fertilization with donor gametes is described by Zemleni (1976:313-333) as having the following components:

- * "Pattern of communication or 'link of secrecy': Who is meant to be the target of the couple's secret or may not be told; and who are the possible recipients of the secret or might be told (wholly or partly).
- * A precise content, involved in the secret.
- * Modes of communicating or not communicating the secret: Preserving secrecy by retention, denial or lying or simulation

(providing false information), sharing the secret by confiding it in a secure confidential setting, sharing it indirectly in complex emotional situations or by it leaking out or acting-out through behaviour patterns, indicating the presence of secrecy and involuntarily pointing out its content."

All these components of secrecy must be discussed with the couple to help them develop insight in their own situation and to enable them to decide whether total secrecy would be suitable in their own unique situation or not.

On the other hand, Manuel, Chevret and Czyba (1980:420-421) describe secrecy according to its protective functions on three levels:

- * **Intrapsychic level:** The ways of dealing with secrecy represent defences against various unconscious conflicts reactivated by AID, infertility and the desire to bear a child.
- * **Relation level:** Secrecy reflects an adaptation for dealing with social and familial pressures.
- * **Evolutional level:** Secrecy has a dynamic function, the effects of which will only be manifested in the future on the parents and child.

The first level would most probably require a psychoanalytic approach to determine the unconscious reasons for secrecy. The second and third level seem more appropriate for the medical social worker to discuss with the couple during the preparation session.

Some reasons for AID secrecy are described by Snowden, Mitchell & Snowden (1983:103-110) and have been summarized as follows:

- * **Privacy:** It is a personal and private matter.
- * **Propriety:** Sexual relationships are not freely discussed and AID was seen as a similar aspect.
- * **Diplomacy:** Knowledge of AID might cause strife in the family.
- * **Stigmatization:** Fear of people's reactions.
- * **Disappointment:** Fear of parents disapproval of the child.
- * **Rejection:** Fear of the family rejecting the husband and child, or fear of the child rejecting the father.
- * **Leakage:** Fear of family telling the child of his AID origin.
- * **Emotional effect:** Fear that the knowledge of AID might have a disturbing emotional effect on the family or the child.

Somewhat similar and different reasons for secrecy are provided by Snowden & Mitchell (1981:106-108) which include:

- * A denial that there was any reason to tell.
- * Wanting to carry on as though nothing has happened.
- * A desire to appear as a normal family.
- * Fear of stigmatization.
- * Fear of the way other people would react.
- * Fear of the child being labelled as different and stigmatized.
- * Protection of the feelings of the husband.
- * Implications for family relationships.
- * A need to fulfil their parents' wishes by presenting them with their own grandchild.
- * To save grandparents' distress.
- * Fear of a disapproval of their decision to have a child by AID.
- * Fear of the child being rejected.
- * Fear of the child's relationship with the father/husband being damaged.

Most of these reasons for AID secrecy by recipients thus seem to be related to the couple's privacy, protection of their infertility status and fear of possible reactions of family and friends.

Factors contributing to AID secrecy are described by Berger (1982:53) as follows: "Couples engage in a mutually necessary secret, essential to each partner's sense of self, and to dare generate conflict might shatter a defensive system that holds in check, a host of unacceptable feelings. The threat of exposing this secret to an unpredictable legal system and the devastating effect this sudden exposure might have on the AID child, would be additional stabilizing factors." Thus some couples seem to need this secrecy to protect themselves and the child.

Furthermore, Snowden *et al.* (1983:102-104) suggest three components associated with secrecy. The **first component** relates to consultation between the health professional (doctor) and the couple. This consultation is covered by the expectation of confidentiality. The **second component** relates to the health professionals (doctor) and the donor and this discussion is covered by the right to anonymity on the part of the donor. The **third component** is concerning the relationship of the parents and the child. Here the parents must make a

choice between telling the child of the nature of the conception or keeping this fact secret and pretending that the child is the biological offspring of both of them. No mention is, however, made of the relationship between the couple, family, friends and community. Thus it seems as if there are three groups of persons involved in this secrecy issue: the doctor and the recipient couple, the doctor and the donor, and the recipient couple and the child. Each has an obligation to the other concerning confidentiality and the secrecy seems only to be an issue with the recipient couple and the child and maybe the donor if he prefers to keep his donation a secret.

In this regard Macnaughton (1982:110) from a clinic in Glasgow, Scotland, states that: "The secrecy ... means that the doctor, the husband, the wife and the donor conspire to deceive the child and society as to the child's real parentage and genetic identity." This is a rather harsh statement to make, and is seen merely from a moralistic perspective. If one looks at this situation from a psycho-social and medical perspective, one sees a couple who is desperate to have a child, with this being their only chance. The donor is a person willing to make this dream possible and the doctor is there to perform this treatment and make their dream a reality.

Concerning the donor and anonymity, this anonymity is not only important for the donor but also for the recipients. The donor is protected in the sense that his/her identity will never be revealed and can decide whether he or she will keep it a secret from the spouse, family or friends. For the recipient, anonymity of the donor means that they can be the parents of this child without this donor claiming parental rights or tracing the child.

In a study performed in Belgium, Englert *et al.* (1991:305-314) examined the issue of donor anonymity in an oocyte donation programme. They found that they preserved their donor anonymity by exchanging the donors recruited by the patients. This approach they found combines higher pregnancy chances for patients, respect of the ethical principles linked to gamete donation and gives satisfaction to the patients. A similar approach was used by Frydman, Letur-Konirsch, Du Ziegler, Bydlowski, Raoul-Duval & Selva (1990:666-672).

In their oocyte donation programme in the U.S.A., each recipient must provide an oocyte donor selected among fertile friends or family. These retrieved donor oocytes were then anonymously exchanged between phenotypically-matched donor-recipient pairs. Furthermore, guaranteeing anonymous oocyte donation had practical importance because, for many volunteer donors it played a crucial role in their decision to donate. These two studies by Englert *et al.* (1991:305-314) and Frydman *et al.* (1990:666-672), however, can raise scepticism and ethical questions, as the donors are exchanged with no mention made of donor-recipient matching and the oocytes are anonymously exchanged. It is, however, ethically correct not to use a donor known to the recipient couple, for that specific couple, and this the recipients should be made aware of so as not to create confusion.

A study performed in Denmark by Pedersen *et al.* (1994:701-705) reported that 60% of the male sperm donors found anonymity to be essential for their further functioning as donors. Most donors did not seem to feel any close relationship to the donor offspring. The acceptance rate for providing non-identifying, phenotypic, descriptive information to recipients was 76%, for providing medical information 60%, and for psycho-social information 28% to 40%. Only 20% of the donors were willing to continue donation if anonymity was revoked. Thus anonymity is of great importance to male donors and they are only willing to provide non-identifying and impersonal information, with no concern about the consequent offspring.

In a study in Auckland, New Zealand, Purdie, Peek, Irwin, Ellis, Graham & Fisher (1992:27-28) found contradictory results to the above. Sixty-eight percent of their male donors agreed to their identity being available to the child, when the child reached maturity - thus an unusual attitude of total openness.

A study of Kovacs *et al.* (1988:355) in Melbourne, Australia, reported that changes in the community attitudes to artificial conception has made them obtain more non-identifying information on the donors in order to divulge this to the recipients. The donors were in favour of this, if requested by the recipients. Mahlstedt & Probasco (1991:752) redefined what they call the "truths" or "myths" of artificial fertilization with donor gametes, by also finding male donors in

their study in the U.S.A. willing to share non-identifying information which could be disclosed to the recipient family. These donors also reported little interest in the immediate outcome of their donation, compared to similar studies in Australia and New Zealand. It was concluded that couples should be provided with non-identifying information of the donor such as his background, interests and values. Purdie *et al.* (1992:27-28) also add to this non-identifying information of the donor, such as his interests/sports, physical attributes, occupation and family background. Thus the majority of male donors are willing to provide sufficient non-identifying information to be shared with the recipients. This information, could thus include background, occupation, qualifications, interests, hobbies and physical attributes, and could most probably satisfy the need of the recipients to form an idea of who this person is who "fathered" their child. Recipients could even request a donor for example, who is musical, has a certain interest or book the same donor to father all their children. One must always determine the motive behind such requests.

Similar results were found by Daniels (1988:379-381) in his study in New Zealand concerning male donors and recipients. He examined various views on issues related to secrecy. He found the notion of secrecy - "when is a secret a secret", to be a relatively limited one amongst his respondents. Seventy-five percent of the recipients said that other people knew that the child was conceived with the assistance of AID, and 89% of the donors had told others that they had made semen donations. Concerning the issue: "To tell the child or not", 41% of the recipients and donors did not feel that the child should know, while 22% of the recipients and 32% of the donors felt that the child should know. The rest were unsure. On the issue: "The child and what he/she may want to know", had a 43% response that the child had a right to non-identifying information and 38% felt they did not have a right. Thirty-eight percent of the donors felt that children who know they were conceived via AID will want information about the donor. Daniels (1988:379-381) concluded that there is a need for openness rather than secrecy. Thus from this study the complexity of secrecy and anonymity is illustrated. Even though donors and recipients did not want the child to know, they went and told other people of their donation and the donor conception respectively. Thus the child could possibly find out by accident of

his origin. On the other hand they felt that the child should know something of his biological father. Thus researcher tends to agree with the statement of: "When is a secret a secret?"

These studies therefore show a variation of attitudes amongst male donors and recipients of sperm donation regarding secrecy and anonymity. Some prefer total secrecy and anonymity, while some are willing to provide limited non-identifying information and others more. A mixture of secrecy towards the child and disclosure to family and friends was also depicted. Thus one will have to take each recipient couple's unique circumstances into consideration, plus their culture and lifestyle and relationship with significant others, before the issue of secrecy can be resolved and a decision can be made by them on this aspect. This should be discussed with each couple during the preparation session.

The need for a healthy attitude of openness is also emphasized by Templeton (1991:344) who states that: "The issue of secrecy is most likely to affect the subsequent relationship between parents and child, while the slightly different issue of anonymity introduces a relationship with a third party, the donor. However, there does appear to be a marked difference in attitudes to sperm and egg donation." It seems therefore as if sperm donors wish to remain anonymous and the recipients feel that secrecy is important. On the other hand, oocyte donors are more likely to be prepared to be identified and recipients are less anxious about anonymity. This same phenomenon concerning the openness of oocyte donors and recipients was also found by Power, Baber, Abdalla, Kirkland, Leonard & Studd (1990:352-355) and Oskarsson, *et al.* (1991:351-356). These are very interesting findings and the importance of anonymity and secrecy surrounding sperm donors and recipients is accentuated. This importance of secrecy for the males can most probably be ascribed to the interpretation of infertility, sexual identity, reproduction and sexual potency. An open attitude can reveal the male's infertility and most probably his status and "manhood". The more open attitude of oocyte donors and recipients is most probably due to the more altruistic nature of females, their open-mindedness, and the importance of making a contribution to others and to allow them the opportunity to also experience pregnancy, birth and motherhood.

Similar, but somewhat different results were found by Kirkland, Power, Burton, Baber, Studd & Abdalla (1992:355-357) in their study comparing the donor and recipient attitudes to oocyte donation. Eighty-six percent of recipients and 74% of donors had told at least one person other than their partner. Seventy percent of the donors would donate to someone they knew, but would rather donate anonymously. Sixty-three percent of donors would donate if the recipient was told their name, but only 26% of recipients would accept if the donor was given their name. Ninety percent of recipients were strongly against the donor contacting the child later in life, but 54% of the donors had no objection to the child contacting them. Eighty-six percent of recipients and 56% of donors felt that if they had been born from a donated oocyte, they would not want to know.

In these findings it is interesting that the oocyte donors had a more open attitude than the recipients, which can most probably be ascribed to the recipients feeling more sensitive about disclosure and the possible effect on themselves and the child. Interesting though, that more recipients had told someone of their treatment, than the donors of their donation, which in a sense contradicts the rest of the findings.

In a study of recipient couples who had successfully completed oocyte donation cycles, Pettee & Weckstein (1993:1963-1965) found a different and more open attitude amongst oocyte recipients than the above-mentioned findings, that is, a preference for non-anonymous arrangements to be preferred, despite the unknown long-term impact. The importance of support was stressed. Thus the openness of oocyte recipients is again highlighted and the need for support seems to play a role in their openness. Frydman *et al.* (1990:666-672), however, found contradictory findings. Their oocyte donors preferred to remain anonymous and for these volunteer donors they found guaranteeing anonymous oocyte donation played a crucial role in the decision of these females to donate. Thus not all oocyte donors wish to be identified or have an open attitude regarding anonymity.

Interestingly, disclosure to partners of their donation by donors is only mentioned in a few studies. Nijs *et al.* (1980:455) found at least half of the donors to discuss their decision to donate with

close friends and family such as a brother or sister-in-law. Both married and engaged donors discussed it with their partners. The other donors who were not in a steady relationship, planned to inform their eventual partners. Handelsman *et al.* (1985:97-99) also found only 54% of the donors planning to disclose their donation to family, besides their wife, 68% to friends and 32% to acquaintances. Thus it seems as if donors readily disclosed their donation to their spouse or partner and also to family and friends. Donors therefore do not seem to have such sensitivity regarding secrecy, compared to recipients.

On another important aspect, information on the recipient to be provided to the donor, was examined by public opinion in Auckland, New Zealand by Purdie, Peek, Adair, Graham & Fisher (1994:1355-1358). These parents rated anonymity of the donor as essential, and interestingly, non-identifying information about the recipient couple as an important aspect in sperm donation. Thus the non-identifying information and anonymity of the recipients are of as much importance to the donor as it is to the recipient. This is also confirmed by Handelsman *et al.* (1985:98) who found 84% of the donors in their study to want information about the recipient couple. Thus this issue of sharing non-identifying information of the donor with the recipients, as well as of the recipients with the donor, has to be discussed in the preparation session with the recipients and shared during the selection process with the donor.

Thus it is evident that different attitudes regarding secrecy, openness and anonymity or non-anonymity exists between male donors and recipient couples as well as female donors and recipient couples. These viewpoints should be discussed with the donor and recipient couples to enable them to make a decision regarding secrecy. These different findings should also be discussed with donors during the selection process and reflected during the preparation session with the recipients to help them gain insight on the issue. Each couple's unique circumstances must, however, be taken into account and their attitudes and needs assessed concerning secrecy. The final decision regarding secrecy though, still remains that of the couple themselves.

The use of siblings for gamete donation was examined by Sauer, Rodi, Scrooc, Bustillo & Buster (1988:721-722). They found that the acceptability of using a sister for gamete donation is high among couples desiring ovum donation. On the contrary, couples undergoing AID generally rejected the concept of using the husband's brother as a known donor. Thus, although similar in concept, disparity exists regarding the use of siblings for gamete donation. A more open attitude concerning disclosure and use of siblings therefore exists amongst couples planning to undergo oocyte donation, than exists amongst couples planning to undergo sperm donation. This can most probably be ascribed to the importance of concealing the husband's sterility.

The influence of AID secrecy on the recipient couple is described by Manuel *et al.* (1980:421) as follows: "Secrecy has a high psychological price. If the very deep and legitimate need to communicate and share, has to be defended against constantly, the secret itself may become a toxic and burdensome factor which is related at times, to mood or behavioural disturbances, and even to more severe symptoms, such as paranoid fears, projection and isolation". Berger (1982:53) also describes AID secrecy as having a harmful effect on the couple as follows: "...it is fostered by fears of unnaturalness and societal disruptiveness and that in the face of religious stricture and legal uncertainty, prospective donor insemination couples are driven underground to seek help for their infertility problem". Secrecy is also seen as harmful and unnecessary by Snowden *et al.* (1983:123), who conclude that the confidentiality of the doctor's consulting room is essential, as well as the anonymity of the donor, but that these concepts are different from the secrecy which leads to deception of close family and the child itself. Thus it seems as if this secrecy surrounding artificial fertilization with donor gametes has a negative effect on the couple, child and family.

In this regard, De Wert (1986:38) compared three different aspects in his research in the Netherlands on AID secrecy: Secrecy made the AID decision very difficult for the couple; secrecy led to isolation, causing increased stress and; secrecy is in the interests of the parents, or as De Wert (1986:38) states: "...geheimhouding ... in het belang van de ouders hierover met niemand te spreken". De Wert

(1986:38) comes to the conclusion, after comparing these aspects that: "Openlikheid blijkt therapeutisch te werken". The harmful influence of secrecy was evident and therefore he recommended an open attitude which he felt would have a positive therapeutic effect.

For the parents the decision they make to keep secret their resorting to a donor, often without really thinking it through, is very difficult to handle, according to Matot & Gustin (1990:632) in their study in Belgium. Furthermore, they state that the women often develop latent guilt, which can express itself in different ways, through phobic anxiety, through failure or self-denial attitudes of which the self-punishing aspect appears clearly. It can also mark the couple's relations with sexual troubles and the difficulty to adequately express aggressive feelings. Finally, it can appear in relations with the child, through obsessive fears for his health or for his father's later rejection. The man, who must give up procreation once and for all, finds himself caught in a trap from which he will not easily free himself because of this secret. Matot & Gustin (1990:632) state: "The secret can only be kept on the condition that it is never forgotten, but always present in the mind of the keeper. Thus this secret, paradoxically, is there to make the narcissistic wound remain open forever, with the excruciating interrogation: would my child still accept me as his father if he knew I was not? This permanent malignant suffering is the basis for damaging character reactions in the relationship of the couple and the relationship between father and child." Thus, from the above-mentioned, one can only start to imagine how complicated this secrecy can become, and what possible psycho-social effects it can have on the long-term for this family. This decision, whether to keep it a secret or not, must be made very carefully after considering all the possible long-term implications. It should also be a joint-decision which is made over a considerable period of time.

The doctor should help the couple to go beyond technical thinking about AID and to reach the individual psychological meaning it has for them (Matot & Gustin, 1990:633). The main goal is to avoid the couple's defensive rigidity about the questions concerning filiation and to think about the assisted conception of their child. It should not be thought of as a crime or something shameful to be concealed,

but as an obstacle they had to overcome and have to integrate in the continuity of their personal story. Van Staden (1989:175-176) states: "The future atmosphere shrouding donor reproduction furthermore implies that there is something improper about the procedure which reinforces the misguided notion that male infertility is something to be ashamed about. The media has also restricted the availability of knowledge on this topic and as the saying goes, ignorance breeds prejudice and rejection founded on emotional and intuitive responses." A more open attitude is recommended, as it is the artificial family who is hit the hardest by the secrecy. Especially the child who is in a sense deceived and misled into believing his family is his genetic lineage. This is based on trust and by undermining this implicit trust, the very foundation of the relationship is eroded.

This secrecy, it seems, should thus not exist to such an extent in the lives of these couples that it overpowers all other thoughts and actions. The treatment and the child resulting from the treatment should be something which they are grateful for and which they want to share with close family or friends, as well as the child. They should accept this as something which forms part of their lives and should not blacken it out forever. An open attitude is thus recommended as far as possible to maintain honesty and trust in the family.

In the case of surrogate motherhood, it is much more complicated and there are many more people involved, such as the surrogate mother and her spouse and possibly another couple who were the embryo donors. The recipient couple who are to receive "the child" by contract from the surrogate mother at birth, do therefore not experience pregnancy themselves and the sudden arrival of "their child" is more obvious and can thus not be kept a secret from family and friends. It will have to be dealt with in a similar way to adoption, with family and friends being aware of the child being carried by a surrogate mother and the child will be told from a young age, similar to adoption. It will of course be easier to disclose to the child if the gametes of both or even one of the parents were used. If an embryo was "adopted" from one couple and the surrogate mother was another party involved, it would be complicated and confusing for the child to

understand how three potential sets of parents are involved and would most probably have to be told with greater caution and sensitivity at a later stage in life when he could understand the situation fully. Another option would most probably be to disclose only part of the surrogate situation to the child, allowing him/her to think that both or one parent's gametes were used and not a donated embryo. This, however, is deceiving and is not recommended. It is a much more complicated and complex situation and the couple will need more guidance and supportive counselling in dealing with these issues. This option of surrogate motherhood is another topic on its own and cannot be dealt with in detail in this study.

Concerning the disclosure of the secret recipient couples tend to tell certain people rather than others, depending most probably on their relationship, their reliability and the support they offer. In a study in the U.S.A., the most common people the secret was disclosed to, according to Klock & Maier (1991:491-492), were in descending order: Mother, father, best friend, physician, close friend, sister, brother, therapist, co-worker and employer. Sixty percent of their respondents had told at least one person. The reasons for disclosing the secret were: to share confidential information, to help celebrate the pregnancy, to help the person make up their mind about having AID; to talk about the psychological issues related; to help prepare for childbirth; to help with childcare and to give financial support. Interestingly, when asked if they would tell someone if they could have it over, 87% said they would tell no one. This could most probably be ascribed to their feeling compelled to tell the child, or regretting telling as a result of the reactions of people told. Some couples, included in this study, said they would partake, but never wanted to be contacted again by the clinic and that the sending of the questionnaires by post was a threat to their confidentiality and secrecy. This once again proves how sensitive and secretive an issue this treatment and the resultant child is to these couples, making long-term follow-up studies such as this one very difficult, rare and valuable.

The reasons for openness are discussed by Snowden *et al.* (1983:110-113), as they state that more than 40% of the couples in their study disclosed the secret to some relatives or friends. Some reasons for

the disclosure or openness were: "Because we are very close to them and we've never kept any secrets from them"; "Because they are friends that we've had for years, they have known of all the problems that we had;" and "I'm very close to my mother." All the respondents reported the people they had confided in being very supportive and they could talk about it. They felt that they would have found it very difficult to cope if they had decided to keep it a secret, particularly in anxious times. Apparently the people they had confided in got as involved in it as they were, and were so excited that when they conceived they took them out to celebrate. They did experience initial reactions of shock when telling family and friends of their plans for treatment, but their decision was soon accepted and supported. There was, however, no congruence in their study between decisions to tell the relatives and to tell the child. The majority of couples who had told relatives, were not intending to tell the child, and some couples who intended to tell the child, had not told close relatives. In many cases, they concluded, secrecy was not a carefully thought-out and predetermined strategy. It was more of a process that developed over time. It is important that couples realize that once they tell close relatives, they will have to tell the child, as the secret could be disclosed by accident and in the wrong way to the child.

Many couples who had informed their relatives and/or close friends, had received encouragement and on-going support as found by Van Staden (1989:178). Snowden *et al.* (1983:110-116) also found positive responses and support in cases where recipients had told family and friends. They recommended it as being advantageous and did not regret telling.

During the preparation session with couples, secrecy and openness should be discussed and neither should be condemned. Discussing the advantages and disadvantages can assist the couple in making a decision concerning what will suit their situation best. Findings of various studies should also be shared with couples to help them in this decision-making process.

In his study with 93 couples in Australia, Jones (1984:317) revealed that 57% of the respondents found confidentiality to be a major

reservation concerning AID. Seventy two percent of the respondents however, planned not to tell the child about his AID origin. Thus even though most couples were against secrecy in the beginning, they decided that it would be best not to tell the child. Manuel *et al.* (1980:422-427) performed research with 72 AID couples in France. They found that only 50% of the couples who had wanted complete anonymity prior to AID, had actually achieved it. An interesting finding was that the higher the sociocultural class and education, the easier the sharing of the secret was. This sharing usually occurred by mode of leakage in communication and was attributed to the social differences in patterns of communication and self-disclosure within families. The most common contents of their secrecy was the couple infertility, male sterility and AID. The most common reasons for the secrecy was: "The child is more ours; the husband's sterility would be hidden; the problem would be hidden by childbirth and we could be like others." Most couples felt that the best time to tell their child would be during adolescence or young adulthood, since telling at too early an age could cause damage to the child.

On the other hand, Snowden *et al.* (1983:100-123) in their research with AID couples in the U.S.A., interestingly, found opposite results to Manuel *et al.* (1980:422-427) in France as mentioned earlier, regarding the social class of couples. Snowden *et al.* (1983:100-123) found the white collar workers tended to keep AID more of a secret than the manual workers. This they ascribed to close family relationships. They also found most couples to prefer telling the paternal parents, because of the fear of the maternal parents feeling disappointed in the husband. Another interesting finding was that those couples who had told the family and the child of AID, had only positive responses. These couples did not regret revealing the secret and felt that they could not take all the burden on their own shoulders. They found their family to be very supportive and positive as well. Some of the couples who had told their family or friends, usually preferred to tell the child as well, before he found out accidentally. Most of the children were, however, only told when they were old enough to understand their AID origin. None of the children experienced the news as traumatic, but were surprised and glad that they had been told. They felt pleased that their parents'

need for children had been so strong and this made them feel particularly valued and loved. No relationships in this study had been spoilt, but were in actual fact enhanced. Most of these young adults felt surprised that their parents had felt the need to keep this matter such a close secret for so many years. The findings from this study show very positive results and reactions to the news.

The child should therefore be made aware of his "specialness" from a young age and that he is a gift his parents have waited and struggled so long for". This will make the child aware of being special and different to a certain extent and prepare him for the day when the parents do explain the nature of their parenthood and the conception to him. This must of course take place when the child is able to comprehend such matters. Telling the child during adolescence is not recommended, as the adolescent is then going through a more difficult stage in life, discovering himself physically, sexually and intellectually. Having to still come to terms with his filiation and a social father, would be too traumatic and difficult to handle during this phase.

If parents can go beyond guilt, according to Matot & Gustin (1990: 633), and accept giving up direct procreation and deal emotionally with the question of filiation, they will be able to create an atmosphere of confidence, security and respect in which the revelation will be non-traumatic for the child. The parents should feel free to talk to their child if they wish and when they think it is the right moment to do so.

Regarding single parenthood and lesbian "immaculate conception" or "virgin mothers", Heywood (1991:62-63) states that this issue is unavoidable and they are truthful with the child. The percentage of single women, lesbians or virgins treated is extremely small, so there is little evidence of how these families turn out. Thus secrecy cannot be maintained in such a situation where a woman either requires artificial fertilization with donor gametes to be able to conceive, or prefers this treatment above a sexual relationship due to her lifestyle. In South Africa only legally married heterosexual couples can be treated by means of artificial fertilization with donor gametes.

A similar study was performed by Brewaeys *et al.* (1993:23-35) in Belgium, where they compared the attitudes toward secrecy of heterosexual and homosexual couples who were undergoing artificial insemination with anonymous donor sperm (AID). The heterosexual couples chose secrecy and donor anonymity, while the homosexual couples intended to inform their children. Of these homosexual couples 40% would prefer the identity of the donor to be registered. Thus the openness of homosexual couples, as a result of their situation, is again confirmed and the fact that they have to disclose the origin of the child's conception to him or her, as it is obvious.

The attitudes of donors and recipients regarding identifiable semen donors were examined by Purdie *et al.* (1992:27-28) in Auckland, New Zealand. They found that 51% of the recipients were definitely and 32% were probably going to tell the child of its donor origins. Forty-two percent of the women and 28% of the men thought that the child should have access to the identity of the donor eventually. Sixty-eight percent of the donors were agreeable to their identity being available to the child when the child reached maturity. The findings from this study show an extremely open attitude on the part of both the recipients and the donors, to the extent that they are willing to tell the child and to even make the identifying information of the donor available to him. Thus disclosure or openness towards the child seems to vary from country to country and aspects such as culture, lifestyle and family circumstances of the recipients have to be taken into consideration in each situation to determine what would work in their unique situation.

This aspect of when to tell the child is referred to by Brand & Saayman (1986:99) as follows: "In gevalle waar ouers voel dat openhartigheid met hul kind noodsaaklik is, is die tydsberekening van die mededeling belangrik. Anders as by aanneming, word aansienlik groter insig vereis om die omstandighede van KIS te begryp. Aangesien kleiner kinders nog nie oor hierdie insig beskik nie, is die algemene mening dat die adolessente jare die aangewese tyd hiervoor is." Adolescence is a difficult phase in life and it would not be advisable to disclose such news during this phase. It should be done earlier on a continual basis of gradually preparing the child on this issue, so that it does not come as sudden shocking news.

Thereafter appropriate information can be shared, as would be understood by the child at that age and as the child gets older more and more detailed information can be provided.

This viewpoint is also accentuated by Matot & Gustin (1990:632-633) who state that: "This moment is difficult to determine with great precision. It is of course necessary to wait for the child to understand what it is all about, that is, when the process of fertilization can be conceptualized. It should not interfere too much with the normal process of repression of the interest for sexuality that takes place in the beginning of the latency period (5 to 6 years). In fact, the parent-child relationship must be the most important factor taken into account. It is generally advisable to deal with the filiation question before the teenage years." Thus it seems as if parents, if they wish, can tell the child from as early as 7 years and upwards, which will differ from child to child depending on the level of understanding till reaching adolescence. The indirect preparation must, however, start earlier to make it less traumatic for the child.

An open attitude was found by Milsom & Bergman (1982:127) in their study in Göteborg, Sweden, where couples told their family and friends: "...AID is a completely natural solution to their problem and there was no reason to hide the fact. All couples intended to withhold the truth from the child regarding its origin except one." They pointed out that the child may have greater difficulties in accepting insemination as an explanation of his or her origin. The parents had not decided when to inform the child, but were in agreement that this should be performed as soon as the child is sufficiently mature to understand their explanation. Daniels (1988:382) found contradictory findings in his study in New Zealand, where recipient couples and donors did not feel that the child needs to know, or should be told of the nature of their conception. He, however, concluded that a need exists for more openness rather than secrecy. Waltzer (1982:98) also strongly supports secrecy as he states: "For the child's sake, I prefer that absolutely nobody but the parents themselves know of the insemination. I feel strongly that under no circumstances should they or need they, ever tell the child the method of conception - in fact they should forget about it

themselves."

Similar findings were presented by Humphrey & Humphrey (1986:133) who conducted a study in London and found that most of their AID couples were not intending to say anything to their hoped-for children about the unusual mode of conception. Despite this, 30% to 40% had already confided in parents, siblings or close friends. Thus it appears as if couples in this situation were torn between their need for emotional support and reluctance to disclose the potentially embarrassing nature of their problem to the world at large, for telling the child would be the first step towards broadcasting the husband's infertility. Schover, Collins & Richards (1992:583-590) similarly found 80% of the husbands and 74% of the wives in their study in Cleveland, U.S.A., to believe that the child should not be told. Seventy percent of the husbands and 64% of the wives chose total secrecy with family or friends, and these decisions shifted little over time in this 11 month study. In a study of donor insemination recipients concerning secrecy, privacy and disclosure in Boston, U.S.A., Klock, Jacob & Maier (1994:477-484) also found that most donor insemination recipients do not plan to tell the child of his or her origin and only 27% planned to tell the child. Ninety-five per cent of the couples believed a psychological consultation should be a mandatory part of the donor insemination treatment. Thus these studies all unanimously agree that the child should not be told of his or her donor origin.

The whole issue of telling the child or not telling, when to tell and how, are decisions each couple must make themselves and are sensitive aspects which should be discussed with the couple during the preparation session. Secrecy or disclosure, however, remains each couple's own choice and only time will tell whether the couple will keep it a secret from the child and significant others or not. One must also ask the question if it is ethically correct to keep this secret from the child and family, who are presuming a direct bloodline which is in actual fact not so. This secrecy is deceiving the child and the family and these ethical issues need to be addressed. The initial decision of secrecy could change over the years though, as it is slowly disclosed to more and more people and eventually the child also has to be told before he hears it by

accident from somebody else. Therefore to tell others and not the child is a lethal situation which must be avoided at all costs. The couple must therefore decide on disclosure or non-disclosure.

The public, however, interestingly, feel very strongly about the child being told. In a public opinion survey in New South Wales, Australia, Kovacs, Morgan, Rawson & Wood (1986:50-51) found that 47% of the people in the community believed that the children should be told of their AID conception. This trend of openness was even more pronounced in young single people (62%).

One must, however, remember that it is very difficult for these couples to maintain their secret for the rest of their lives. As Humphrey & Humphrey (1987: 213) maintain: "The impulse to share the burden of secrecy can be overwhelming, especially for the wives, but it was the husband who remained committed to the belief that his infertility was a private matter." This secret, it seems, can eventually become like a hot burning coal inside one's body, burning constantly. Sooner or later it will be disclosed to somebody, as the need for disclosure and support could become overwhelming.

It is understandable if couples want to keep their artificial fertilization with donor gametes a secret, since everything does appear to be a natural procreation with the wife experiencing the pregnancy and childbirth. Nobody will ever know of the nature of the child's conception, their infertility problem which is deep and private will be protected and they can live the life of a natural family. The husband can also share in the experience of the pregnancy and the birth, which will enhance his bonding with the child. All couples must be made aware of all the advantages and disadvantages of secrecy and a more open attitude should be encouraged. The final decision on disclosing or maintaining the secret, however, remains the decision of the couple and they should not have any feelings of guilt about their decision they made together. This decision can also change over the years as circumstances will predict and the whole issue of secrecy must therefore be dealt with great sensitivity, according to each couple's unique situation.

Thus it can be assumed that different values exist for each social

class and culture in different countries, taking these various contrasting results regarding secrecy into consideration. Secrecy is a complex, sensitive and interrelated issue, which is unique to each couple's situation. It should therefore be discussed with the couple and assessed according to their unique circumstances and only they will know what will fit their situation best. They must then be allowed to make their own decision regarding secrecy.

Secrecy has many advantages and disadvantages and researcher compiled the following list from the literature and own practical experience:

* **Advantages:**

- . The couple's infertility is kept secret.
- . The husband's sterility remains a secret and his status is maintained.
- . The husband's feelings about his identity and self-image are protected.
- . The wife's image as a woman and mother is protected.
- . The couple can appear to be "normal" parents and a normal family.
- . Secrecy avoids stigmatization.
- . The grandparents can think that it is their own grandchild and therefore not feel disappointed in their son or son-in-law.
- . The couple can feel part of their peer group's "parent talks".
- . Consanguineal relations which are for instance present on the maternal side and not on the paternal side of the family, are preserved by secrecy and a balanced harmonious family relationship is maintained, specifically amongst grandparents.
- . The child is protected from rejection and stigmatization.
- . A family heir is secured.
- . To protect the parent-child relationship (with the social parent) and to avoid possible rejection.
- . The child need never know of his biological father, as this could have an emotionally disturbing effect.
- . The parents need not fear the child finding out accidentally.
- . Stigmatization, rejection and embarrassment can be avoided.

* **Disadvantages:**

- . The couple have to live a life of lies.
- . This awkward situation of constantly lying creates stress as once you start to lie or pretend, you have to maintain it or it could snowball.
- . Friends and family are unaware of the actual situation and cannot offer the necessary support.
- . The couple are cut off from their support systems.
- . The couple live an isolated life to protect themselves.
- . The couple have to support each other constantly.
- . A constant fear that somebody might suspect something is present.
- . The artificial fertilization with donor gametes experience cannot be shared or recommended to any family or friends who also have infertility problems.
- . Accidental disclosures can occur to the child by someone else.
- . Awkward questions regarding the treatment, the sudden pregnancy, the child's physical appearance or family history have to be answered.
- . The child's right to knowledge of his own genetic heritage and filiation is denied.
- . Secrecy restricts the availability of information and resources for the couples.
- . When the child becomes ill, the couple will have no medical history of the donor to fall back on and this uncertainty could create stress.
- . The couple could fear the child one day marrying a half-brother or half-sister.
- . The couple cannot share the immense joy and gratification of finally being granted a child.
- . Secrecy deceives the child and family members about their ties with close relatives and undermines the basis of trust on which family relationships are founded.
- . Secrecy undermines honesty and trust, the very foundation interpersonal relationships are based on.
- . Secrecy deceives the child of his own identity and genetic history.
- . The person, being deceived by the secrecy, when finding

- out, will feel wronged, let down and suspicious.
- . Grandparents will feel unfairly excluded from a situation which affected them directly.
 - . Knowledge of artificial fertilization with donor gametes might cause family problems and secrecy will maintain family stability and happiness.
 - . Once secrecy is maintained, it becomes progressively more difficult to tell relatives even if they later wish to.
 - . Secrecy conceals actual extended family kinships and can be dishonest when a family member dies and makes this child an heir whom he/she thought was a relative.
 - . Secrecy means there is no one to share the situation with, no shoulder to cry on, no support.
 - . Couples can never explain why the child does not resemble them nor have either of their natures.
 - . Secrecy restricts the availability of knowledge, and consequently breeds prejudice and rejection because of the ignorance.
 - . Secrecy implies that artificial fertilization with donor gametes is something to be ashamed of.
 - . Secrecy implies selfishness, as the main aim is to conceal the couple's infertility and to protect their interests and not those of the child and the rest of the family.
 - . Once people start commenting on the child's resemblance or the sudden pregnancy, it becomes embarrassing, instead of their being able to share the actual joy.
 - . Secrecy implies something shameful about male infertility, artificial fertilization with donor gametes and the child.

Secrecy therefore has many advantages, but also disadvantages. It seems to be the logical answer to artificial fertilization with donor gametes, as the couple can appear to have a natural pregnancy and childbirth. They can avoid the stigmatization, rejection and disappointment resulting from artificial fertilization with donor gametes and can retain their image as individuals and as parents, as well as protecting their child. The constant stress, uncertainty, lies, deceit, dishonesty and isolation resulting from secrecy, however, have a definite influence on the couple in the long run and they need emotional support. Manuel *et al.* (1980:428) confirm the

importance of this as it may "...have an important preventive function if the couples can discuss and share problems at any time with members of the team trained in psychology who do not perform the insemination themselves. Couples have to cope with this special way to have a baby together." Thus supportive counselling is once again accentuated.

It must also be taken into consideration that every couple has unique circumstances and is part of a specific family system and culture. All these aspects, together with all the possible advantages and disadvantages of secrecy, the ethical issue and their relationships with family members, must be discussed with the couple by the medical social worker during the preparation session prior to their going ahead with treatment. This will enable the couple to develop insight in their own situation regarding secrecy and disclosure and help them in their decision-making process. Secrecy still remains a sensitive, complex and difficult issue and one which only the couple can decide on. Humphrey & Humphrey (1986:138) state in this regard: "It is hard to know how to advise couples on the question of secrecy and the child's right to genetic information remains controversial. Alternative parenting and reproductive variants are here to stay and increasingly there will be a role for the expert counsellor."

Thus secrecy is an important issue and should be discussed in-depth with couples during the preparation session prior to their making a decision regarding treatment. This discussion on secrecy should include the components of secrecy, an assessment of their reasons for secrecy or openness, whom they would tell and why, the ethical issues involved and whether they are planning to tell the child or not, and if so, when, the possible psycho-social implications of secrecy and the advantages and disadvantages. The final decision regarding secrecy, however, remains that of the couple, but after this discussion they will be able to think it through and be equipped to make a decision. This decision can, however, still change over time as circumstances change.

5.4.4 Emotional reactions resulting from treatment

Once a couple has decided to undergo artificial fertilization with donor gametes, emotional stress is experienced in different inten-

sities by different patients. This is probably due to the fact that they know that this is their last and final chance to bear a child. They tend to be anxious, nervous and uncertain prior to treatment and to experience stress in the different stages of treatment. This includes the waiting list for an appointment in a specific treatment cycle; finding a suitable donor who matches the couple; daily visits to the clinic by the patient for routine monitoring; the artificial fertilization with donor gametes procedure and the waiting period thereafter until the pregnancy test results are available. If a treatment cycle is unsuccessful, the couple have to start from the beginning and wait for an appointment in a following treatment cycle. These aspects all influence their emotions and the couple feels as if they are on an "emotional roller coaster", as couples interviewed by researcher in the U.S.A. described it, which results in an unexpected rise and fall in emotions.

Being placed on a waiting list for a suitable donor to be found and matched with, Ledward, Symonds & Eynon (1982:273) report, resulted in these couples feeling amazed and disturbed at the idea of others having the same problem of which they were totally oblivious. Ledward *et al.* (1982:273) felt that this waiting period was desirable and needed by several patients who were thought to need extra time to rationalize their thoughts and acceptances of AID. The medical social worker at their clinic was also available during this time for further discussions with these couples. The time spent on the waiting list can thus also serve as a further period of time to make sure that they have made the correct decision and do still want to go ahead with treatment.

The various emotional reactions throughout the treatment process are described by Zimmerman (1982:236) as being disturbing, especially during the actual insemination, when guilt feelings are often experienced. Uneasiness was reported by patients at the beginning of the pregnancy and euphoria as the pregnancy continued, as well as at the birth of the child. In examining male and female responses at different stages of treatment, Beaurepaire, Jones, Thiering, Saunders & Tennant (1994:229-240) in their study performed in New South Wales, Australia, found 30% of both husbands and wives to experience clinically elevated anxiety regardless of the stage of

treatment. Women repeating a cycle faced the risk of developing severe depressive symptoms and it was recommended that intervention should be available to facilitate psychosocial functioning on an ongoing basis.

Increased anxiety was also found by Poland, Pieper & Moghissi (1981:68), specifically prior to or in anticipation of the artificial insemination (AID). Furthermore, stress was found to affect the menstrual cycle, especially ovulation, but the exact nature of the connection between stress and the menstrual cycle pattern was difficult to make out for a number of reasons, such as, there are no good objective definitions of stress; the temperature rise midcycle may not coincide with ovulation; and variation in day of temperature rise exists normally from month to month. It was concluded that the stress of AID does have an impact on the menstrual cycle. Harrison *et al.* (1984:374) similarly found female patients to be more prone to anxiety, more introverted, guilt-prone and tense than their control counterparts. Thus anxiety seems to be a factor which should be discussed with couples and specifically assessed in female patients. Emotional support by the medical social worker throughout treatment should therefore take place on a routine basis.

To determine the attitudes and anxiety levels of women during treatment, a study was undertaken by Reading, Chang & Kerin (1989: 98-99) who found increased levels of anxiety concerning the viability of a pregnancy, particularly in the early stages of treatment. During the ultrasound or sonar investigations women who failed to see the foetal heartbeat, had increased levels of stress. In general, the ultrasound had a stress-reducing and positive effect on respondents. Attitudes and feelings toward the pregnancy were positive and it was concluded that anxiety can increase the risks of complications either through its direct maternal and thus intra-uterine, or indirect health-damaging behaviours. Thus emotional stress seems to have a definite impact on the outcome of treatment. The medical social worker can play a role in providing emotional support during treatment and helping to reduce anxiety and stress levels. Supportive counselling on an ongoing basis throughout treatment is thus essential.

A study in Brussels, Belgium, by Van Thiel, Mantadakis, Vekemans & Gillot de Vries (1990:823), found by means of a Thematic Apperception Test (T.A.T.) in female respondents anxiety and depression, as a result of fear of rejection by their family and friends, and aggression, almost demanding AID. In male respondents denial of their sterility was found and an inability to abandon their fertility as lost, ambivalence, castration anxiety, a feeling of being excluded from the mother-child symbiosis and an excessive identification with the mother. It was recommended that all couples should have psychological assessment and advice before commencing with treatment. The respondents in this study did, however, not seem to have come to terms with their infertility and had clearly not undergone any form of assessment or preparation prior to treatment. The loss of genetic continuity, according to Menning (1982:162), is an important factor for the husband to discuss and first accept. No matter how well the donor is matched to the husband, this loss is real and needs to be grieved.

The need for a study to determine the nature of any association between emotional state and conception in couples treated with artificial insemination by donor (AID) was stated by Carr, Friedman, Lannon & Sharp (1990:907) from the University Hospital in Nottingham, England. Many of the women in the study of Carr *et al.* (1990:907) attributed the outcome of treatment to their psychological and emotional state at the time of insemination. Thus it is possible that a relationship exists between conception and psychological state. A similar focus was provided by Demyttenaere, Nijs, Steeno, Koninckx & Evers-Kiebooms (1988:175-181) who studied 116 women entering an AID programme during a nine-month period and formed a significant inverse relationship between anxiety measured before the first insemination and pregnancy rate. As only the data of those who became pregnant was reported, it is possible that these results can be biased.

In a paper presented at the First International Conference in Social Work in Health and Mental Health Care in Jerusalem, Israel, which researcher attended, Makler-Lapidoth, Sharlin & Itzkovitz-Eldor (1995:201) found all 109 patients included in their study at the Rambam Medical Centre's Infertility Clinic at Haifa University,

Haifa, Israel, to experience their treatment as very stressful, in spite of their willingness to cope with all relevant problems. The women were, however, more anxious and worried. Both partners were also equally embarrassed by treatment, but mutually supportive and optimistic about successful treatment. Blaser et al. (1988:18) confirm this, as they maintain that the time during the insemination is the most stressful for the couple: "Frequently, several insemination cycles are necessary and frustrations at the return of the menstruation are inevitable and often lead to feelings of hopelessness. Phases of hope and disappointment interchange and are very burdensome." Laffont & Edelmann (1994:85-92) in their study at the University of Surrey, United Kingdom, found treatment to have a greater emotional impact on women and the diagnosis and treatment to cause greater emotional distress for women than for men. The most stressful period was found to be the time when they were waiting for results. Furthermore, women also experienced more stress than men during the stages of treatment. Van Delft (1983:272-284) in his study, found all the women to experience the treatment as emotionally stressful, while one woman experienced treatment so traumatically, that she could not drive her motor car home. Her whole body seemed to reject the donor semen inside of her and treatment was unsuccessful.

Thus the anxiety and stress experienced during treatment is confirmed by these studies, making it clear that these couples do undergo the "emotional roller coaster" experience during treatment, as referred to by Laurence (1989:59). Thus the need for supportive counselling during treatment is highlighted.

In a study to determine the psychiatric issues in non-anonymous oocyte donation, Bartlett (1991:433-437) found more psychiatric symptoms and emotional aspects in female donors than in female recipients. The evaluation of symptoms and understanding of the emotional aspects of this reproductive option is recommended to need clinical observation during and after treatment for all patients. Most women were found to feel uneasy before their first treatment, according to Czyba & Chevret (1979: 243). Stomach-ache was reported and corresponded to cycles during which conception occurred. Often anxiety was expressed about the sperm sample used and if they would

not make a mistake and use the wrong one. The husbands usually wished to be present during the insemination and managed to attend, despite the constraints of their working life. This represents their symbolic participation in the act of conception as does their active sexual life during the insemination period. Thus it is important that these fears and anxieties are explored and discussed with the couple and that the husband is encouraged to be present on the day the insemination or procedure is performed.

In a study in the U.S.A., using certain psychological tests Schover *et al.* (1992:583-590) found increased anxieties and psychological distress in couples during treatment who had been screened as "at risk patients" prior to entering the programme and as a result it was concluded that a screening procedure is cost-effective. Thus it is evident that screening of patients prior to treatment is essential, as well as supportive counselling during treatment.

Unsuccessful treatment, according to Rosenkvist (1981:143), resulted in severe emotional reactions and the development of problems in individuals and couples. A 4% divorce rate resulted from this. Brand & Saayman (1986:87) also confirm the negative effect on the marital relationship of couples who had unsuccessful treatment, as well as the emotional stress concerning the failure. Meijer, Hamerlynck & Schagen (1980:599) in their study in Amsterdam, the Netherlands, found that when AID failed, the women in particular went through a difficult period because of feelings of frustration.

The couples to whom a child was born, were of course very happy, but stated that they had experienced some problems during the pregnancy. Thus, normal emotional reactions were experienced by these couples. Emotional support could help couples to cope better with the emotional stress and strains evoked by treatment, as found in these studies. By selecting suitable couples who are emotionally stable, have a positive marital relationship and the necessary coping mechanisms, this stress, anxiety and the psycho-social problems experienced during treatment can be reduced to a certain degree. By including all these couples in individual preparation sessions they will be more realistic and prepared regarding the possible psycho-social implications of treatment and will in a sense be able to

predict and cope better with the possible outcomes.

5.4.5 The individual

Artificial fertilization with donor gametes could have possible psycho-social implications for the individuals involved. These individuals include the recipient husband, the recipient wife and the donor and will subsequently be discussed in detail.

5.4.5.1 The recipient husband and wife

The anonymity of the donor, according to Blaser *et al.* (1988:18), presents a frame for projective fantasies. The husband can fantasize about the child's resemblance and whether he will be able to forget that he is not the biological father, whether he will interpret praise for the child as criticism of himself or how he will cope with jealousy concerning the donor and feelings of guilt. The wife also runs a danger of developing fantasies about the donor and about the physician whom she could unconsciously see as the impregnator. The physician in turn may invest too much personal engagement and pride in the success of the treatment. Rivalry between the physician and the husband and/or donor is thus apparent.

The infertile husband, however, does not feel less self-confident, is not more depressed, downhearted or crushed than fertile men, as found in the study of Blaser *et al.* (1988:20) in Bern, Switzerland. AID was not found to have any negative consequences on the sexual life of the couple. Sterile men whose wives were artificially inseminated were no less assertive nor less competitive than fertile men whose wives were not pregnant. Sterile men did not give evidence of problems in coping with their diagnosis or the insemination procedures and they did not suffer in any way from AID nor develop any signs of psychopathology. Thus it seems as if the infertile husband will not experience any psycho-social implications as a result of artificial fertilization with donor sperm performed on his wife. It is, however, possible that the favourable results of this study of Blaser *et al.* (1988:20) are a consequence of their careful selection of couples. A thorough screening routine is recommended and that positive results from research should not lead to carefree selection of couples.

A study undertaken in Toronto, Canada by Berger et al. (1986:822) found that artificial insemination with donor sperm satisfied the need of women to experience pregnancy and motherhood and the husband's need to experience fatherhood. Conflict in both husband and wife was inevitable and although secrecy may be useful, it also indirectly contributed to denial and negation, attitudes which interfered with recognition, discussion and resolution of conflict. Interestingly, 14 of the 16 wives reported dreams of their husbands being violently attacked and in the dream the wife played the role of rescuer or onlooker. Five husbands reported dreams of being alone or abandoned and being in difficult financial straits. Early conflictual and sexualized relationships with parents came to the fore in patients who experienced depression and pessimism during treatment. It was concluded that this treatment can evoke oedipal conflicts in husbands and wives, that for the wife the stranger who impregnates her may represent the oedipal father, and for the husband, this stranger may represent the hated oedipal father who has stolen the wife/mother from him. The conflict in both partners involved is inevitable and although secrecy may be useful, it may also indirectly contribute to denial and negation, attitudes which interfere with the recognition, discussion and resolution of conflict. In their final analysis Berger et al. (1986:822) state: "It seems reasonable to conclude that the majority of persons come to terms with the conflicts that infertility and AID evoke, and adapt successfully to the pregnancy." Thus, even though many conflicts were evoked by treatment, positive long-term results of these conflicts being resolved and the outcome of treatment being successful were reflected.

A study in Germany by Herrmann (1989:243-247) found sterile women far more prepared than normal women to undergo a physically as well as emotionally strenuous therapy to have their childish come true. The personal involvement played a decisive role in the acceptance of medically and psychologically more precarious procedures. Thus it seems as if infertile women have greater tolerance levels for painful procedures, have more courage, perseverance and persistence to endure these procedures to make their dream of motherhood come true.

Some of the psychological issues of artificial insemination by donor,

as mentioned by Olshansky & Sammons (1985:52S), are firstly guilt feelings in both males and females. The male may feel guilty about his inability to conceive and the female may feel anger and then guilt. Males tended to have guilt feelings regarding their manhood and guilt toward their wives, family and society. Most females feel guilty because they did not share in their husbands' failures in the reproductive process. Another aspect is sexual dysfunction which may accompany artificial insemination by donor sperm or the knowledge that the male is infertile. Some men experience a period of impotency during the treatment period. Czyba & Chevret (1979:242) confirm that the female is guilt-ridden by her desire for a child and her physical integrity makes her feel frustrated.

In a study in Tel Aviv, Israel, David & Avidan (1976:531) on the other hand found 80% of the males to experience guilt feelings. They felt that they could not give proof of their manhood or act as real fathers. They had the feeling that they did not fulfil the expectations of their families and society and showed guilt feelings and self-accusation toward their wives because "she is the victim of the treatment which is triggered by my infertility." Most of the wives felt guilty because they did not share their husband's failure in the reproductive process. Part of their guilt feelings were due to their pride in their femininity, which they could prove by treatment. Thus feelings of guilt seem to be very prominent in both males and females and must be explored and discussed with them to develop the necessary insight.

In a study performed at the University of Surrey, United Kingdom, Edelmann, Connolly & Bartlett (1994:355-364) examined the psychological adjustment of these couples and their coping strategies. Women, they found, took direct action such as undergoing treatment, and men also coped by means of this direct action, as well as acceptance of the diagnosis. Halman, Abbey & Andrews (1993:1046-1954) on the other hand, in their study at the University of Michigan, Ann Arbor, U.S.A., found men to use escape as a coping skill and women utilized personal control. Moreover, Wright, Duchesne, Sabourin, Bissonnette, Benoit & Girard (1991:106-107) found in their study in Montreal, Canada, that women ruminate about the stressful situation, creating discouraging thoughts in their minds, such as: "I'll never get preg-

nant", "The baby will be abnormal". "The more she ruminates, the less she engages in work, social or leisure activities. This reduction in activity level makes her more vulnerable to depression. Males try to forget the problem by remaining active, putting it out of their minds by throwing themselves into work or leisure. They also have fewer reminders than the wife, as the social responsibility for conception and delivery of babies rests much more on the shoulders of women than on men and the women feel more responsible for the cause even when it is a male cause." Herrmann *et al.* (1984:719) found that these couples developed individual and partnership strategies to deal with the burden of unwanted childlessness.

These couples need to be assured that what they are experiencing is normal and that women are usually more affected than men. The differences in how men and women cope should also be discussed with them and ways of enhancing coping skills should also be suggested. The wife can for example be encouraged to develop more activities, hobbies or social contacts and the husband could read more about the subject and be more supportive to the wife by accompanying her during the treatment. If more compatible coping strategies are developed, they can work together as a team in facing this situation, rather than struggling as isolated individuals. This will increase their chances of better adjustment to the situation. Assessment of each couple's coping mechanisms must be included during the selection process and the enhancement of coping skills can be discussed during the preparation session as well as during supportive counselling sessions.

In a study in Spain by Rojo-Moreno, Valdemoro-Garcia, Garcia-Merita & Tortajada-Martinez (1994:172-175) the personality characteristics of couples undergoing AID were analyzed. There were significant differences between males and females, with a greater conformity with the group in women, and also women being bolder and more disciplined from an emotional point of view, whereas men were more radical. The greater conformity with the group in women could also possibly have been one of the motivating factors in these women to have a baby.

A study by Brewaeys *et al.* (1993:23-35) comparing heterosexual and

homosexual patients who had undergone AID in Belgium, found both groups to have fantasies of the donor and it was difficult for them to reduce the donor to an anonymous sperm cell. Fantasies of the donor thus seem evident and can be understood, if one takes the situation of being "impregnated" by an anonymous man into account and the fantasies that a woman can have of this handsome, robust man. It most probably becomes a sort of romantic fantasy of a "prince in shining armour". This also confirms the findings of Blaser *et al.* (1988:18), as discussed earlier, who stated that: "The wife also runs a danger of developing fantasies about the donor." This could most probably lead to implications in the marital relationship. Counselling in this regard should be recommended.

Research to determine the stress levels, cognitive appraisal of AID, ways of coping and emotional health of couples undergoing AID, was undertaken by Prattke & Gass-Sternas (1993:516-527), who found that the wives had greater stress levels, used more ways of coping and more often appraised AID as a harm-loss, threat or challenge. The husbands more often appraised AID as a beneficial experience. It was concluded that it is important to determine the relationship between stress levels, stressors, situational factors and emotional health in future investigations and that it will help team members understand how these factors affect couples undergoing AID. Thus selection of couples and preparation is inferred by these findings.

In their study in Greece, Tarlatzis, Tarlatzis, Diakogiannis, Bontis, Lagos, Gavriilidou & Mantalenakis (1993:396-401) similarly found stress to play a prominent role in both sexes. Depression was mostly found in women, while men showed a tendency towards repressed anxiety, with a greater risk of psychosomatic illness. Women showed high defensive anxiety and also reported numerous psychosomatic symptoms. Guilt feelings were also experienced by the women, particularly those who had had previous abortions. Emotional support thus seems to be essential. Herrmann *et al.* (1984:719) in their study in Germany, found that it was the woman who had to bear the major part of the intrapsychic burden and who primarily suffered because of the problem which was actually caused by male sterility. The issue of their infertility being a joint-burden should therefore be discussed with the couple to help them develop insight and to help

decrease the wife's burden and guilt feelings.

The relationship between sex role and emotional well-being in infertility patients undergoing assisted conception was determined in a study in London by Cook (1993:31-40). The findings showed that women with a traditional feminine sex-role type were more anxious than those with a masculine sex-role type, but there were no differences in depression, marital or sexual functioning. Men with an undifferentiated sex-role type were more anxious and depressed than those with other sex-role types. Thus it seems as if individuals in traditional roles most probably have specific expectations regarding certain roles that they have to perform and if these do not realize, anxiety and depression sets in. Laffont & Edelmann (1994: 85-92) found greater emotional distress in women than in men in their study in the United Kingdom. The female partners' desire for sex also decreased. Visser, Haan, Zalmstra & Wouters (1994:35-43) in their study in Belgium also found these women to feel more anxious than the normal population. Even after treatment, these females' state of anxiety remained unchanged.

Thus anxiety seems to play a prominent role in these individuals' lives. This could most probably be ascribed to the uncertainty of the outcome of treatment, the long-term implications for the family and the secrecy involved. Supportive counselling on an ongoing basis is thus of utmost importance to help reduce the anxiety levels and enhance coping mechanisms. Thorough preparation of couples is also essential as this will help them to gain knowledge and insight and to be more realistic in terms of the possible implications.

5.4.5.2 The donor

Literature and research on the donor is very limited, with the majority of studies related to donor attitudes concerning the donation. No studies have been performed on the psycho-social implications of the donation for the donor and there is a great need for more research on this. Furthermore, there is also a need for the thorough preparation of the donor and spouse/partner which is essential and should be the focus of future research.

The donor, whether male or female, must surely also experience some

psycho-social implications as a result of his/her donation, whether directly thereafter or many years later. The fact that the donor has donated his or her own gametes and has relinquished all responsibility towards the child and ties with his/her offspring, must surely get to this person at some stage in his/her life. Will he regret ever donating? What type of person is willing to perform such an act for unknown people? Furthermore, a question one asks is whether this donor has kept the donation a secret? Whether his/her spouse is aware of the donation and the fact there might be a few of his/her offspring elsewhere? Do family and friends know and what will their reactions be? What will the reactions of the donor's child or children be once they find out about this? What if the donor and his/her spouse cannot have children of their own many years later, for some or other reason? How will the donor, who donated sperm while he was a student, feel as a married man yearning for a child, which they together cannot produce? Will he later wonder about these secretive, anonymous offspring of his, wondering where they are? How will it affect him and how will it affect their marriage? Will this donor have fears of his/her "donated" offspring marrying one another unknowingly? Will he have feelings of guilt about his donation? Will he/she sometimes think he/she recognizes a possible offspring who seems to have a strong resemblance? These are all possible questions and thoughts which could go through the mind of the donor and will be worsened if it is kept a total secret. It would be ideal if donors could be prepared and these issues discussed with them, but unfortunately they are not willing.

A study undertaken in Liberec, Czechoslovakia by Tau & Gerzov (1991:173-183), examined the personality and social behaviour of semen donors. They found the semen donors to be between 20 to 40 years old and were either university students, university graduates or men with secondary and elementary education. They all had balanced personalities, were slightly extrovert, were emotionally well-developed, with a realistic outlook. They were positive people, who were considerate, careful and disciplined. They respected social norms regarding preservation of originality of personality. They had a slight tendency to sheltering behaviour and they wished to be somewhat more aggressive. No pathological phenomena were observed and their intelligence was above average. Thus, from these results,

it seems as if donors are people with a normal personality and socially acceptable behaviour. Interesting and similar findings are also reflected in the study on donors by Handelsman *et al.* (1985:97-99) in Australia. They found their donors to be significantly more intelligent, outgoing, adventurous, assertive, extroverted and independent than the Australian norms, but less shrewd, apprehensive and suspicious. These donors thus seemed to be normal people with more outgoing and extroverted personalities.

A study was performed on female donors by Bartlett (1991:433-437) to determine the psychiatric issues in non-anonymous oocyte donation. The female donors in their study demonstrated expectable psychiatric symptoms, which either reflected a denial of symptoms or a concern that if these symptoms were revealed, they would be rejected as donors. Their expectations were complex and emotional reactions were experienced following the donation. These findings, however, were reasonably non-specific and vague and it is therefore difficult to conclude anything from this study.

It is interesting that siblings are more than willing to act as donors for their infertile brothers or sisters. Leeton, King & Harman (1988:245-248) discuss a case where a sister of a hysterectomized 40-year-old woman was willing to undergo in-vitro fertilization by donor sperm using her own oocytes and act as surrogate mother for her sister. A healthy female baby was born as a result. Similarly, Sauer *et al.* (1988:721-722) describe how sisters are willing to donate oocytes to their infertile siblings, who in turn will gladly accept. Brothers are also willing to donate sperm to their infertile siblings, but, interestingly, the recipient couples in this study were not willing to accept this sperm from the husband's brother, as he would be known to them. Thus siblings are willing to perform this altruistic act as donors to allow their infertile siblings the chance of pregnancy and parenthood. The recipient couples with female infertility gladly accepted this offer, while couples with male infertility, however, found this issue too sensitive to accept and preferred to conceal the husband's sterility, rather than accept semen donation from a known person, that is, the brother. Thus the importance of fertility and secrecy regarding male infertility is confirmed.

Other studies on the motives of donors, also found altruism to be one of the most common reasons and primary motives for donors wanting to donate their gametes to strangers besides a desire for a fertility examination. (Compare Pedersen *et al.*, 1994:701-705; Handelsman *et al.*, 1985:99 & Huerre, 1980:461-465.) Sauer *et al.* (1989:362-364) found the financial remuneration to be the main motive, while Huerre (1980:461-465) found seeking gratification and ego-reinforcement to be secondary motives. Thus donors seem to be very altruistic by nature, considerate and open-minded and want to mainly help other people in need. Secondly, they want to boost their own ego with being very fertile, receive payment for their donation and enjoy the resultant gratification. Sevenster (1996) sums it up by stating that donors do this because giving a new life is the greatest gift anyone can give. All they want in return is a word of thanks.

On the other hand, Pedersen *et al.* (1994:701-705) found that most donors do not seem to feel any close relationship to donor offspring and anonymity was essential to their functioning as donors. So it seems as if the donor does not even think of the offspring, wants to remain anonymous and is apathetic about this situation. In this regard Mahlstedt & Probasco (1991:751), however, found a controversial situation. The male donors in their study wrote messages they would want to give this child conceived with their sperm. The following are some of these messages:

- * "I want you to know that the small part I played in your creation has made me very proud, and I wish you all the best your life has to offer."
- * "Be aware of the small sacrifices that your parents have made on your behalf. Artificial insemination is a difficult choice and to have made it means your parents considered having you to be worth the struggle. Appreciate them."
- * "Listen to your mom and dad. They wanted very much to bring you into the world and raise you properly."
- * "Your parents wanted a child very much, but needed help. I wish you a long, good life. This chance to live is a singular gift, so strive to reach your best at everything you do."
- * "I am glad I could help in your conception, but your real parents are the ones who raised you and took care of you. I hope you find life beautiful. Be happy!"

These messages do reflect love, fatherliness, pride and respect for the recipient parents' position as this child's mother and father. It also reflects the feelings these donors have towards their future offspring and does not reflect such an apathetic attitude as reflected by Pedersen *et al.* (1994:701-705).

It is difficult from the above-mentioned to be able to describe the donor as a person or the effect this donation of gametes has on him or her. It, however, seems as if the donor is a normal, outgoing and extroverted person, either married or unmarried, with or without children, who has altruistic tendencies, wanting to help other people who cannot have a child. To donate means helping others in need and it is fulfilling to know one is creating a new life. This most probably makes these donors feel a sense of pride and gratification. But in order to cope with this and to protect their own lives, it seems as if they need to remain anonymous and to forget about this child and the good deed they performed for mankind. It would be ideal to be able to prepare donors and their spouses or partners thoroughly regarding the possible psycho-social implications of their donation of gametes and to continue with counselling thereafter. Unfortunately donors are unwilling to partake in any form of counselling due to the anonymity involved. One merely hopes that all these donors are coping with this choice they made and that it is not affecting them and their family too severely. Future studies on the psycho-social effect of the gamete donation on the donor and family would be extremely enlightening.

5.4.6 The marital relationship

Artificial fertilization with donor gametes could have possible psycho-social effects on the marital relationship. The fact that it affects the individual, as discussed in the previous section, implies that it could possibly affect the marital relationship as well. This will depend on their having come to terms with their infertility, their interpretation of childlessness, the redefining of the goals of their marital relationship in this regard and whether they made a thorough joint-decision regarding treatment.

It is important that each couple's marital relationship is assessed and that the couple are screened prior to treatment. As this form

of treatment is very complicated and creates a great deal of stress, a stable marital relationship is essential. In this regard Waltzer (1982:98) states: "It is important to estimate the true quality of the marriage. AID is no answer to an unstable marriage or to a romantic idea that the presence of the child will save a couple's marriage from going on the rocks. It is obviously not the right procedure for the woman who says that she cannot go on with the marriage unless she had a child." Thus the motives for this form of treatment must also be assessed, while assessing each individual and the marital relationship. Selection of couples for artificial fertilization with donor gametes is of utmost importance.

Although the selection process reflects a positive marital relationship, with little indication of sexual problems, Wright *et al.* (1991:105) in their study in Montreal, Canada, suggest that it is possible that the stress and strain of treatment could lead to a change in marital and/or sexual satisfaction within the first few months of treatment. These possible psycho-social implications should be discussed with couples during the preparation session and their coping skills enhanced.

The effect of artificial insemination by donor on the marital relationship was investigated by David & Avidan (1976:531) in Israel, who found guilt feelings to exist in both sexes and the wives to blame the husbands. A feeling of resentment was also directed subconsciously against the husband who was responsible for the infertility. Other interesting findings were that the couples reported a significant decrease in their rate of intercourse during AID treatment. Only two cases of marital conflict occurred due to tension on the part of the wives, as a result of the pregnancy. The other couples disclosed their happiness to the researchers and the wives also reported that their husbands were escorting them to the treatment and were nearby them during the insemination. This gave them the feeling that their husbands were involved in the achievement of the goal. This supports the viewpoint of the inter-disciplinary team at the H.F. Verwoerd Hospital's Infertility Clinic in encouraging husbands to be present on the day of the insemination, so as to feel part of the treatment process.

Couples sometimes reported a decrease in their rate of intercourse during treatment which could be due to the husband detaching himself, so as to reduce his feelings of guilt and incapability (David & Avidan, 1976:531). Finegold (1976:90-102), on the other hand, who at the time of his study had had 25 years experience in working with couples undergoing AID, found no traumatic effects of AID whatsoever on the persons involved or on the marriage. The importance of thorough selection of couples for AID was still, however, stressed by Finegold (1976:90-102).

In his follow-up study with 134 couples in the Netherlands, who had one or more AID children, Kremer (1982:40-43) found contrasting results to David & Avidan (1976:528-532). Kremer (1982:40-43) found 50% of the husbands and 58% of the wives to have increased feelings of self-worth. Only 3% of the husbands and 1% of the wives had feelings of guilt. Ninety-five percent of the husbands and 96% of the wives felt their happiness had increased. Ninety-nine percent of the marriages remained stable, with only a 1% divorce rate. These positive results seem to indicate that AID has mostly positive consequences for couples involved. The divorce rate amongst AID couples was also reported to be very low. Alexandre (1980:431-434), on the contrary, describes four of his AID cases in Paris, France, who experienced marital and sexual problems and of whom two couples eventually separated. In case one the husband started having an affair close to the date on which the AID procedure was to be performed. In case two, the husband, who had a problem with premature ejaculation, started drinking and became impotent, after which they separated. In case three, the husband, who was a rehabilitated alcoholic, started drinking again once his wife was pregnant, following AID. He later had an automobile accident under the influence and became totally impotent. He tried to compensate for this sexual failure by meeting with prostitutes. During psychotherapy he considered himself attached to his wife and "his" son, was convinced that the son resembled him and wanted a second child. In case four, the couple's sexual activity following AID ceased totally and was non-existent for two years. The husband seemed very attached to "his son" and was looking forward to the second child, as his wife was again pregnant through AID. These cases described above are extreme examples of the worst psycho-social effect of AID on the

marital relationship. One wonders if any selection procedure was performed on these couples, and if so, if they would have been selected? Selection of couples is thus essential, as well as supportive counselling. Poyen, *et al.* (1980:413-417) in Marseille, France, also stress the importance of selection and counselling and report eight cases with various psychiatric symptoms who were rejected for AID.

In a study in the U.S.A. Sokoloff (1987:14) reported the wives to have felt selfish, knowing that their husbands would not be the genetic fathers. The husbands reported feeling deeply about their loss of genetic input. The wives were also preoccupied with the donor's looks and personality and fantasized about him. All these aspects could have a definite influence on the marital relationship. These fantasies are also mentioned by Blaser *et al.* (1988:18) who state that the wife can run the danger of fantasizing about the donor and about the physician, seeing him as the impregnator. Furthermore Olshansky & Sammons (1985:52S) state that the idea that the woman has conceived through another man's sperm, can distort the couple's perception of their own intimacy and raise intrapsychic conflicts. One would think that this could lead to problems in their sexual relationship, such as impotency or decrease in desire for sex. D'Elicio *et al.* (1980:409), however, state that most couples have re-established successful erotic relations once solutions of the problem of having children, rather than the problem of sterility, have been looked into. Thus the importance of first coming to terms with infertility before going ahead with treatment is again stressed.

Concerning sexual implications, Cook (1993:31-40) in a study in London found no differences in the marital or sexual relationship of recipients following treatment. Humphrey & Humphrey (1987:214) similarly found little to suggest any adverse effect on the couple's sexual relationship. The opposite was found by Schover *et al.* (1992:583-590), on the other hand, in their study in the U.S.A., who found 59% of the women and 53% of the men to report sexual problems as a result of treatment. Laffont & Edelmann (1994:85-92) in their study in the United Kingdom found only the wives to have a decreased desire for sex as a result of the treatment. Tarlatzis *et al.* (1993:396-401) in their study in Greece, also found evidence of

sexual problems, as half of the recipient couples reported sexual disfunction. Thus it is evident that sexual problems have been reported in a few studies and not in others. So the possibility exists that these couples can experience problems in their sexual relationship.

The uniqueness of each couple's relationship must be taken into consideration, as well as their coping skills, culture, background, personalities and development of their relationship. These factors could also determine the outcome of the effect on their marriage. Some couples will most probably experience some implications in their sexual relationship prior to and following treatment. Even during the pregnancy and after the birth of the child, sexual difficulties could still be encountered. As a third anonymous person, the donor, is involved indirectly in the marital relationship, one can expect this to have some conscious or subconscious effect on the individuals and hence on their desire for sex, their spontaneity and sexual performance.

Some of the psycho-social consequences of artificial fertilization on the marriage, as reported by Clamar (1980:175), are that it gives the wife the opportunity to experience pregnancy and birth. She will know that her body functions as it was intended to and her self-esteem will be heightened. Yet she might also feel inadequate and guilty, imagining that if she were more of a woman, she could somehow help her husband overcome his infertility. The husband may be highly motivated to satisfy his wife's desire for a child, take pride in seeing her pregnant and see this as a way of hiding his infertility from society. He will surely feel deeply about his lack of genetic input, because he cannot do what is expected of him, and may worry that his wife will be violated by another man with his consent. For the husband the greatest turmoil comes at the time of the AID decision, when his wife becomes pregnant and the reality of the method of conception becomes a fact, as well as at the time of approaching birth, when his insecurities and fears about his parenting role may be rekindled. Supportive counselling at these stages would be essential.

Infertile women who had a confiding relationship with their spouse

showed better adjustment to this situation, according to McEwan *et al.* (1987:115). Humphrey & Humphrey (1987:216) on the other hand, found that the husbands needed more emotional support from their wives than was forthcoming and that the wives had been more comfortable than the husbands about their marital relationship. They found that the exchange of affection was crucial for a happy marriage. Moreover, they found that childlessness seems to enhance marital communication and that the arrival of a child could impair the communication of the couple. They emphasize that the psychological needs of candidates for assisted reproduction should be met by trained counsellors. These issues should be discussed with couples during the preparation session. Supportive counselling should thus be available on an ongoing basis for all couples when needed.

The fact that couples experience stress as a result of artificial fertilization with donor gametes, Owens *et al.* (1993:880-885) maintain, should not necessarily have to be associated with chronic marital discord. Snowden & Mitchell (1981:46) state that almost all published reports conclude that the emotional and psychological problems within marriages where AID children have been born are few and that these marriages are improved and enriched. Despite these claims they state some of these marriages do fail. Klock *et al.* (1994:477-484) confirm that the marital adjustment of the couples in their study in the U.S.A. are in the normal range and both husbands and wives are psychologically well-adjusted. Thus marital discord does not seem to be a resultant implication of artificial fertilization by donor gametes from the limited studies which have been undertaken. Whether marital discord does or does not occur, remains open for further research.

It seems as if the marital relationship is in actual fact enhanced by artificial fertilization with donor gametes, according to Zimmerman (1982:235), who reports that the marriages seemed to improve and AID couples reported increased satisfaction with marriage and life in general. Amuzu, Laxova & Shapiro (1990:903) confirm this by reporting 54% of the respondents to have thought that artificial fertilization with donor gametes improved their marital relationship, while 3% thought it had a detrimental effect. Van Staden (1989:185) corroborated this by stating: "This unique infertility evolution was

consistently seen in the majority of couples, as not only demanding, but also generating cohesion in the couple's relationship - a commitment which had been re-established during the infertility crisis. They were plunged into a situation which demanded explicit renegotiation of their ideas on parenting, quality of life and goals. High levels of cohesion, enhanced communication and mutual commitment are hypothesized as aiding the transition to donor parenthood."

Thus it is evident that these couples seem to be very committed in their marital relationship. This process of coming to terms with their infertility and going through the decision-making process seems to require a redefinition of who they are, what they want in their marriage and whether they are both willing to make this transition to social parenthood in order to have a child. This process then seems to enhance their relationship, creating a more serious commitment and increasing their loyalty.

In a study in Toronto, Canada, Berger (1980:557) confirms this by finding 90% of the couples to report that having an AID child strengthened their marriage. These couples were, however, not willing to partake further in the study by completing the postal questionnaire. A study in Sweden by Milsom & Bergman (1982:127) with 95 AID couples also revealed interesting results regarding the marital relationship. Fifty-one percent of the men and women considered their husband-wife relationship as unchanged after the birth of their AID child. The other 49% emphasized that their relationship had improved and that the bonds between them had strengthened. In this regard Berger *et al.* (1986:822) maintain that the marriage is stabilized by each partner's need to remain loyal to the other's secret and enhances their love and respect for each other. These studies thus reflect a positive impact on the marriage. Much more research has to be undertaken, however, to corroborate these findings.

To furthermore ratify these findings, Behrman as quoted by Berger (1982:54), found 1:800 marriages of such couples to end in divorce, after a seven year follow-up study, which is much lower than that of the general population. He concluded that these couples' deliberations prior to seeking AID strengthen and stabilize the marriage.

Conflicting results were found by Goebel & Lübke (1987:636) in their study of 96 AID couples in Germany, where 10% of couples who had undergone AID successfully with a resultant child or unsuccessfully and then adopted a child, had got divorced and 35% of couples who had undergone unsuccessful AID with no child also got divorced. No couple regretted the treatment. These contradictory findings can be indicative of the uniqueness of each marriage, the cultural aspects and circumstances involved, which could be factors contributing to the effect on the marital relationship, following treatment. Selection and counselling of couples is thus of importance.

Despite the claims that the marriages in which AID has taken place are very stable or even enriched, Snowden & Mitchell (1981:47) claim that some do inevitably fail. In many of these unsuccessful marriages the fact that an AID child or children are present appears to be irrelevant to the failure, but in others the presence of the AID child is either the ostensible cause of the failure or is used by one partner to hurt the other. There are also a number of instances where, following separation or divorce, the husband continues to visit the child. Rosenkvist (1981:143), however, found that couples who had unsuccessful treatment, experienced severe emotional reactions and the development of problems individually as well as mutually. A divorce rate of 4% resulted. Amuzu et al. (1990:899) similarly found a 7.2% divorce rate amongst couples who had had successful AID, which is still significantly less than in the case of the matched population ($P < .01$). Thus it seems as if some couples do get divorced, but that the divorce rate is reasonably lower than in the general population.

The involvement of a clinical psychologist and psychiatrist in couples undergoing AID was examined by Van Delft (1983:262-269), who found minimal psychological or psychiatric problems in this group of recipients studied and concluded that the relatively low rate of AID in South Africa, most probably plays a role in the low incidence of AID related problems. Furthermore Van Delft (1983:282) found the marriages of couples in his study to be stable, that it was all these couples' first marriage and there were no divorces.

Thus it is difficult to come to a conclusion regarding the divorce

rate of these couples as contradictory findings occurred in most studies, but it did seem as if the divorce rate was reasonably low. More research has to be done on this topic, especially on a long-term basis, to be able to determine more accurately the outcome of the marital relationship following artificial fertilization with donor gametes. Lastly the extensive financial costs involved are also further factors contributing to stress in the marriage, as medical aid schemes do not usually reimburse any form of infertility treatment and the couple have to pay for this treatment themselves. The time that has to be taken off from work and the excuses or lies that have to be made to explain where they are going, are issues that are complicated by the secrecy involved and are all factors causing increased stress in the marital relationship.

In conclusion Van Delft (1983:100-101) maintains: "Die feit dat navorsers so baie positiewe bevindings met betrekking tot KIS aandui, kan inderwaarheid beteken dat slegs die egpare wat absoluut seker is van hulself om KIS toe te pas, aanvaar word. By die geringste twyfel aan die kant van die egpare, word KIS nie oorweeg en/of toegepas nie. Waarskynlik herberg KIS inherent so baie konflik en trauma, dat 'n natuurlike seleksieproses plaasvind tussen diegene wat die aanslae op die persoonlikheid en huweliksverhouding kan weerstaan en dié wat dit nie kan doen nie." Thus a natural selection process seems to take place and only couples who are sure of their decision go ahead with treatment.

It seems therefore as if many of these couples undergoing artificial fertilization with donor gametes do have stable marriages and do seem to cope reasonably well in their marital relationship with this situation. One can then probably ascribe this to the decision-making period these couples go through and the fact that they are certain about this form of treatment to enable them to have a child, once they do decide on it. Their yearning and need for a child is so great, that once they do go ahead with treatment, they are positive, sure about their decision and about the possible outcome of having a child. They have in other words, come such a long way together to finally have this chance of having a child, and have most probably endured this situation together for so long, that the final treatment does not seem to have any major effect on their marital relationship

besides some emotional stress and anxiety.

It can be concluded that artificial fertilization with donor gametes could result in positive as well as negative marital implications. Most couples seem to cope well after treatment, with only a few implications arising in their marriages. This does not mean that any person can therefore merely undergo this form of treatment with success. Thorough selection and preparation sessions with suitable couples, prior to treatment, is essential to decrease the possibility of serious implications occurring in the future and by helping them to develop skills to cope more effectively with such situations. More research is, however, essential to increase our knowledge regarding the psycho-social implications of artificial fertilization with donor gametes on the marital relationship.

5.4.7 Pregnancy and childbirth

Once artificial fertilization with donor gametes has been successful, with a resultant pregnancy, the recipient couple have many adaptations to adjust to during the pregnancy, as well as to prepare themselves for the birth of this child. Most couples fear the possibility of complications during the pregnancy and abnormalities present in the child at birth. As artificial fertilization with donor gametes entails the use of donor gametes, many couples fear that the chances of complications or abnormalities are higher. No evidence, however, of an increased risk of complications or abnormalities as a result of artificial fertilization with donor gametes exists, and couples should be reassured during counselling regarding this fear.

In a study in Switzerland, D'Elicio, *et al.* (1980:401-411) interviewed 21 one AID couples and found the women to be the most concerned and to express most fear and doubts regarding possible foetal malformations or dysfunctions and other problems during the pregnancy and labour. The men were more concerned about the resemblance of the child and anonymity. Berger (1982:52) states that it is the wife's feelings of guilt which evoke fears of the child being deformed. In this regard Stone (1980:673) states that several reports have shown that the incidence of congenital malformations is less than that of the general population. Couples should be made

aware of this low incidence of abnormalities, as this would set their minds at ease.

As a result of these concerns, Czyba & Chevret (1979:243) found couples experiencing tension and anxiety during the AID pregnancy. They were unsure of the possibility of completing a full-term pregnancy and had fears of a miscarriage. Couples reported that the beginning of the pregnancy is a period of anxiety and once the pregnancy is confirmed, the AID is forgotten. Similarly Zimmerman (1982:235) mentions that an AID pregnancy is no more disturbing than most first pregnancies, while Bernstein, Mattox & Kellner (1988:407) state that these patients tend to feel guilty about expressing negative feelings and ambivalence towards the pregnancy. These women most probably feel that they should be forever grateful and happy, but struggle on the other hand to adjust to the adaptations of the pregnancy which could cause negative feelings. This then evokes guilt feelings.

Most women who conceive naturally have fears regarding a miscarriage, complications, a stillbirth, difficult labour, a caesarean, a premature baby and the presence of abnormalities and do have some negative feelings toward the pregnancy. Women who have conceived by means of artificial fertilization with donor gametes, have more reason to worry and are usually older than the average women, due to the years of infertility tests and treatment. They know that this is their only possible chance of bearing a child and therefore these fears and guilt feelings mentioned are usually increased and should be dealt with during supportive counselling sessions.

The husband, according to Clamar (1980:173-177), experiences the early pregnancy as a very traumatic period, as it is confirming his own inability and failure once again. Thus the pregnancy can be an emotionally traumatic period for the husband on the one hand, but once he comes to terms with the situation, he will be able to share in this experience with his wife and be happy that he gave his wife this opportunity of experiencing a pregnancy, birth and motherhood.

Couples requesting artificial fertilization with donor gametes have usually been married for a long time and are older than the general

parents with first children. They have usually experienced many years of medical tests, treatment and surgery before a final diagnosis of their infertility is made and treatment is recommended. Once successful donor treatment has been performed and the wife is pregnant, the couple have to start adapting to the pregnancy and parenthood. The loss of the wife's figure, the morning nausea, the reduction in the rate of sexual intercourse, especially towards the third trimester of the pregnancy, the adjustments to the home and preparation for the arrival of the baby are all aspects that are new to the couple and require adaptation. These aspects should be discussed with the couple, as well as the possibility of the husband being present at the child birth, so as to help increase the emotional bond between the child and father, in cases where donor semen is used.

Some studies have revealed positive results during the pregnancy and after the delivery of the child. David & Avidan (1976:531) reported 50% of the pregnant women in their study to be proud of their pregnancies and 90% of the fathers were overwhelmed while present at the first sonar, listening to the foetal heart beat in the twelfth week of the pregnancy. Czyba & Chevret (1979:240-245) similarly reported women experiencing immense relief, once the AID pregnancy had stabilized and it reached the highest point at the birth of the child which was normal and healthy. Berger *et al.* (1986:822) similarly found these couples to adapt successfully to the pregnancy, while Rosenkvist (1981:143) reported couples who had obtained pregnancy, expressing their satisfaction and appreciation of having achieved their much-coveted aim. They did not present any severe emotional reactions which could be related to obtaining pregnancy and the men had not kept an emotional distance during the pregnancy or after the birth of the child. Clayton & Kovacs (1982:338) in their interviews with 50 couples, who had a total of 53 AID offspring, found the following outcome regarding the delivery: 15% had a caesarean-section, 24% a forceps-delivery and 60% a normal vaginal delivery. Only 2 of the husbands were not present at the delivery. These results reveal mostly positive experiences of these couples related to the pregnancy and delivery.

Thus it seems as if the pregnancy and delivery are experienced very

positively by these couples, which one can understand, taking into consideration that most of them have been waiting and trying for many years to have a child. This new experience of the pregnancy for the couple thus seems to be overwhelming and evokes feelings of happiness and relief to finally have achieved this goal they have been striving for.

Concerning the effect of the pregnancy on the marriage, David & Avidan (1976:531) found most couples to report a significant fall in the rate of intercourse during the pregnancy. One husband was very severely upset during the second and third trimesters of his wife's pregnancy and described a few episodes of clinical depression. Blaser *et al.* (1988:19) could find no evidence of the sterile husband experiencing any severe emotional or psychosomatic symptoms during the wife's pregnancy. Brand & Saayman (1986:88) mention that from the first day of the pregnancy, the husband and wife develop an unequal relationship with this unborn child. The wife is elated, but for the husband it reminds him of his inability to have been part of this pregnancy. This unequal footing of husband and wife can thus possibly lead to marital problems. Clamar (1980:173-177) mentions in this regard that it is the husband's choice whether he wants to accept the situation and become involved in his wife's pregnancy or not, as this would determine his own concept of fatherhood.

It was found by both the studies of Berger *et al.* (1986:822) and Rosenkvist (1981:143) that the husbands who supported their wives, adapted successfully to the pregnancy. These are important aspects which have to be discussed with the husband and the couple during the preparation session, as well as during supportive counselling sessions. The husband must learn to accept the situation and adapt to this pregnancy in order to support his wife and to enhance his own bonding process with this unborn child, so as to prepare himself for this fatherhood. Once the couple can support each other and share this experience as a mutual one, the chances of marital discord or an effect on their relationship will hopefully be less. Much more research is necessary to determine the effect of the pregnancy on the marital relationship.

Regarding the mothers, Berger (1982:52) mentions all 5 respondents

in a study by Gerstel to have suffered post-partum depression and refused to care for their infants in the first year of life. All the infants also had feeding problems. He criticizes these findings as not being well-documented. Garner (1985:58S-59S) also states in this regard that pregnancy brings new anxieties. Infertile couples have learnt that health and fertility issues cannot be taken for granted. Thus many patients, fearful of disappointment, deny pregnancy and do not seek care for months. Other patients call the gynaecologist over each minor event in the pregnancy. Still others complain angrily about normal discomforts of pregnancy, such as morning nausea. Some women report a fear of harming the foetus or causing a miscarriage as reasons for avoiding sexual activity. A constraint on sexual activity, according to Garner (1985:59S), may increase the couple's communication difficulties during and after the pregnancy. Thus it seems as if these patients can experience a great deal of anxiety during the pregnancy, with increased fear and uncertainty as a result of the donor conception and the fact that it most probably is the first pregnancy. This could affect their sexual relationship.

In this regard Menning (1982:162) states that the women feel selfish that they are achieving a pregnancy without the genetic contribution of the husband. This loss of genetic continuity is an important factor for the husband to discuss and to accept. No matter how well the donor is matched to the husband, this loss is real and needs to be grieved. Many husbands participate in the insemination process, by being physically present during the procedure and participating fully in the prenatal period by attending childbirth classes and facilitating labour and delivery, just as any husband would. Menning (1982:162) states: "Both husband and wife may have exaggerated fear as the time of delivery approaches. One fear frequently verbalized is that somehow a mistake in selection of donor may have been made, resulting in a baby of a totally incongruous racial or physical appearance. This fear is the subject of dreams, fantasies and general anxiety. There may also be subtle fears regarding the baby's health, intelligence and attractiveness. Couples returning for a second or third pregnancy are much more relaxed and unconcerned." Sokoloff (1987:14) also mentions how the mothers especially, experience more anxiety as the delivery period approaches and become preoccupied about the donor's looks and personality. This can most

probably be attributed to these mothers experiencing fear and anxiety about who the child will resemble and take after, her or the donor? They have to try and deal with the thinking and fantasizing about the donor and this family secret. This could also have a possible effect on the marital relationship, as the husband could feel jealous and excluded in a way, from this experience she is fantasizing about. One can, however, understand what the wife must go through, knowing that she is about to give birth to her child, whose father she does not know and has never met. Supportive counselling would be helpful during this period, as the wife could most probably not share all these thoughts with her husband.

Thus the increased anxiety, fear and uncertainty experienced during the pregnancy and as the delivery comes closer is confirmed. This could most probably be ascribed to the fact that this is their final chance to experience a pregnancy and delivery and they are then more nervous and anxious. The donor fertilization and the uncertainty that goes along with this, most probably makes this experience even more stressful for these couples and it can possibly affect their marital relationship if they do not stand united during this period.

In a study in Leipzig, Germany, Seikowski & Glander (1990:811), however, found no differences in the attitudes of recipient couples (who had already had children by AID) concerning the pregnancy or the delivery, compared to the control group. These findings are thus contradictory, in a sense, to the previous studies, as attitude determines feelings and vice versa. Thus more research will have to be done on this topic.

The later stages of the pregnancy seem to be associated with a return to normality and relaxation. Czyba & Chevret (1979:243) state in this regard that during the continuation of the pregnancy an appreciation of return to normal life is experienced, with outings, family reunions and holidays. It is described as a period when headaches, insomnia, irascibility and fatigue disappear. The usual alteration of emotions of pregnant women is not seen in these cases, and it seems that after the painful experiences of sterility and AID, the pregnancy appears as an intense relief - a period of non-suffering and non-fearing during which the ambivalence of the desire

for a child does not appear, as in normal pregnancies.

The birth of the child is seldom mentioned, Czyba & Chevret (1979:243) found. The husbands who were present expressed their relief at feeling a positive reaction on seeing the child. Semenov, Mises & Bissery (1980:477) in their study in France corroborate these previous findings by reporting the father to appear especially fulfilled and that the birth had been an intense experience for them and they stressed the happiness they felt. For them the birth played a restorative role. It would thus appear that the proof of the reality given by witnessing the birth, facilitates the husband's acceptance of an initial contact with the child. In other words, it enhances the bonding process with the child and helps him into the role of father.

Furthermore, regarding the birth of the child, Nachtigall (1993:1846-1849) found that the couples were satisfied and well-adjusted after the birth of their donor insemination offspring. Sharlin (1995:301) in a paper presented at the "First International Conference on Social Work in Health and Mental Health Care", in Jerusalem, Israel, which researcher attended, found the mothers to be more worried and anxious with regard to the child compared to the control group and perceived this baby as significantly more special and dear. Thus it seems as if mainly positive reactions were experienced at and after the birth of the child. These couples are most probably thrilled at the birth of this child, for whom they have been waiting for for so many years. Finally their ultimate goal has been achieved and they can be parents at long last.

Thus if one looks at the pregnancy, it seems as if it has certain positive and negative experiences for these couples. Positive experiences are related to achieving their ultimate goal and being able to experience a pregnancy and to be regarded as normal by others. For the wife, she can finally experience this pregnancy which she has been yearning for for so long. The husband is confronted with his failure, but is happy to see his wife pregnant and is able to support her. Furthermore, this pregnancy can contribute to unnecessary fear, tension and uncertainty in the mother, regarding the actual nature of the pregnancy, the delivery and the

health and normality of the child. The couple also seems to be more concerned during the pregnancy about the resemblance of their child to at least one or both of them, which most probably can be attributed to their fear of someone suspecting artificial fertilization with donor gametes, if the child does not resemble one of them. The wife can fantasize about the donor in this regard. With regard to the birth of the child, it seems as if it is mainly a positive and overwhelming experience for the couple, who finally have a child after so many years. The husband also seems to develop a bond with this child during the pregnancy and is elated at the birth of the child. This child can, however, be a reminder of his failure, but he has to come to terms with this child, so as to fulfil his role as a father. The effect of the pregnancy and birth on the marital relationship does not seem to be severe, with only the minimal evidence of a decrease in the rate of sexual intercourse, anxiety, depression or the husband distancing himself from the pregnancy. Thus the effect on the marital relationship seems to be less significant. More research will, however, have to be done on a long-term basis to determine the effect of the pregnancy and birth on these couples. On the whole, it seems to be a reasonably positive experience for these couples, an ultimate goal which they have achieved.

5.4.8 Parenthood

Once a couple has experienced the pregnancy and the birth of the child, they have finally become parents and will have to make many adaptations in their lives. They have to start preparing themselves for all the responsibilities of parenthood and once the baby is born, their lifestyle starts changing drastically. Their relationship as parents changes from a dyad to a triad, which can lead to jealousy and feelings of rejection by one spouse, because of the attention given to the child. The couple's freedom with respect to their social life also becomes more limited once they have a child, and they have to start living to a more set routine and often have to remain at home with the child. Rosenfeld & Mitchell (1979:178) state that: "Parenthood is viewed by society as the most important function of marriage. Motherhood is associated with the development and expression of adult femininity and fatherhood may be equated with normal mental health. Childlessness derates from social expecta-

tion." Thus one can understand why these couples have gone to such lengths to have this child. This has offered them an opportunity to experience parenthood and to be considered normal by the rest of society.

Research has yielded very interesting results regarding parenthood as a result of artificial fertilization with donor gametes. Clayton & Kovacs (1982:338-339) reported all of the wives in their study to be anxious about their husbands reaction to the child and that some husbands were over-protective. The husbands felt that the child was a constant reminder of their infertility and found it difficult to enforce discipline. The wives thought their husbands had not accepted the child. Sokoloff (1987:14) also states that the child becomes a constant reminder of the father's infertility and is always described as looking like the father. This could make the father feel threatened, as the child enters puberty with the emerging sexuality which he associates with his own sterility and lack of virility. If the child surpasses his father in looks, athletic or mental capacities, feelings of failure may arise. Many fathers have also displayed discipline problems in dealing with these children, similar to that mentioned above by Clayton & Kovacs (1982:338-339).

In this regard Templeton (1991:344) mentions that with sperm donation the husband has contributed nothing besides his permission and despite his subsequent role as father and protector, he may nonetheless feel vulnerable to the possibility of others knowing that the child is not his. In the case of egg donation, the woman experiences the pregnancy and birth and the child is, in effect, her own. Thus it is more of a problem for the infertile male than for the infertile female, as she can still, with donor oocytes, experience the pregnancy and birth and will have a closer bond with her child than is ever the case with the husband. Christiaens (1988:351) compares this social parenthood to biological parenthood as being very similar for the husband: "Biological parenthood, too, is not exempt from a similar imbalance. The mother carries her child for nine whole months, which the father cannot match. He cannot actually carry it, he can only 'bear it in mind'. The biological asymmetry does not necessarily result in a different psychic involvement with the child." Thus the husband can never be as close to the child as the

mother, whether it is biological or social parenthood. With biological parenthood, however, the husband knows he is the biological father, which creates a more natural bond with his child. In social parenthood the father has to make himself part of this pregnancy, birth and parenthood by accepting his social fatherhood, supporting his wife and through this experience of the pregnancy and birth of the child, forming a special bond with this unique child they together have decided to make possible.

Concerning this parenthood Christiaens (1988:350) states: "For a couple who break away from this structure and want to transform a biologically (part) alien child into 'the incarnation of our love treaty', it will be largely their own responsibility and task to redesign the biological parenthood model in a way that fits them. It requires extra efforts and creativity, the source of which must be their strong love treaty. AID is even more demanding than biological parenthood where the quality of the partner relationship is concerned." Thus it seems as if social parenthood is a greater responsibility and needs more effort to become part of, than biological parenthood. It is a decision a couple makes and one with which they have to adapt to and suffer the consequences of, if any. It requires a combined approach and an attempt by both spouses to make it work and in other words a very stable marital relationship with a great deal of mutual support and loyalty towards each other. This should be a mutual decision and the child created must be accepted as "their" child.

In a study to determine the parental attitudes and skills, Milsom & Bergman (1982:127) reported the father devoting more time to the child and being involved to a greater extent than the majority of normal biological fathers. Most of the parents intended to withhold the truth from the child regarding his origin. If artificial fertilization with donor gametes was performed as a result of an unpleasant hereditary disease in the husband's family, the child would be told when reaching a mature age. Both spouses also reported the other having a good relationship with the child. Zimmerman (1982:236) similarly reports that the fathers participated in the care of their children, stating that their sterility led them to take an active interest in their wife's pregnancy and the child's

development. The secrecy surrounding the AID experience appeared to be a contract between the individual couple, which if breached through indiscretion on the part of either husband or wife, could lead to the couple's breakup. Czyba & Chevret (1979:244) also found the fathers to participate greatly in looking after the child, and they often stated that it is their sterility which led them to take such an interest in their wife's pregnancy and in the child that they had wanted for so long. The mothers did not appear to behave differently from other normal mothers. Manuel & Czyba (1980:471) corroborate these findings by also reporting the fathers to be over-involved towards the child. Most of the fathers seemed to have maternal behaviour patterns and took a large part in the physical nursing-care of the child at the earliest age. They also had difficulty in setting up controls or limits.

Similarly Goebel & Lübke (1987:636) report that even after the divorce of 10% and 35% of couples in two groups in their study, the fathers, even though divorced, experienced themselves as fathers with regular contact with the child. Snowden *et al.* (1983:89-93) reported a few women in their study stating the following: "When the child was naughty, they felt the need to protect their husband from this disruptive behaviour. They thought the husband will think: 'Oh, he's not really mine'". Sokoloff (1987:14) states that the mothers observe the husband's acceptance of the child too closely, while Rosenkvist (1981:133-147) reports the mother-child relationship to be of a high quality and only four cases of a poor father-child relationship were found.

Mothers therefore seem to be somewhat overprotective towards the child, as they most probably feel the child is more theirs than the father's. This could possibly lead to feelings of possessiveness, jealousy, superiority and guilt, which could cause problems in the parent-child relationship, as well as in the marital relationship. Mothers seem to have a very close mother-child relationship. Fathers seem to take on a positive father role and accept the child as their own. The child's donor origin, however, could possibly cause the father to have some subconscious feelings of inadequacy, rejection, jealousy, anger, isolation, hurtfulness or dislike, which could be projected on the child or the mother. This could cause serious

marital or father-child relationship problems. Long-term follow-up counselling is an important aspect which should be available to all couples when needed. This could help them cope with their "new" parenthood and reduce the possible negative implications of artificial fertilization with donor gametes on the parent-child relationship and the marriage. More research is also necessary to shed more light on the parent-child relationship.

Furthermore Christiaens (1988:351) reports: "Besides these fifteen years of experience with insemination by donor have not yielded conclusive evidence that when the decision is taken after thorough consideration, inequality with respect to physical blood-relationship is apt to pose a threat to the harmonious expansion of the father-mother-child triangle." Thus it seems as if the quality of the marital relationship as basis for social parenthood is crucial. Assessment of the marital relationship is therefore essential, as well as a combined and duly thought-over decision regarding this treatment and the consequent social parenthood. Furthermore, no substantial or conclusive evidence is available to prove that this type of parenting cannot succeed. More research and specifically long-term studies are needed to clarify these issues.

To complicate matters even further, Mahlstedt & Greenfeld (1989:912) address the ethical issue of multiple parents. They state: "In the case of donor conception, the actual number of parents is dependent upon the medical problems of the couple." They refer to the situation where donor sperm is used, and the resulting child having three parents and where a donor embryo or both donor sperm and oocytes are used, the resulting child has four parents. One can also add surrogate motherhood to the latter situation and the resultant child can have up to six parents. But one has to define the true meaning of "mother", "father" and "parent" and the actual role these parents play in the life of this child to be regarded as real parents. Only the recipient couple who will love, nurture and care for this child as their own, can be regarded as the real parents of this child.

In this regard Kloosterman (1980:605) states: "... dat de opvoeders voor het opgroeiende kind veel belangrijker zijn dan de verwekker."

Thus the child-rearer is much more important than the conceiver. This statement could reflect that the social parents are the actual parents of this child and not the donor. Thus they are the only parents this child will ever know. This partly biological, partly social parenthood is the only parenthood these parents can offer. These issues should be discussed with couples during the preparation session to help them make a decision and to come to terms with this new concept of social parenthood.

Similarly Stanton & Golombok (1993:153-158) found women who were less positive about the pregnancy, childbirth and childcare, to show weaker attachment to their unborn child. Thus couples have to be very sure of their decision to go ahead with artificial fertilization with donor gametes and their attitude toward the use of donor gametes. Manuel & Czyba (1980:467-473) in this regard report a case where the husband had always been jealous, but after the birth of the child he became excessively jealous. This was aggravated by the mother's fantasizing about the donor. Thus if the couple are uncertain and have a negative attitude or it was a one-sided decision, it could result in one or both of the parents feeling less positive about the pregnancy, the birth and the child. This could result in an unhealthy parent-child relationship and affect the marital relationship.

With regard to the parent-child relationship, Golombok, Cook, Bish & Murray (1993:17-22) in their study in the United Kingdom, particularly looked at the consequences of gamete donation on the parent-child relationship. They compared a group of parents with children conceived by donor gametes by either AID or IVF-D, with a control group of naturally conceived children and another control group of adopted children. Their results showed that the quality of parenting in families with a child conceived by assisted conception by donor, is in actual fact superior to that of the normal and adoptive families. Weaver, Clifford, Gordon, Hay & Robinson (1993:5-16) in their study in the United Kingdom, found these parents to be more overprotective toward the child compared to parents with naturally conceived children. These parents also gave higher positive ratings for their feelings about their babies. Pettee & Weckstein (1993:1963-1965) in their study of parents whose children had been

conceived by oocyte donation in the U.S.A., found that these respondents indicated no confusion about their role as parents of these children. The importance of support was stressed by the respondents.

Thus it is evident from these various findings that couples can adapt successfully to parenthood which is partly social, partly biological, with positive parent-child relationships and acceptance of the child as their own. It is important that they are absolutely sure of their decision, however, as this could affect the parent-child relationship later. In order for this unique parenthood to be successful, however, mutual love and support is required as well as effort from both parents to be equally involved in this parent-child relationship. These parents are also usually older, more mature and have been waiting so long for a child, that they provide more time and attention to this child they have been waiting for all these years. They are also usually more able to provide better for this child as they are more established in their lives. A positive marital relationship, however, seems to be a prerequisite for the success of this form of parenting. Selection of these couples and thorough preparation is therefore essential to ensure positive long-term results.

5.4.9 The child

The child conceived by means of donor gametes and assisted reproductive technology is a very special and unique child, who has been planned and created so that his/her parents can finally have a child after so many years of childlessness. This child is a special child who is very much wanted and has been planned very thoroughly. As Snowden & Mitchell (1981:75) state that there is a significant difference between taking part in the creation of a child by means of artificial insemination and merely being the result of creation. "The AID child is undoubtedly a planned child. Of all children, this is one feature that marks him out. This conception has followed careful planning which has entailed uncomfortable and possibly embarrassing procedures, often after years of longing for a child. This child is no passion. This child is a planned and a wanted child."

The secrecy involved in artificial fertilization with donor gametes, however, can complicate matters, as the child might know about his/her donor origin and special creation, or this situation might never be revealed, thus creating a deceitful situation where the child thinks he is blood related to both parents. This is an ethical issue which must be discussed. Family or friends might well be aware of this and could unfortunately disclose this to the child accidentally, making it come across differently and causing a traumatic crisis for the child. This situation must be avoided at all costs and if the family is told, the child must be told. The attitude of society is still unfortunately reasonably negative toward artificial fertilization with donor gametes and this merely strengthens the secrecy involved. Mahlstedt & Greenfeld (1989:912) state in this regard: "Though our society loves children and places a high premium on parenthood, it is still ambivalent about creating families in non-traditional ways. People can understand and accept more easily that with which they are familiar, through their own personal experiences."

Concerning the child, Landau (1995:183) mentions in her paper presented at the "First International Conference on Social Work in Health and Mental Health Care", in Jerusalem, Israel, which researcher attended, that: "The best interest of the child principle, supposes that society does everything possible that a child is placed in a normal, warm and harmonious family relationship, which desires to provide him with the material and psychological conditions needed to raise and educate him, and is capable of successfully fulfilling this function. Although self-determination is a basic value in social work, one wonders whether social workers should support individuals interested in assisted conception with donors - characterized by professional intervention of a third party and by physical pain, high cost and limited success - when the life circumstances of the latter are incongruent with the principle of the 'best interests of the child?'" This is an example of the negative attitude of society towards this form of treatment. Many assumptions are made in this statement which are merely speculations and have not been proven. These couples do act in the best interests of the child by carefully planning and wanting his creation and existence. They do offer a warm and harmonious family relationship and provide him with

the material and psychological conditions needed to raise and educate him. Therefore social workers can encourage and support couples in this endeavour.

Thus it is difficult for people to understand why couples choose to undergo this form of treatment in order to have a child and mainly negative attitudes still prevail in society. This makes it very difficult for these couples to gain support and to disclose this secret to others and the child, as a fear of rejection exists. Couples should be provided with information on whether to tell the child or not, and if so, what are the advantages and disadvantages.

Reasons against telling the child and in favour of telling the child were examined by Snowden *et al.* (1983:116-124):

The reasons against telling the child include:

- * Being pregnant and giving birth, creates the impression that the child is the couple's child.
- * Protecting family members and relationships involved.
- * It would be cruel to tell the child.
- * The children might feel uncertain of their own identity because of the anonymous genitor.
- * It could be traumatic for the child to know he was conceived in that way.
- * The child might be stigmatized.
- * The child might think less of the father or even reject him.
- * It would be difficult to explain it to a young child.
- * Secrecy would protect others from getting hurt.
- * The danger exists of the child finding out by accidental disclosure.

The reasons in favour of telling the child include:

- * Danger of half-sibling intermarriage.
- * If the offspring had the same problem one day, the parent could explain how they found a solution.
- * If family and friends knew, it would be better to tell the child, so as to avoid accidental disclosure.
- * The child is entitled to know.
- * "There's nothing wrong with it, it is just less known than adoption."
- * Best to be open about it.

- * The child is a wanted and planned child and will have no experience of rejection as compared to adopted children.

These reasons in favour of and against telling the child should be discussed with couples during the preparation session and later, once the child is born, to help them make their decision whether to tell or not to tell the child.

With regard to telling or not telling the child, Matot & Gustin (1990:633) state: "It should be thought of not as a crime or something shameful to be concealed, but as an obstacle they had to overcome and integrate in the continuity of their personal story. To deal emotionally with the question of filiation ... enables the parents to create an atmosphere of confidence, security and respect in which the revelation will be non-traumatic for the child." It is therefore essential that the parents feel free to talk to their child if they wish and when they think it is the right moment to do so. This moment, however, is difficult to pin-point with precision. It is necessary for the child to be able to understand what it is all about. The parent-child relationship is another important factor which must be taken into account. Matot & Gustin (1990:633) recommend that it should not be disclosed during the crisis of adolescence and should not interfere too much with the normal process of the repression of the interest in sexuality that takes place in the beginning of the latency period (5 to 6 years). It is advisable to deal with the filiation question before the teenage years.

Similar recommendations are made by Templeton & Triseliotis (1983: 318) who maintain that it is important for all children to know the truth about their parentage and origins. "The facts about an individual's roots belong to that individual and the parents have no right to withhold them. Children born of AID have a right to be told at an early stage about the true circumstances surrounding their conception and birth. A good opportunity is possibly around the time when they begin to ask questions about babies and birth. Explanations will need to be repeated at intervals and additional information can then be given, appropriate to the child's age. By the time the children are in their early teens or mid-teens, they should know everything there is to know about AID and about their own origins."

Amuzu *et al.* (1990:904) ratify that parents should be encouraged to consider strongly the subject of informing their offspring. With regard to this, Shenfield (1994:1348-1354) states: "Filiation, or a person's parentage, is one of the major components of someone's identity, often with important implications for that person's welfare in social and personal terms." Thus the parents must be made aware of the whole issue of filiation and the child's right to his own identity.

It therefore seems as if the child has the right to know the truth about his filiation. The parents should accept this child and the donor conception as part of their lives and should not want to hide it as if it were wrongful or something to be ashamed of. They should create a positive, caring atmosphere in which to disclose this news to the child, when they feel the time is right. They should both be present and be able to talk to the child about his/her carefully planned and wanted origin and the circumstances that led to this decision in an open, comfortable atmosphere. It seems as if the child should be informed at an early stage in life and that more detail about the circumstances and non-identifying information on the donor can be provided as the child gets older and is able to understand this information. The child should know everything by the time he/she reaches adolescence. This information should be shared with couples and they should be made aware of the child's right to know about his/her filiation and the deceit and dishonesty created by the secrecy.

The reactions of children who have been told of their donor conception seem to be mostly positive. Snowden *et al.* (1983:98-123) examined the reactions of the children who were told and found that these young people were glad that it had been disclosed to them. None of them found it a traumatic experience, they were surprised that their parents had considered it necessary to keep it such a close secret for so many years. As one young man stated: "Realizing the trauma they went through, keeping this huge secret from me, makes me have tremendous respect for them." Relationships had also not been spoilt, they had in actual fact been enhanced. Van Delft (1983:287-291) also describes a positive outcome of a young woman who had found out prior to getting married, by accident. She never

suspected AID, but when she and her two brothers and sister got older she started noticing that none of them looked like each other or their parents. Her father had a hereditary disease, which worried her and she thought she would have to tell her husband one day before she got married of the possibility of their children getting this disease. She found out by means of her fiancé, when his parents approached her father about getting married and the hereditary disease issue. He then told them of his daughter's AID circumstances so as to set their minds at ease about the hereditary disease. She was surprised by this disclosure her fiancé made of her origin, but did not find it shocking. She and her fiancé are happy that their children will not be in danger of carrying the hereditary disease. They respect her father for taking his children's future into consideration and conceiving them by means of AID so as to spare them this hereditary disease. She looks up to her mother who accepted the situation and her children so well. They always felt as if they were the children of their parents. She feels AID is part of her existence, but does not overshadow everything. The donor forms a very small part of her life, as her interpersonal relationships, happy family life and education play a more important role than the way in which she was conceived. If she had been her parents, she would have told her children of their origin. She is waiting to see if her parents are still going to talk to her about it before she gets married. If not, she will tell them she knows. If she were in the same situation, she would also have undergone AID. She feels a stable marriage is a very important factor.

Thus even though she had found out about it by accident, she still experienced the news reasonably positively, but seemed to have a need to discuss it with her parents before she got married. Her happy childhood and family life made this news less traumatic for her. Furthermore, the hereditary disease issue made it easier to accept.

A less happy case is described by Snowden & Mitchell (1981:89) of a 24 year old woman who had been told of her AID origin as a teenager: "Mum decided that the truth must be revealed for I was developing and would soon be a woman. She was too embarrassed, I suppose, to tell me herself and asked her lover of five years, as my father had died, to explain the facts of my life to me. He asked whether I knew about

cows being injected with test tubes of sperm. I said of course I did, never being one to admit ignorance. That's the way your mum had you. There were more questions from me, but I felt like escaping, carrying this great boulder of information away with me. I had a picture of grunting farm animals, test tubes, sperm and me. God the Father had deserted me, I was the child of the devil. My mother clearly felt a sense of shame, for I was sworn to secrecy. Therefore I told everybody the circumstances of my conception at the earliest opportunity in return for juicy family secrets. Family who showed me affection in my early years, now dislike and ignore me. They avoid my eyes, pretending I do not exist. My father died of Huntington's Chorea four years ago. Thank God an anonymous donor with good blood is my father and not a carrier of Huntington's Chorea."

This case provides an example of the negative effects this news can have on a teenager. Furthermore, the way in which it was told is also not very tactful and inconsiderate and left a negative and confusing image in this woman's mind. The family circumstances were also not very positive and the fact that the mother's boyfriend had to tell her, made it even more traumatic and a shameful experience. The fact that she went and told everybody, is typical of a teenager trying to deal with this news and getting back at her mother. It had a definite effect on her self-image and relationships with others, as a result of the way she thought others perceived her. The only positive aspect she could see in this whole ordeal concerning her origin and her identity, was the fact that she would not be a carrier of Huntington's Chorea.

Furthermore, studies indicate that these children often suspected "something was different about them", including their eye colour, hair colour, and blood group queries or they just seemed to have some vague feeling (Compare Snowden et al., 1983:98-123; Van Delft, 1983:287-291 and Van Staden, 1989:188.)

It can therefore be hypothesized that the actual event of disclosure to the child is of significant importance and a crucial moment. It should be carefully planned and couples should be provided with the necessary information. Skills should be developed in the possible

ways of telling the child. It must, however, be taken into consideration that each family and child is unique and only they will know how and when to tell the child. Some aspects which can be taken into consideration for this disclosure, in researcher's opinion, are:

- * The atmosphere created.
- * The presence of both parents.
- * The parent-child relationship.
- * The stage of development of the child, that is, at least prior to adolescence.
- * An explanation of the circumstances which led to this decision.
- * A reflection of the uniqueness, specialness and appreciation for the child who was carefully planned and wanted.
- * The treatment and donor selection.
- * Provision of some non-identifying information of the donor.

It is therefore important that couples are given this advice on if, when and how to tell the child. This information can be provided during the preparation session and again at a later stage during supportive counselling sessions. Clayton & Kovacs (1982:339) confirm this by reporting that all the couples in their study asked for advice about how and when the child should be told. Snowden *et al.* (1983:123) also state that if the parents are encouraged to tell the child, they will need help and support.

It must, however, be remembered that it still remains the couple's decision if and when they want to tell the child. One should also respect their wishes if they insist on secrecy and on not informing the child. Manuel & Czyba (1980:472) refer to this as: "The truth of the desire is truer than the reality." Thus their desire was so strong that they went ahead with treatment, but now that the reality of the child is there, they are comfortable as normal parents and do not want to reveal the reality of the situation.

The resemblance of the child to one or both of the parents, is another issue with which the parents seem to be preoccupied. David & Avidan (1976:531) found the parents in their study to report that 85% of the AID children resembled one or both of the parents. Blaser *et al.* (1988:19) confirm this by finding one-third of men and women in their study to report that the child looked like the father.

Clayton & Kovacs (1982:338) similarly found that 29 of the 50 couples in their study thought that the child resembled the father, 19 the mother and 5 neither parent. A possible conclusion that can be drawn from these studies, is that these couples are more preoccupied with the resemblance of their child to the husband because of the donor origin. If the child does not resemble the father, the constant fear that someone might suspect artificial fertilization with donor gametes, could be another reason for the preoccupation with the father-child resemblance. Usually the child will resemble either the mother or someone in her family or someone in the husband's family. These children will also imitate certain members of the family, making them more like the family.

Furthermore, the acceptance of the child by the couple and the effect on their marriage seems to be positive if one takes the findings of Berger (1980:557) into consideration, that having an AID child strengthened the marriage. Blaser *et al.* (1988:19) corroborate this, as their respondents reported satisfaction with the child and in the marriage. They even desired a second child. Waltzer (1982:97) also reports the development of the children being normal and that the marriages had as a result been consolidated and improved. Thus one can most probably conclude that if couples are happy with the child, their marital relationship remains stable and positive or is even enhanced.

Concerning the physical well-being and development of these children many interesting findings are reflected. In a study in Australia, Clayton & Kovacs (1982:338) found that 14 of the 50 couples interviewed, complained that their children were hyperactive. The physical development according to the milestones of sitting, crawling, walking and talking were normal, except for 3 children out of the 53 who were behind in their development. These results seem to be reasonably normal and are most probably in accordance with the general population. The hyperactivity could be due to the parent's overstimulation of the child or being overanxious as parents, as they have waited so long to have their first child.

In Japan, Mochimaru, Sato, Kobayashi & Iizuka (1980:277-282) performed a study on 133 AID children, to determine the difference

in physical development, for example the weight and length of AID children compared to a control group of normal children. They found the AID children to be somewhat better developed than the control group. No specific reason for this could be given. Semenov *et al.* (1980:475-477) included 30 couples in their study in France who had had 31 AID offspring. Their ages ranged from 4 months to 3 years. The aim of their study was to determine the adjustment, personality, intellectual development and nature of family relationships. The children had all adjusted well psychologically, had no problems with intellectual or personality development and the family relationships were normal. No feeding or sleep disturbances were found. Children born through AID, Zimmerman (1982:235) mentions, were reported to be above average with physical motor and mental development and superior to the control groups in many studies. The effects of AID children on the family compared favourably with those of adopted children and no cases of psychological problems were reported. Waltzer (1982:97) also reports the results as being encouraging, with the children rather above average mentally and physically.

In a study in France Raoul-Duval, Bertrand-Servais, Letur-Konirsch & Frydman (1994:1097-1101) studied 33 children born, following in-vitro fertilization, including 14 children born as a result of oocyte donation and IVF-D. These children were compared to children conceived naturally. Their ages ranged from birth to 3 years. Some feeding difficulties and sleep disorders were found in the IVF infants at 9 months and some signs of depression in their mothers. This contradicts the findings of Semenov *et al.* (1980:475-477), discussed previously. These symptoms of both the children and mothers disappeared later, according to Raoul-Duval *et al.* (1994:1097-1101). In general the development of these children was normal and the relationship with their mother was excellent. They concluded that assisted reproduction and donor gametes had no bad influence on the psychomotor development of these children. Kovacs, Mushin, Kane & Baker (1993:788-790) performed a study to determine how children conceived by donor gametes developed psycho-socially, compared to adopted children and children conceived naturally, who were matched for age and sex. They concluded that the psycho-social development of the children conceived by donor gametes was no different from the two control groups.

These findings are further corroborated by Czyba & Chevret (1979:243) in their study of 40 AID children ranging from several months to 4 years of age. Their psychomotor and affective development did not appear to raise any problems. The parents also reported the children as being easy to look after and had no problems in eating or sleeping. The desire for a second child was also often expressed by these parents. Milsom & Bergman (1982:127) similarly report that 28% of the parents stated that their AID child was more advanced in its development compared to other children of the same age. On the same positive note Stone (1980:673) states that there is no evidence that these children may in any way be different from those born naturally and also reports a strong desire for a second child in many studies. The overall experience, Stone (1980:673) maintains, points to a very adequate family relationship and the development of a very positive attitude toward the child.

Only one study by Manuel & Czyba (1980:471) in France reported some negative and positive results. They found 7 of the children to have psychosomatic disturbances, which were clearly related to the mother's anxiety. These conditions included sleep disturbances in three cases, colitis and vomiting in one case, recurrent bronchitis in another case and crying with loss of breath (apnea), when surprised, in another. The mother's anxiety was evoked by the length of the waiting period prior to conception, the risk of a miscarriage and problems at childbirth. This anxiety continued during the first months of the child's life. There was, however, deep emotional investment by both parents for the child. No children showed any retardation in development and 8 children pottie-trained at a very early age. Thus some positive and negative results were noted, with the mother's anxiety contributing mainly to the psychosomatic problems.

Thus it can be concluded that the children conceived by means of artificial fertilization with donor gametes are normal in their physical, psychomotor, psycho-social and intellectual development, compared to the general population. Development according to milestones is also normal. There is therefore no evidence to prove that these children differ in their development from any other children. In fact their chances of being normal are high, because

of the screening of the donor which is thorough, the quality of his sperm, the fertilization which is performed at the right time and these children are in actual fact usually more highly developed (Sevenster, 1996). These findings can be shared with recipient couples during the preparation session prior to treatment and in supportive counselling sessions during the pregnancy, so as to set their anxious minds at ease.

With regard to surrogate motherhood, Sokoloff (1987:15) states that children born of surrogate mothers could have more burdens in their development, as the drinking or smoking by the surrogate mother during the pregnancy can have a direct life-long effect on the foetus: "Will the surrogate mother be thoughtful to the foetus, who will not be hers? What happens if the child carried by the surrogate mother is handicapped or in other ways not perfect?" Unfortunately no other studies could be found to clarify these issues mentioned on surrogate motherhood and more research will have to be performed in this regard, to shed more light on this situation and the long-term implications for the child.

The incidence of abnormalities in these children has also been reported in various studies. This is also one of the main concerns of couples during the pregnancy. Clayton & Kovacs (1982:338) reported on the abnormalities present in the AID children in their study. Two of the children were squint, one had a congenital dislocated hip, and one a blocked tearduct. Ackman & Rioux (1980:447-451) describe one case of a genetic defect crisis in an AID child in their study in Quebec, Canada. The child was born with multiple congenital birth defects, including a tracheo-bronchial fistula and died five days after delivery. This had a traumatic impact on the parents. These authors recommend a more stringent screening procedure for donors and describe their strategy for dealing with such a situation, including referring the couple for genetic counselling and providing "thoughtful supportive communication" during the subsequent weeks until satisfactory adjustment is achieved. Amuzu *et al.* (1990:899) also describe their findings amongst a group of 481 children who were conceived by means of AID. Twenty-two children had major congenital anomalies, one had a chromosomal anomaly, 4 had possible syndromic conditions and 38 had

minor congenital anomalies. They recommend counselling and state that AID children are at similar risk for congenital anomalies as normally conceived children. Lower rates of family dissolution were also reported. Semenov *et al.* (1980:476) similarly describe a case of bilateral hip dislocation at birth in an AID child in France. Orthopaedic treatment commenced at the age of 28 days and at 13 months her development was satisfactory, as a result of the support and effort of her parents.

Thus it seems as if some cases of congenital abnormalities and other minor abnormalities have been recorded. Other studies again show that these children are normal in their development, with no abnormalities. It is important to discuss the possibility of an abnormality with the recipient couple during the preparation session. When cases of abnormalities are reported, it is important that these couples are immediately referred for counselling, so as to deal with the crisis they are confronted with and to help them through this traumatic experience. They should also be referred for genetic counselling to determine the cause and the donor should also be contacted by the gynaecologist who performed the procedure, to be sent for further tests to determine whether he/she is at fault and should be discontinued as a donor. This couple should then be followed up with supportive counselling sessions to help them come to terms with this situation, to develop skills and gain knowledge in dealing with this child and to refer them to the necessary resources in the community.

From this section it is evident that the child, created by means of artificial fertilization with donor gametes, is a special, planned and wanted child, who is as normal as any other child. Couples will need guidance on if, when and how to tell the child of his origin and also how to deal with crisis situations such as the development of some hereditary disease or condition. These children and their parents can, it seems, function as any other normal happy family.

5.4.10 The artificial family

The recipient couple, once they have had a child by means of donor conception, become a family at last, something they have been dreaming of for many years. They can in actual fact be seen as an

"artificial family", because the secrecy creates a deceitful artificial situation, where people think it is their own child. They feel comfortable with this normal status they have acquired, compared to the years of struggling and the stigma which was attached to their infertile status. They therefore tend to prefer to keep it this way, with everyone accepting them as a normal family.

The extended family of the couple are placed under false pretences, as they think they have acquired another family member or heir and regard the child as one of their own. Members of a family are supposed to trust one another and share their secrets, which are then kept within the family circle. Family are also there to offer support and to help when problems occur. Therefore secrecy is not in accordance with the family's expectations and close relationships.

In this regard Snowden *et al.* (1983:46) state: "A family refers to blood relations ... as if people belong to one another. Familial relationships normally imply a shared genetic background. When a couple have a child, they each possess a genetic link with the child they jointly produced. It is this special relationship and the direct or indirect genetic link it creates, that gives a child and other relatives a right to access to other close family members and to have knowledge about them." If the extended family are therefore not told of the donor origin of their grandchild, nephew/niece or cousin, they take this kinship for granted and live under false pretences. If this child were to become an heir, a deceitful situation would arise where the parents are confronted with the question whether they should disclose the secret or not, taking the honesty and trust of the family into account, and the real truth of the child's bloodline and family ties. If there is dishonesty and distrust, as well as lies in a family, can one really refer to it as a family? In this regard Van Staden (1989:188) states: " We define our identities and sense of belonging to a family in terms of genetic links. The donor origin of the child can then become a problem. This either excludes the child from the family network or creates boundary confusion. Is he in or out of the family?"

One of the main tasks of the family, according to Snowden *et al.* (1983:54) is related to: "...the well-being of society which depends

upon families bringing up children in such a manner that in character and behaviour they are capable of making a contribution to their fellow-men in the wider sphere of relationships at work and elsewhere. For this to happen the trust that lies at the heart of family life must be preserved. The relationships within the family are complex. Yet what is important in all families is the understanding, or assumption that a particular relationship exists by right. What keeps the family group together is the tacit, unspoken assumption to a special relationship. If procedures are introduced which undermine these assumptions about relationships, the effects on family life may be profound."

The secrecy involved with artificial fertilization with donor gametes is deceiving the child and the family concerning their family ties and genetic links and is a major ethical issue to be discussed. Furthermore, it is as much the family's right to know the truth about their family ties or bloodlines, as it is the child's right to know of his filiation and genetic links.

The parents, according to Van Staden (1989:188), do not know how to deal with the ambiguous situation of whether the child is in or out of the family. How could they tell the child since this would create identity confusion as he would have no knowledge of his forebears. To avoid this ambiguity the couple prefer to maintain the secret and in the process exclude the child from the family domain.

The family are often not aware of the secret regarding the child's donor conception. They do thus not know what the couple have gone through to have this child and what a burden in terms of this life-long secret they are carrying on their shoulders. If they knew, they could stand by them and offer support and encouragement on an on-going basis, so as to help them enhance their "artificial family" relationship. Due to the secrecy, this "artificial family" tries to be a normal family and in the process become an isolated family.

The couple, according to Van Staden (1989:189), has to reconceptualize identity formation and kinship in terms of enduring emotional attachments, which will guide their relationship with the child. The child can then inherently be defined as an integral member of the

family. The emphasis is thus on the quality of the family relationships rather than on genealogical ties. When the child is then informed of its origins within this growth-conducive context, it is proposed that the predicted identity and relational problems will not ensue.

Disclosure to family members seems to have yielded mainly positive results as described above. The reactions of the family to the news of the child's donor conception were in most cases positive and on-going support was provided, which made the situation much easier to deal with for the couple. Milsom & Bergman (1982:127) state in this regard that the couples who disclosed their secret to family members gained mental support by being able to discuss the matter openly. Van Staden (1989:178) similarly maintains that many couples who had informed their relatives, received not only encouragement, but also on-going support.

It is, however, important that one should treat each case on an individual basis. Each family's unique circumstances and quality of relationships must be taken into consideration, before merely disclosing this secret to them. Certain family members who can be trusted and are supportive, can for example be told and others not. The family situation can be discussed during counselling with the couple, so as to help and guide them in deciding who in the family should and should not know. The decision and wishes of the couple must be respected if they want to maintain secrecy.

The secret, according to Van Staden (1989:187), has an effect on all relationships in the family, even if members do not know the content thereof. The informed family members consequently protect the others from the secret's content. This dominates the way in which the family members interact with one another.

These artificial families are unique families and little is in actual fact known about them. Within many families secrecy has been maintained and the family or some family members have been unaware of the child's conception by means of artificial fertilization with donor gametes and the child has been considered to be genetically-linked family. One wonders how they have lived this life of secrecy

and if they were not deceiving the child and the family. If the family has a close harmonious relationship, a more open attitude regarding artificial fertilization with donor gametes is recommended. This will maintain what the family stands for and honour the family's special relationship based on trust. Secrecy in such a situation will imply deceit and dishonesty and ignore the trust which lies at the heart of the family.

More research is, however, needed on the artificial family and how the secret of the child conceived by means of artificial fertilization with donor gametes affects the family directly when disclosed, and indirectly, without their knowledge. In regard to this Nachti-gall (1993:1846-1851) states: "There is a paucity of information on the well-being of these families created through artificial fertilization with donor gametes, despite its widespread availability." Braverman & English (1992:353-363) maintain that the advanced reproductive technologies such as donor gametes, have created "brave new families", which can no longer be described by traditional definitions based on genetics and gestation. In this regard Van Staden (1989:192) states: "Western civilization is progressively moving away from the genetically-linked nuclear family to a variety of other interpersonal group organizations: one-parent families, reconstituted families, co-habiting families and artificially-created donor families. To accommodate these changes, concomitant changes in the importance we attribute to genetic ties are essential. If our emphasis increasingly shifts to the quality of the relationship, then artificial reproduction can enhance the quality and meaning of human existence, not destroy it." One can add to this list gay families and adoptive families. The issue proposed here, however, is that we take a new look at families and provide them with new definitions.

The artificial family is therefore a family by right and should be accepted as a normal family by society. These parents love their child whose creation they have planned very carefully and whom they wanted and waited for for so long. Their marital relationship in general seems to be stable and committed and this process of creating their child seems to enhance their relationship even further. They are able to create a normal and harmonious family relationship and provide the child with love, warmth and security. They are also more

able to offer the child sufficient housing and material needs, as they have been married for so long that they have established themselves financially and professionally. They are ready and over-anxious to become parents and will be able to create a happy family life with their child.

Couples who undergo artificial fertilization with donor gametes are people who have experienced years of infertility, examinations, procedures and emotional suffering. This option is their only chance at experiencing a pregnancy, childbirth, parenthood and being a family. These couples have to be absolutely sure of their decision to undergo this form of treatment, they must have come to terms with their infertility and they must have a stable and positive marital relationship. They are together in this venture from the beginning and must support each other throughout the whole process of treatment, pregnancy, childbirth and parenthood. They have desired and planned this child so carefully and deserve to become a family.

The psycho-social aspects of artificial fertilization with donor gametes must be discussed thoroughly with all couples prior to treatment during a preparation session to assist them in their decision-making process and to prepare them for what the future could hold. This chapter serves as a knowledge base and resource in preparing couples for the psycho-social aspects of artificial fertilization with donor gametes.

5.5 SUMMARY

This chapter consists of a study of the psycho-social aspects of artificial fertilization with donor gametes.

The psycho-social implications of infertility on the couple is discussed, taking the effect on the individual and the marital relationship into consideration. The process of coming to terms with this infertility diagnosis is also described in-depth.

The psycho-social aspects of artificial fertilization with donor gametes is the main focus of this chapter and includes all the

aspects which should be discussed with couples during the preparation session prior to treatment:

- * The motives for wanting a child and for parenthood are described, followed by the motives for a child by means of artificial fertilization with donor gametes. Lastly the motives of the donor to donate gametes are explored.
- * The decision-making period and process is concentrated on in-depth, as it is a very important aspect to be discussed with these couples, for this period and the decision they finally make could change their lives forever.
- * Secrecy and anonymity for both the recipients and the donors is another important aspect which is described and explored in-depth as it is a crucial issue which the spouses have to decide on from the start.
- * The emotional reactions resulting from treatment are explored and discussed, as it can be very stressful.
- * The experience and implications of artificial fertilization with donor gametes concerning the individual are discussed, concentrating on all the individuals involved, that is, the recipient husband, the recipient wife and the donor.
- * The implications of artificial fertilization with donor gametes on the marital relationship are explored and discussed.
- * The experience of the pregnancy and the childbirth for the recipient couple is described.
- * Parenthood is discussed, concentrating on social parenthood versus biological parenthood, the couple's experience of this unique parenthood, the fulfilment of their roles and the problems experienced.
- * This child created by means of artificial fertilization with donor gametes is described and various aspects are explored,

such as how this child is planned for, the secrecy involved and whether, when and how to tell the child. The reactions of children who have been told are discussed, followed by issues relating to the resemblance of the child to the parents, the development of this child compared to normal or naturally conceived children, the incidence of abnormalities in these children and how to deal with this traumatic situation.

- * The artificial family is discussed lastly, concentrating on how this couple and their child conceived by means of artificial fertilization with donor gametes become an "artificial family", taking the secrecy involved into consideration. Their place in the larger extended family is discussed and how this secrecy deceives the family members regarding the genetic link and bloodline of this child. Disclosure to the family and their reactions are explored.

- * This chapter serves as a knowledge resource and framework regarding the psycho-social aspects of artificial fertilization with donor gametes. It can be used as a guideline in discussing these issues with couples during the preparation session and can also be used to increase the knowledge of all disciplines involved in this form of treatment, so as to gain more insight on what the possible long-term psycho-social implications can entail.

The following chapter will describe the research findings of the first empirical study on the implementation and evaluation of the preparation session for the holistic preparation of couples for artificial fertilization with donor gametes.

CHAPTER 6

EMPIRICAL STUDY ON THE PREPARATION OF COUPLES FOR ARTIFICIAL FERTILIZATION WITH DONOR GAMETES

6.1 INTRODUCTION

The empirical study to be discussed in this chapter is part of the second stage of research: "The development, implementation, evaluation and description of a guideline for the holistic preparation of couples for artificial fertilization with donor gametes", namely the implementation and evaluation of the preparation sessions. This also fulfils part of the first aim of this study: "To develop, implement, evaluate and describe a guideline for the holistic preparation of couples for artificial fertilization with donor gametes". The objectives are: to implement the guideline in a preparation session for the holistic preparation of couples for artificial fertilization with donor gametes; and to evaluate the effectiveness of the preparation session on a short-term basis.

These findings will be interpreted and discussed in this chapter. Graphical representations of the most important findings will also be provided.

6.2 THE RESEARCH PROCESS

The research process is described by Neuman (1994:10) as: "The process of scientific discovery and of accumulating new knowledge which requires a sequence of steps. Strydom (1989:197), on the other hand, describes it as follows: "Navorsing is 'n proses waarin logiese denke en konkrete handelinge ten nouste saamgeweef is. Die navorsingsproses kan ter wille van duidelikheid in sekere stappe onderskei word, sonder dat dit ooit werklik geskei kan word". Thus the research process can be defined as the various steps which have to be followed to do scientific research in order to gather, analyze and interpret new knowledge.

These different steps of the research process are described by various authors and differ slightly from author to author (Compare

Neuman, 1994:10-13; Babbie, 1992:102-109; Strydom, 1989:197-200; Mouton & Marais, 1988:33 and Bailey, 1987:10.)

These different steps have been formulated as follows:

- * Choice of topic for research and problem formulation.
- * Formulating hypotheses.
- * Pilot study.
- * Research design and procedure.
- * Delimitation of research population and sampling.
- * Literature study.
- * Data collection.
- * Coding, classification and processing of data.
- * Analysing and interpretation of data.
- * Research report and conclusions and recommendations.

In Chapter 1, steps 1 to 5 have been described in-depth and will therefore merely be mentioned briefly in this chapter to refresh the memory of the reader. More attention will be given to the implementation of steps 6 to 9.

6.2.1 Choice of topic for research and problem formulation

The choice of this topic for research was made as a result of researcher's experience and interest in working in the field of infertility as medical social worker in South Africa, at the Infertility Clinic, H.F. Verwoerd Hospital in Pretoria and in the U.S.A., at the Unit for Infertility, Jewish Hospital, Washington University Medical Centre, St. Louis, Missouri from 1985 to 1987. Artificial fertilization with donor gametes was chosen, as very little information and research was available on this topic in South Africa and because researcher started working with these couples at H.F. Verwoerd Hospital in 1986 when this form of treatment was legalized in South Africa. Researcher identified a need to prepare these couples for the psycho-social and other implications of treatment and to do follow-up counselling. This motivated researcher to do research on this, as these couples were requesting this treatment without any prior knowledge of what is entailed and there was hardly any literature or research available on this topic. (See Chapter 1, section 1.2 and 1.3 for further details on this.)

6.2.2 Formulating the hypotheses

The formulation of all the hypotheses for this research is discussed in-depth in Chapter 1.

The hypotheses for this research stage are as follows:

- * **Hypothesis 1:** When couples request artificial fertilization with donor gametes, they have limited knowledge of all the medical, legal, ethical-moral, religious and psycho-social aspects related to this treatment.
 - Couples have usually not been thoroughly prepared for artificial fertilization with donor gametes, even though it was recommended as an alternative;
 - they thus have a limited knowledge of artificial fertilization with donor gametes and related aspects and are therefore unprepared; and
 - they are thus not ready for treatment.

- * **Hypothesis 2:** If couples are prepared for artificial fertilization with donor gametes by means of a holistic preparation session, they will gain more knowledge regarding all the aspects related to this treatment.
 - Artificial fertilization with donor gametes is a complex procedure with many medical, legal, religious, ethical-moral and psycho-social aspects. Couples should be prepared thoroughly prior to treatment regarding all these aspects.

These hypotheses will be tested according to the results of this empirical study and discussed at the end of this chapter.

6.2.3 Pilot study

The pilot study is regarded by Strydom (1989:198) as: "... 'n voorlopige ondersoek om die ondersoeker op die hoogte te bring met die aard van 'n probleem ten einde die navorsingsterrein te kan afbaken. Deur middel van 'n deeglike voorondersoek oriënteer die navorser homself ten opsigte van bestaande kennis oor die onderwerp en stel hy homself bekend met die empiriese situasie van sy ondersoek". The pilot study is thus the preliminary study to help

the researcher prepare for the main study.

The pilot study was discussed in-depth in Chapter 1, section 1.7.4. according to:

- * Literature study.
- * Consultation with experts.
- * Preliminary exploratory study and overview of feasibility of the study.
- * Study of specific entities and pilot test of questionnaire.

6.2.4 Research design and procedure

The type of research, research design and procedure were discussed in-depth in Chapter 1, section 1.7 and can be referred to for further detail.

Applied research was the **type of research** performed in this study, which Bailey (1987:21) refers to as: "... research with conclusions that can be applied to solve social problems of immediate concern". The topic being studied is very actual and could definitely contribute by providing answers to this relatively unknown subject and field of specialization in social work. This study also contained an element of **developmental research**, taking into consideration the guideline for the holistic preparation of couples for artificial fertilization with donor gametes which was developed, implemented, evaluated and described. According to Hofmeyr (1994:3) developmental research is: "... die stelselmatige aktiwiteit waarin bestaande kennis wat deur navorsing en/of praktiese ervaring verkry is, benut word, en op grond waarvan dienste, prosesse, stelsels, metodes, materiale, produkte en toestelle ontwerp, geëvalueer en aangepas word met die oog op die implementering en/of vervaardiging of verbetering van bestaande derglike items. Dit verskil van ander soorte navorsing in dié sin dat dit eerder fokus op die ontwikkeling van nuwe maatskaplike tegnologie as op die ontwikkeling van kennis". Thus this study aimed at providing new guidelines to improve social work services in this field.

The **research designs** included this study were the exploratory and the descriptive research designs. The **exploratory design** according to Royse (1991:44) is used with topics about which very little informa-

tion is available. Babbie (1992:90) and Grinnel & Williams (1990:140) agree with this and add that the purpose is just to explore, that is, to gather data and facts. As no information or guideline is available on the preparation of couples for artificial fertilization with donor gametes, this design was chosen.

Furthermore the **descriptive research design** will also be implemented, which Black & Champion (1983:79) state, provides the researcher with a vast amount of information about many social settings. Thus this study aims at describing this topic in detail and improving knowledge in this way.

The **research procedure** selected for this study was the **single system design**, which Bloom & Fischer (1982:8) define as: "... the repeated collection of information on a single system over time. This system can be an individual, family, group, organization or community. Each is treated as a single unit for this type of analysis. The design part of the term refers to a systematic plan for the collection of data". Strydom (1986:218) more specifically states: "Die kern van die enkelstelselontwerp is die herhaaldelike meting van die probleem". This design is thus ideal for this study, as the same group of respondents will be tested prior to and after the preparation session or intervention is implemented, using a self-constructed questionnaire to measure their knowledge regarding artificial fertilization with donor gametes. The **basic concurrent A-B-A single system design** was chosen, because according to Arkava & Lane (1983:132), this design: "... allows investigators to view the results of applying, then removing a treatment". If this treatment results in improvement, then the conclusion can be made that the treatment was the agent responsible for any observed changes.

These preparation sessions were implemented over a half-day session per couple, at the social workers office at the Infertility Clinic at H.F. Verwoerd Hospital from December 1987 to March 1988.

6.2.5 Delimitation of research population and sampling

This is described in-depth in Chapter 1, section 1.7.5 and can be referred to for further detail.

The research population for this study consisted of all adult patients, male and female, of all races, who were on the waiting list for artificial fertilization with donor gametes at the Infertility Clinic at the H.F. Verwoerd Hospital, Pretoria by October 1987. This consisted of 30 white adult persons, 15 males and 15 females (15 couples) and as this a result of this research population being small, with only limited people choosing this option, the whole research population was included in this study and no sample was taken. The whole research population resided in the Old Transvaal province. All 30 respondents underwent the preparation session with a 100% response rate.

6.2.6 Literature study

Due to the nature of this topic of research the main literature study was very extensive and had to cover literature from the fields of infertility, andrology, gynaecology, endocrinology, reproductive medicine, nursing, law, medico-legal-ethics, theology, psychology, psychiatry and social work. Unfortunately the amount of social work literature on this topic was very limited.

Due to the advanced technology in this field of reproductive medicine, new methods were constantly being developed and the literature study had to be updated regularly to keep track with the latest developments. The changing legislation on this subject also had to be kept in mind and updated regularly throughout the literature study, as well as the changing attitudes of people regarding the ethical-moral issues and the viewpoints of the various religions and churches on this issue. For this purpose a continual MEDLINE literature search by the Medical library, University of Pretoria was undertaken throughout this study and a new printout of the latest literature and research on this broad topic was received every month from 1990 to 1995.

6.2.7 Data collection

The methods of data collection for this first empirical study included personal interviews with each couple and the implementation of a half-day preparation session as a form of intervention. A questionnaire to determine the knowledge of respondents regarding all the aspects related to artificial fertilization with donor gametes

was administered to the respondents in a pre-test prior to the implementation of the preparation session and again after completion of the preparation session in a post-test. The implementation of these preparation sessions took place from December 1987 to March 1988.

6.2.8 Coding, classification and processing of data

The coding of the data according to Bailey (1987:334) can be done by either pre-coding, where the variables in the questionnaire are coded before administering the questionnaire, or by means of post-coding, where the questionnaires are administered and coded once the empirical study has been completed. The coding of the data for this study was done by means of post-coding once the empirical study had been completed. A total of 290 variables were covered by the questionnaire.

The data was classified and prepared for the computer processing. Thereafter this was entered and processed by the computer with the help of a research psychologist consulted privately.

6.2.9 Analysis and interpretation of data

The data was analyzed in conjunction with a research psychologist, Department of Psychology, University of Pretoria, who was consulted privately. This data was then interpreted by researcher, discussed and represented graphically in this chapter. The graphs were created by researcher on Harvard Graphics. The pre-test and post-test results, as well as the male and female results were compared throughout interpretation of the research findings.

For the analysis of this study, mainly frequency tables and crosstabulations were used. According to De la Rey (1995), crosstabulations have the advantage of providing information about the interaction between two variables that are crosstabulated. In this study, each variable in the pre-test was crosstabulated with the same variable in the post-test. This had the advantage of providing valuable information about the changes which took place from the pre-test to the post-test amongst male and female respondents. These results could then most probably be ascribed to the intervention which took place, that is, the preparation session.

Various statistical tests were performed for the analysis of this study on each variable. These included the Chi square, Fisher's Exact Probability Test, Lambda, Uncertainty coefficient, Somer's D, ETA, PHI, Cramer's V, Contingency coefficient, Kendall's Tau B, Kendall's Tau C, Pearson's R and Gamma. Of all these tests, the only test which could be utilized was the Fisher's Exact Probability Test. All the other tests were of no value and no normal approximations could be made due to the small number of respondents, that is, 30.

The Fisher's Exact Probability Test is an extremely useful nonparametric technique, used for analysing discrete data, when the samples are small in size (Siegel, 1956:96). According to De la Rey (1995) this test shows significant differences and only p values of less than 0.05 are significant.

This test can only be used in 2x2 contingency tables or crosstabulations and could thus only be performed in some instances in this study. These results will be shown in the interpretation of the findings where it was of significance.

6.2.10 The research report, conclusions and recommendations

This last step of the research process entails this chapter and this entire thesis which is the research report, including the conclusions and recommendations. Subsequently the research findings of this study will be interpreted and discussed.

6.3 INTERPRETATION OF RESEARCH FINDINGS

The research findings will subsequently be analyzed, interpreted and discussed in this chapter.

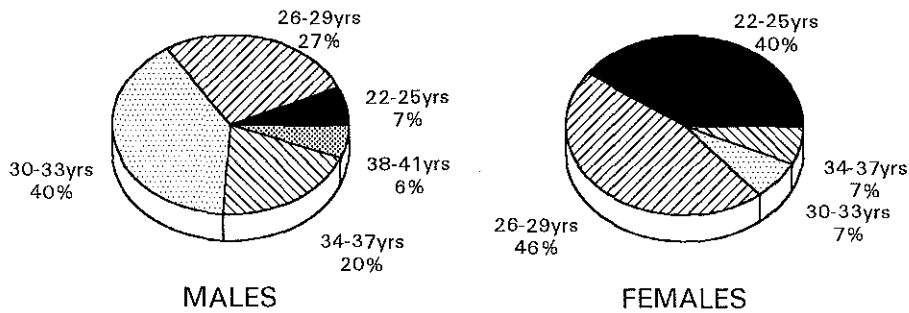
6.3.1 Biographic particulars

It is important to remember that all 30 respondents or 15 couples (total research population) who were on the waiting list for artificial fertilization with donor gametes at the H F Verwoerd Hospital's Infertility Clinic at the time of the study were included in this research.

6.3.1.1 Age

The age of all respondents is represented in the figure below:

FIGURE 9:AGE



N = 30

Figure 9 is interpreted as follows:

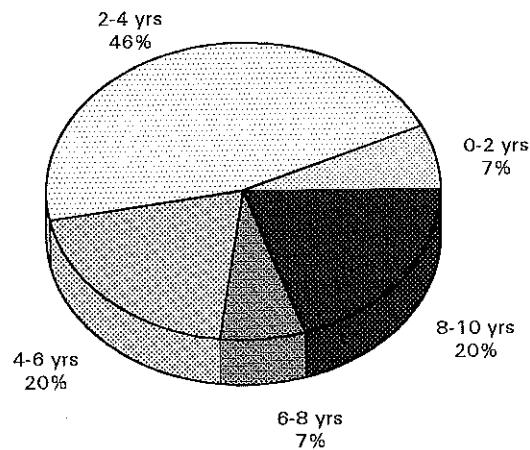
- * 40% (6) male respondents were in the age category 30 to 33 years; 27% (4) in the age category 26 to 29 years; 20% (3) in the age category 34 to 37 years; and 7% (1) in the age categories 22 to 25 years and 38 to 41 years; and
- * 46% (7) female respondents were in the age category 26 to 29 years; 40% (6) in the age category 22 to 25 years; 7% (1) in the age categories 30 to 33 years and 34 to 37 years.

Therefore male respondents were in an older age category than females. Both male and female respondents were in an older age category than the general couple planning their first child. Thus these couples were of a mature age for parenthood.

6.3.1.2 Duration of marriage

The duration of marriage of the respondents is represented in the figure below:

FIGURE 10: DURATION OF MARRIAGE



N = 30

Figure 10 is interpreted as follows:

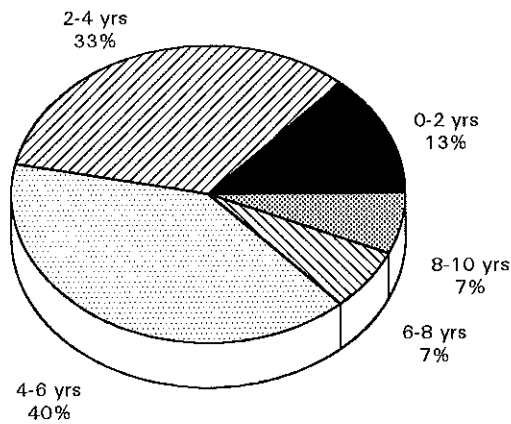
- * 46% (7) of the respondents were married for 2 to 4 years; 20% (3) of the couples were married for both 4 to 6 years and 8 to 10 years; and 7% (1) of the couples were married for both 0 to 2 years and 6 to 8 years.

Therefore most couples were married between 2 and 10 years, which represents couples who have at least had sufficient time to grow in their marital relationship and prepare for parenthood.

6.3.1.3 Duration of infertility

The duration of the infertility problem is represented in the figure below:

FIGURE 11: DURATION OF INFERTILITY



N = 30

Figure 11 is interpreted as follows:

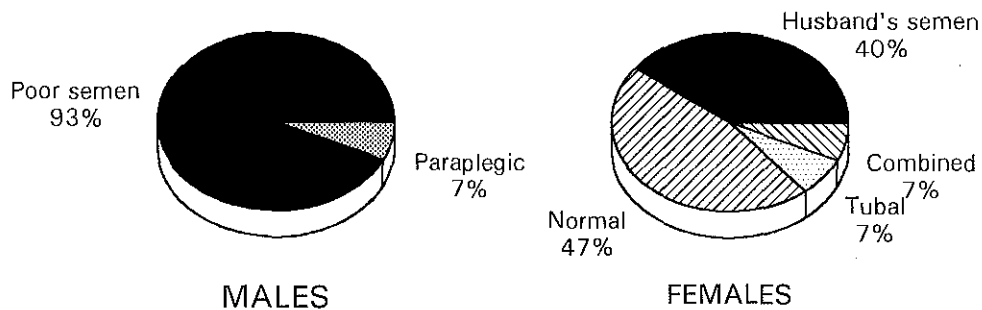
- * 40% (6) of the respondents had infertility problems for 4 to 6 years; 33% (5) for 2 to 4 years, 13% (2) for 0 to 2 years, and 7% (1) for both 6 to 8 years and 8 to 10 years.

Therefore most respondents had endured a few years of infertility problems, that is 2 to 6 years, before eventually deciding on infertility treatment such as AID.

6.3.1.4 Infertility diagnosis

The aim of this question was to determine whether respondents knew what their infertility diagnosis was. The diagnosis and indication for artificial fertilization with donor gametes for all of the respondents was male infertility. The infertility diagnosis, as understood by the respondents, is represented in the figure below:

FIGURE 12: INFERTILITY DIAGNOSIS



N = 30

The findings in figure 12 are interpreted as follows:

- * 93% (14) of the male respondents reported a very poor semen analysis; and 7% (1), or one respondent, was a paraplegic.

Thus all male respondents reported their infertility diagnosis correctly.

- * Only 40% (6) of the female respondents reported their infertility problem realistically as being due to a male diagnosis of poor semen;
- * 46% (7) reported that they were normal, not mentioning the husband's diagnosis;
- * 7% (1) reported that they had a tubal problem; and
- * 7% (1) reported that they had a combined male and female diagnosis.

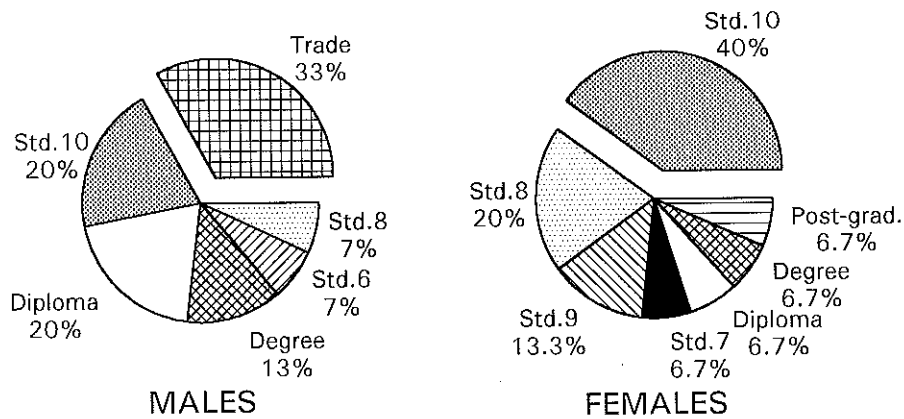
Thus it is interesting that 14% of the female respondents seemed to accept some of the blame for the infertility problem, even though all couples had a male infertility problem as a result of the poor semen analysis of the male. This finding supports the finding of McEwan *et al.* (1987:113) discussed in chapter 5, who found 30% of the female

respondents in their study to feel responsible for the infertility even though they knew it was due to the male diagnosis. This could most probably also be attributed to the outlook of society, usually taking for granted that it is the female's infertility problem or the female wanting to protect her husband's image.

6.3.1.5 Qualifications

The male and female respondents' qualifications are illustrated in the following figure:

FIGURE 13: QUALIFICATIONS



N = 30

The most important findings in figure 13 are as follows:

- * 20% (3) of the males had a diploma and 13% (2) a degree; 33% (5) had completed a trade; 20% (3) had completed standard 10, 7% (1) standard 8 and 7% (1) standard 6.
- Thus a total of 34% of male respondents had only completed a certain level of schooling and 33% a trade, with a total of 67%, therefore representing the lower to middle class of society.
- The minority of male respondents (33%) had a technikon or university qualification, such as a diploma or a degree, thus representing the middle to upper class of society.

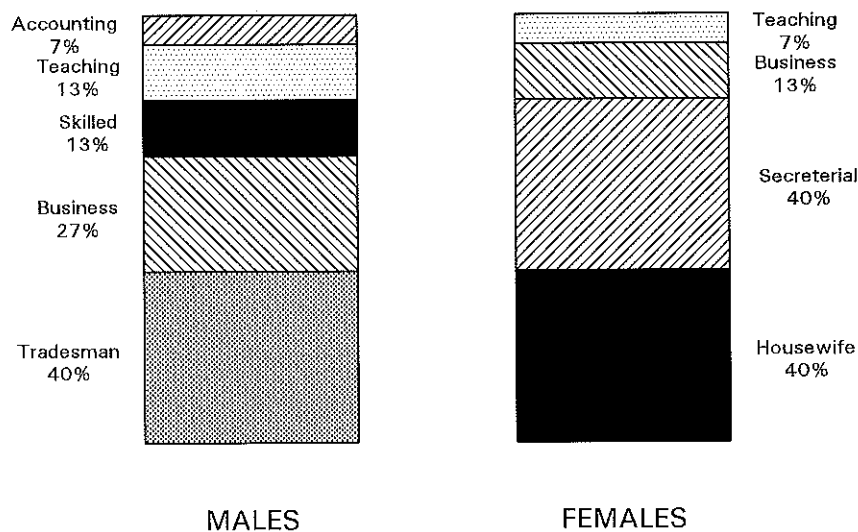
- * 40% (6) of the female respondents had completed standard 10, 13.3% (2) standard 9; 20% (3) standard 8 and 6.7% (1) standard 7; while 6.7% (1) had a diploma, 6.7% (1) a degree and 6.7% (1) a postgraduate degree.
- Therefore the majority of the female respondents (82%) had only completed a certain level of schooling, representing the lower to middle class of society.
- The minority of female respondents (18%), had a technikon or university qualification such as a diploma, degree or postgraduate degree, representing the middle to upper class of society.

Thus it can be concluded that the majority of both male and female respondents had only completed a certain level of schooling, representing the lower to middle class of society and the minority of respondents had technikon or university training, representing the middle to upper class of society. This lower educational level of the most respondents could possibly have been a factor in the respondents not having sufficient knowledge or insight regarding artificial fertilization with donor gametes.

6.3.1.6 Occupation

The male and female occupations are represented in the following figure.

FIGURE 14: OCCUPATION



The most important results from figure 14 are as follows:

- * 40% (6) of the male respondents were tradesmen, while 40% (6) of the female respondents were secretaries;
- * 27% (4) males and 13% (2) females were in the business sector and 7% (1) male was an accountant and performed white collar jobs;
- * 13% (2) males and 7% (1) females were in the teaching field; and
- * 13% (2) males performed skilled blue collar jobs and 40% (6) females were housewives.

Therefore it can be concluded that the majority of respondents had average middle class occupations and the rest represented both lower and upper-middle class occupations, similar to their qualifications.

6.3.1.7 Marital and childbearing history

This question aimed at determining the marital and childbearing history of the respondents. The following was found:

- * 33.3% (5) males had been married previously and 66.7% (10) had not;
- * 13.3% (2) females had been married previously and 86.7% (13) had not;
- * 6.7% (1) males had a child from a previous marriage and 93.3% (14) did not;
- * 13.3% (2) females had a child from a previous marriage and 86.7% (13) did not;
- * 100% (30) of the respondents had no children from their present marriage, indicating their infertility.

Thus a larger number of males had been previously married. A smaller number of male respondents, however, compared to female respondents who had previously been married, had children from that marriage. This possibly indicates the presence of a male infertility problem at that stage already. A few respondents thus had a child in their home, which could affect the findings regarding their experience of having a child at home.

6.3.2 Artificial fertilization with donor gametes

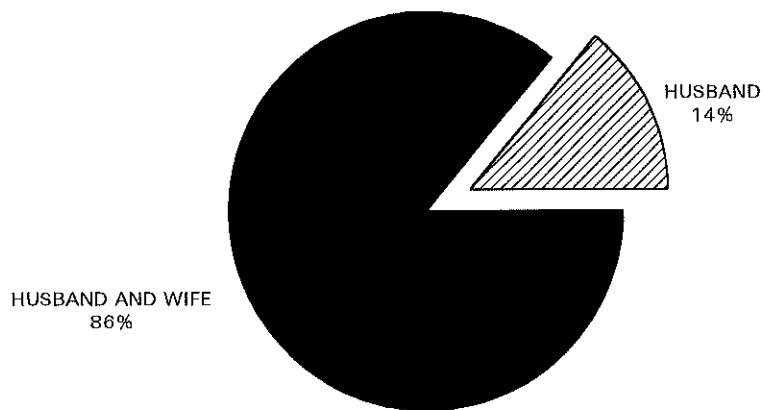
This part of the questionnaire was tested prior to the preparation session (pre-test) and after the preparation session (post-test) to

determine the knowledge gained by respondents after the preparation session with the medical social worker was completed.

6.3.2.1 The decision

This question was aimed at determining who had made the decision to undergo artificial fertilization with donor gametes. Figure 15 illustrates by whom the decision was made.

FIGURE 15:THE DECISION TO UNDERGO ARTIFICIAL FERTILIZATION WITH DONOR GAMETES



N = 28

Figure 15 shows the following results:

- * 86% (24) of the respondents reported that the decision had been made by both husband and wife together; and
- * 14% (4) reported the husband to have made the decision.
- * 2 respondents did not answer this question.

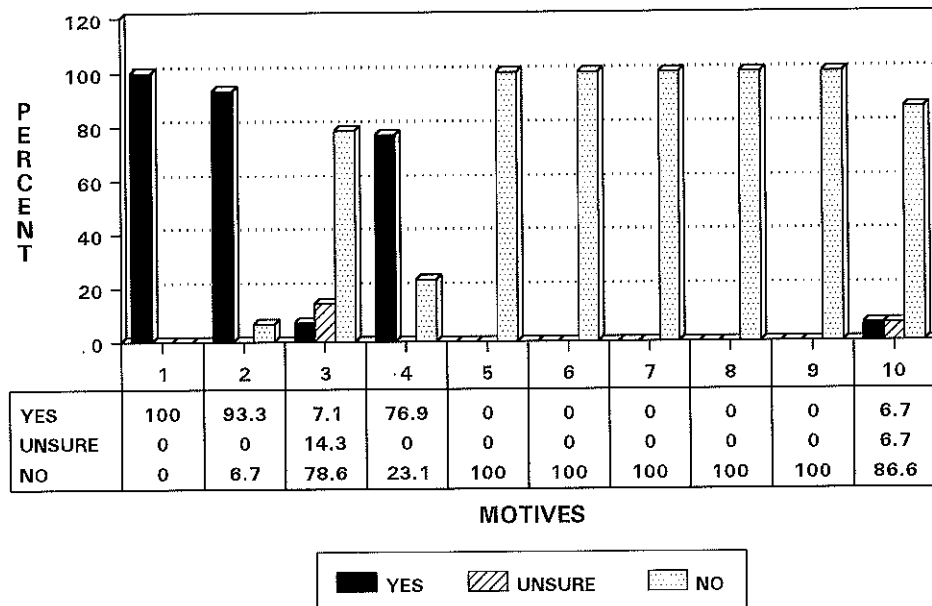
Therefore most couples made a joint-decision to go ahead with artificial fertilization with donor gametes. A joint-decision is also supported in the literature by Carbonatto (1995:53), Van Staden (1989:171) and Owens *et al.* (1993:880-885) and these findings thus

corroborate this.

6.3.2.2 The motives

This question was aimed at determining the respondents' motives for artificial fertilization with donor gametes. Respondents could indicate as many motives as were applicable. Figure 16 illustrates the motives of male respondents:

FIGURE 16: MOTIVES OF MALE RESPONDENTS



N = 15

Key to motives in figure 16:

1. Our need for a child.
2. My need for a child.
3. Our parents' need for a grandchild.
4. To have a child in our home.
5. To save our marriage.
6. To have a playmate for our child.
7. All our friends have children.
8. Family pressure to have a child.
9. Friends' pressure to have a child.
10. Spouse's pressure to have a child.

The following findings are interpreted from figure 8:

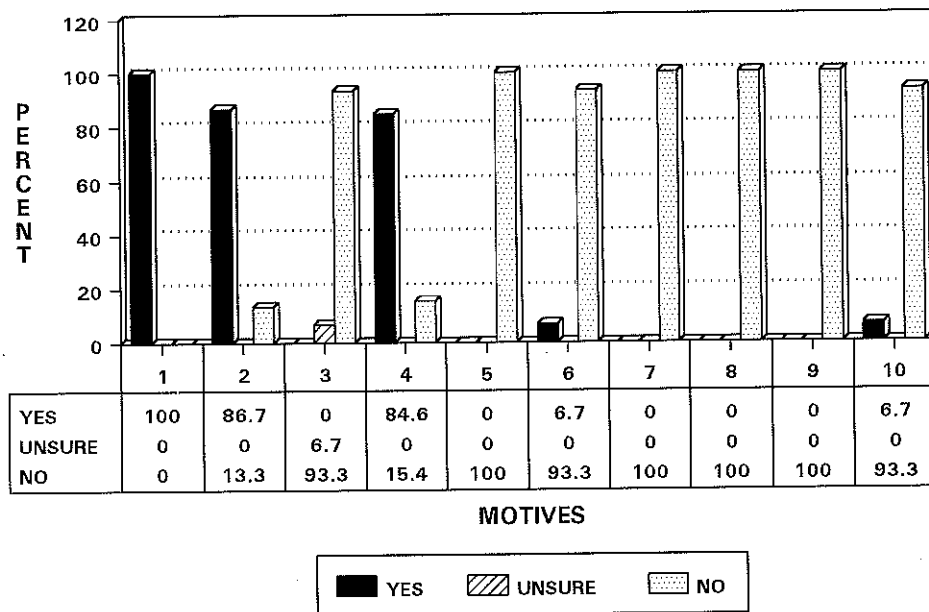
- * 100% (15) reported that it was "our need for a child";
- * 93.3% (14) felt it was "my need for a child";

- * 76.9% (10) wanted a child in their home;
- * 7.1% (1) reported that it was their parents' need for a grandchild while 14.3% (2) were unsure;
- * 6.7% (1) felt it was due to pressure from their spouse, while 6.7% (1) were unsure; and
- * none of the respondents reported it being to save their marriage, nor to have a playmate for the child, nor to have children just like their friends, nor because of pressure from family or friends.

Thus it can be concluded that the main motives for artificial fertilization with donor gametes, as reported by the male respondents, were their combined need for a child (100%); their own need for a child (93.3%); and to have a child in their home (76.9%).

Figure 17 illustrates the motives of female respondents:

FIGURE 17: THE MOTIVES OF FEMALE RESPONDENTS



N = 15

Key to motives in figure 17:

- | | |
|--|---|
| <ol style="list-style-type: none"> 1. Our need for a child. 2. My need for a child. 3. Our parents' need for a grandchild. 4. To have a child in our home. 5. To save our marriage. 6. To have a playmate for our child. | <ol style="list-style-type: none"> 7. All our friends have children. 8. Family pressure to have a child. 9. Friends' pressure to have a child. 10. Spouse's pressure to have a child. |
|--|---|

Figure 17 is interpreted as follows:

- * 100% (15) felt that it was "our need for a child";
- * 86.7% (12) felt it was "my need for a child";
- * 84.6% (11) felt they wanted a child in their home;
- * 6.7% (1) were unsure whether it was their parents' need for a grandchild;
- * 6.7% (1) felt they wanted a playmate for their child;
- * 6.7% (1) felt it was due to pressure from their spouse; and
- * None of the female respondents reported it being to save their marriage, nor to have children like their friends, nor because of pressure from family or friends.

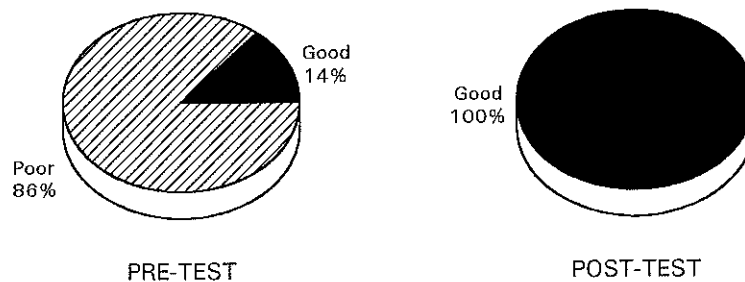
Thus it can be concluded that the main motives for artificial fertilization with donor gametes, as reported by the female respondents, were their combined need for a child (100%); their own need for a child (86.7%); and to have a child in their home (84.6%). Therefore male and female results were somewhat similar, being a need for a child, with the males, however, reporting a stronger personal need for a child than females. This need for a child as a motive is also confirmed by Brand & Saayman (1986:64-72) and Van Delft (1983:35-55). These findings thus confirm the literature findings.

6.3.2.3 Knowledge of artificial fertilization with donor gametes

The aim of this question was to determine the knowledge of the respondents of the medical procedure before and after the preparation sessions. Couples had to write their own account of how they understood artificial fertilization with donor gametes in their own words. This written account was evaluated by researcher and rated good, fair or poor.

Figure 18 illustrates the pre-test and post-test results of male and female respondents:

FIGURE 18: THE PRE-TEST AND POST-TEST RESULTS OF MALE AND FEMALE RESPONDENTS' KNOWLEDGE OF ARTIFICIAL FERTILIZATION WITH DONOR GAMETES



N = 30

Figure 18 is interpreted as follows:

- * During the pre-test only 14% (4) of both male and female respondents could provide a good and acceptable description and 86% (26) gave a poor description.
- * During the post-test 100% (30) male and female respondents could provide a good description.

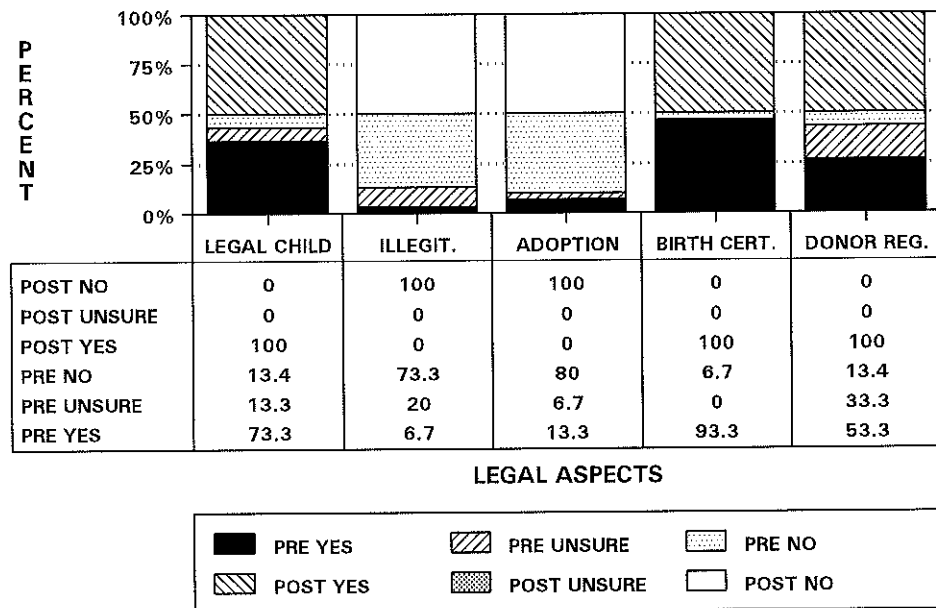
Therefore it can be concluded that the 100% response during the post-test, compared to the 14% during the pre-test, reflects the knowledge gained by respondents during the preparation session.

6.3.2.4 Legal aspects

The aim of this question was to determine the knowledge respondents had of the legal aspects regarding artificial fertilization with donor gametes since the changes had been made to this South African legislation.

Figure 19 compares the legal knowledge of male respondents during the pre-test and post-test:

FIGURE 19: THE LEGAL KNOWLEDGE OF MALE RESPONDENTS DURING THE PRE-TEST AND POST-TEST



N = 15

The change in results from the pre-test to the post-test can clearly be seen in figure 19:

- * **Legal child:** During the pre-test 73.3% (11) responded yes; 13.3% (2) were unsure; and 13.4% (2) responded no; while 100% (15) in the post-test responded correctly that the child would be their legal child.
- * **Illegitimate child:** During the pre-test 6.7% (1) thought the child would be an illegitimate child, 20% (3) were unsure, and 73.3% (11) responded no. During the post-test 100% (15) responded correctly that the child would not be an illegitimate child.
- * **Adoption of the child:** During the pre-test 13.3% (2) thought the child had to be adopted by the husband; 6.7% (1) were unsure and 80% (12) responded no. During the post-test 100% (15) responded correctly that the child would not have to be adopted

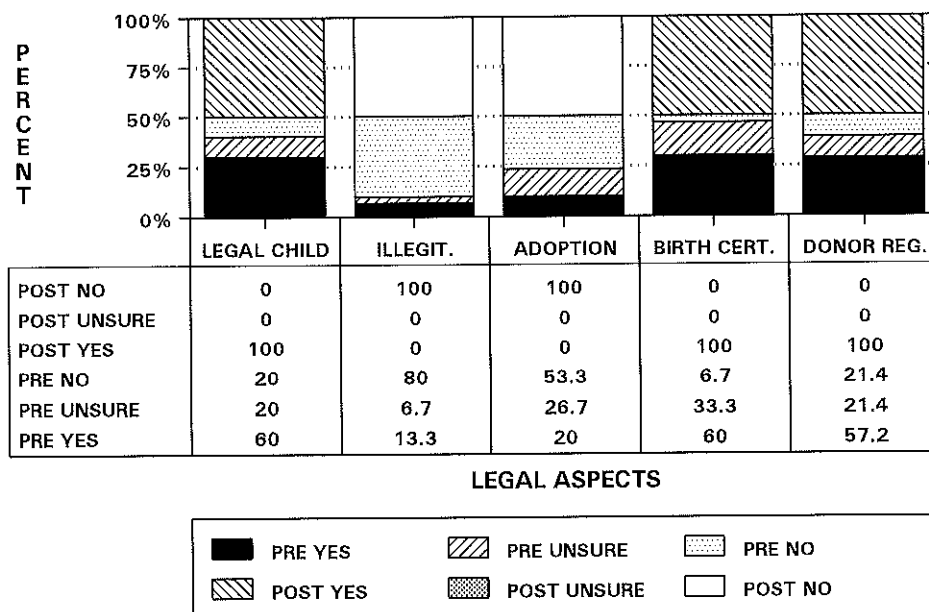
by the husband.

- * **Birth certificate:** 93.3% (14) thought during the pre-test that both husband and wife's names can appear on the child's application form for a birth certificate, while 6.7% (1) did not. During the post-test 100% (15) responded correctly that both the husband's and wife's names can appear.
- * **Donor registration:** 53.3% (8) thought during the pre-test that the donors were registered in a central register and 33.3% (5) were unsure and 13.4% (2) did not think the donors were registered in a central register. During the post-test 100% (15) responded correctly to the donors being registered.

Therefore it can be concluded that the male respondents did not have sufficient knowledge of the legal aspects during the pre-test and prior to preparation, but had sufficient knowledge during the post-test after the preparation session had been completed. Preparation therefore provided the male respondents with the necessary legal knowledge.

Figure 20 compares the legal knowledge of female respondents during the pre-test and post-test:

FIGURE 20: THE LEGAL KNOWLEDGE OF FEMALE RESPONDENTS DURING THE PRE-TEST AND POST-TEST



N = 15

The change in results from the pre-test to the post-test can clearly be seen in figure 20:

- * **Legal child:** During the **pre-test** 60% (9) thought the child would be a legal child, 20% (3) were unsure and 20% (3) responded no. During the **post-test** 100% (15) responded correctly that the child would be their legal child.
- * **Illegitimate child:** During the **pre-test** 13.3% (2) thought the child would be illegitimate, 6.7% (1) were unsure and 80% (12) responded no. During the **post-test** 100% (15) responded to the child not being illegitimate.
- * **Adopting the child:** During the **pre-test** 20% (3) responded that the husband had to adopt the child, 26.7% (4) were unsure and 53.3% (8) responded no. During the **post-test** 100% (15) responded correctly that it was not necessary for the husband to adopt the child.
- * **Birth certificate:** During the **pre-test** 60% (9) responded yes that the names of the husband and wife can appear on the application form for a birth certificate, 33.3% (5) were unsure and 6.7% (1) responded no. During the **post-test** 100% (15) responded correctly to both the husband's and wife's names appearing.
- * **Donor registration:** During the **pre-test** 57.2% (8) reported yes to the donors being registered in a central register, 21.4% (3) were unsure and 21.4% (3) responded no. During the **post-test** 100% (15) responded correctly to the donors being registered.

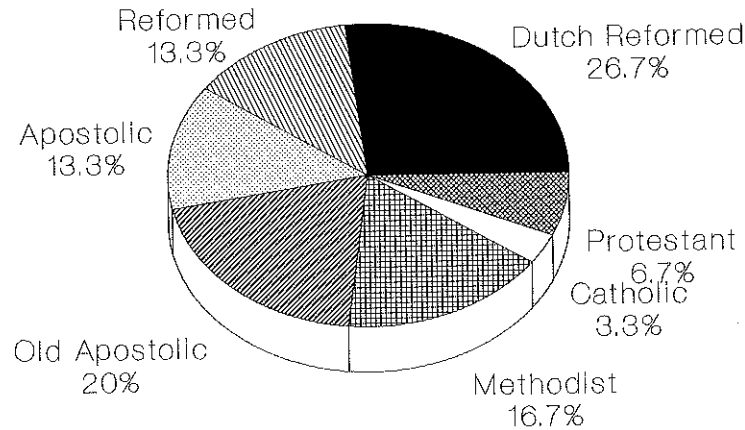
Therefore it can be concluded the female respondents did not have sufficient knowledge of the legal aspects during the pre-test prior to preparation, but had sufficient knowledge during the post-test after the preparation session. Preparation therefore provided the female respondents with the necessary legal knowledge. Thus both males and females showed improved knowledge regarding the legal aspects after completion of the preparation session.

6.3.2.5 Religious aspects

The aim of this section was to determine the respondents' religion and their knowledge of the religious aspects related to artificial fertilization with donor gametes.

Figure 21 illustrates the church denomination of the respondents.

FIGURE 21:THE CHURCH DENOMINATION OF RESPONDENTS



N = 30

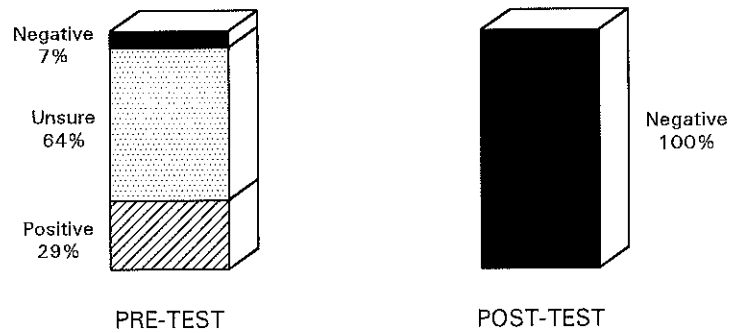
Figure 21 is interpreted as follows:

- * 26.7% (8) of the respondents were in the Dutch Reformed Church (DRC); 20% (6) were in the Old Apostolic Church; 16.7% (5) were in the Methodist Church; 13.3% (4) in the Reformed and Apostolic churches respectively; 6.7% (2) were PPK and 3.3% (1) a Catholic.

Respondents were thus mainly from the Afrikaans sister churches, but also represented most other churches in smaller proportion. All respondents were thus Christians.

Figure 22 illustrates the knowledge of respondents concerning their attitude towards artificial fertilization with donor gametes:

FIGURE 22: THE KNOWLEDGE OF RESPONDENTS CONCERNING THE ATTITUDE OF THEIR CHURCH



N = 30

Figure 22 is interpreted as follows:

- * During the **pre-test** 29% (8) thought the church's attitude was positive, 64% (18) were unsure and 7% (2) thought it was negative. (Two respondents did not respond).
- * During the **post-test** 100% (30) of the respondents knew that the church's attitude regarding artificial fertilization with donor gametes was negative.

Therefore it can be concluded that the respondents did not have sufficient knowledge of the religious aspects prior to the preparation session, but had increased knowledge after the preparation. Preparation therefore clarified some of the religious aspects related to artificial fertilization with donor gametes.

6.3.2.6 Ethical-moral aspects

The aim of this section was to determine the respondents' attitudes regarding the ethical-moral aspects related to artificial fertili-

zation with donor gametes:

- * During the **pre-test** 93% (28) of the respondents felt positive regarding the ethical-moral aspects and 7% (2) were unsure. During the **post-test** 100% (30) of the respondents felt positive regarding the ethical-moral aspects.
- * During the **pre-test** 86.7% (26) felt they had come to terms with their ethical-moral uncertainties and 13.3% (4) were unsure. During the **post-test** 100% (30) of the respondents felt they had come to terms with their ethical-moral uncertainties.

Thus it can be concluded that respondents still had some ethical uncertainties prior to preparation, but not after preparation was completed. Preparation therefore helped couples come to terms with their ethical-moral uncertainties or issues.

- * During the **pre-test** 35.7% (5) of the male respondents thought the community had a positive attitude towards treatment, 57.1% (8) were unsure and 7.2% (1) thought the community had a negative attitude.
During the **post-test** 14.3% (2) of the male respondents thought the community had a positive attitude, 28.6% (4) were unsure and 57.1% (8) thought the community had a negative attitude towards donor treatment.
- * During the **pre-test**, 7.7% (1) female respondent thought the community had a positive attitude toward donor treatment, 69.2% (9) were unsure and 23.1% (3) thought the community had a negative attitude.
During the **post-test** 30.8% (4) female respondents were unsure and 69.2% (9) female respondents thought the community had a negative attitude toward donor treatment.

Therefore respondents had a more realistic outlook and improved knowledge of the general ethical-moral attitudes and aspects after the preparation session.

6.3.2.7 Psycho-social aspects

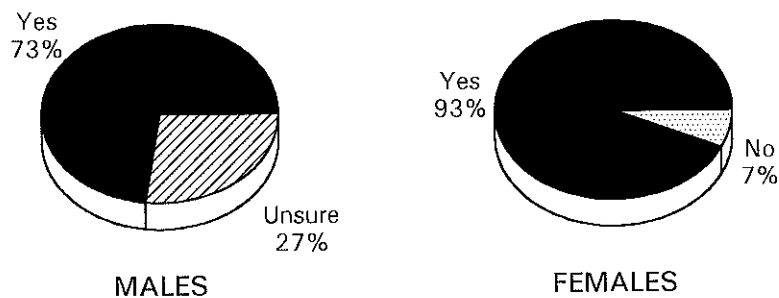
There are many psycho-social aspects related to artificial fertilization with donor gametes and therefore this is the larger portion

of the questionnaire. Different aspects will be concentrated on subsequently:

*** Parents' approval**

Figure 23 illustrates both male and female respondents' responses to whether their parents will approve of artificial fertilization with donor gametes or not.

FIGURE 23: WILL PARENTS APPROVE OR NOT



N = 30

Figure 23 is interpreted as follows:

- 73% (11) of the male respondents responded that their parents would approve, compared to 93% (14) of the female respondents.
- 27% (4) of the male respondents and 0% of the female respondents were unsure.
- 7% (1) female and 0% males thought they would not approve.

Females therefore felt more positive about their parents' approval than males. This could be as a result of the males feeling more unsure due to their diagnosis and the disappointment it could cause

by their not being able to continue their family name. Snowden & Mitchell (1981:106-108) confirm this fear couples have of whether their parents will approve or not, which then becomes a reason for secrecy.

*** Secrecy**

Secrecy is an interesting phenomenon which is discussed in detail in chapter 5. This part of the questionnaire concentrated on certain important aspects related to the secrecy involved with artificial fertilization with donor gametes.

- Disclosure of the secret

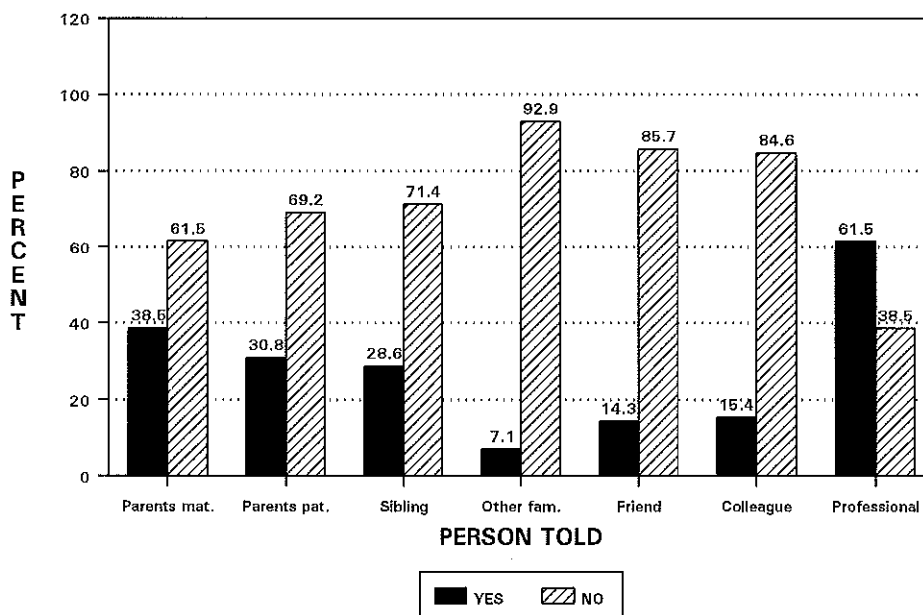
73.3%(11) male and female respondents respectively, reported during the pre-test and post-test that someone knew of their plans and 26.7% (4) respectively reported nobody knowing.

Thus artificial fertilization with donor gametes was only kept a total secret by 26.7% (8) of the respondents.

- To whom the secret was disclosed

Figure 24 illustrates to whom the secret was disclosed by male respondents:

FIGURE 24: TO WHOM THE SECRET WAS DISCLOSED BY MALE RESPONDENTS



N = 15

Figure 24 is interpreted as follows:

- 61.5% (8) shared their secret with professionals, 38.5% (5) with their maternal parents, 30.8% (4) with their paternal parents, 28.6% (4) with their siblings, 15.4% (2) with colleagues, 14.3% (2) with friends, and the least, 7.1% (1) with other family.

Thus it can be concluded that the male respondents shared their secret mostly with professionals (61.5%), probably because they wanted help and professionals are outsiders. Secondly with their maternal parents (wife's parents) (38.5%) and thirdly with their paternal parents (husband's parents) (30.8%). This could be as a result of not wanting to hurt their feelings or disappoint the paternal parents because of the male diagnosis, directly affecting them and their family name. Siblings were fourthly told (28.6%) while other family were the last told (7.1%). Siblings most probably had a closer relationship with respondents and could be trusted while other family had less contact, could not be trusted and could spread rumours or reject the child. Interestingly, colleagues, (15.4%), were told more often than friends (14.3%), which could be due to male respondents being in the presence of their colleagues for longer periods than in that of friends because of their work and therefore confiding in them.

Figure 25 illustrates to whom the secret was disclosed by female respondents:

FIGURE 25: TO WHOM THE SECRET WAS DISCLOSED BY FEMALE RESPONDENTS

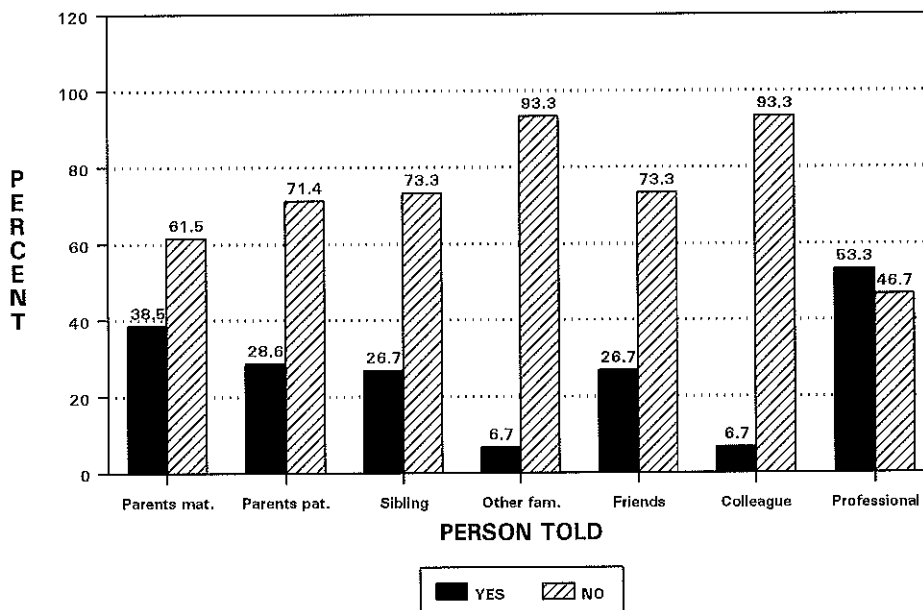


Figure 25 is interpreted as follows:

- . 53.3% (8) shared their secret with professionals, 38.5% (5) with their maternal parents, 28.6% (4) with their paternal parents, 26.7% (4) with siblings and friends respectively, and 6.7% (1) with other family and colleagues respectively.

Thus it can be concluded that female respondents shared their secret mostly with professionals (53.3%), probably because they wanted help and professionals are outsiders. Secondly it was shared with their maternal parents (wife's parents) (38.5%) and thirdly with their paternal parents (husband's parents) (28.6%), probably because of wives being closer to their parents and it affecting the paternal parents more directly. Siblings and friends were also thirdly told (26.7%), which could be due to close relationships and trust in both siblings and friends with whom wives usually had more contact than husbands. Other family and colleagues were the last persons told (6.7%), which could be due to less contact, less trust and fear of rumours or rejection of the child by these people.

Thus male and female respondents' responses differed somewhat, especially concerning professionals, paternal parents, siblings, friends and colleagues. The male responses were higher in all of these except friends, where the female response were higher. This could be attributed to the persons who are seen more often, with whom a closer relationship is formed or who are trusted with keeping a secret. In the case of professionals, it could most probably be ascribed to confidentiality and objectivity from an outsider. These findings confirm the persons the secret was disclosed to as reflected in the literature, namely, maternal parents, paternal parents, friends, professionals, siblings and colleagues. The order in which the disclosure was made differs, however, with the findings of this study showing professionals being told first, followed by parents, which contradicts the literature which reflects parents being told first and professionals much later. (Compare Klock & Maier, 1991:491-492; Van Staden, 1989:178 and Snowden *et al.* 1983:110-116.) These somewhat different findings in this study could be due to the couples' intensive infertility investigations and evaluation by professionals at the clinic, before the final diagnosis was revealed

and they most probably only told their parents thereafter.

- **Non-disclosure of the secret**

By means of an open question, the reasons for respondents not disclosing their secret were as follows:

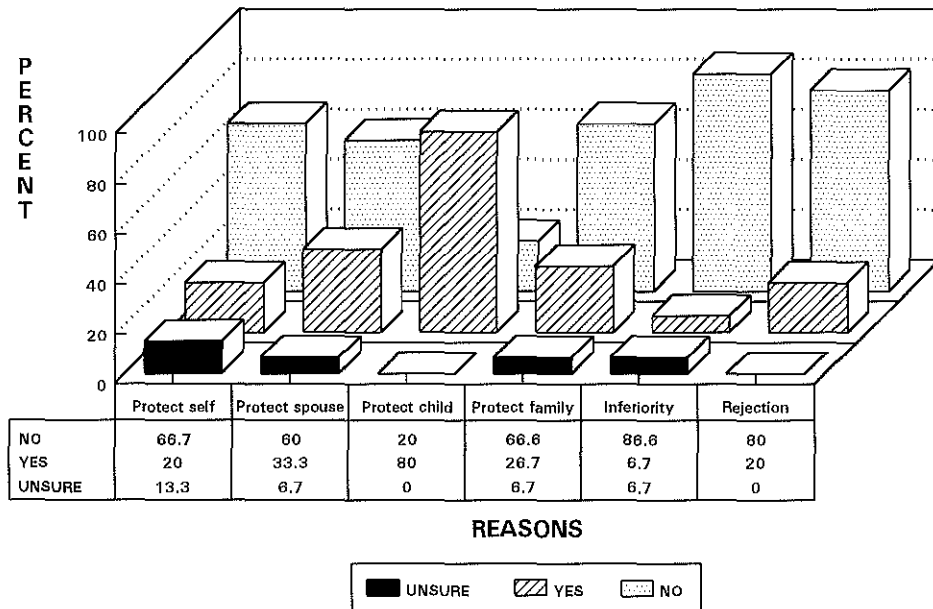
- . 82% (24) of all respondents felt that nobody needs to know of their secret, while 18% (6) felt that it was their own private problem.

Thus respondents thought it was their own problem and why should anyone know if they could keep it a secret.

- **Reasons for secrecy**

Figure 26 illustrates the reasons for secrecy by male respondents:

FIGURE 26: REASONS FOR SECRECY BY MALE RESPONDENTS



N = 15

Figure 26 is interpreted as follows:

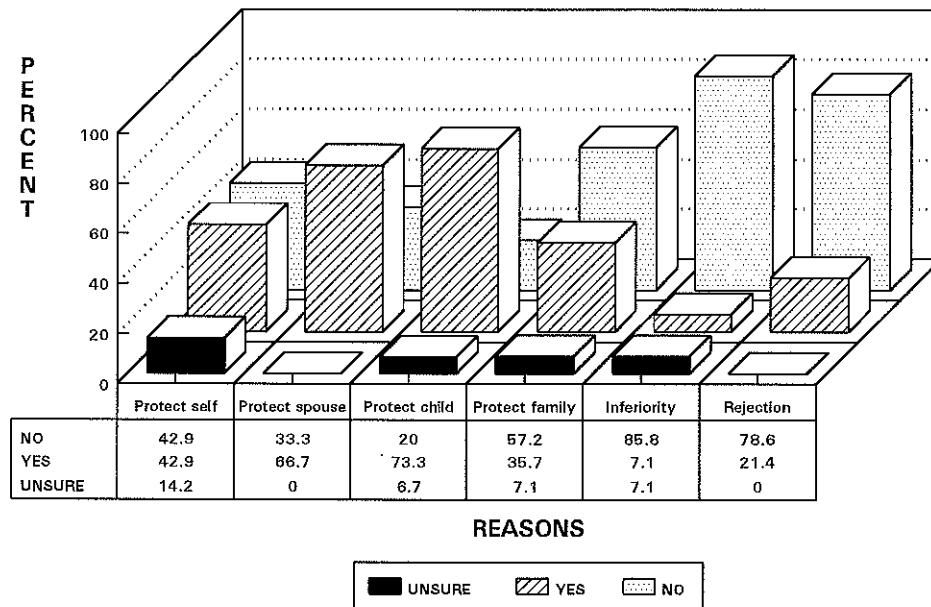
- . 80% (12) wanted to protect the child, 33.3% (5) wanted to protect the spouse, 26.7% (4) wanted to

protect the family name, 20% (3) wanted to protect themselves and were scared of rejection respectively, and 6.7% (1) were scared of feeling inferior if someone finds out.

. 13.3% (2) were unsure whether it was to protect themselves, while 6.7% (1) were unsure whether it was to protect their spouse, their family name or for a fear feeling inferior respectively.

Thus it can be concluded that the male respondents' main reason for secrecy was to protect the child (80%), to protect their spouse (33.3%), the family name (26.7%), themselves and a fear of rejection (20%) and fear of feeling inferior (6.7%). Thus they were mostly concerned about protecting significant others and then themselves.

Figure 27 illustrates the reasons for secrecy by female respondents:
FIGURE 27:REASONS FOR SECRECY BY FEMALE RESPONDENTS



N = 15

Figure 27 is interpreted as follows:

. 73.3% (11) wanted to protect the child, 66.7% (10)

wanted to protect their spouse, 42.9% (6) wanted to protect themselves, 35.7% (5) wanted to protect the family name, 21.4% (3) were scared of rejection and 7.1% (1) were scared of feeling inferior.

. 14.3% (2) were unsure whether it was to protect themselves, 7.1% (1) were unsure whether it was to protect the family name or for fear of feeling inferior respectively, and 6.7% (1) were unsure whether it was to protect the child.

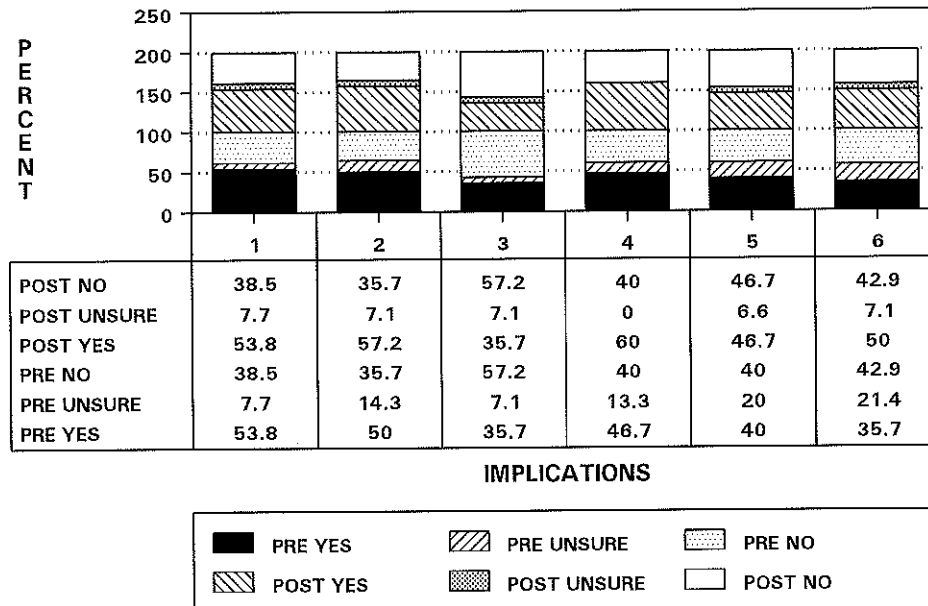
Thus it can be concluded that the female respondents' main reasons for secrecy were: To protect the child (73.3%); to protect their spouse (66.7%) which was higher than the male response, showing how wives protect the husband with his diagnosis. To protect themselves (42.9%) was the third highest response, which was the male second lowest response, showing females placing their own protection above that of the male. Protecting the family name (35.7%) was higher than the male response, showing the wives having a higher concern about their "status" than the husband. Fear of rejection and of feeling inferior were the lowest responses, corresponding well with the male responses. Thus it can be concluded that the main reasons for secrecy for both male and female respondents were to protect the child, the spouse and themselves. These reasons for secrecy are very similar and confirm those reflected in the literature. (Compare Snowden *et al.* 1983:103-110; Berger, 1982:53 and Snowden & Mitchell, 1981:106-108.)

- **Implications of secrecy**

The aim of this question was to determine how realistic respondents were about the possible implications of secrecy.

Figure 28 illustrates the pre-test and post-test results of the implications of secrecy as reported by male respondents:

FIGURE 28: THE PRE-TEST AND POST-TEST RESULTS OF THE IMPLICATIONS OF SECRECY AS REPORTED BY MALE RESPONDENTS



N = 15

Key to implications in Figure 28:

1. Tension and anxiety.
2. Constant lies.
3. Never sharing it with others.
4. Constant fear of someone finding out.
5. Never sharing it with the child.
6. Never sharing it with other infertile couples.

Figure 28 is interpreted as follows:

- . During the pre-test the highest "yes" responses to implications they had considered were tension and anxiety (53.8%) (7); the constant lies (50%) (7) and the fear of someone finding out (46.7%) (7).
- . The highest "unsure" result during the pre-test was never sharing it with other infertile couples (21.4%) (3).
- . The highest "no" responses to implications not considered during the pre-test were: Never sharing it with others (57.2%) (8) and never sharing it with

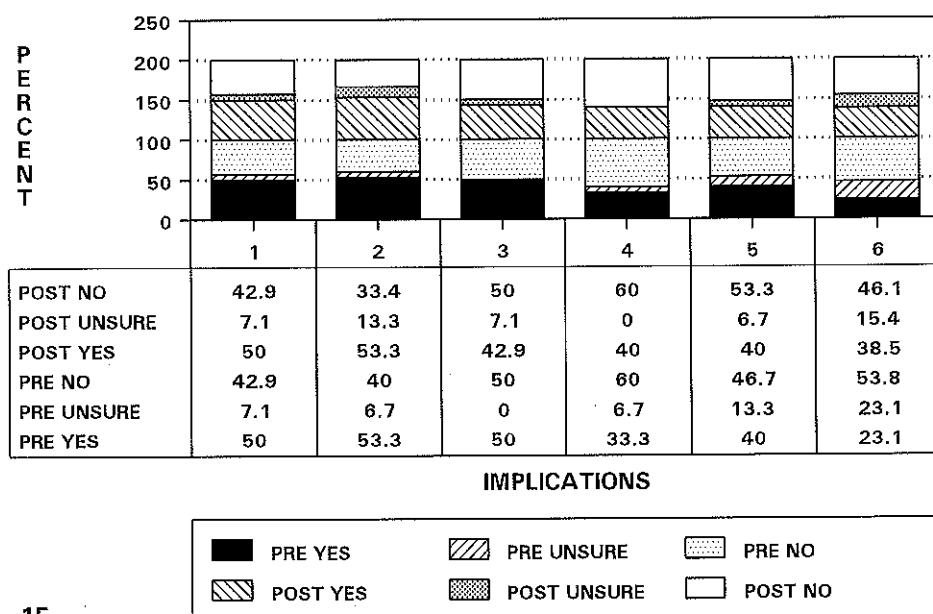
other infertile couples (42.9%) (6).

- . During the post-test the highest "yes" responses were: The constant fear of someone finding out (60%) (9); the constant lies (57.2%) (7); the constant tension and anxiety (53.8%) (7) and never being able to share this with other infertile couples (50%) (7).
- . The "unsure" response of tension and anxiety and never sharing it with others remained the same, while the other unsure responses all decreased.
- . The highest "no" response or implication least considered was never sharing it with others (57.2%) (8).

It can be concluded that the male respondents thought more realistically of the possible implications of secrecy after the preparation session, with higher "yes" responses, and lower "unsure" responses. The implications which were mostly thought of were the fear of someone finding out; the constant lies; the constant tension and anxiety; and the thought of never being able to share this experience with other infertile couples.

Figure 29 illustrates the pre-test and post-test results of the implications of secrecy as reported by female respondents:

FIGURE 29: THE PRE-TEST AND POST-TEST RESULTS OF THE IMPLICATIONS OF SECRECY AS REPORTED BY FEMALE RESPONDENTS



N = 15

Key to implications in figure 29:

- | | |
|--|--|
| <ol style="list-style-type: none"> 1. Tension and anxiety. 2. Constant lies. 3. Never sharing it with others. 4. Constant fear of someone finding out. | <ol style="list-style-type: none"> 5. Never sharing it with the child. 6. Never sharing it with other infertile couples. |
|--|--|

Figure 29 is interpreted as follows:

- . During the **pre-test** the highest "yes" responses to implications considered were the constant lies (53.3%) (8); the tension and anxiety; never being able to share this experience with others (50% (7) respectively); and never being able to share this with the child, (40%) (6).
- . The highest "unsure" response during the pre-test was never being able to share this experience with other infertile couples (23.1%) (3).
- . The highest "no" response to implications not considered was the fear of someone finding out (60%) (9).
- . During the **post-test** only three "yes" responses changed: Never sharing it with others from (50%) (7) to (42.9%) (6); the fear of someone discovering it from (33.3%) (5) to (40%) (6); and never sharing it with infertile couples from (23.1%) (3) to (38.5%) (5).
- . The highest "unsure" response remained never sharing it with other infertile couples, but changed from (23.1%) (3) to (15.4%) (2).
- . The highest "no" response still remained the fear of someone finding out (60%) (9).

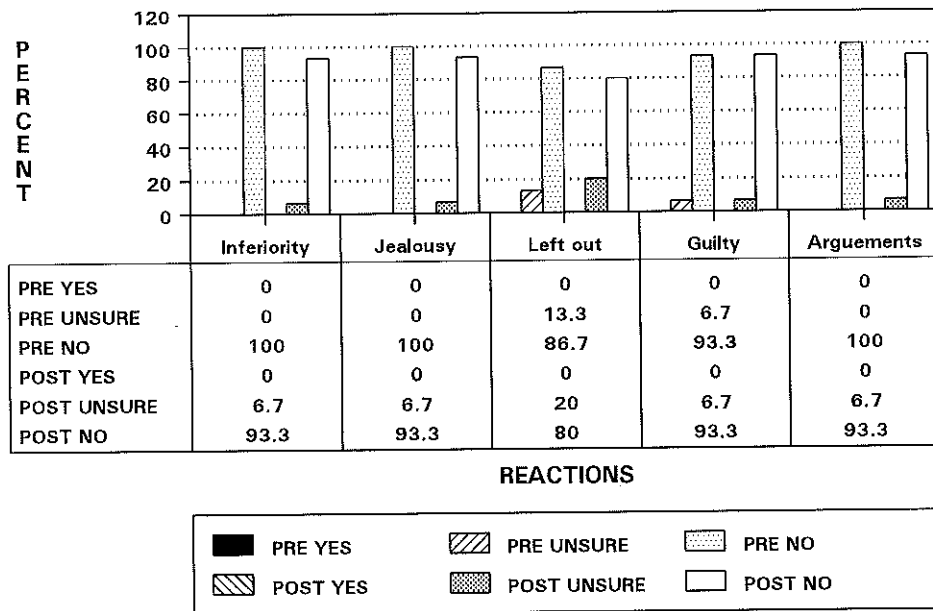
Thus it can be concluded the female respondents also had a more realistic view of the implications of secrecy after the preparation session, but with a smaller increase in the "yes" responses than males. Aspects which were mostly thought of were the constant lies; the constant tension and anxiety; and never being able to share it with others. Therefore it can be concluded that the preparation session provided both male and female respondents with sufficient information to help them gain knowledge and be realistic regarding the implications of secrecy. The need for information to increase the knowledge of couples on the implications created by secrecy is also stressed in the literature and more open attitudes are recommended. (Compare Matot & Gustin, 1990:633; Van Staden, 1989:175-176; De Wert, 1986:38; Snowden *et al.*, 1983:123; Berger, 1982:53 and Manuel *et al.*, 1980:421.)

* **The effect of artificial fertilization with donor gametes on respondents:**

The aim of this section was to determine the knowledge regarding the possible effects of artificial fertilization with donor gametes on patients.

Figure 30 illustrates the possible effects of artificial fertilization reported by male respondents:

FIGURE 30: THE POSSIBLE EFFECTS OF ARTIFICIAL FERTILIZATION WITH DONOR GAMETES ON MALE RESPONDENTS



N = 15

Figure 30 is interpreted as follows:

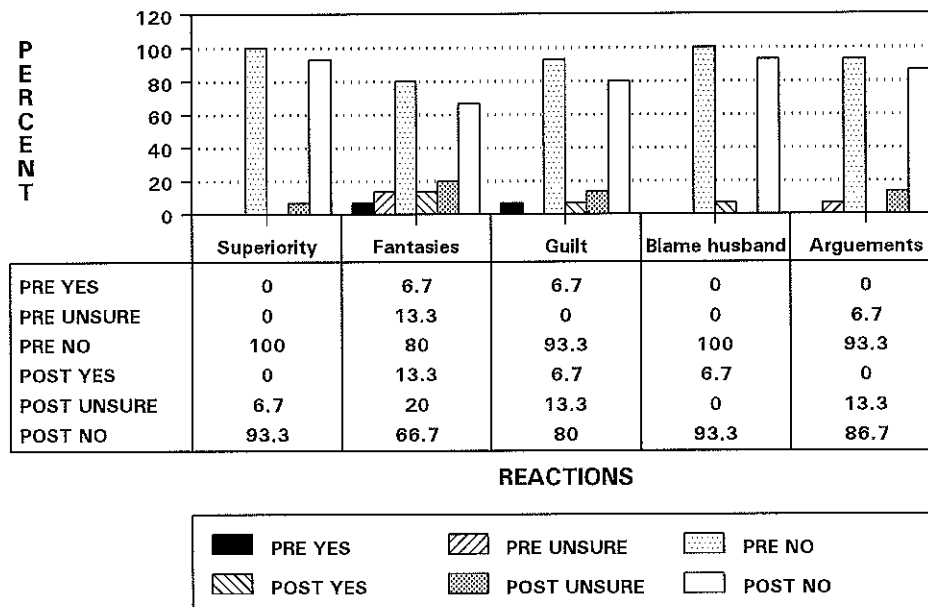
- During the **pre-test** male respondents were rather unrealistic with mostly 100% (15) "no" answers regarding the possible effects, except for 13.3% (2) who were unsure of feeling left out during the procedure and 6.7% (1) who were unsure of feeling guilty.
- During the **post-test** 20% (3) were unsure of feeling left

out during the procedure and 6.7% (1) respectively were unsure of possibly feeling inferior, jealous, guilty or using the artificial fertilization issue during arguments. Thus the only aspect which showed a significant difference in the pre-test and post-test amongst the male respondents was feeling left out during the procedure, which according to Fisher's Exact Probability Test had a significance of $p = 0.0286$

Therefore it can be concluded that the male respondents mostly thought of feeling left out during the treatment procedure and were somewhat more realistic during the post-test as they started feeling more unsure about the possible effects this treatment could have on them.

Figure 31 illustrates the possible effects of artificial fertilization with donor gametes reported by female respondents:

FIGURE 31: THE POSSIBLE EFFECT OF ARTIFICIAL FERTILIZATION WITH DONOR GAMETES ON FEMALE RESPONDENTS



N = 15

Figure 31 is interpreted as follows:

- During the **pre-test** 6.7% (1) of the female respondents reported that they could fantasize about the donor and 6.7% (1) could feel guilty, while 13.3% (2) were unsure of fantasizing about the donor and 6.7% (1) were unsure of using the artificial fertilization issue during arguments.
- During the **post-test** 13.3% (2) reported that they could fantasize about the donor, 6.7% (1) respectively could feel guilty and could blame their husbands; 20% (3) were unsure of fantasizing, 13.3% (2) were unsure of feeling guilty and of using the artificial fertilization issue during arguments respectively, and 6.7% (1) were unsure of feeling superior.

The Fisher's Exact Probability Test showed no significant difference in any of the aspects indicated by the female respondents in the pre-test or post-test.

Therefore female respondents responded the highest to fantasizing about the donor and feeling guilty. These fantasies of the donor confirm the literature findings of Bewaeys *et al.* (1993:23-35), Sokoloff (1987:14) and Blaser *et al.* (1988:18). These feelings of guilt also corroborate the findings of Harrison *et al.* (1984:374). Female respondents in this study thus seemed to think more realistically of artificial fertilization with donor gametes and the possible effects than the male respondents and also showed a more realistic outlook during the post-test as a result of the preparation session.

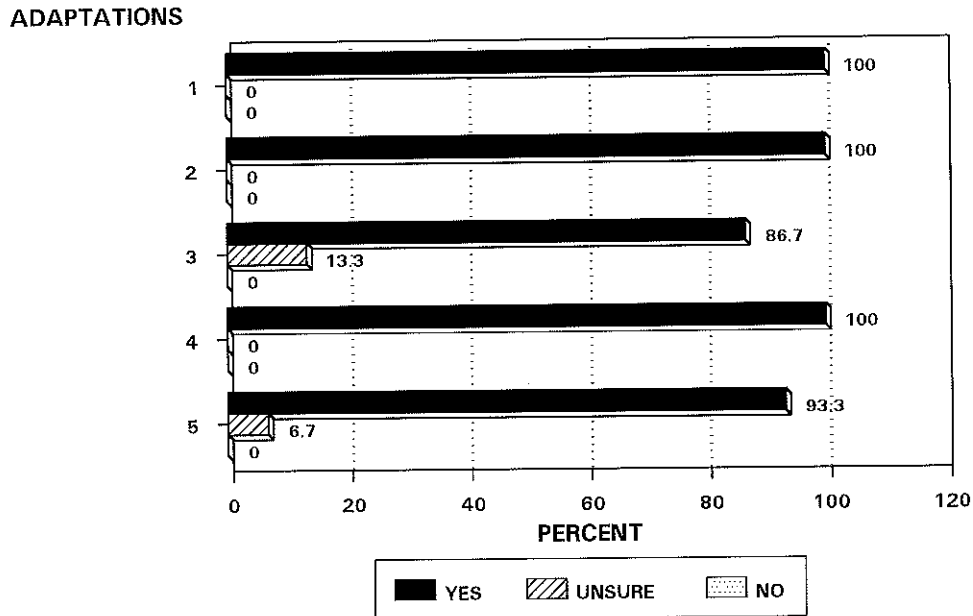
*** The pregnancy:**

Certain adaptations and implications of the pregnancy were explored to determine the respondents' knowledge concerning its various aspects:

- **Adaptations resulting from the pregnancy**

Figure 32 illustrates the responses of male respondents regarding certain adaptations resulting from the pregnancy:

FIGURE 32: RESPONSES OF MALE RESPONDENTS REGARDING ADAPTATIONS RESULTING FROM THE PREGNANCY



N = 15

Key to adaptations in figure 32:

1. Enjoy seeing your wife pregnant.
2. Accept the possibility of your wife losing her figure.
3. Cope with your wife's morning nausea as a result of the pregnancy.
4. Accept your wife's unwillingness to have intercourse during the pregnancy.
5. Agree to be present during the delivery.

Figure 32 is interpreted as follows:

- During the pre-test and post-test the males responded positively to being able to cope with most of the aspects of the pregnancy, except for the morning nausea as a result of the pregnancy where 13.3% (2) were unsure and the rest were positive, and being present at the delivery where 6.7% (1) were unsure and the rest were positive.

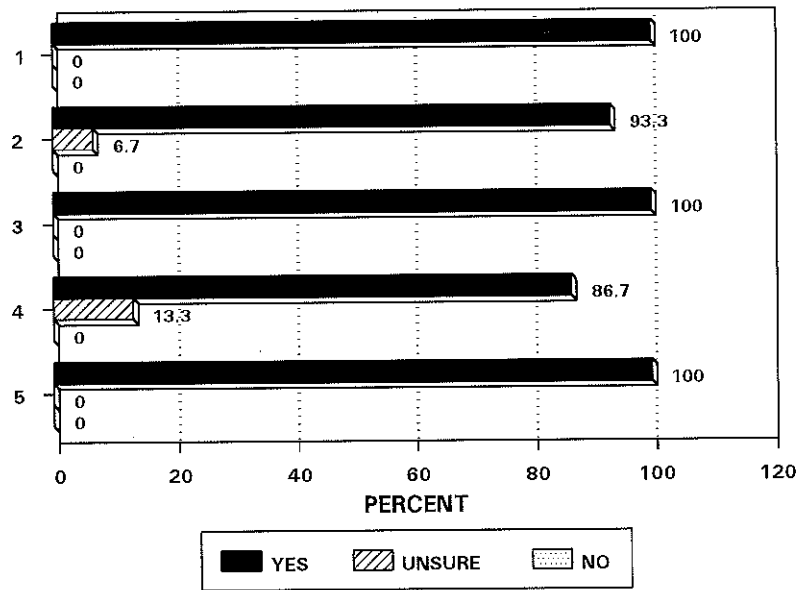
Thus the male respondents reported an ability to cope with most of the adaptations resulting from the pregnancy, except for a small percentage who were unsure of being able to cope with the wife's morning nausea and being present at the delivery. This is supported by the Fisher's Exact Probability Test which showed a significant

difference of $p = 0.0095$ in the concerns of males to be able to cope with the wife's morning nausea in the pre-test and post-test.

Figure 33 illustrates the responses of female respondents regarding certain adaptations resulting from the pregnancy:

FIGURE 33: RESPONSES OF FEMALE RESPONDENTS REGARDING ADAPTATIONS RESULTING FROM THE PREGNANCY

ADAPTATIONS



N = 15

Key to adaptations in figure 33:

1. Enjoy being pregnant.
2. Accept the possibility of losing your figure.
3. Cope with morning nausea as a result of the pregnancy.
4. Cope with your husband's need for intercourse during your pregnancy.
5. Want your husband to be present during the delivery.

Figure 33 is interpreted as follows:

- During the pre-test and post-test the females responded positively to being able to cope with most of the aspects of the pregnancy, except with the husband's need for intercourse during the pregnancy where 13.3% (2) were unsure, and the possibility of losing their figures, where 6.7% (1) were unsure.

Thus the female respondents reported an ability to cope with most of

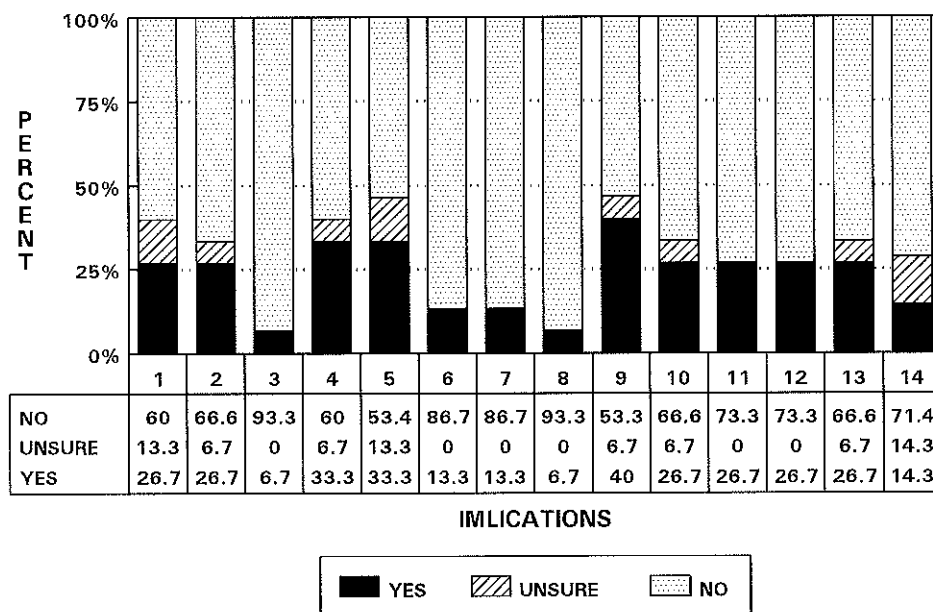
the adaptations resulting from the pregnancy, except for a small percentage who were unsure of coping with the husbands need for intercourse during the pregnancy and their own figure loss. This is supported by Fisher's Exact Probability Test which showed a significant difference of $p = 0.0095$ in the concerns of females in being able to cope with the husband's need for intercourse during the third trimester of the pregnancy in the pre-test and post-test.

Therefore the male respondents were unsure of being able to cope with certain physical difficulties the wife had to endure as a result of the pregnancy, and the female respondents were unsure of being able to cope with their own physical changes and their husband's sexual needs.

- **Implications of the pregnancy**

Figure 34 illustrates the possible implications of the pregnancy according to male respondents:

FIGURE 34: POSSIBLE IMPLICATIONS OF THE PREGNANCY ACCORDING TO MALE RESPONDENTS



N = 15

Key to implications in figure 34:

1. Unsuccessful treatment.
2. Wife has to endure everything and husband is merely a "spectator".
3. Husband might feel left out.
4. An abnormal pregnancy leading to a therapeutic abortion.
5. A miscarriage.
6. Wife being unable to cope with the pregnancy.
7. Husband being present at the delivery.
8. Husband being unable to cope with the pregnancy.
9. A stillbirth.
10. A difficult delivery.
11. A caesarean.
12. A premature baby.
13. An ill baby.
14. Post-partum depression.

Figure 34 is interpreted as follows:

- . During the pre-test 40% (6) of the respondents were most concerned about a stillbirth, 33.3% (5) were concerned about an abnormal pregnancy leading to a therapeutic abortion and a miscarriage respectively.
- . The least concerns, 13.3% (2), were regarding the wife not coping with the pregnancy and the husband being present at the delivery respectively, while least of all, 6.7% (1), was the husband not coping with the pregnancy or feeling left out respectively.
- . The highest uncertainty, 14.3% (2), was regarding post-partum depression and unsuccessful treatment respectively, or 13.3% (2), a miscarriage.

Thus it can be concluded that the implications most male respondents were concerned about were a stillbirth, an abnormal pregnancy, a therapeutic abortion and a miscarriage.

Therefore the males were more concerned about possibly losing the baby and about the wife or baby suffering physically. The least concerns were about themselves feeling left out and not coping with the pregnancy or the delivery.

- . During the post-test most of the "yes" responses increased, especially those aspects of highest concern in the pre-test such as stillbirth rose from 40% (6) to 46.7% (7) and abnormal pregnancy and miscarriage rose from 33.3% (5) to 40% (6).

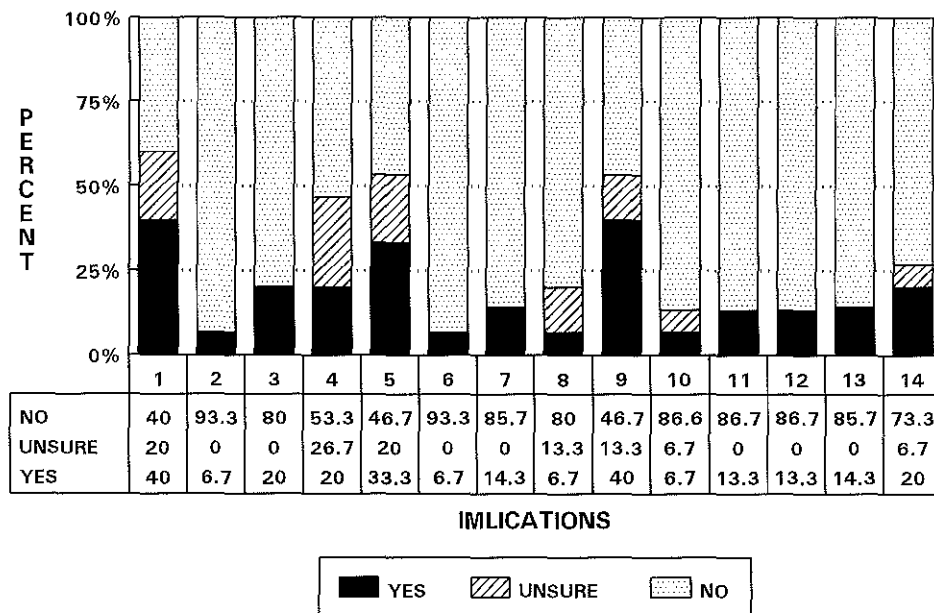
The Fisher's Exact Probability Test showed the following in terms of

significant differences amongst the male respondents in the pre-test and post-test: that the wife will not be able to deal with the pregnancy $p = 0.0095$; being present at the birth $p = 0.0095$; a caesarean birth $p = 0.0037$; and a premature baby $p = 0.0037$

Thus it can be concluded that the male respondents gained insight during the preparation session and had a more realistic outlook regarding the pregnancy and possible implications.

Figure 35 illustrates the possible implications of the pregnancy according to the female respondents:

FIGURE 35: POSSIBLE IMPLICATIONS OF THE PREGNANCY ACCORDING TO FEMALE RESPONDENTS



N = 15

Key to implications in figure 35:

- | | |
|--|---|
| <ol style="list-style-type: none"> 1. Unsuccessful treatment. 2. Wife has to endure everything and husband is merely a "spectator." 3. Husband might feel left out. 4. An abnormal pregnancy leading to a therapeutic abortion. 5. A miscarriage. 6. Wife being unable to cope with the pregnancy. | <ol style="list-style-type: none"> 7. Husband being present at the delivery. 8. Husband being unable to cope with the pregnancy. 9. A stillbirth. 10. A difficult delivery. 11. A caesarean. 12. A premature baby. 13. An ill baby. 14. Post-partum depression. |
|--|---|

Figure 35 is interpreted as follows:

- . During the **pre-test** 40% (6) of the respondents were concerned about unsuccessful treatment, 40% (6) about a stillbirth and 33.3% (5) about a miscarriage.
- . The least concern 13.3% (2), was for a caesarian or premature baby respectively, and least of all, 6.7% (1) respectively, that the wife has to endure everything, that husband and wife cannot cope with the pregnancy, and a difficult delivery.
- . The highest unsure response, 26.7% (4), was regarding an abnormal pregnancy leading to a therapeutic abortion.

Therefore it can be concluded that the implications most female respondents were concerned about were unsuccessful treatment, a stillbirth and a miscarriage. Females were thus more concerned about the success of treatment than the males (40%), compared to (26.7%) respectively, and were equally concerned about the possibility of losing the baby than the males. The least concerns were about the husbands or wives not coping with the pregnancy or delivery.

- . During the **post-test** most of the "yes" responses increased, especially those of highest concern in the pre-test, such as unsuccessful treatment, rose from 40% (6) to 53.3% (8), and stillbirth rose from 40% (6) to 46.7% (7).

The Fisher's Exact Probability Test showed the following in terms of significant differences amongst the female respondents in the pre-test and post-test: the husband being present at the birth $p = 0.0109$; having a caesarean $p = 0.0286$; the baby being premature $p = 0.0286$; and the baby being ill $p = 0.0329$

Thus it can be concluded that the female respondents gained insight during the preparation session and had a more realistic outlook of the pregnancy and the possible implications.

It seems as if both males and females gained knowledge on the adaptations and implications of the pregnancy and most probably a more realistic outlook regarding the pregnancy. The literature confirms the possible implications and adaptations resulting from the

pregnancy. (Compare Bernstein *et al.*, 1988:407; Berger, 1982:52; Zimmerman, 1982:235; D'Elicio *et al.*, 1980:401-411; Stone, 1980:673 and Clamar, 1980:173-177.) The need for knowledge on these issues is essential and thorough preparation is therefore recommended.

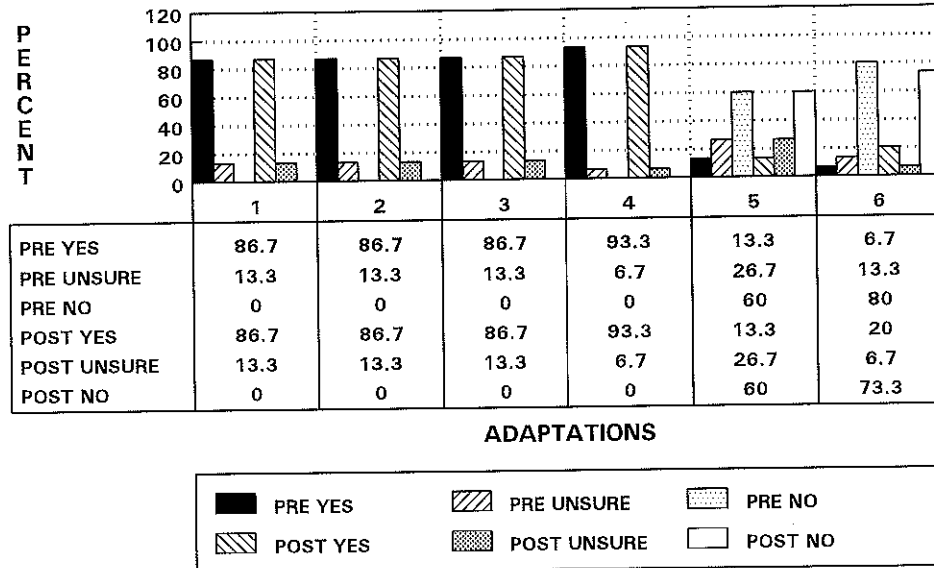
*** The child**

The aim of this section was to determine the insight of respondents in the adaptations that have to be made once an infant is born and the concerns they have regarding this child.

- Concerns and adaptations regarding the child

Figure 36 illustrates the pre-test and post-test results of the concerns and adaptations of male respondents regarding the child:

FIGURE 36: THE PRE-TEST AND POST-TEST RESULTS OF THE CONCERNS AND ADAPTATIONS OF MALES REGARDING THE CHILD



N = 15

Key to concerns/adaptations in figure 36:

1. Colic baby.
2. Nappy changing.
3. Adapting to a child in your life.
4. Raising a child knowing you are not the biological father.
5. Uncertainty regarding your ability to be a good father.
6. Fear of the child rejecting you.

Figure 36 is interpreted as follows:

- . During the **pre-test** 93.3% (14) were concerned about raising the child knowing they are not the biological father, 86.7% (13) respectively, were concerned about coping with baby being a colic baby, helping with nappy changing and about adapting to a child in their lives.
- . An aspect of least concern, 6.7% (1), was the fear of rejection from the child.
- . The highest uncertainty 26.7% (4), was the ability to be a good father.
- . During the **post-test** the results remained the same except for the fear of rejection from the child which rose from 6.7% (1) to 20% (3).

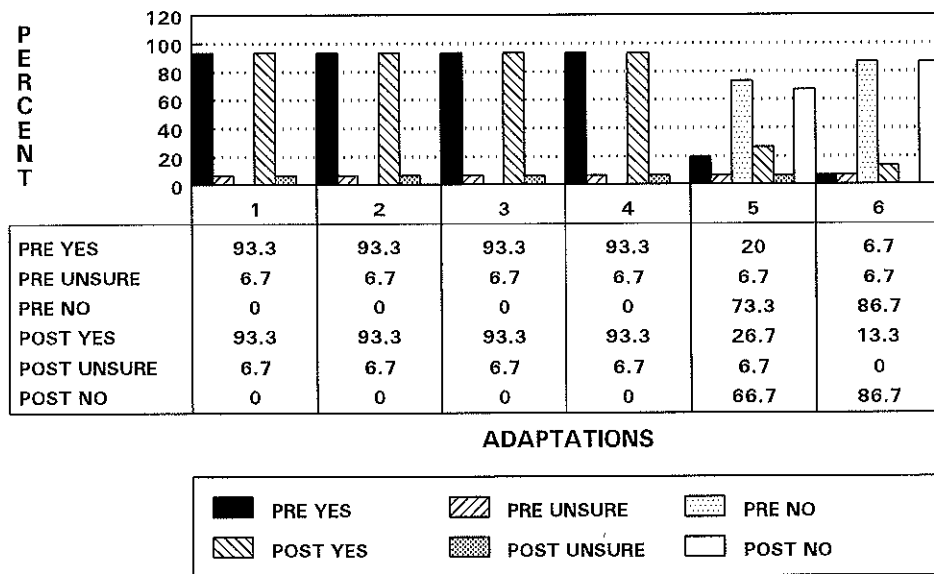
Thus the most significant differences amongst males in the pre-test and post-test were coping with a colic baby, helping with nappy changing and adapting to a baby in their life, which according to **Fisher's Exact Probability Test** each had a significance of $p = 0.0095$ respectively.

Thus it can be concluded the male respondents were concerned about a colic baby, nappy changing and adapting to a child in their lives throughout both the pre-test and post-test. Raising this child of whom they were not the biological father was also a major concern. This reflects the underlying uncertainty and fear of the male respondents who were still willing to go ahead with treatment despite their concerns. This is a very important result which does not reflect positively on the male respondents' readiness and ability to go ahead with treatment, but it does, however, reflect very well on their realistic viewpoints. The other main concerns of the adaptation to a child in their lives, again reflects that they were not ready for a child, which was supported by aspects regarding the baby such as nappy changing and a colic baby. Interesting that the aspect of least concern to the respondents was the fear of rejection from the child and the ability to be a good father, despite all the above-mentioned contradictions. The literature, however, confirms that these fathers do have good parental skills and tend to devote more time with the child than the majority of normal biological fathers.

(Compare Milsom & Bergman, 1982:127; Zimmerman, 1982:236, Manuel & Czyba, 1980:471 and Czyba & Chevret, 1979:244.) Therefore it can be concluded that male respondents had very important realistic concerns about the child and still needed time to reconsider treatment and to prepare themselves for these adaptations before going ahead with artificial fertilization with donor gametes.

Figure 37 illustrates the pre-test and post-test results of the concerns and adaptations of female respondents regarding the child.

FIGURE 37: THE PRE-TEST AND POST-TEST RESULTS OF THE CONCERNS AND ADAPTATIONS OF FEMALES REGARDING THE CHILD



N = 15

Key to concerns/adaptations in figure 37:

1. Colic baby.
2. Nappy changing.
3. Adapting to a child in your life.
4. Raising a child knowing your husband is not the biological father.
5. Uncertainty regarding your ability to be a good mother.
6. Fear of the child rejecting you.

Figure 37 is interpreted as follows:

- . During the **pre-test** 93.3% (14) of the female respondents reported concern regarding a colic baby, nappy changing, adapting to a child in their lives and raising a child of whom their husband was not the biological father.
- . 6.7% (1) of the respondents were unsure of all the aspects.
- . During the **post-test** all the results remained the same except for the concern in their ability to be a good mother which rose from 20% (3) to 26.7% (4) and fear of rejection from the child which rose from 6.7% (1) to 13.3% (2).

The Fisher's Exact Probability Test showed no significant differences in any of the aspects indicated by the female respondents in the pre-test and post-test.

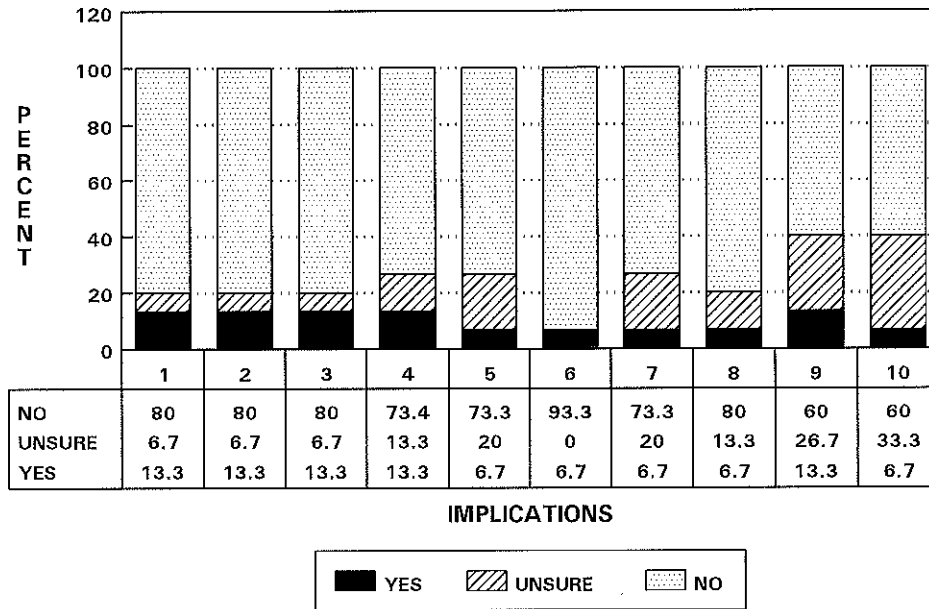
Thus it can be concluded that female respondents were highly concerned about all the aspects regarding the child, reflecting a realistic outlook, but also underlying fear, uncertainty and little readiness for treatment and this child. Interesting that one of the lowest responses was the fear of rejection from the child and the ability to be a good mother despite all the above-mentioned concerns. Christiaens (1988:350) confirms these findings by stating that AID parenthood is even more demanding than biological parenthood.

Therefore it can be concluded that female respondents had an even more realistic outlook than the male respondents, but still needed time to prepare themselves for a child and all the adaptations before going ahead with artificial fertilization with donor gametes.

- **Implications regarding the child:**

Figure 38 illustrates the concerns of possible implications regarding the child by the male respondents:

FIGURE 38: CONCERNS OF POSSIBLE IMPLICATIONS REGARDING THE CHILD BY MALES



N = 15

Key to implications in figure 38:

1. Mentally retarded.
2. Physical disability.
3. Minimal abnormality.
4. Intellectual level.
5. Similarity of child.
6. Opposite interests.
7. Bad parent-child relationship.
8. Child does not live up to expectations.
9. Child finding out about origin.
10. Rejection by the child.

Figure 38 is interpreted as follows:

- . During the pre-test the main concern regarding the possible implications were 13.3% (2) respectively who were concerned about mental retardation, physical disability, minimal abnormalities, intellectual level and the child finding out about his/her artificial fertilization with donor gametes origin.
- . The highest uncertainty, 33.3% (5), was for rejection by the child, 26.7% (4) for the child finding out about his origin and 20% (3) respectively for similarity of the child and bad parent-child relation-

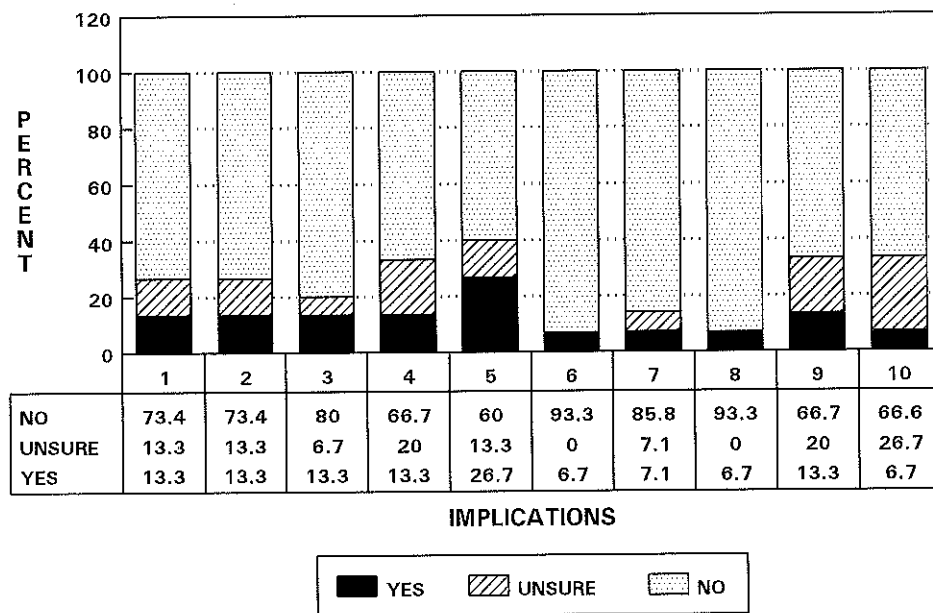
ship.

- . During the **post-test** most results remained the same except for rejection by the child which rose from 6.7% (1) to 13.3% (2).

The Fisher's Exact Probability Test showed no significant differences in any of the aspects in the pre-test and post-test. Thus it can be concluded that male respondents did not show much concern for these possible implications regarding the child. The high uncertainty responses reflect those aspects respondents were probably most concerned about.

Figure 39 illustrates the concerns of possible implications regarding the child by the female respondents:

FIGURE 39: CONCERNS OF THE POSSIBLE IMPLICATIONS REGARDING THE CHILD BY FEMALES



N = 15

Key to implications in figure 39:

1. Mentally retarded.
2. Physical disability.
3. Minimal abnormality.
4. Intellectual level.
5. Similarity of child.
6. Opposite interests.
7. Bad parent-child relationship.
8. Child that does not live up to expectations.
9. Child finding out about origin.
10. Rejection by the child.

Figure 39 is interpreted as follows:

- . During the **pre-test** the main concerns regarding possible implications were 26.7% (4) who were concerned about the similarity of the child, 13.3% (2) respectively about mental retardation, physical disability, minimal abnormalities, intellectual level and the child finding out.
- . The highest uncertainty, 26.7% (4), was for rejection by the child, and 20% (3) respectively for the intellectual level and the child finding out about his origin.
- . During the **post-test** most results remained the same except for the similarity of the child which decreased from 26.7% (4) to 20% (3) and opposite interests and rejection by the child which increased from 6.7% (1) to 13.3% (2).

The **Fisher's Exact Probability Test** showed no significant differences in any of the aspects in the pre-test and post-test.

Thus it can be concluded that female respondents showed as little concern about these possible implications as the males, but with some higher responses. The females showed more concern about the dissimilarity of the child (26.7%), compared to the males (6.7%). The high uncertainty responses reflect those aspects respondents were probably concerned about. The literature contradicts these findings by reporting women to express fear and doubts concerning possible foetal malformations and both women and men to be more concerned about the resemblance of the child. (Compare Sokoloff, 1987:14; Berger, 1982:52; D'Elicio *et al.*, 1980:401-411 and Stone, 1980:673.)

Therefore male and female respondents were not as concerned about the possible implications regarding the child as the literature reflects. This is a positive result, as artificial fertilization with donor gametes does not cause a higher rate of abnormalities than any normal pregnancy and respondents therefore had the necessary insight.

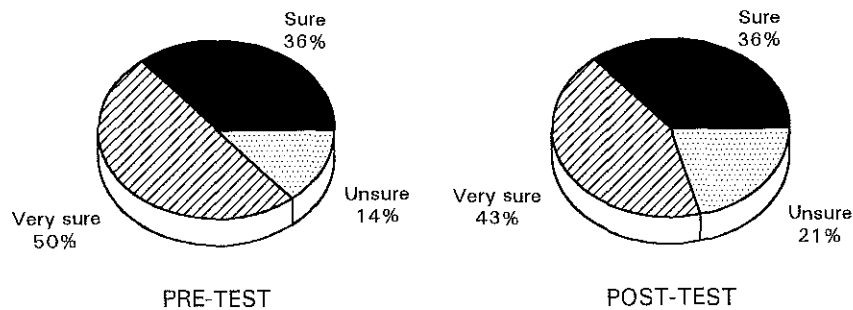
*** Parenthood**

The aim of this section was to determine the readiness, knowledge, skills and fears regarding parenthood.

- Ability to be a good parent

Figure 40 illustrates how male respondents feel about their ability to be a good parent.

FIGURE 40:HOW MALE RESPONDENTS FEEL ABOUT THEIR ABILITY TO BE A GOOD PARENT



N = 14

Figure 40 is interpreted as follows:

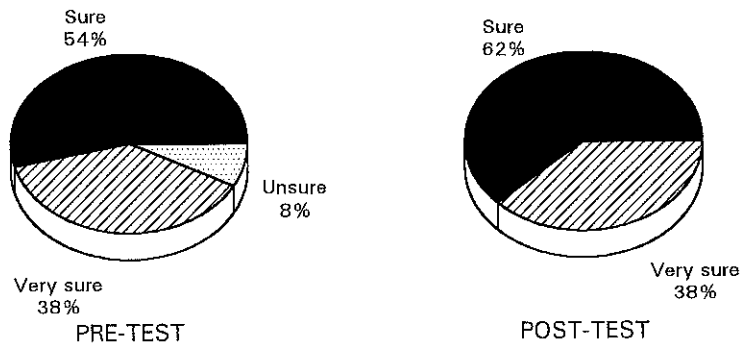
- . During the **pre-test** 50% (7) of the male respondents were very sure, 36% (5) sure and 14% (2) unsure of their ability to be a good parent.
- . During the **post-test** only 43% (6) were very sure, 36% (5) sure and 21% (3) unsure of their ability to be a good parent.
- . 1 respondent did not respond.

Thus it can be concluded that the male respondents gained insight during the preparation session and were more realistic, as their

certainty regarding their ability to be a good parent decreased and their uncertainty increased in the post-test.

Figure 41 illustrates how female respondents feel about their ability to be a good parent.

FIGURE 41:HOW FEMALE RESPONDENTS FEEL ABOUT THEIR ABILITY TO BE A GOOD PARENT



N = 13

Figure 41 can be interpreted as follows:

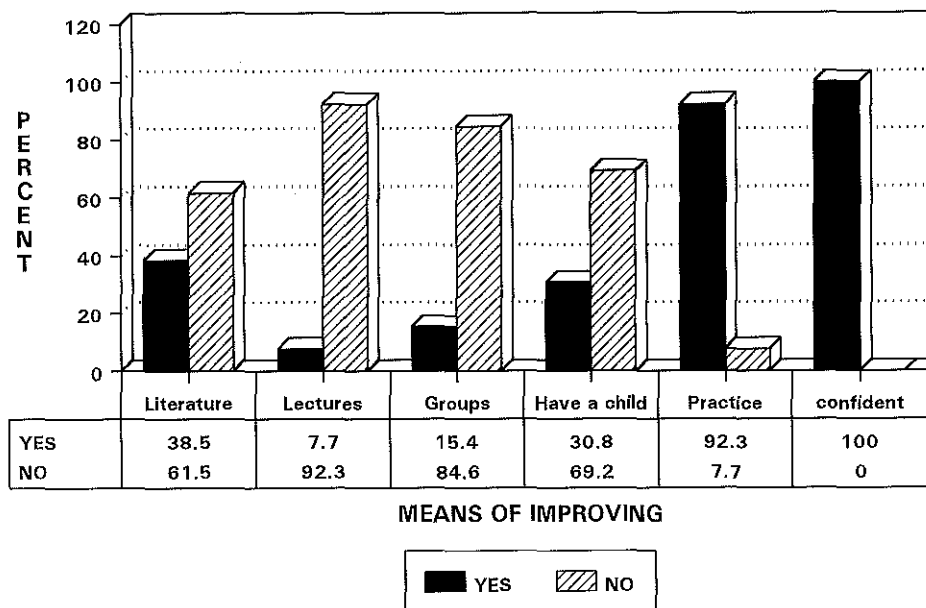
- . During the **pre-test** 38% (5) of the female respondents felt very sure, 54% (7) sure and 8% (1) unsure of their ability to be a good parent.
- . During the **post-test** 38% (5) felt very sure and 62% (8) sure of their ability to be a good parent.
- . 2 respondents did not respond.

Therefore it can be concluded that the female respondents either did not gain insight or felt very sure of themselves, as their certainty regarding their ability to be a good parent increased during the post-test.

The literature reveals that the quality of parenting in families with children conceived by means of donor fertilization is superior to that of normal and adopted families. (Compare Golombok *et al.*, 1993:17-22; Weaver *et al.*, 1993:5-16 and Pettee & Weckstein, 1993: 1963-1965.) The ability of these parents to feel sure about their parenting skills and to develop them positively, can most probably be ascribed to the fact that these parents are older, more mature, and are willing to learn and to adapt to this new role of parenthood they have been yearning to take on for so long.

- Improvement of knowledge and skills regarding parenthood
Figure 42 illustrates how male respondents planned to improve their parental knowledge and skills:

FIGURE 42: HOW MALE RESPONDENTS PLANNED TO IMPROVE THEIR PARENTAL KNOWLEDGE AND SKILLS



N = 13

Figure 42 is interpreted as follows:

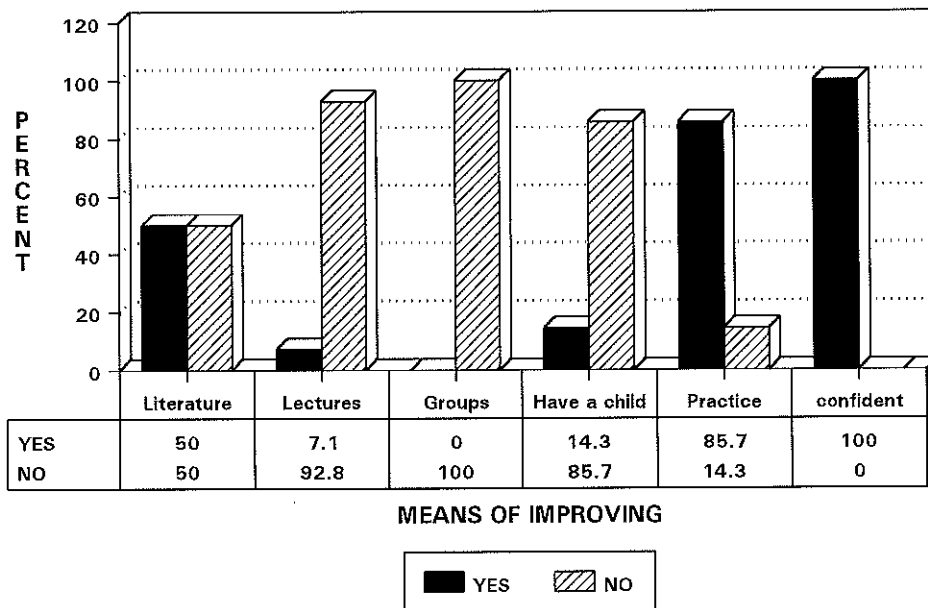
- . 100% (13) of the male respondents felt confident, 92.3% (12) felt they would gain practical experience with children of family and friends, 38.5% (5) would read applicable literature, 30.8% (4) had a child

from a previous marriage, 15.4% (2) would partake in group discussions and 7.7% (1) would attend lectures.

Therefore it can be concluded that although 100% of the male respondents felt confident, they still wanted to improve their parental knowledge and skills. An interesting finding was that the highest response to the means of improving parental knowledge and skills was through practical experience with children of family and friends (92.3%). Literature was the next most acceptable means of improving parental knowledge and skills.

Figure 43 clearly illustrates how female respondents planned to improve their parental knowledge and skills:

FIGURE 43:HOW FEMALE RESPONDENTS PLANNED TO IMPROVE THEIR PARENTAL KNOWLEDGE AND SKILLS



N = 14

Figure 43 is interpreted as follows:

- . 100% (14) of the female respondents felt confident, 85.7% (13) felt they would gain practical experience with children of family and friends, 50% (7) would read applicable literature, 14.3% (2) had a child

from a previous marriage, 7.1% (1) would attend lectures and none would join group discussions.

Therefore it can be concluded that although 100% of the female respondents felt confident, they still wanted to improve their parental knowledge and skills. The highest response to the means of improving parental knowledge and skills was through practical experience with children of family and friends (85.7%), compared to the male responses (92.3%). Literature was the next most acceptable means of improving parental knowledge and skills, and least of all lectures, with group discussions not at all an acceptable means for females, unlike the males. Thus the male and female results were similar with all respondents feeling confident of their parental skills and they planned similar ways of improving their skills, except for group discussions which were unacceptable for the female respondents. This confidence in parenting skills is also reflected in the literature. (Compare Pettee & Weckstein, 1993:1963-1965 and Golombok et al., 1993:17-22.)

- **Fears regarding parenthood**

Figure 44 clearly illustrates the fears regarding parenthood by male and female respondents:

FIGURE 44:FEARS REGARDING PARENTHOOD BY MALE AND FEMALE RESPONDENTS

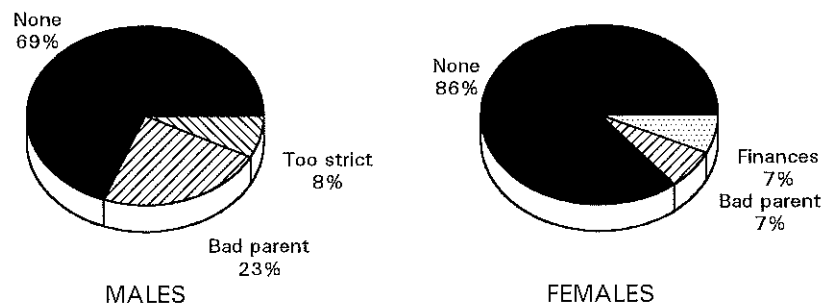


Figure 44 is interpreted as follows:

- . 69% (9) of the males had no fears compared to 86% (12) of the females, 23% (3) of the males had fears of being a bad parent, compared to 7% (1) of the females, 8% (1) of the males had a fear of being too strict and 7% (1) females had a fear of their financial position.

Therefore it can be concluded that the female respondents had fewer fears regarding parenthood than the male respondents, as well as fewer fears of being a bad parent. Females therefore seemed more confident. Males were more concerned about their own behaviour of being too strict, while females were more concerned about their financial position and whether they would be able to cope with the expenses of having a child. Thus both male and female respondents had certain fears regarding parenthood. This confidence in parental skills are also reflected in the literature (Compare Pettee & Weckstein, 1993:1963-1965 and Golombok et al., 1993:17-22.)

6.3.2.8 The Donor

The aim of this section of the questionnaire was to determine the respondents' knowledge regarding the donor, donor selection, donor-couple matching and other aspects concerning the donor.

* Thoughts of the donor

- During the **pre-test** only 29% (4) of the male respondents reported having thought of the donor and 71% (10) not, compared to the 50% (7) having thought of the donor during the **post-test** and 50% (7) not. One male respondent did not respond.
- During the **pre-test** 36% (5) of the female respondents reported having thought of the donor and 64% (9) not, compared to 50% (7) having thought of the donor during the **post-test** and 50% (7) not. One female respondent did not respond.

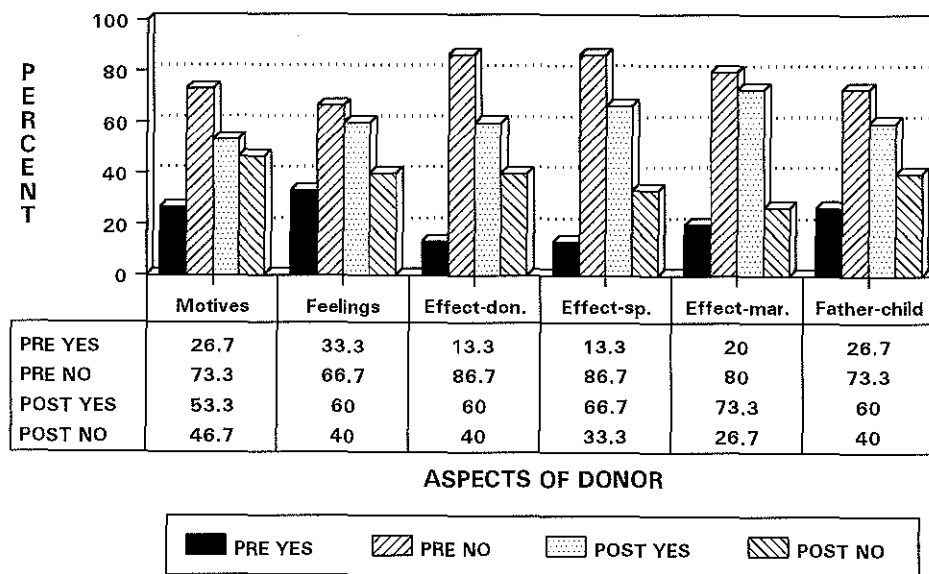
Fisher's Exact Probability Test showed a difference between the pre-test and post-test amongst the male respondents of $p = 0.0699$ which was of no significance and amongst the female respondents a significant difference of $p = 0.0209$

Therefore the female respondents seemed to have thought more of the donor before preparation than the male respondents. This could be as a result of the donor semen which would be used to achieve conception and would result in causing concern about the donor. The preparation session therefore caused both males and females to think more in-depth about the donor as a result of the knowledge gained.

*** Psycho-social effect on the donor**

Figure 45 illustrates the pre-test and post-test responses of male respondents regarding the psycho-social aspects concerning the donor:

FIGURE 45: THE PSYCHO-SOCIAL EFFECT ON THE DONOR: MALE RESPONDENTS



N = 15

Figure 45 is interpreted as follows:

- During the **pre-test** 33.3% (5) of the male respondents thought mostly of the donor's feelings, 26.7% (4) respectively of his motives and being the father of a child he will never know, 20% (3) of the effect on his marriage and 13.3% (2) of the effect on his spouse and on him respectively.
- During the **post-test** 73.3% (11) thought of the effect it

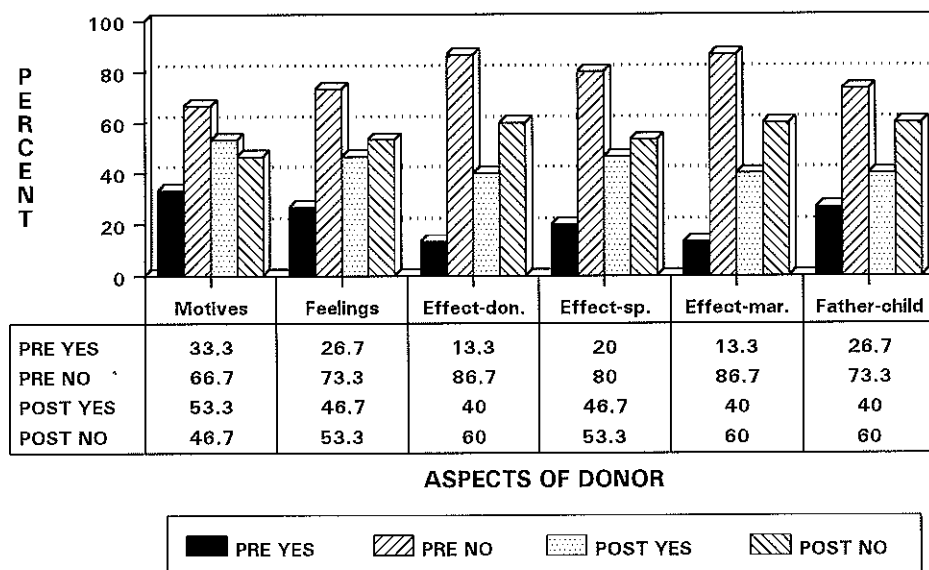
- During the **post-test** 73.3% (11) thought of the effect it might have on the donor's marriage, 66.7% (10) of the effect on his spouse, 60% (9) respectively of his feelings, the effect on him and being the father of a child he will never know, and lastly 53.3% (8) of his motives.

The Fisher's Exact Probability Test indicated a significant difference in the pre-test and post-test regarding the donor's feelings about donating ($p = 0.0439$).

Thus it can be concluded that the male respondents were mostly concerned about the donor's feelings and motives prior to the preparation session. The male respondents gained considerable knowledge during the preparation session and had significantly higher responses in the post-test regarding the effect on his marriage, his spouse, himself, his feelings, being the father of a child he will never know and lastly his motives. The preparation therefore helped the male respondents in gaining sufficient knowledge regarding the donor's situation.

Figure 46 illustrates the pre-test and post-test responses of female respondents regarding the psycho-social effect on the donor:

FIGURE 46: THE PSYCHO-SOCIAL EFFECT ON THE DONOR: FEMALE RESPONDENTS



N = 15

Figure 46 is interpreted as follows:

- During the **pre-test** 33.3% (5) of the female respondents thought of his motives, 26.7% (4) respectively of his feelings and of being the father of a child he will never know, 20% (3) of the effect on his spouse and 13.3% (2) of the effect on him and his marriage respectively.
- During the **post-test** 53.3% (8) thought of his motives, 46.7% (7) respectively of his feelings and the effect on his spouse, and 40% (6) respectively of the effect on him, his marriage and being the father of a child he will never know.

The Fisher's Exact Probability Test indicated a significant difference in the pre-test and post-test regarding the donor's feelings about donating ($p = 0.0256$) and being the father of a child he will never know ($p = 0.0109$).

Thus it can be concluded that the female respondents were mostly concerned about the donor's motives, feelings and being the father of a child he will never know, prior to the preparation session, similar to the male respondents. The female respondents gained insight during the preparation session, but not to such an extent as the male respondents. These increased responses in the post-test were the donor's motives, feelings, being the father of a child he will never know, the effect on his spouse, himself and his marriage.

The preparation session therefore helped female respondents to gain knowledge of the donor's situation.

*** Donor selection**

During the pre-test 80% (12) of the males and 87% (13) of the females thought donors were selected.

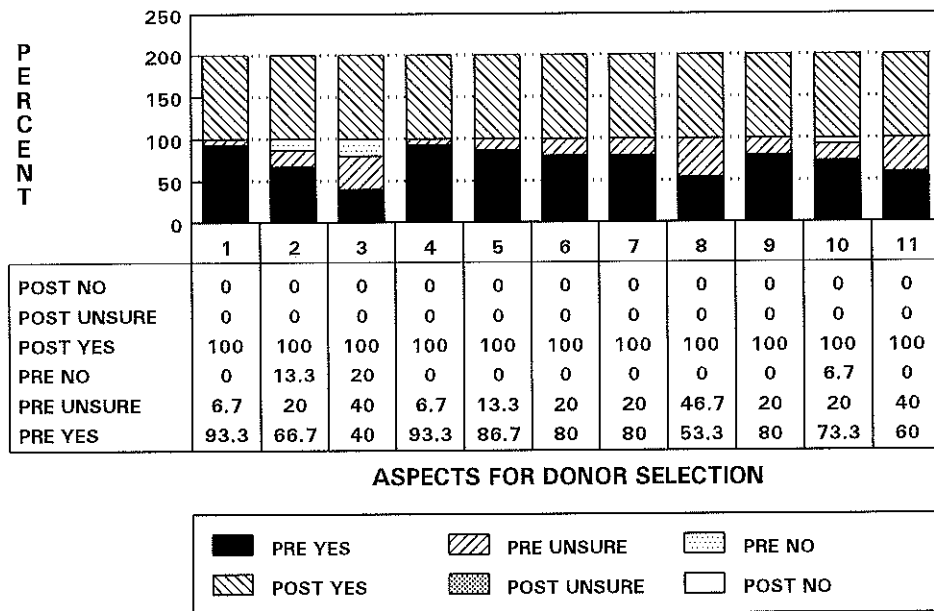
During the post-test 100% (25) of both male and female respondents knew that donors were selected.

Therefore the preparation session helped all respondents to gain sufficient knowledge regarding donor selection.

Figure 47 illustrates the male respondents' knowledge during the

pre-test and post-test of the aspects taken into consideration during donor selection:

**FIGURE 47:ASPECTS TAKEN INTO CONSIDERATION DURING DONOR SELECTION:
MALE RESPONDENTS**



N = 15

Key to aspects in figure 47:

- | | |
|----------------------------|---------------------------|
| 1. Race. | 7. Psychiatric disorders. |
| 2. Nationality. | 8. Psycho-social aspects. |
| 3. Church denomination. | 9. Blood group. |
| 4. Health. | 10. Motives. |
| 5. Hereditary diseases. | 11. Semen analysis. |
| 6. Transmissible diseases. | |

Figure 47 is interpreted as follows:

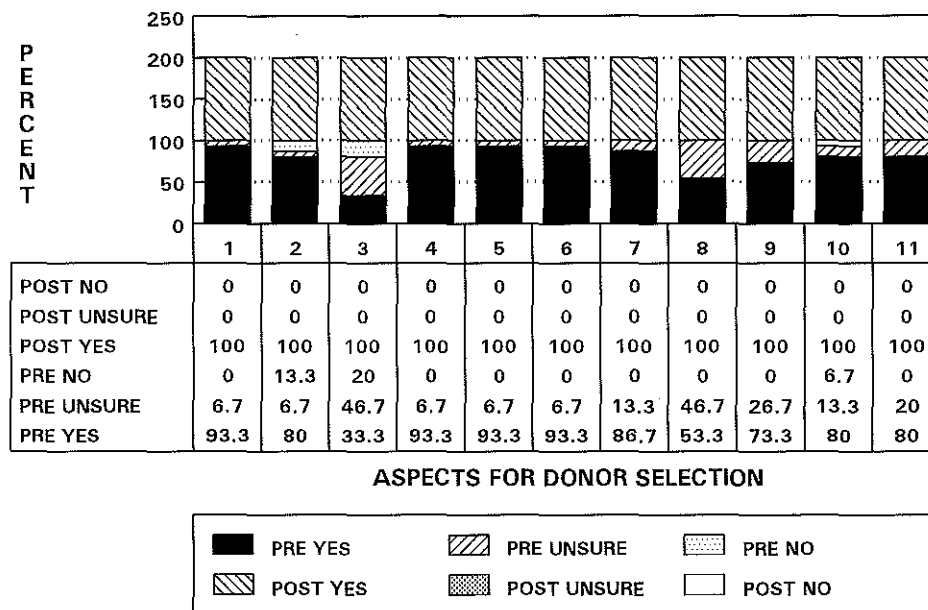
- During the pre-test the male respondents thought the following aspects were taken into consideration during donor selection: Race and health 93.3% (14) respectively; hereditary diseases 86.7% (13); transmissible diseases, psychiatric disorders and blood group 80% (12) respectively; motives 73.3% (11); nationality 66.7% (10); semen analysis 60% (9); psycho-social aspects 53.3% (8); and church denomination 40% (6).
- The highest uncertainty was 46.7% (7) regarding the psycho-social aspects.

- During the post-test 100% (15) male respondents responded correctly to all these aspects being taken into consideration during donor selection.

Thus it can be concluded that prior to the preparation session males thought that race, various diseases, disorders, blood group and motives were taken into consideration. The highest uncertainty was regarding psycho-social aspects. The preparation session therefore provided sufficient information, enabling male respondents to gain the necessary knowledge and insight to realize that all these aspects were taken into consideration during donor selection.

Figure 48 illustrates the female respondents' knowledge during the pre-test and post-test of the aspects taken into consideration during donor selection:

**FIGURE 48:ASPECTS TAKEN INTO CONSIDERATION DURING DONOR SELECTION:
FEMALE RESPONDENTS**



N = 15

Key to aspects in figure 48:

- | | |
|----------------------------|---------------------------|
| 1. Race. | 7. Psychiatric disorders. |
| 2. Nationality. | 8. Psycho-social aspects. |
| 3. Church denomination. | 9. Blood group. |
| 4. Health. | 10. Motives. |
| 5. Hereditary diseases. | 11. Semen analysis. |
| 6. Transmissible diseases. | |

Figure 48 is interpreted as follows:

- During the **pre-test** female respondents thought the following aspects were taken into consideration during donor selection: Race, health, hereditary diseases and transmissible diseases 93.3% (14) respectively; psychiatric disorders 86.7% (13); nationality, motives and semen analysis 80% (12) respectively; blood group 73.3% (11); psycho-social aspects 53.3% (8); and church denomination 33.3% (5).
- The highest uncertainty was regarding the church denomination and psycho-social aspects 46.7% (7).
- During the **post-test** 100% (15) of the female respondents responded correctly to all these aspects being taken into consideration during donor selection.

Female respondents seemed to have a better knowledge of the donor selection prior to the preparation session than the male respondents.

Thus it can be concluded that prior to the preparation session females thought that race, various diseases and disorders, nationality, motive, semen analysis and blood group were taken into consideration. The highest uncertainty was regarding the psycho-social aspects and church denomination.

The preparation sessions therefore provided sufficient information, enabling the female respondents to gain the necessary knowledge and insight to realize that all these aspects were taken into consideration during donor selection.

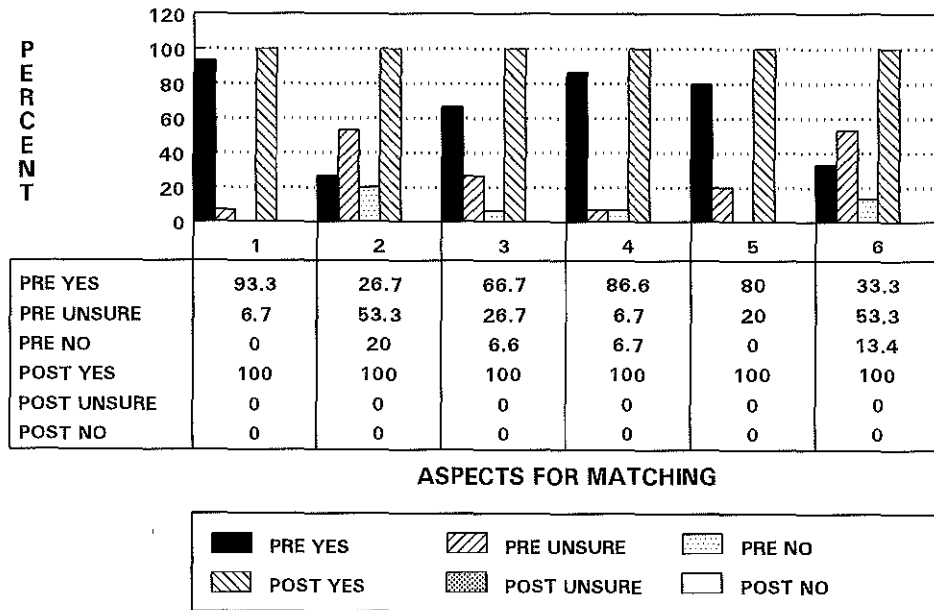
*** Donor-couple matching**

- Prior to preparation 87% (13) of the male respondents thought donors and couples were matched, compared to 100% (15) of the female respondents.
- After the preparation session 100% (30) of all the respondents knew that couples and donors were matched.

The preparation session therefore provided respondents with sufficient information to gain the necessary knowledge regarding donor-couple matching.

Figure 49 illustrates the male respondents' knowledge during the pre-test and post-test of the aspects taken into consideration during donor-couple matching:

FIGURE 49: ASPECTS TAKEN INTO CONSIDERATION DURING DONOR-COUPLE MATCHING: MALE RESPONDENTS



N = 15

Key to aspects in figure 49:

- | | |
|-----------------|--------------------------|
| 1. Race. | 4. Physical appearance. |
| 2. Religion. | 5. Intellectual level. |
| 3. Nationality. | 6. Socio-economic level. |

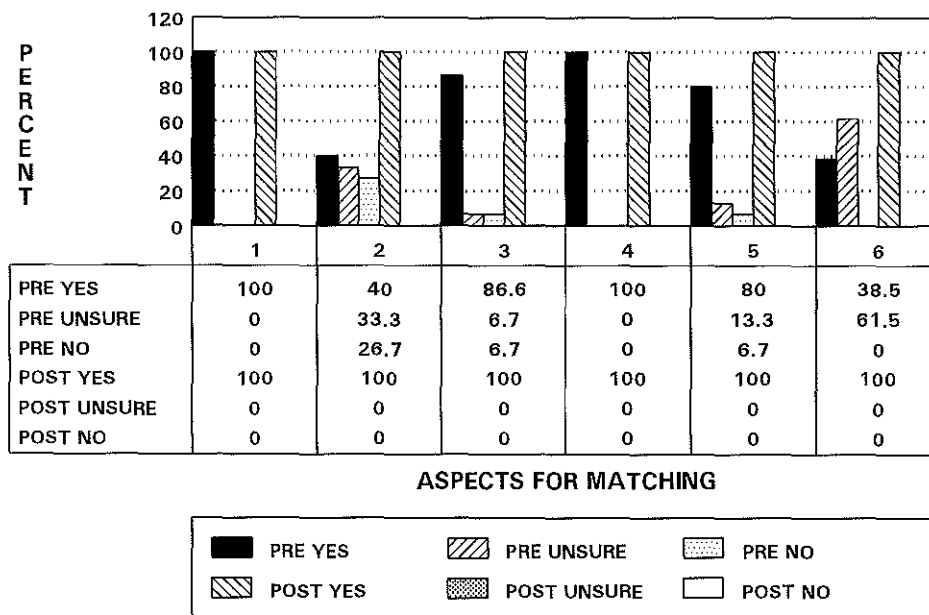
Figure 49 is interpreted as follows:

- During the **pre-test** 93.3% (14) of the male respondents thought the race was taken into consideration, 86.6% (13) the physical appearance, 80% (12) the intellectual level, 66.7% (10) the nationality, 33.3% (5) the socio-economic level and 26.7% (4) the religion.
- The highest uncertainty, 53.3% (8), was regarding the religion and socio-economic level respectively.
- During the **post-test** 100% (15) of the male respondents reported all these aspects to be taken into consideration.

Thus it can be concluded that prior to the preparation session most of the male respondents thought that race, physical appearance, intellectual level and nationality were taken into consideration, while the highest uncertainty was regarding religion and socio-economic level. After preparation all the male respondents knew that all these aspects were taken into consideration. The preparation session therefore provided respondents with sufficient information to gain the necessary knowledge and insight regarding donor-couple matching.

Figure 50 illustrates the female respondents' knowledge during the pre-test and post-test of the aspects taken into consideration during donor-couple matching:

FIGURE 50: ASPECTS TAKEN INTO CONSIDERATION DURING DONOR-COUPLE MATCHING: FEMALE RESPONDENTS



N = 15

Key to aspects in figure 50:

- | | |
|-----------------|--------------------------|
| 1. Race. | 4. Physical appearance. |
| 2. Religion. | 5. Intellectual level. |
| 3. Nationality. | 6. Socio-economic level. |

Figure 50 is interpreted as follows:

- During the pre-test 100% (15) of the female respondents thought that race and physical appearance were taken into consideration, 86.6% (13) the nationality, 80% (12) the intellectual level, 40% (6) the religion and 38.5% (5) the

socio-economic level.

- The highest uncertainty was regarding the socio-economic level 61.5% (8) and religion 33.3% (5).
- During the **post-test** 100% (15) of the female respondents knew that all these were taken into consideration.

Thus prior to the preparation session the female respondents thought race, physical appearance and intellectual level were taken into consideration, while the highest uncertainty was regarding religion and socio-economic level. After the preparation session all the female respondents knew that all these aspects were taken into consideration.

The preparation session therefore provided respondents with sufficient information to gain the necessary knowledge regarding donor-couple matching.

*** Pregnancies per donor**

- During the **pre-test** only 13% (4) of all the respondents knew how many pregnancies each donor could be responsible for by law and 87% (26) did not know.
- During the **post-test** 100% (30) of the respondents knew that each donor can only be responsible for a total of 5 pregnancies according to the South African legislation.

The preparation session therefore provided respondents with the necessary information to gain sufficient knowledge regarding the number of pregnancies permitted per donor.

*** Donor compensation**

- During the **pre-test** 13% (2) of the males and 20% (3) of the females thought donors received some form of compensation, 47% (7) males and 33% (5) females were unsure, and 40% (6) males and 47% (7) females thought they did not get compensation.
- During the **post-test** 100% (30) of the males and females knew that donors got compensation for their gamete donation.

Therefore the preparation session provided sufficient information for

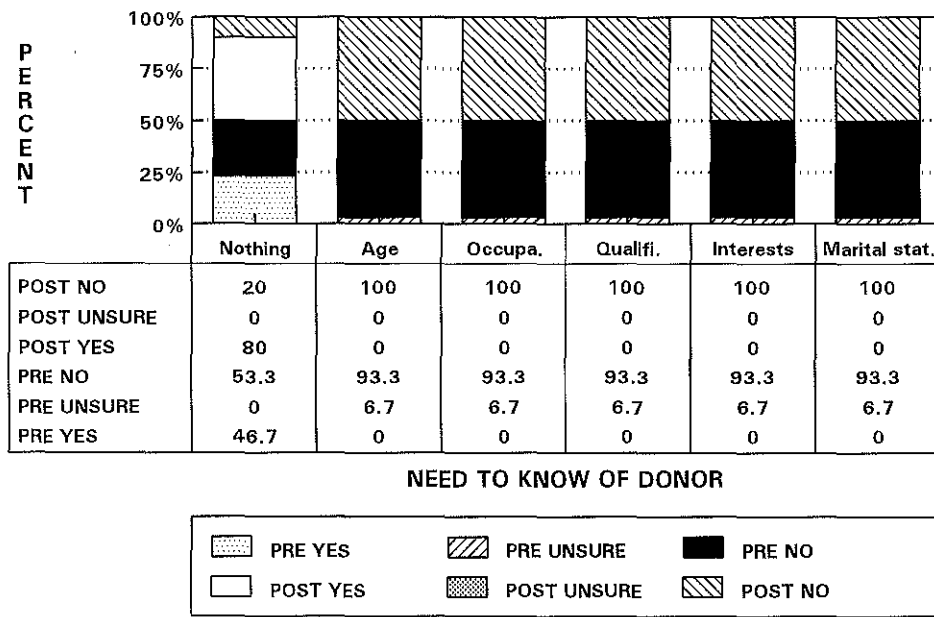
respondents to gain the necessary knowledge regarding donor compensation.

*** Knowledge of the donor**

The aim of this question was to determine the need respondents had to know something about the donor, as some particulars could be shared with them.

Figure 51 illustrates the male respondents' need to know something about the donor:

FIGURE 51:RESPONDENTS' NEED TO KNOW SOMETHING ABOUT THE DONOR: MALE RESPONDENTS



N = 15

Figure 51 is interpreted as follows:

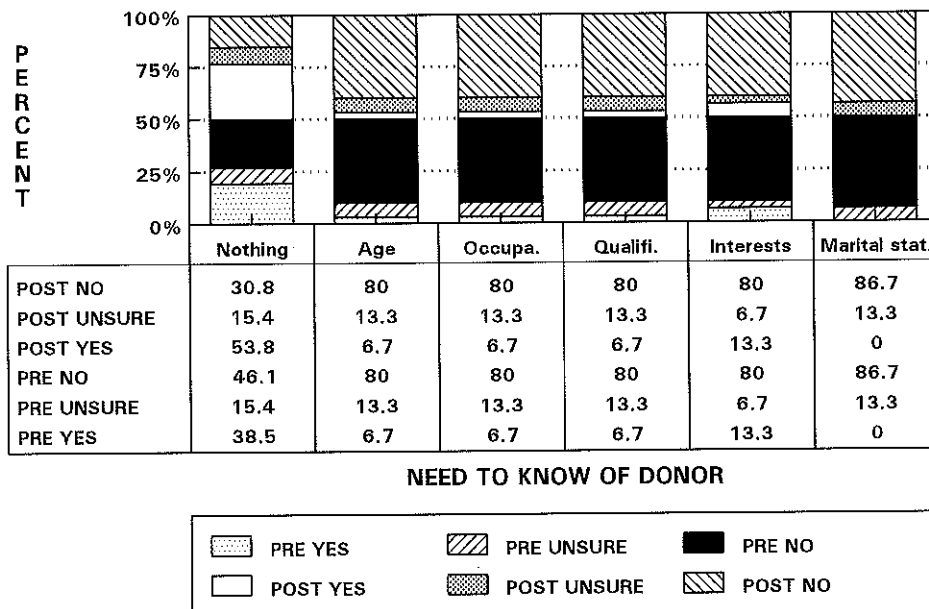
- During the pre-test 46.7% (7) of the male respondents stated that they wanted to know nothing about the donor, while only 6.7% (1) respectively indicated that they were unsure about wanting to know about the donor's age, occupation, qualifications, interests and marital status.
- During the post-test 80% (12) stated that they wanted to know nothing about the donor and 100% (15) did not want to

know nothing about the donor and 100% (15) did not want to know his age, occupation, qualifications, interests and marital status.

Therefore male respondents were unsure prior to the preparation session of wanting to know more about the donor and were 100% sure after the preparation session of not wanting to know anything. The reasons for males not wanting to know anything about the donor after the preparation session, could be due to the information provided regarding donor selection which eased their minds, or that they were more realistic. Another reason could be due to males wanting to forget about or feeling threatened by the donor and therefore wanting to know as little as possible about the donor.

Figure 52 illustrates the female respondents' need to know something about the donor:

FIGURE 52: RESPONDENTS' NEED TO KNOW SOMETHING ABOUT THE DONOR: FEMALE RESPONDENTS



N = 15

Figure 52 is interpreted as follows:

- During the **pre-test** 38.5% (5) of the female respondents wanted to know nothing about the donor, while 13.3% (2) wanted to know his interests and 6.7% (1) his age, occupa-

tion and qualifications respectively and 0% his marital status.

- 15.4% (2) were unsure of whether they wanted to know anything and 13.3% (2) were unsure of wanting to know the age, occupation, qualifications and marital status.
- During the **post-test** 53.8% (7) wanted to know nothing about the donor and the other values remained more or less the same.

Therefore female respondents wanted to know more about the donor than the male respondents. This could be due to the fact that the females have to be fertilized with the donor's semen and therefore naturally, want to know something about him as he would be the biological father of their child. By knowing something about the donor it would possibly decrease and ease the constant thoughts and fantasizing about the donor, which could occur if nothing was known. The literature also confirms this notion of supplying the recipients with non-identifying information on the donor such as background, occupation, interests and physical attributes, to satisfy this need to know something about him. (Compare Purdie *et al.*, 1992:27-28; Mahlstedt & Probasco, 1991:752 and Kovacs *et al.*, 1988:355.)

6.3.2.9 Future plans

The aim of this section was to determine what respondents planned for the future if artificial fertilization with donor gametes was successful or unsuccessful and how realistic they were about the future.

* Successful artificial fertilization with donor gametes

Male respondents had the following future plans if artificial fertilization with donor gametes was successful:

- 66.7% (10) of the male respondents wanted to return for further treatment, 57.1% (8) would think of it when the time came, 35.7% (5) had not thought of it yet, 28.6% (4) first wanted to see how it went with the first child, and 14.3% (2) would accept one child as sufficient.

Thus it can be concluded that the majority of male respondents would return for further treatment, if the present treatment was successful and they had had a child as a result. Most would think of it when

the time came or had not thought about it yet, indicating how unrealistic most male respondents in actual fact were not to think of the future. The least of the respondents first wanted to see how it would go with the first child or would accept one child as sufficient.

Female respondents had the following plans if artificial fertilization with donor gametes was successful:

- 73.3% (11) of the female respondents would return for further treatment, 73.3% (11) would think of it when the time came, 46.7% (7) first wanted to see how it went with their first child, 30.8% (4) had not thought of it yet, and the least, 7.1% (1), would accept one child as sufficient.

Thus it can be concluded that the majority of female respondents would return for further treatment or would only think of it when the time came. Most wanted to first see how it went with the first child or had not thought of it yet, showing how unrealistic the female respondents were not to think of the future. The least of the respondents would accept one child as sufficient.

Therefore it can be concluded that male and female respondents would return for further treatment if the present treatment was successful with a resultant child. Both male and female respondents were somewhat unrealistic in not having thought about the future yet. Very few male and female respondents would accept one child as sufficient.

*** Unsuccessful artificial fertilization with donor gametes**

Male respondents had the following future plans if artificial fertilization with donor gametes was unsuccessful:

- 33.3% (5) of the male respondents would remain childless, or 35.7% (5) would consider adoption and 66.7% (4) had not thought of it yet.

Thus it can be concluded that the majority of male respondents had not thought of the possibility of treatment being unsuccessful, reflecting how unrealistic they were. Some of the respondents would consider adoption and the least would choose to remain childless.

Female respondents had the following future plans if artificial fertilization with donor gametes was unsuccessful:

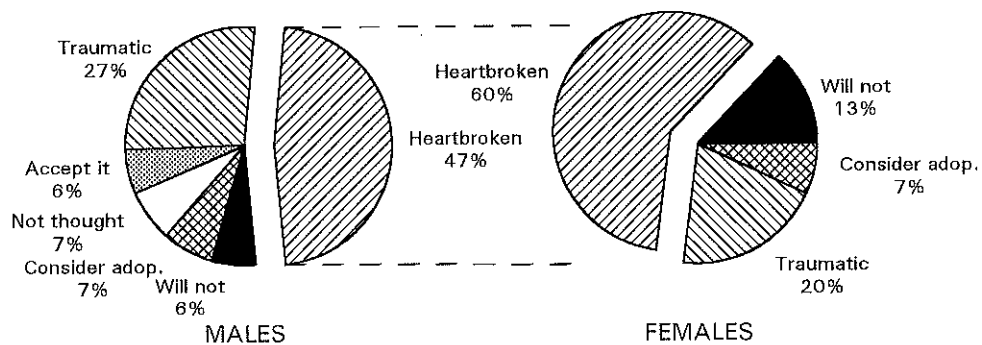
- 26.7% (4) of the female respondents would remain childless, or 38.5% (5) would consider adoption and 60% (6) had never thought of it.

Therefore it can be concluded that the majority of female respondents had never thought of the possibility of treatment being unsuccessful, some would consider adoption and the least would choose to remain childless. Male and female results were thus approximately the same.

- **The effect of unsuccessful artificial fertilization with donor gametes.**

Figure 53 illustrates the effect of unsuccessful artificial fertilization with donor gametes on male and female respondents:

FIGURE 53: THE EFFECT OF UNSUCCESSFUL TREATMENT ON MALE AND FEMALE RESPONDENTS



N = 30

Figure 53 is interpreted as follows:

- . 60% (9) females and 47% (7) males would be heart-

broken; 27% (4) males and 20% (3) females would find it traumatic; 7% (1) both females and males would consider adoption; 7% (1) males had not thought of it and 6% (1) males would accept it, while 13% (2) females and 6% (1) male felt it would not affect them at all.

Thus it can be concluded that unsuccessful treatment would leave the majority of respondents heartbroken and in a traumatic state. The minority of respondents felt that they would consider adoption, accept it, had not thought about it or that it would not affect them. The literature reflects the effects of unsuccessful treatment also to be that of severe emotional reactions, as well as a negative affect on the marital relationship and feelings of frustration. (Compare Brand & Saayman, 1986:87; Rosenkvist, 1981:143 and Meijer *et al.*, 1980:599.) The majority of respondents in this study were thus reasonably realistic, while others were very unrealistic.

6.3.3 Evaluation

The aim of this section was to evaluate how respondents experienced the preparation session on a short-term basis.

* Emotional experience

- During the pre-test 54% (7) of the male respondents reported positive feelings; 23% (3) were unsure and 23% (3) had no feelings.
- During the post-test 62% (8) reported positive feelings; 8% (1) negative feelings, 8% (1) were unsure and 22% (3) had no feelings.
- During the pre-test 76% (10) of the female respondents reported positive feelings; 8% (1) negative feelings; 8% (1) were unsure and 8% (1) had no feelings.
- During the post-test 77% (10) reported positive feelings, 16% (2) negative feelings; and 7% (1) had no feelings.
- 2 males and 2 females did not respond.

Therefore it can be concluded that male and female respondents experienced increased positive feelings and some negative feelings during the post-test, most probably resulting from the newly acquired knowledge and insight.

* **Aspects clarified**

- During the pre-test 67% (8) of the male respondents reported that some aspects were clarified and 33% (4) nothing.
- During the post-test 100% (12) reported everything to be clarified. Three males did not respond.
- During the pre-test 62% (8) of the female respondents reported that some of the aspects were clarified and 38% (5) nothing.
- During the post-test 100% (13) reported everything to be clarified. Two females did not respond.

Therefore it can be concluded that male and female respondents felt during the post-test that all the aspects were clarified, which can be attributed to the preparation session.

* **New information provided**

- During the pre-test 67% (8) of the male respondents felt that some new information had been provided and 33% (4) none.
- During the post-test 92% (11) reported that a large amount of new information had been provided and 8% (1) none. Three males did not respond.
- During the pre-test 54% (16) of the female respondents felt that some new information had been provided and 46% (5) none.
- During the post-test 91% (10) reported that a large amount of new information had been provided and 9% (1) none. Four females did not respond.

Therefore the majority of male and female respondents reported that a large amount of new information had been acquired during the preparation session.

* **New concerns raised**

- During the pre-test 100% (12) of the male respondents reported no new concerns; during the post-test 92% (11) reported no new concerns and 8% (1) some new concerns. Three males did not respond.
- During the pre-test and post-test 71% (10) of the female

respondents reported no new concerns and 29% (4) some. One female did not respond.

Thus it can be concluded that male respondents had some new concerns after the preparation session where they gained new information, and female respondents had constant concerns prior to and after the preparation session, thus being more realistic.

*** Ability to understand**

- During the pre-test 79% (11) of the male respondents understood all the aspects well and 21% (3) fair.
- During the post-test 100% (14) of the male respondents understood all the aspects well. One male did not respond.
- During the pre-test 71% (10) of the female respondents understood all the aspects well and 29% (4) fair.
- During the post-test 79% (11) of the female respondents understood all the aspects well and 21% (3) fair. One female did not respond.

Thus it can be concluded that the respondents could understand the contents of the questionnaire and the preparation session, but that males seemed to have a better general understanding than the females.

*** Personal nature of aspects discussed**

- 100% (30) of all the male and female respondents reported the aspects discussed not to be too personal at all.

Thus the contents of the questionnaire and the preparation session were not too personal for the respondents.

*** Time spent**

- 85% (11) males and 91% (10) females reported that the time spent had been sufficient, and 15% (2) males and 9% (1) females reported that the time spent had been too long. Two males and 4 females did not respond.

Therefore the majority thought the amount of time spent on the preparation session had been sufficient while the minority thought it had been too long.

* **New knowledge gained**

- During the pre-test 62% (8) of the male respondents thought no new knowledge had been gained and 38% (5) some; during the post-test 54% (7) reported a large amount of new knowledge gained, 8% (1) some and 38% (5) none. Two males did not respond.
- During the pre-test 60% (9) of the female respondents thought no new knowledge had been gained and 40% (6) some; during the post-test 47% (7) reported a large amount of new knowledge gained; 13% (2) some and 40% (6) none.

Thus it can be concluded that respondents gained a great deal of knowledge of new aspects during the preparation session.

* **Understanding of artificial fertilization with donor gametes**

- During the pre-test 79% (11) of the male respondents reported having a clear understanding and 21% (3) not clear at all.
- During the post-test 93% (13) of the respondents reported having a very clear understanding and 7% (1) a clear understanding. One male did not respond.
- During the pre-test 80% (12) of the female respondents reported having a clear understanding and 20% (3) not clear at all.
- During the post-test 100% (15) reported having a very clear understanding.

Thus it can be concluded that the majority of male and female respondents had a very clear understanding of artificial fertilization with donor gametes after the preparation session and the rest a clear understanding. This could most probably be attributed to the knowledge gained during the preparation session.

* **Group discussions**

- 60% (7) males and females respectively were interested in partaking in group discussions with other couples in the same situation in the future.
- 20% (3) males and 13% (2) females were unsure and 27% (4) females and 20% (3) males were not at all interested. Two males and 2 females did not respond.

Therefore it can be concluded that the majority male and female respondents had a need to partake in group discussions with other couples in the same situation. Thus they expressed a need for emotional support and not feeling isolated with their problem.

*** Preparation sessions**

- 100% (30) male and female respondents recommended the preparation sessions for future couples planning to undergo artificial fertilization with donor gametes.

Therefore it can be concluded that all respondents evaluated the preparation sessions positively on a short-term basis and saw it as a necessity and prerequisite for artificial fertilization with donor gametes.

6.4 TESTING OF THE HYPOTHESES

The hypotheses for this stage of research will be tested according to the results discussed in this chapter.

Hypothesis 1: When couples request artificial fertilization with donor gametes, they have limited knowledge of all the medical, legal, ethical-moral, religious and psycho-social aspects related to this treatment.

Results: From the findings discussed in this chapter it was found that male and female respondents had limited knowledge of artificial fertilization with donor gametes and the related aspects discussed above, prior to the preparation session during the pre-test. Results during the pre-test also proved that most of the respondents were unrealistic and not at all ready for treatment at that stage. They all therefore required thorough preparation to help them gain the necessary knowledge. This increased knowledge was repeatedly proven in the post-test and corroborated in the evaluation of the preparation session. Hypothesis 1 is therefore supported by these findings.

Hypothesis 2: If couples are prepared for artificial fertilization with donor gametes by means of a holistic preparation session, they will gain more knowledge regarding all the aspects related to this

treatment.

Results: From the variety of findings discussed in this chapter, it was repeatedly found that male and female respondents had limited knowledge of the various aspects related to artificial fertilization with donor gametes prior to preparation during the pre-test. Only after the preparation session was completed and during the post-test could respondents provide improved, correct and realistic answers which could be attributed to the knowledge gained during this preparation session. According to the changes shown in these findings from the pre-test to the post-test, this preparation session therefore provided respondents with improved knowledge regarding the following aspects:

- The treatment procedure (medical aspects);
- legal aspects;
- religious aspects;
- ethical-moral aspects; and
- psycho-social aspects:
 - . Implications of secrecy;
 - . effect of secrecy on respondents;
 - . adaptations resulting from the pregnancy;
 - . implications of the pregnancy;
 - . concerns and adaptations regarding the child;
 - . implications regarding the child;
 - . ability to be a good parent;
 - . improvement of parental knowledge and skills; and
 - . parental fears.
- The donor:
 - . Effect on the donor;
 - . donor selection;
 - . donor-couple matching;
 - . pregnancies per donor;
 - . donor compensation; and
 - . knowledge of the donor.
- The future:
 - . Successful artificial fertilization with donor gametes;
 - . unsuccessful artificial fertilization with donor gametes; and
 - . the need for group discussions and preparation

sessions.

The evaluation of the preparation session on a short-term basis at the end provided further proof of the value to the respondents by reporting the following: Knowledge had been gained by the new information provided, 100% of the aspects had been clarified; they had new concerns since preparation, and 100% had a much clearer understanding of artificial fertilization with donor gametes since the preparation session. Hypothesis 2 is therefore supported by these findings.

6.5 SUMMARY

The research process implemented in this second stage of research: The development, implementation, evaluation and description of a guideline for the holistic preparation of couples for artificial fertilization with donor gametes, was firstly discussed briefly in the chapter.

The interpretation of the research findings were subsequently discussed and included the following:

- * The various biographic particulars of the 30 respondents were discussed, namely age, duration of marriage, duration of infertility, infertility diagnosis, qualifications, occupation and marital and childbearing history.
- * Artificial fertilization with donor gametes was the focus of the questionnaire which was tested during a pre-test prior to the start of the preparation session, and again in a post-test at the end of the full-day preparation session.
- * The decision to go for artificial fertilization with donor gametes was a joint decision by husband and wife and their motives were their joint and individual need for a child.
- * Concerning their knowledge of artificial fertilization with donor gametes and related aspects the pre-test results found respondents to have limited knowledge and to be unrealistic about treatment prior to preparation. The post-test results

after the preparation session, revealed couples to have gained knowledge during the preparation session in the following aspects:

- The treatment procedure;
- legal aspects;
- religious aspects;
- ethical-moral aspects; and
- psycho-social aspects:
 - . Parents' approval.
 - . Secrecy:
 - ++ Disclosure of the secret;
 - ++ to whom the secret was disclosed;
 - ++ reasons for secrecy; and
 - ++ implications of secrecy.
 - . The effect of artificial fertilization with donor gametes on respondents.
 - . The pregnancy:
 - ++ Adaptation resulting from the pregnancy; and
 - ++ implications of the pregnancy.
 - . The child:
 - ++ Concerns and adaptations regarding the child; and
 - ++ implications regarding the child.
 - . Parenthood:
 - ++ Ability to be a good parent;
 - ++ improvement of knowledge and skills regarding parenthood; and
 - ++ fears regarding parenthood.
 - . The donor:
 - ++ Thoughts of the donor;
 - ++ psycho-social aspects of the donor;
 - ++ donor selection;
 - ++ donor-couple matching;
 - ++ pregnancies per donor;
 - ++ donor compensation; and
 - ++ knowledge of the donor.
 - . The future:
 - ++ Successful artificial fertilization with donor gametes; and
 - ++ unsuccessful artificial fertilization with donor

gametes.

- * Respondents revealed the following information during the evaluation of the preparation sessions at the end:
- They had increased positive, as well as some negative feelings;
 - all of the aspects had been clarified;
 - the majority of males and females felt that new information had been provided;
 - some of the respondents had new concerns;
 - the respondents could understand the contents of the questionnaire and the preparation session very well;
 - none of the aspects discussed were too personal;
 - the majority of respondents felt that the time spent on the session was sufficient and not too long;
 - the majority of the respondents felt by completion of the preparation session that they had gained knowledge and had a much clearer understanding;
 - the majority of respondents were interested in group sessions with couples in the same situation; and
 - all the respondents recommended the preparation session as a prerequisite for artificial fertilization with donor gametes.
- * Thus the preparation session for artificial fertilization with donor gametes proved to be successful in preparing couples for treatment and helping them gain sufficient knowledge.

Lastly the two hypotheses were supported by these findings and accepted.

The following chapter, will discuss the findings of the second empirical study, namely the longitudinal follow-up study of these respondents.

CHAPTER 7

**EMPIRICAL LONGITUDINAL STUDY OF THE LONG-TERM PSYCHO-SOCIAL
IMPLICATIONS OF SUCCESSFUL OR UNSUCCESSFUL ARTIFICIAL
FERTILIZATION WITH DONOR GAMETES****7.1 INTRODUCTION**

The empirical study to be discussed in this chapter is the third stage of research: "A longitudinal study of the long-term psycho-social implications of artificial fertilization with donor gametes." It also fulfils the second aim of this study: "To do a longitudinal study of the same respondents to determine the long-term psycho-social implications of successful or unsuccessful artificial fertilization with donor gametes." The objective is to explore and describe the long-term psycho-social implications. The research process will firstly be described. Subsequently the findings from this empirical study will be presented, analyzed and interpreted in this chapter. Graphical representation of the most important findings will also be provided. Each couple will also be described in the form of a case study at the end of this chapter as part of the qualitative research. The hypothesis will be tested at the end of the chapter, followed by the summary.

7.2 THE RESEARCH PROCESS

The research process is described by Neuman (1994:10) as: "The process of scientific discovery and of accumulating new knowledge which requires a sequence of steps. Strydom (1989:197), on the other hand, describes it as follows: "Navorsing is 'n proses waarin logiese denke en konkrete handelinge ten nouste saamgeweef is. Die navorsingsproses kan ter wille van duidelikheid in sekere stappe onderskei word, sonder dat dit ooit werklik geskei kan word." Thus the research process can be defined as the various steps which have to be followed to do scientific research in order to gather, analyze and interpret new knowledge.

These different steps of the research process are described by various authors and differ slightly from author to author. (Compare

Neuman, 1994:10-13; Babbie, 1992:102-109; Strydom, 1989:197-200; Mouton & Marais, 1988:33 and Bailey, 1987:10.)

These different steps have been formulated as follows:

- * Choice of topic for research and problem formulation.
- * Formulating the hypotheses.
- * Pilot study.
- * Research design and procedure.
- * Delimitation of research population and sampling.
- * Literature study.
- * Data collection.
- * Classification, coding and processing of data.
- * Analyzing and interpretation of data.
- * Research report and conclusions and recommendations.

In Chapter 1 steps 1 to 5 have been described in-depth in the research methodology and will therefore merely be mentioned briefly in this chapter to refresh the memory of the reader. More attention will be given to the implementation of steps 6 to 9.

7.2.1 Choice of topic for research and problem formulation

The research process, according to Neuman (1994:10), begins with the selection of a topic for research. A topic is too broad and has to be narrowed down or focused. This motivation for the choice of the subject is discussed in detail in Chapter 1, section 1.2 and the problem formulation in section 1.3, and can be referred to for further detail.

The choice of this topic for research was made as a result of researcher's experience and interest in working in the field of infertility as medical social worker in South Africa, at the Infertility Clinic, H.F. Verwoerd Hospital in Pretoria, and in the U.S.A., at the Unit for Infertility, Jewish Hospital, Washington University Medical Centre, St. Louis, Missouri from 1985 to 1987. Artificial fertilization with donor gametes was chosen, as very little information and research was available on this topic in South Africa and because researcher started working with these couples at H.F. Verwoerd Hospital in 1986 when this form of treatment was legalized in South Africa and little was known. Researcher iden-

tified a need to prepare these couples for the psycho-social and other aspects related to treatment and to do follow-up counselling. This motivated researcher to do research on this, as hardly any literature or research was available on this topic locally. (See Chapter 1 for further details on this.)

7.2.2 Formulating a hypothesis

A hypothesis, according to Strydom (1989:198), "... kan beskou word as 'n voorlopige gevolgtrekking wat op waargenome feite berus en waarvan die geldigheid nog bewys moet word. Die doel is om rigting aan die ondersoek te gee en die ondersoeker se aandag op die probleem, wat ondersoek moet word, te fokus". The formulation of all the hypotheses for this study is discussed in-depth in Chapter 1, section 1.5 and can be referred to for further detail. The hypothesis for this stage of research was as follows:

- * **Hypothesis 3:** If couples undergo artificial fertilization with donor gametes, they will experience long-term psycho-social implications.
 - Artificial fertilization with donor gametes is a complex procedure with medical, legal, ethical-moral, religious and psycho-social aspects involved, which could create long-term implications, especially psycho-social implications.
 - The involvement of the donor, an anonymous third party and the presence of the donor child, could create possible psycho-social implications.

This hypothesis will be tested according to the results of this empirical study and discussed at the end of this chapter.

7.2.3 Pilot study

The pilot study, according to Black & Champion (1983:116), is: "A preliminary step in the preparation for more extensive and elaborate research."

The pilot study for this research was discussed in-depth in Chapter 1, section 1.7.4 according to the following:

- * Literature study.
- * Consulting with experts.
- * Preliminary exploratory study and overview of the feasibility

of the study.

- * Study of specific entities and pilot-test of questionnaire. (See Chapter 1 for further detail.)

7.2.4 Research design and procedure

The research design is referred to by Royse (1991:43) as a blueprint which outlines the approach to be used to collect the data.

The research design and procedure was discussed in-depth in Chapter 1, section 1.7.2 and 1.7.3 and can be referred to for further detail.

Applied research was performed during this third stage of research: A longitudinal study of the long-term psycho-social implications of artificial fertilization with donor gametes.

The **exploratory research design** was chosen as no long-term follow-up study over 7 years, has yet been undertaken with couples in South Africa who had successful or unsuccessful artificial fertilization with donor gametes. Marlow (1993:24) similarly states: "The exploratory design is an excellent means of breaking new ground and generating exciting insights into the nature of an issue when we know very little about the problem area." Furthermore the **descriptive research design** was also chosen to do this longitudinal study, so as to describe the long-term psycho-social implications of artificial fertilization with donor gametes. Black & Champion (1983:79) refer to descriptive studies as "... providing the researcher with a vast amount of information about many social settings. Descriptive designs aim at describing specific phenomena in detail and improving knowledge in this way." As in-depth personal interviews were undertaken and only a small number of respondents could be traced, the study also contained an element of both qualitative research and the explanatory research design.

A **panel longitudinal survey** was chosen as research procedure, as these same couples as the previous study, would be followed-up after a 7 year period. A panel longitudinal study, according to Royse (1991:120) and Babbie (1991:100), are studies of the same group of persons over an extended period of time and provide the most comprehensive data on changes over time. **Personal interviews** were conducted at their homes over weekends. An average interview took

2 to 3 hours with both husband and wife present. A questionnaire was also completed by each respondent. These interviews took place over a 6 month period from July 1995 to December 1995 in 8 of the 9 provinces in South Africa. These interviews were also tape-recorded.

This was a very expensive and time-consuming empirical study as vast distances had to be travelled, but very valuable as this was the first study of its kind in South Africa where the same group of respondents who had planned to undergo artificial fertilization with donor gametes and who was thoroughly prepared for this treatment, was followed up over a long-term period to determine the long-term psycho-social implications of successful or unsuccessful artificial fertilization with donor gametes.

7.2.5 Delimitation of research population and sampling

The research population is defined by Bloom (1986:61) as the largest unit of analysis, including all persons meeting the defined characteristics. The research population for this study is described in Chapter 1, section 1.7.5 and can be referred to for further detail. The same 30 respondents who were included in the first empirical study, that is, the total research population of 30 respondents who were on the waiting list for artificial fertilization with donor gametes at H.F. Verwoerd Hospital Infertility Clinic in October 1987, were included in this second empirical study 7 years later. No sample was taken. All these respondents were residing in the old Transvaal province at the time of the first empirical study.

The tracing of these 30 respondents in 1994, 7 years later, was a time-consuming, expensive and formidable task, as the majority had moved to other cities or provinces and had also changed jobs since the previous stage of the study. Divorce and separation also further complicated the tracing of these respondents. It took researcher 6 months to trace 16 respondents (53%). Thereafter it was decided to make use of a private investigator. He managed to trace another 3 respondents in 3 months, bringing the total number of respondents found to be 19 (63%). The remaining 11 respondents could not be traced after several attempts and it was decided, after taking the accumulated expenses and time consumed into account as well as the

secrecy and sensitivity of the topic involved, to have to settle and be grateful for the 63% who could be found and were willing to partake in this study. These respondents were living in 8 of the 9 provinces in South Africa at the time of this second empirical study 7 years later.

7.2.6 Literature study

A literature study, according to Arkava & Lane (1983:25), has three functions:

- * To provide an overview of previous studies related to the research topic.
- * To provide insight into the dimensions and complexity of the research problem.
- * To furnish the researcher with the knowledge and to experience value of the subject researched.

These three functions were definitely accomplished with this immense literature study of approximately 560 references. Due to the nature of this topic of research the literature study was very extensive and had to cover local and international literature from the fields of medicine, infertility, andrology, gynaecology, urology, spermatology, endocrinology, reproductive medicine, nursing, law, medical-legal-ethics, theology, psychology, psychiatry, social work and research. Unfortunately the amount of social work literature on this topic was very limited, thus forcing researcher to utilize literature from other disciplines and to make it applicable to social work.

As a result of the advanced technology in this field of reproductive medicine, new methods were constantly being developed and the literature study had to be updated regularly to keep track with the latest developments. The changing legislation on this subject also had to be kept in mind and updated regularly throughout the literature study, as well as the changing attitudes of people regarding the ethical-moral issues and the viewpoints of the various religions and churches on this issue. For this purpose a continual Medline literature search by the Medical library, University of Pretoria was undertaken throughout this study and a new printout of the latest literature and research on this broad topic was received every month from 1990 to 1995.

7.2.7 Data collection

The methods of data collection for this second empirical study included personal interviews at the homes of these respondents. A questionnaire was filled in by each respondent during the semi-structured interview. Observation also took place during the interview in their own natural surroundings with both husband and wife present and the children who were present in and about the house. A tape recording was also made of each interview. These interviews took place over a 6 month period from July to December 1995.

7.2.8 Classification, coding and processing of data

The classification and organizing of the data firstly took place before it was coded. Strydom (1989:199) mentions that this step consists of the classification, tabulation and coding of data so that it is susceptible for the analysis and interpretation.

The coding of the data was done by means of precoding of the questionnaire. Bailey (1987:334) mentions how coding can be done by either precoding, where the variables in the questionnaire are coded before administering the questionnaire, or by means of post-coding, where the questionnaires are administered and coded once the empirical study has been completed. This precoding of the questionnaire, as done in this study did not, however, prove to be successful, as the respondents did not always answer the questionnaire as instructed, that is, to indicate 3 feelings experienced per stage, for example, some indicated 1, while others indicated 5. Thus a data definition for the questionnaire had to be reformulated after the empirical study had been completed and the questionnaires had to be post-coded, so as to be able to utilize all the data collected in the study. A total of 431 variables were covered by the questionnaire. The data from all the questionnaires were thus recoded and prepared for the computer processing. This whole process of reformulating the data definition, post-coding the questionnaires and preparing the data for computer processing took place from January to March 1996. Thereafter this data was entered and processed by the computer with the help of the Section for Academic Research Support, Department of Information Technology, University of Pretoria. The interviews which were all tape-recorded were also listened to and prepared for the

purpose of the case studies and parts of the interviews were transcribed to be included in the case studies in the chapter.

7.2.9 Analysis and interpretation of data

According to Neuman (1994:10) the aim of this step is to analyze or manipulate the data to see any patterns that emerge. The patterns in the data or evidence help the researcher interpret or give meaning to the data.

The data was analyzed in conjunction with the Department of Statistics, Faculty of Economic and Management Sciences, University of Pretoria and the Section for Academic Research Support, Department of Information Technology, University of Pretoria. This data was then analyzed and interpreted by researcher, in order to give meaning to these findings. The graphs and tables were created by the Section for Academic Research Support. The interpretation of the findings is discussed in the rest of this chapter in section 7.3.

Due to the fact that only 19 of the original 30 respondents of the first empirical study could be traced after a 7-year period for this second empirical study, the number of respondents for this study was small, but remarkable for a panel longitudinal study of such a secretive and sensitive nature. Thus in the interpretation and discussion of these findings, mainly frequencies and percentages were used, as well as frequency tables and graphical representations. According to Swanepoel (1996) of the Department of Statistics, University of Pretoria, the number of respondents (19) included in this empirical study were too small to do any approximations or statistical tests, to determine whether any significant differences between the various proportions for the relevant variables existed. The only statistical calculations which could, however, be made were the arithmetic mean or average \bar{x} , which is calculated as follows according to Steyn, Smit, Du Toit & Strasheim (1994:99): $\bar{x} = \frac{\sum x}{n}$. These averages were provided where applicable.

At the end of this chapter a case-study of each couple has also been provided for the purposes of the qualitative research element in this study.

7.2.10 The research report, conclusions and recommendations

This last step of the research process entails this chapter on the research findings, as well as the entire thesis which is the research report for this entire study. The conclusions and recommendations appear in the last chapter of this thesis.

The interpretation of the data for this specific empirical study follows.

7.3 THE INTERPRETATION OF THE RESEARCH FINDINGS

The research findings will subsequently be interpreted and discussed, as well as represented by means of frequency tables and graphs.

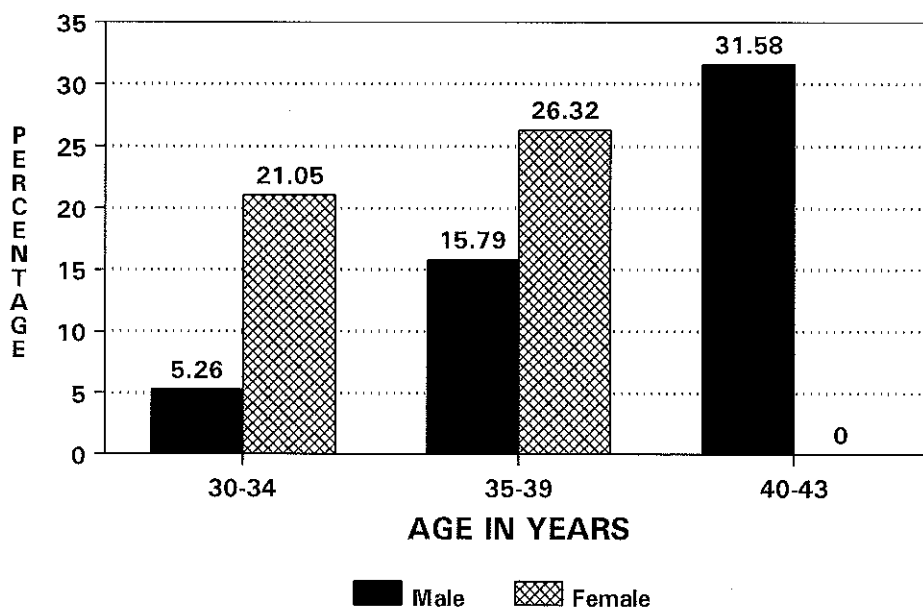
7.3.1 Biographic data

The aim of this section of the questionnaire was to gather the biographic data of all the 19 respondents.

7.3.1.1 Age

Figure 54 provides a graphical representation of the ages of male respondents compared to female respondents:

FIGURE 54: AGE



(N = 19)

From Figure 54 the following can be deduced:

- * The respondents in this study were aged between 30 and 43 years.
- * The majority of respondents (42.11%), 3 males and 5 females, were aged between 35-39 years.
- * The majority of males (31.58%) or 6 males were aged between 40-43 years.
- * The majority of females (26.32%) or 5 females were aged between 35-39 years.
- * The mean or average (\bar{x}) age of all the respondents is $\bar{x} = 36.8$ years.
- * The average (\bar{x}) age of the male respondents is $\bar{x} = 38.9$ years.
- * The average (\bar{x}) age of the female respondents is $\bar{x} = 35.6$ years.

These findings correlate well with Figure 9 in chapter 6 where the same respondents were aged 7 years younger than in the present study.

7.3.1.2 Sex

In this study:

- * 10 respondents (52.63%) were males, and
- * 9 respondents (47.37%) were females.

Of the 10 couples traced, only 19 of the 20 respondents could be interviewed, as the one couple had got divorced and the ex-wife had since remarried and could not be traced. Thus the majority of respondents in this study were males. In the first empirical study there were 30 respondents of which 15 were males and 15 females. In this second empirical study only 19 of these respondents could be traced after a 7-year period and 11 were untraceable.

7.3.1.3 Marital status

The marital status of the respondents is represented in Figure 55 below:

FIGURE 55: MARITAL STATUS

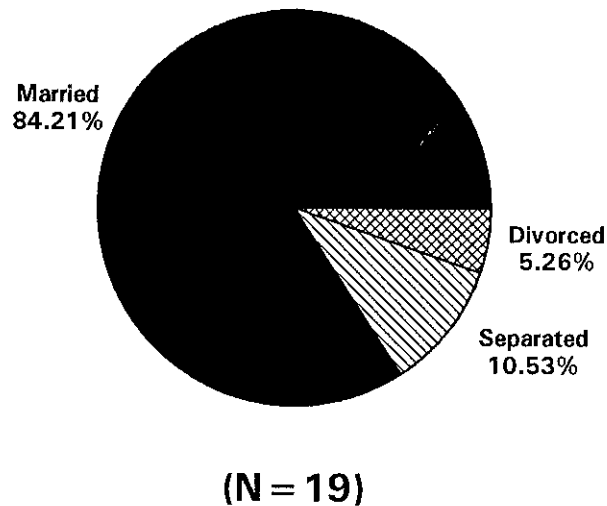


Figure 55 reflects the following:

- * 16 of the respondents (84.21%) were still married,
- * 2 respondents (10.53%) were separated, and
- * 1 respondent (5.26%) was divorced. (His ex-wife could not be traced for this study.)

Thus 15.79% (3) of the respondents who were traced for this study had divorced or separated since the previous stage of research. In the first empirical study all 30 respondents were married. Thus there was a 15.79% divorce rate in this study. The reason for the separation was said to be incompatibility by both of the respondents who had separated. They also mentioned that their infertility, the unsuccessful artificial fertilization with donor gametes and the attempted adoption which was cancelled by the biological mother at the last moment were all contributing factors.

The reason for the divorce as stated by the one divorced respondent (whose ex-wife could not be traced), to be due to the infertility and

the artificial fertilization with donor gametes. He was never really in favour of this treatment, but his ex-wife had forced him to agree to go ahead with it. She had often blamed him for the problem and disclosed their donor treatment to everyone. They started drifting apart despite successful artificial fertilization with donor gametes. When she was 3 months pregnant they were already separated and soon thereafter got divorced, just after the birth of the child.

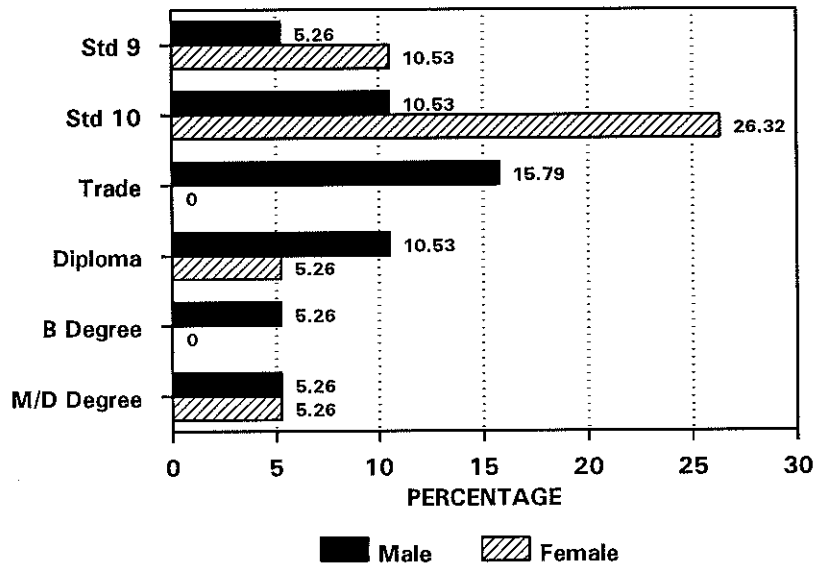
Thus it seems as if artificial fertilization with donor gametes did have an effect on those couples who had divorced or separated and was a factor contributing to their marital break-up.

7.3.1.4 Qualifications

The qualifications of both the male respondents and the female respondents are reflected in Figure 56 below:

FIGURE 56: QUALIFICATIONS

QUALIFICATIONS



(N = 19)

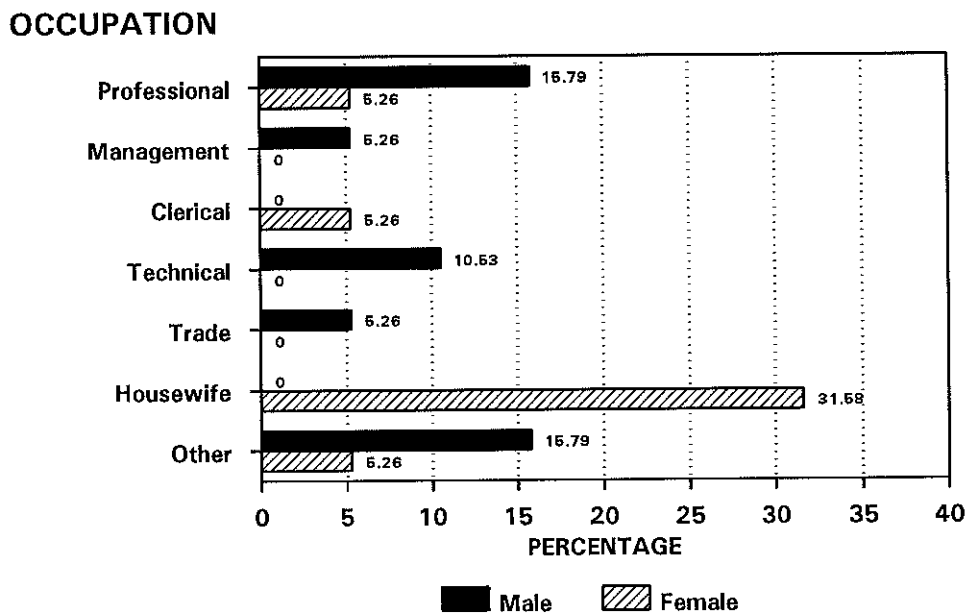
Figure 56 reflects the following:

- * 36.85% (7) of all the respondents, (5 females and 2 males) had completed matric.

- * 15.79% (3) respondents, (2 females and 1 male) had completed std. 9 or less.
 - * 15.79% (3) of the males had completed a trade.
 - * 15.79% (3) respondents had completed a diploma, i.e. (2 males and 1 female).
 - * 5.26% (1 male) had a Bachelors or undergraduate degree.
 - * 5.26% (1 male) and 5.26% (1 female) had a post-graduate degree.
- These findings compare reasonably well with the qualifications in the first empirical study. These respondents (except for 1 male) did not seem to improve their qualifications much in the past 7 years, that is, since the previous stage of research, as the qualifications were very similar, with more male respondents having a diploma and undergraduate degree, and more females having completed matric. One male and one female, had since the previous study completed a post-graduate degree, which were the only improvements which could be noticed.

7.3.1.5 Occupation

The occupations of the respondents are reflected in Figure 57 below:
FIGURE 57: OCCUPATION



(N = 19)

Figure 57 reflects the following:

- * 31.58% (6) of the females were housewives.
- * 21.05% (3) of all the respondents (2 males and 1 female) were professionals. This corresponds well with the respondents who had a university degree and a diploma.
- * 21.05% (4) of the respondents (3 males and 1 female) indicated "other" occupations which included teaching, self-employed, traffic officer and security.
- * 10.53% (2) of the males were in the technical field.

The occupations of the respondents seemed to have improved over the past 7 years since the first empirical study, with more respondents performing white collar jobs and fewer performing blue collar jobs. The majority of respondents thus had average middle class to upper-middle class careers.

7.3.1.6 Religion

All the respondents (100%) in this study were Christians:

- * The majority of respondents, 26.32% (5 respondents) respectively were in the Apostolic Faith Mission, Old Apostolic, Full Evangelistic and Lutheran Churches.
- * 15.79% (3 respondents) were in the Dutch Reformed Church.
- * 10.53% (2 respondents) respectively were in the Reformed and Methodist Churches.
- * The smallest percentage, 5.26% or 1 respondent respectively was in the Catholic and Anglican Churches.

Thus the religion and church denomination of the respondents remained more or less the same as that of the previous study, with all the respondents being Christians and the majority being members of the Dutch Reformed and more charismatic churches.

7.3.1.7 Children

The aim of this section was to determine the number and nature of children amongst the respondents.

* Initial plan for children versus end result

All 19 respondents in this study had initially planned to have children by means of artificial fertilization with donor gametes, but not all the respondents underwent this treatment or they did, but had no success. The end results of all the respondents were as follows:

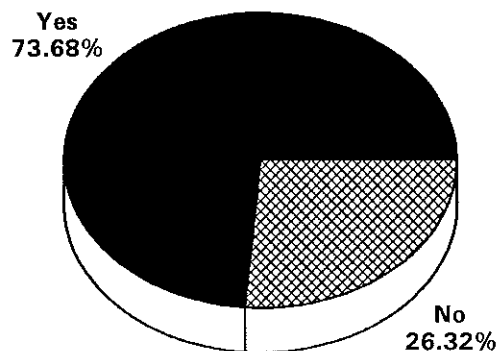
- 36.85% (7 respondents) underwent successful artificial fertilization with donor gametes and had children by donor.
- 21.05% (4 respondents) underwent unsuccessful artificial fertilization with donor gametes and eventually adopted a child.
- 21.05% (4 respondents) had their own biological children spontaneously or by means of infertility treatment using their own gametes.
- 21.05% (4 respondents) had no children, (2 respondents had unsuccessful treatment and 2 respondents had no treatment after deciding against it).

Thus even though all the respondents planned to have children by artificial fertilization with donor gametes, not all of them had success and the end result was quite different from what their initial plan was.

*** Children presently**

The respondents who presently have children or not are indicated in Figure 58:

FIGURE 58: CHILDREN



(N = 19)

From Figure 58 it is clear that:

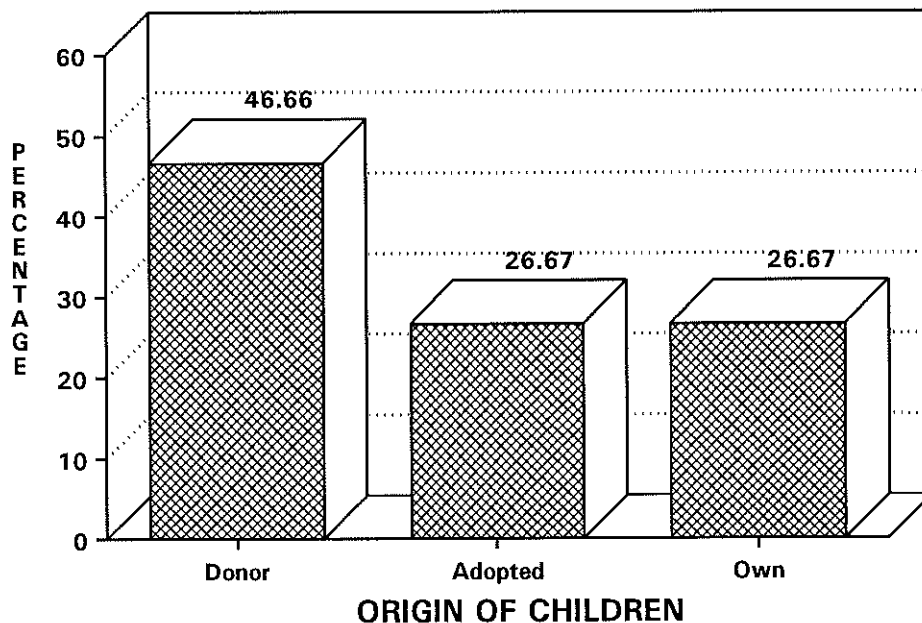
- 73.68% (14 respondents) have children presently.
- 26.32% (5 respondents) do not have any children. (One of these respondents had a child by donor treatment, but the child died at the age of 8 months).

Thus the majority of respondents (14) had children at present and from the present marriage, compared to the first empirical study where none had a child from the present marriage, but only 3 respondents had children from a previous marriage. (Not one of these 3 respondents with children from a previous marriage could, however, be traced for this second empirical study).

*** Origin of children**

The origin of the children that respondents had, is illustrated in Figure 59 below:

FIGURE 59: ORIGIN OF CHILDREN



(N = 15)

Figure 59 reflects the following:

- 46.66% (7 respondents) had children conceived by means of artificial fertilization with donor gametes.

- 26.67% (4 respondents) had their own biological children spontaneously or by means of infertility treatment using their own gametes.
- 26.67% (4 respondents) adopted a child.

Thus it is evident that the majority of respondents (7) had children by means of artificial fertilization with donor gametes which was successful. One of these respondents' children, however, died at the age of 8 months.

It is very interesting that 26.67% (4) of the respondents had biological children either spontaneously, or by means of infertility treatment using their own gametes (2) respondents, as a last attempt. These respondents had all been informed that there was no hope or very limited chances of ever falling pregnant and their only alternative was artificial fertilization with donor gametes. This again proves that one can never take away the hope of a couple to achieve a spontaneous pregnancy. This slight chance they have should be discussed with them when recommending artificial fertilization with donor gametes as an alternative. Interestingly 26.67% (4) of the respondents had resorted to adopting a child.

*** The number of children per couple**

The number of children from different origins per couple was explored, that is, how many donor children, biological children or adopted children each couple had. As no couple had mixed children from different origins these findings will be discussed according to the different groups of children:

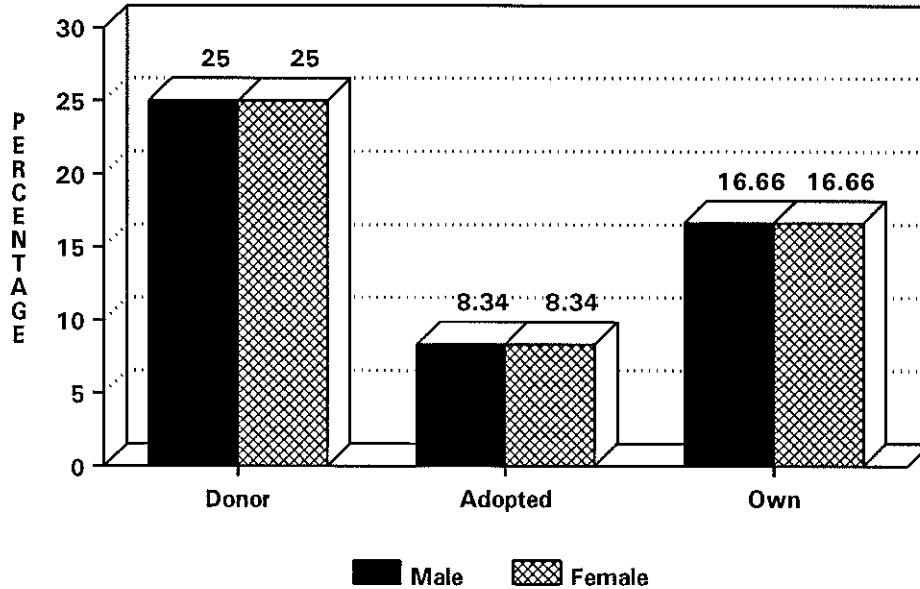
- In the group with donor children 20.0% (3 respondents) had 1 child and 26.67% (4 respondents or 2 couples) had 2 children each, of which 1 couple had twins.
- In the group with adopted children, 26.67% (4 respondents or 2 couples) had 1 child each.
- In the group with own biological children 13.33% (2 respondents or 1 couple) had 1 child and 13.33% (2 respondents or 1 couple) had 3 children of which 2 were twins.

Thus the majority of respondents 60.0% (9) had 1 child, while 26.67% (4) had 2 children and 13.33% (2) had 3 children.

*** Sex of children**

The sex of the children is shown in Figure 60 below:

FIGURE 60: SEX OF CHILDREN



(N = 12)

From this figure the following is reflected:

- In the donor group 3 of the children (25.0%) were boys and 3 (25.0%) were girls.
- In the adopted group 1 of the children (8.34%) was a boy and 1 (8.34%) was a girl.
- In the biological group 2 of the children (16.66%) were boys and 2 (16.66%) were girls.

Thus in all the groups the sex of the children was equal, with no inclination to a specific sex in any group.

7.3.2 Medical data

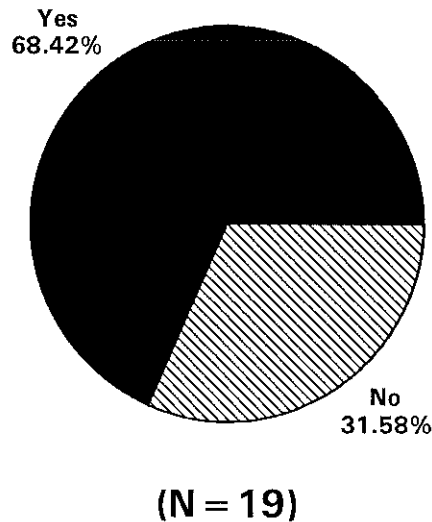
This section of the questionnaire was aimed at gathering data regarding the treatment all 19 respondents had undergone.

7.3.2.1 Treatment

*** Treatment undergone**

Figure 61 shows the respondents who had undergone artificial fertilization with donor gametes since being prepared for this treatment in the preparation session:

FIGURE 61: TREATMENT UNDERGONE



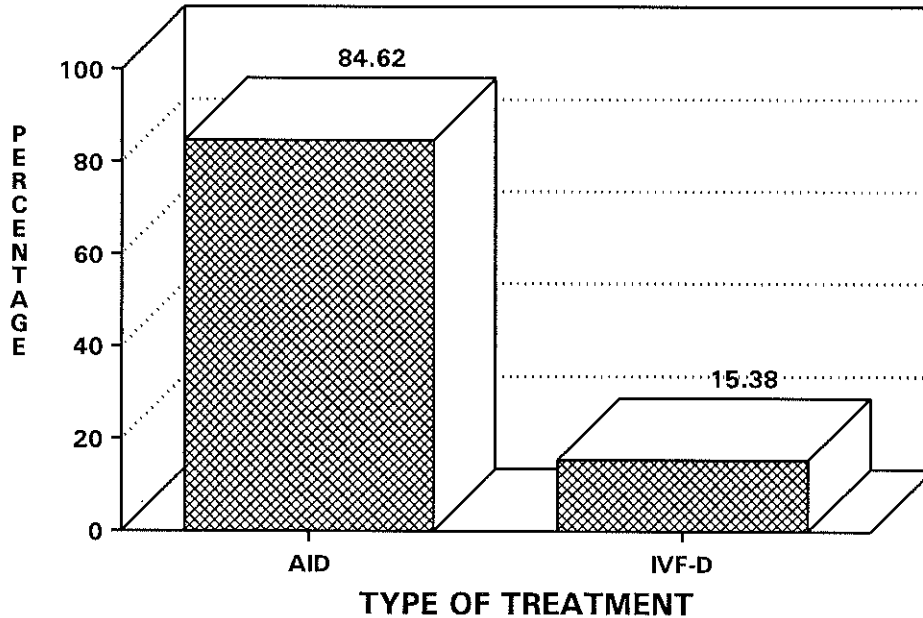
This figure shows the following:

- 68.42% (13 respondents) underwent artificial fertilization with donor gamete treatment.
- 31.58% (6 respondents) did not undergo any artificial fertilization with donor gamete treatment.
- The reason why these six respondents did not undergo treatment is because 1 couple fell pregnant spontaneously, 1 couple underwent infertility treatment using their own gametes with a resultant twin pregnancy and had another spontaneous pregnancy later, and 1 couple of whom the husband is a paraplegic decided against treatment, due to the wife's sudden onset of epilepsy and the risk of the medication affecting the foetus.

* **Type of treatment**

Figure 62 illustrates the type of treatment undergone by the 13 respondents:

FIGURE 62: TYPE OF TREATMENT



(N = 13)

The following is shown in the above figure:

- The majority of the 13 respondents 84.62% (11) underwent artificial insemination with donor gametes (AID).
- 15.38% (2 respondents) underwent donor in-vitro fertilization (IVF-D).

Thus the majority of respondents underwent AID which is the most common and a less complicated procedure than IVF-D.

7.3.2.2 Time period of treatment after preparation session

Of the 13 respondents who underwent artificial fertilization with donor gametes, the time lapse since the preparation session to the previous stage of research was as follows:

- * 84.62% (11 respondents) underwent treatment 0 to 1 year after the preparation session.
- * 15.38% (2 respondents) underwent treatment 2 to 3 years after the preparation session.

Thus the majority of respondents underwent treatment within a year of having undergone the preparation session. Thus they made their

decision somewhere in a period of a year between having completed the preparation session and having commenced with treatment. This corresponds well with the studies of Mahlstedt & Greenfield (1989:909), Berger (1980:557) and Berger (1982:54) who recommend a time delay or cooling-off period of several months before a decision is made.

Thus it is evident that the respondents in this study made their decision over a period of within a year, which means it was a well-thought over decision made with all the information at hand following the preparation session.

7.3.2.3 Treatment attempts

The treatment attempts of all the respondents who had treatment are shown in their groups as classified in Table 2:

TABLE 2: TREATMENT ATTEMPTS

GROUP				
Frequency	1-2	3-4	9 OR MORE	Total
Percent	ATTEMPTS	ATTEMPTS	ATTEMPTS	
Row Pct	Col Pct	Col Pct	Col Pct	
DONOR	3	4	0	7
	23.08	30.77	0.00	53.85
	42.86	57.14	0.00	
	60.00	66.67	0.00	
ADOPTED	2	0	2	4
	15.38	0.00	15.38	30.77
	50.00	0.00	50.00	
	40.00	0.00	100.00	
NONE	0	2	0	2
	0.00	15.38	0.00	15.38
	0.00	100.00	0.00	
	0.00	33.33	0.00	
OWN	0	0	0	0
	0.00	0.00	0.00	0.00
	.	.	.	
	0.00	0.00	0.00	
Total f	5	6	2	13
%	38.46	46.15	15.38	100.00

This table reflects the following:

- * In the group with donor children 23.08% (3) had 1 to 2 treatment attempts while 30.77% (4) had 3 to 4 treatment attempts.
- * In the group with adopted children 15.38% (2) had 1 to 2

treatment attempts, while 15.38% (2) had 9 or more treatment attempts.

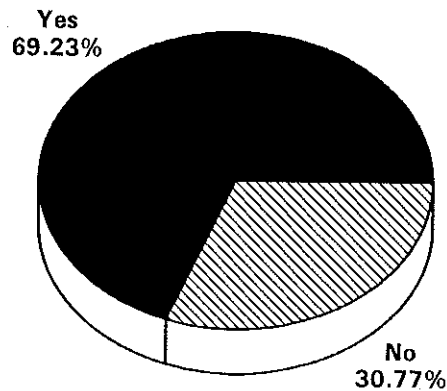
- * In the group with no children 15.38% (2) had 3 to 4 treatment attempts.
- * In the group with own biological children, no treatment attempts were made.
- * The majority 46.15% (6), had 3 to 4 treatment attempts.
- * 38.46% (5) had 1 to 2 treatment attempts, while 15.38% (2) had 9 or more treatment attempts.

Thus the majority of respondents made 3 to 4 treatment attempts. In the group with donor children, the majority made 3 to 4 treatment attempts, while in the group with adopted children one half made 1 to 2 attempts and the other half 9 or more attempts. All respondents had therefore tried several times to achieve success with the artificial fertilization with donor gametes.

7.3.2.4 Successful treatment

Figure 63 represents the number of respondents who had successful artificial fertilization with donor gametes with a positive pregnancy test:

FIGURE 63: SUCCESSFUL TREATMENT



(N = 13)

From Figure 63 it is shown:

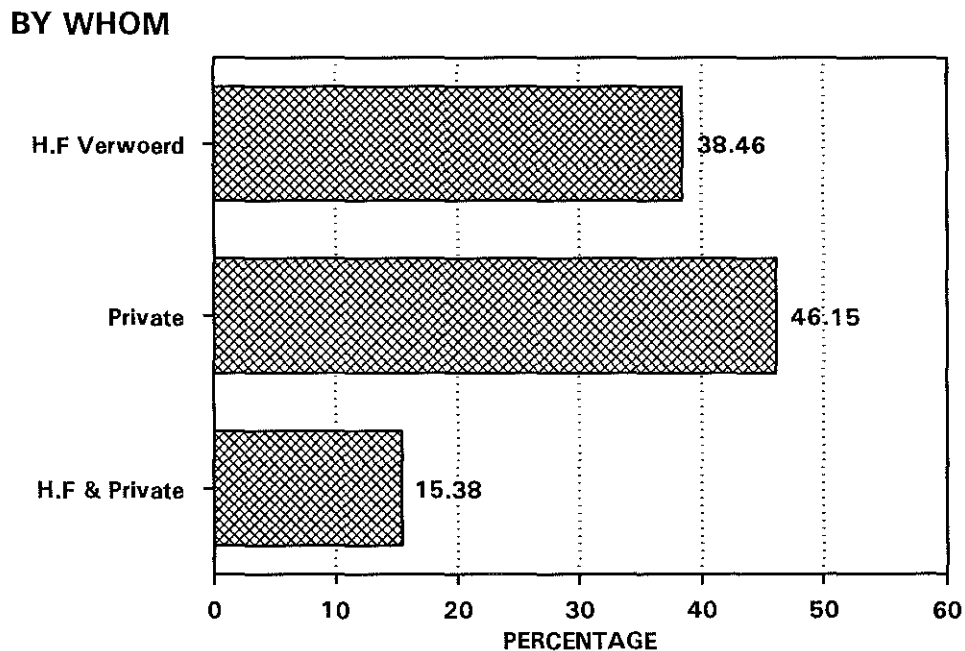
- * 69.23% (9 respondents) had successful artificial fertilization with donor gametes with a resultant positive pregnancy test.
- * 30.77% (4 respondents) had unsuccessful treatment.

Thus of the 13 respondents who underwent artificial fertilization with donor gametes, only 9 had successful treatment.

7.3.2.5 By whom and where treatment was performed

The 13 respondents who underwent treatment, were treated by the following as depicted in Figure 64:

FIGURE 64: BY WHOM TREATED



(N = 13)

The above figure reflects the following:

- * 46.15% (6 respondents) were treated by gynaecologists in private practice.
- * 38.46% (5 respondents) were treated at H.F. Verwoerd Hospital at the Infertility Clinic by a gynaecologist.
- * 15.38% (2 respondents) were treated at both the H.F. Verwoerd Hospital and a private gynaecologist.

Thus the majority of respondents underwent treatment by private gynaecologists, showing the trend of this form of treatment becoming

more of a private service, due to the high costs involved. These patients paid themselves as private patients, as the medical aid schemes do not cover this form of treatment.

Seven gynaecologists in total were involved in treating all these respondents. The majority of respondents 69.23% (9) underwent treatment in Pretoria. The treatment was performed in 5 different cities namely, Pretoria, Johannesburg, Potchefstroom, Pietermaritzburg and Durban. Thus Pretoria seemed to be the most popular venue for treatment for these respondents who came from 8 of the 9 provinces in South Africa.

7.3.2.6 Doctor performing each treatment attempt

Seven gynaecologists were involved in the treatment of the 13 respondents in 5 different cities.

- * 84.62% (11 respondents) were treated by the same gynaecologist each time with different treatment attempts.
- * 15.38% (2 respondents) were treated by a different gynaecologist each time.

Thus the majority were treated by the same gynaecologist each time. Respondents stressed the importance of having the same gynaecologist perform each treatment attempt. Continuity was therefore of utmost importance in this form of treatment.

7.3.2.7 Presence of husband during treatment

The presence of the husband during the treatment was stated as being important by the 13 respondents.

- * 84.62% (11) of the respondents stated that the husband was waiting in the waiting room during the treatment procedure.
- * 15.38% (2) of the respondents stated that the husband was waiting outside the door of the room where the treatment procedure was performed.

It is interesting that even though the husbands accompanied their wives, not one of the husbands was physically present in the same room where the procedure was being performed on the wife. This is contrary to the literature where Czyba & Chevret (1979:243) stated that the husbands usually wished to be present during the insemination, as this represented their symbolic participation in the act of conception. Either the husbands in this study did not want to see

the actual procedure or the gynaecologists were very conservative and did not allow the husband to be present. Gynaecologists should be enlightened on the importance of the husband's presence during the procedure.

7.3.2.8 Intercourse after treatment

The aim of this question was to determine if couples felt the need to have intercourse directly after treatment.

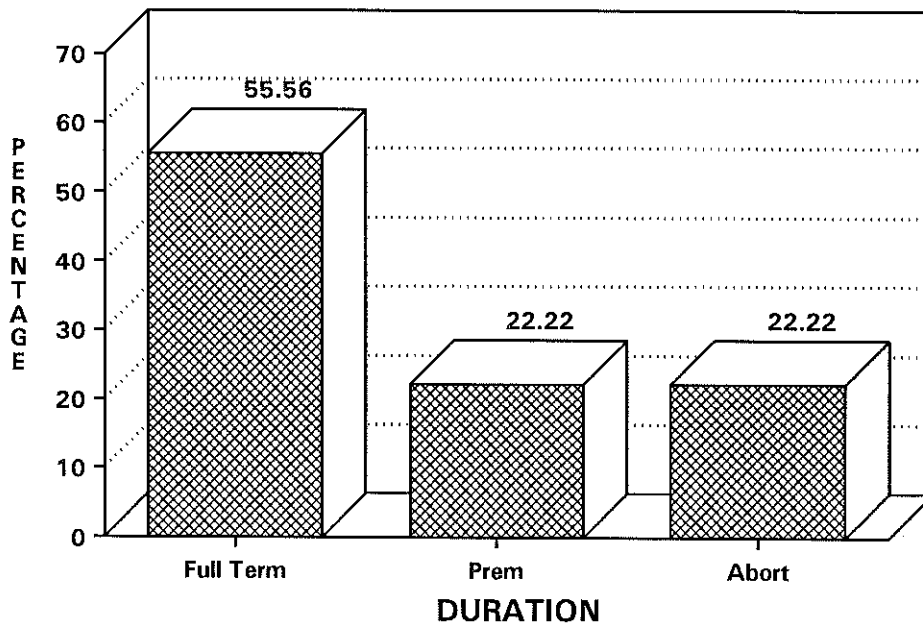
- * 84.62% (11 respondents) had no intercourse straight after the treatment procedure had been performed.
- * 15.38% (2 respondents) had intercourse straight after the treatment procedure had been performed. The reason provided for having intercourse was "for our conscience". They felt guilty and awkward in a way after having been inseminated with a stranger's sperm and having intercourse straight after made them feel better about it.

The reasons provided by respondents for not having intercourse were: too scared there might be a problem; travelled home afterwards on a long journey; doctor said not to. Thus the majority preferred not to have intercourse straight after the treatment, contrary to the literature where Czyba & Chevret (1979:243) stated that an active sex life during the insemination period was a symbolic participation in the act of conception for the husbands. Thus either these respondents were dishonest or this symbolic participation was not of importance to them. This could most probably be ascribed to cultural differences.

7.3.2.9 Duration of pregnancy after successful treatment

Figure 65 illustrates the duration of the pregnancy of those respondents who had successful treatment.

FIGURE 65: DURATION OF PREGNANCY



(N = 9)

The 9 respondents who had successful treatment with a resultant positive pregnancy test had the following pregnancy outcomes as shown in the above figure:

- * 55.56% (5) of the respondents had a full-term pregnancy with the birth of their children.
- * 22.22% (2) of the respondents carried their baby to 7 months gestation with the resultant premature birth of their twins.
- * 22.22% (2) of the respondents aborted within the first trimester of the pregnancy (6 weeks).

Thus only 7 respondents (53.85%) of the 13 respondents who underwent treatment had success with a normal or premature gestational period or pregnancy, with the resultant birth of a child/children. Only 2 respondents, that is, one couple aborted at 6 weeks gestation.

7.3.2.10 Pregnancy complications

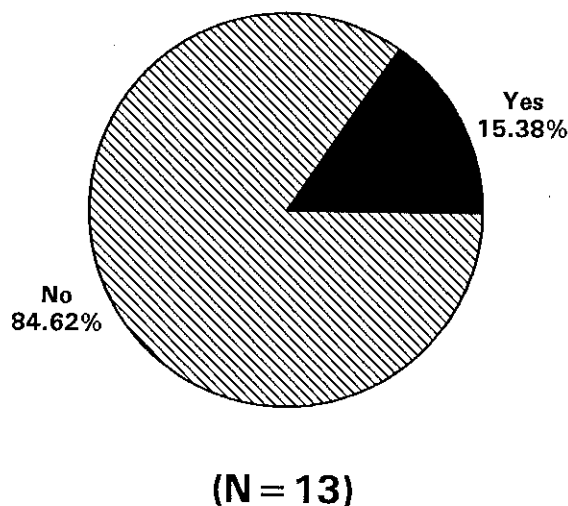
The 9 respondents who experienced a full-term premature or incomplete pregnancy experienced complications during the pregnancy as follows:

- * 33.33% (3 respondents) reported complications during the pregnancy. These included kidney infection, and severe abnormalities of the foetus.
 - * 66.67% (6 respondents) experienced no complications.
- Thus the majority did not experience any pregnancy complications.

7.3.2.11 Information received on donor

The aim of this question was to determine whether any non-identifying information was provided to the 13 recipients of artificial fertilization with donor gametes concerning the donor as is shown in Figure 66:

FIGURE 66: INFORMATION RECEIVED ON DONOR



The above figure reflects the following:

- * Only 15.38% (2 respondents) received information concerning the donor. This information was merely that the donor was a medical student. These 2 respondents had a miscarriage in the first trimester of the pregnancy and underwent no further treatment.
 - * 84.62% (11 respondents) received no information whatsoever.
- Thus the gynaecologists and/or the reproductive biologists at the sperm bank were very conservative in this regard and provided very

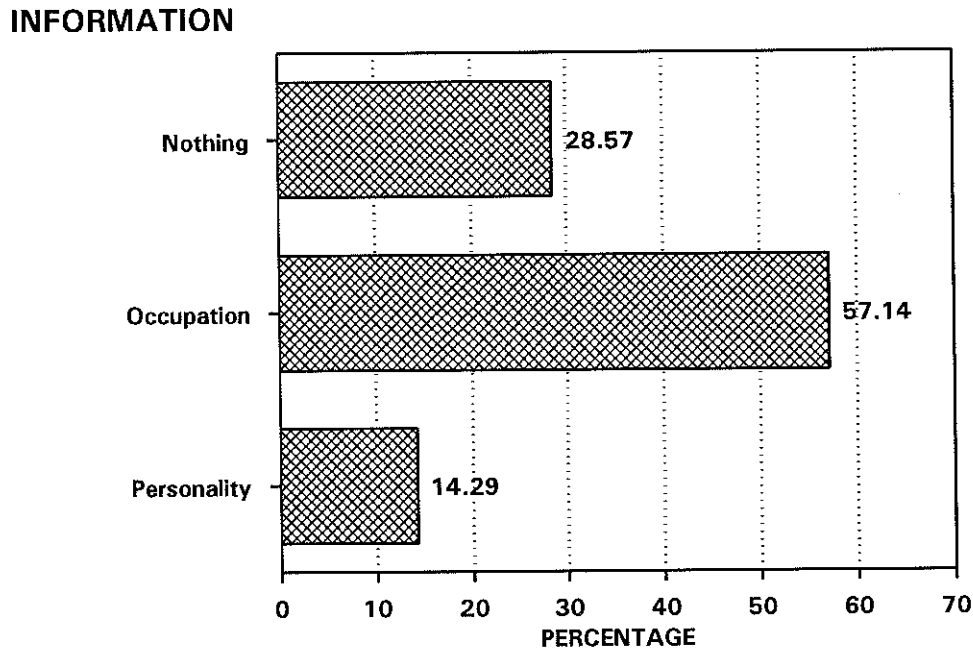
little or no information on the donor to the recipients. These professionals should be enlightened and motivated on the importance of providing some non-identifying information to the recipients on the donor such as background, occupation, interests and physical attributes as recommended in the studies of Kovacs *et al.* (1988:355), Mahlstedt & Probasco (1991:752) and Purdie *et al.* (1992:27-28).

Thus all 7 respondents (100%) who had successful artificial fertilization with donor gametes with resultant children, received no information on the donor.

7.3.2.12 Information wanted on donor

The 7 respondents who had successful artificial fertilization with donor gametes, wished to have the following information on the donor as illustrated in Figure 67:

FIGURE 67: INFORMATION WANTED ON DONOR



(N = 7)

The following is deduced from the above figure:

- * 28.57% (4 respondents) wished to know what his occupation is. Three of these respondents were females and 1 a male.
- * 57.14% (2 respondents) preferred to know nothing of him. Both

of these respondents were males.

- * 14.29% (1 male respondent) wanted to know more about his personality and nature, as well as where in South Africa he comes from.

Thus fewer males wanted to know anything about the donor compared to females, and 1 male specifically even wanted more detailed information than the females. It is therefore difficult to generalize, but it is clear that the recipients do wish to know something about the donor.

7.3.2.13 Birth how long after preparation session

The 7 respondents who gave birth to a child conceived by means of artificial fertilization with donor gametes, reported that the child was born in the following period after the preparation session:

- * 100% (7 respondents) reported that their first child was born 1 to 2 years after the preparation session.

This confirms that the majority of respondents had treatment within 0 to 1 year from the preparation session as found in 7.3.2.2 and that they had success reasonably quickly, as the child was born in 100% of the cases within 1 to 2 years of the preparation session.

7.3.2.14 Place of birth

The 7 respondents reported the place of birth of their child conceived by means of artificial fertilization with donor gametes as follows:

- * 71.43% (5 respondents) reported the birth of their child to have been in a provincial hospital.
- * 28.57% (2 respondents) reported the birth to have been in a private hospital.

The births took place at:

- * J.G. Strijdom Hospital, Johannesburg;
- * Kalie de Haas Hospital, Potchefstroom;
- * Gordonia Hospital, Upington; and
- * Hydromed Clinic, Trichardt.

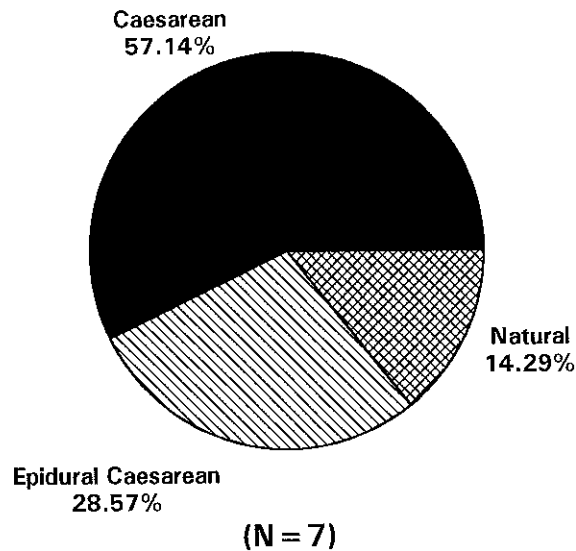
Thus the children were mainly born in provincial hospitals and in 4 of the 9 provinces in South Africa.

7.3.2.15 Type of confinement

The 7 respondents who had successful artificial fertilization with

donor gametes, with a resultant child, had the following types of confinement as shown in Figure 68:

FIGURE 68: TYPE OF CONFINEMENT



The following was found:

- * 57.14% (4 respondents) had a caesarean.
- * 28.57% (2 respondents) had an epidural caesarean.
- * 14.29% (1 respondent) had a natural birth.

Thus the majority had a caesarean section, which is common amongst infertility patients due to their age and the risk factors involved.

7.3.2.16 Doctor performing delivery procedure

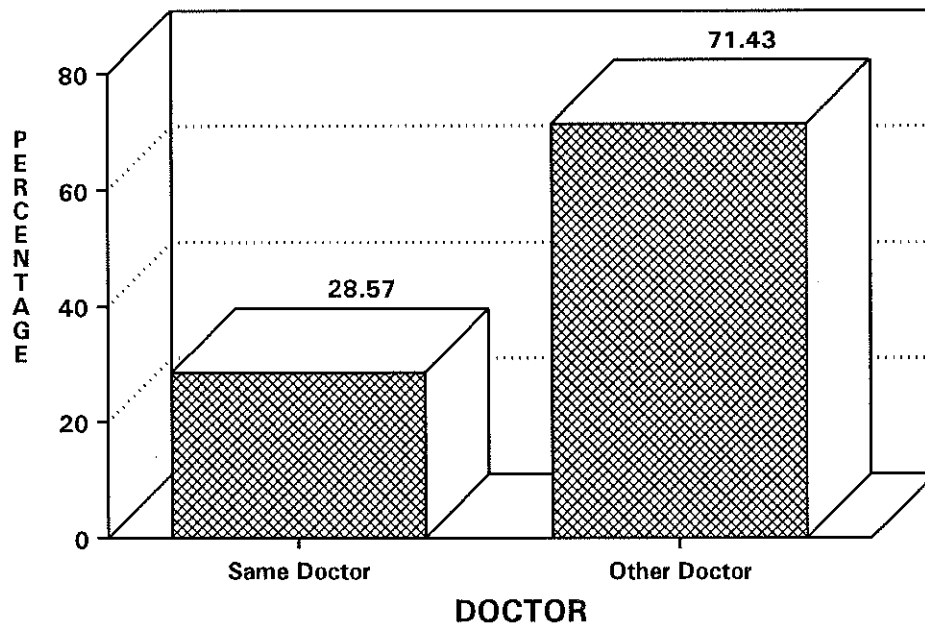
The aim of this question was to determine who the doctor was who performed the treatment procedure versus the delivery of the baby.

- * 42.86% (3 respondents) reported that their general practitioner in their home town performed the delivery.
- * 28.57% (2 respondents) reported the same gynaecologist who performed the treatment to have performed the delivery.
- * 28.57% (2 respondents) reported the doctor who performed the delivery to have been a doctor unknown to them.

Thus the majority of respondents did not go back to the same gynaecologist who performed the treatment for the delivery of the baby, except for 2. This could be due to the fact that they did not want anyone to know about their donor secret at the birth of their child, or that it was more convenient for them in their home town due to the distance involved.

To confirm this the respondents reported as shown in Figure 69:

FIGURE 69: DELIVERY DOCTOR VERSUS TREATMENT DOCTOR



(N = 7)

The above figure reflects the following:

- * 71.43% (5 respondents) stated that the doctor who performed the delivery was not the same as the doctor who performed the treatment and was either their general practitioner or an unknown doctor.
- * 28.57% (2 respondents) stated that the doctor who performed the delivery was the same doctor who performed the treatment, that is, the gynaecologist.

Thus only 2 respondents had the same doctor throughout the treatment, the pregnancy and the birth. The reasons for the change in doctors

at birth was motivated as follows by the 5 respondents:

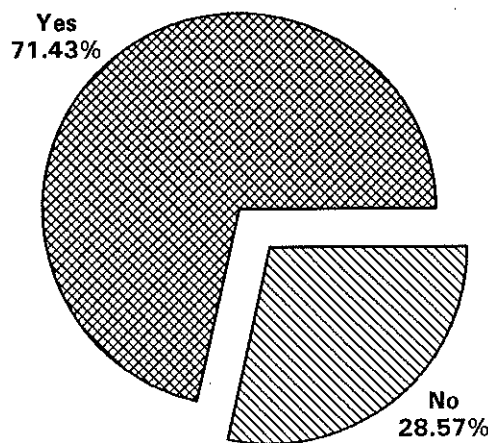
- * 40% (2 respondents) stated that it was more convenient to go to their general practitioner due to the distance to the gynaecologist.
- * 40% (2 respondents) stated that it was more convenient in their own home town.
- * 20% (1 respondent) stated that they had moved to another province very far away from the clinic and it was impractical to go back to the clinic merely for the delivery.

Thus the respondents changed to other doctors in their home town for the delivery, as it was more convenient for them due to the distance and the travelling. Not one respondent mentioned anything about the secrecy issue playing a role. This could most probably be ascribed to the fact that they did not want to admit to the secrecy issue in this regard or that secrecy did not play a role in changing doctors.

7.3.2.17 Delivery doctor aware of donor origin of child

The aim of this question was to determine if the respondents told the delivery doctor (who had not performed the treatment) of the donor origin of their child, as shown in Figure 70:

FIGURE 70: DELIVERY DOCTOR AWARE OF DONOR ORIGIN OF CHILD



(N = 7)

The above figure shows the following:

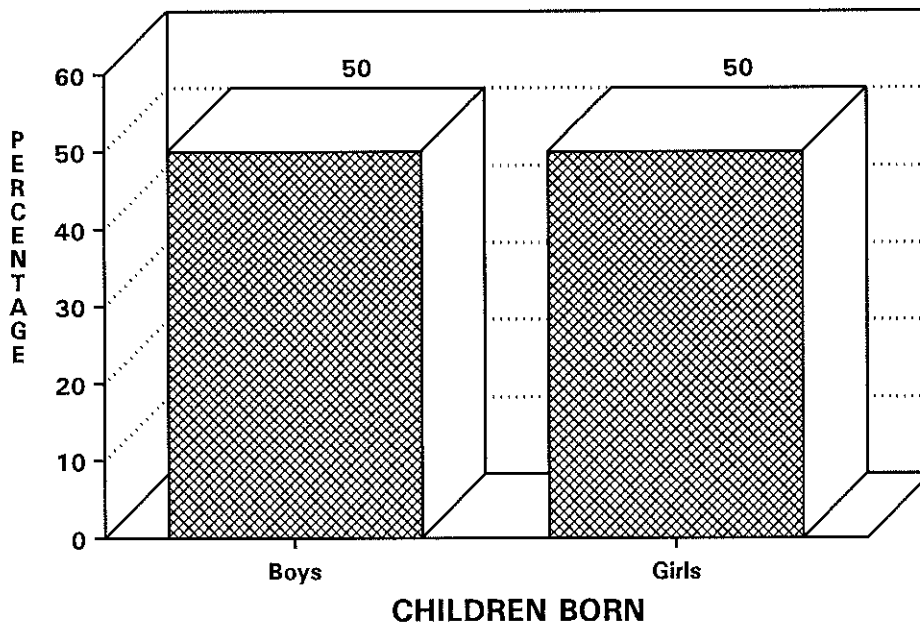
- * 71.43% (5) of the respondents stated that they had told the delivery doctor of the donor origin of their child.
- * 28.57% (2) of the respondents stated that they had not told the delivery doctor due to the emergency caesarean and the premature birth of their twins. They thought it was unnecessary to tell.

It is interesting that the majority of respondents had told the delivery doctor of the donor origin of their child, even though they did not have to. They could possibly have been scared of complications or abnormalities and thought that the doctor needed to know. The one couple with a complicated premature birth of twins, did not however, feel a need to tell. Respondents could of course also have told a lie in this regard as they were scared to admit to not telling the doctor.

7.3.2.18 Donor children born

The 7 respondents (4 couples) who gave birth to children conceived by means of artificial fertilization with donor gametes had the following children as shown in Figure 71:

FIGURE 71: DONOR CHILDREN BORN



(N = 6)

This figure reflects the following:

- * 50% (3) of the children were girls.
- * 50% (3) of the children were boys.

Thus a total of 6 children were born and the sex was equal. Furthermore it can be added from researcher's observation during interviews:

- * 2 couples had 2 children each, of which 1 couple had a set of twin girls and the other had 2 boys who were 15 months apart. Each boy was conceived by means of a different donor.
- * 2 couples had 1 child each, of which 1 child was a healthy female, and 1 child, a male died at the age of 8 months, due to abnormalities of the lungs. This child was born with Down's syndrome.

Thus 5 of these 6 donor children are still alive and well. The number of boys and girls by birth were equal and a set of twins were also born. Thus there was no specific trend regarding sex or multiple pregnancies, but unfortunately a severe abnormality was present in one child who died at 8 months.

7.3.2.19 Abnormalities present

The abnormalities present in the children at birth were reported to be as follows:

- * 42.86% (3 respondents) reported an abnormality present in their child.
- * 57.14% (4 respondents) reported no abnormalities.

Concerning the type of abnormality present in the children, respondents reported as follows:

- * 66.67% (2 respondents) reported mild heart and lung complications after the premature birth of their one twin daughter who required surgery to the heart valve with 100% recovery.
- * 33.33% (1 respondent) reported Down's Syndrome and a lung complication present in their son at birth. This child died at the age of 8 months due to lung complications.

Thus 2 of the 6 children (33.33%) had an abnormality or complication present at birth, which ranged from mild to severe complications and abnormalities. The one child recovered 100% after surgery to correct the abnormality, while 1 child died from severe complications.

16.67% mortality and severe abnormalities rate present in the children born, which is reasonably high.

7.3.2.20 Present health of children

The present health of the 5 remaining children was reported by the respondents to be healthy in 100% of the cases. Thus all 5 the children, except 1 of the original 6 who had died due to severe abnormalities and complications, were alive and healthy at the time of this study.

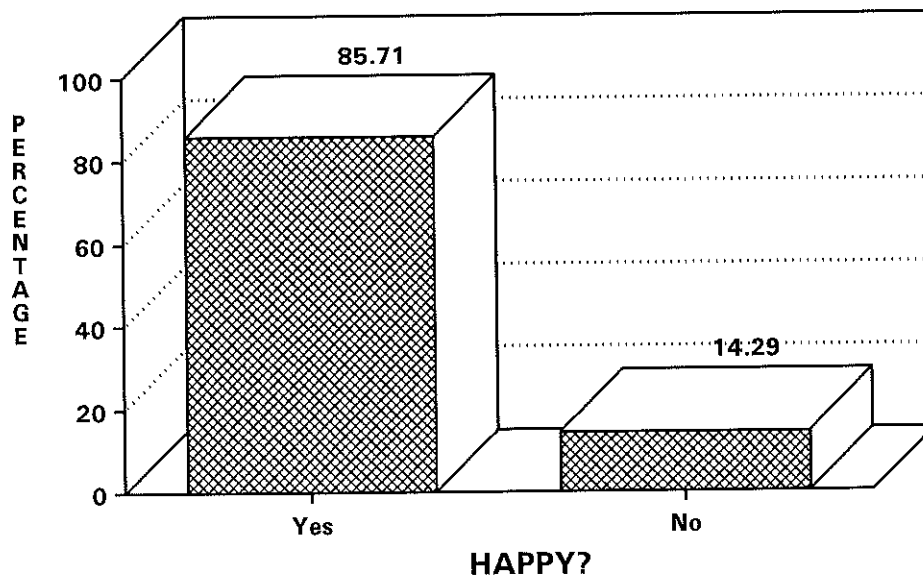
7.3.2.21 Informing the treatment doctor of the birth of the donor child

The aim of this question was to determine whether the respondents informed the treatment doctor of the birth of their donor child as they were compelled to by South African legislation. The findings were as follows: All of the respondents 100% (7) stated that they had informed the treatment doctor of the birth of their child. Whether they did or whether they were lying to protect themselves could, however, not be determined.

7.3.2.22 Appearance of child

The aim of this question was to determine if the respondents were happy with the appearance of the child and the donor-recipient match as shown in Figure 72:

FIGURE 72: HAPPINESS WITH CHILD'S APPEARANCE



(N = 7)

This figure reflects the following:

- * 85.71% (6 respondents) reported that they were happy with the appearance of their child/children.
- * 14.29% (1 respondent) was not happy as his child had been born with Down's syndrome and had later died due to complications.

Thus the majority were satisfied with the child's appearance, which correlates well with the literature, where the studies of Czyba & Chevret (1979:243), Mises & Bissery (1980:477) and Nachtigall (1993:1846-1849) found respondents to be satisfied, relieved and happy with the physical appearance of their donor child.

The reasons provided by respondents in this study for being satisfied were:

- * Child resembles both parents, 42.86% (3 respondents).
- * Child resembles wife and her family, 14.29% (1 respondent).
- * Child resembles wife's family, 14.29% (1 respondent).
- * Child resembles husband's family, 14.29% (1 respondent).
- * One child looks like husband and husband's family and one child like wife and wife's family, 14.29% (1 respondent).

Thus the respondents were happy with the appearance of their child/children and found a resemblance to either the wife and/or her family or the husband and/or his family or both spouses and their family. They reported that people had also commented on this resemblance. Resemblance was therefore important to them, most probably due to their sensitivity and fear of people finding out about the donor origin.

7.3.3 Evaluation of the preparation session

The aim of this section was to do a long-term evaluation of how the 19 respondents experienced the preparation session for artificial fertilization with donor gametes they had undergone 7 years ago.

7.3.3.1 Feelings experienced

*** Feelings experienced before preparation session**

Respondents could select any 4 of the 30 feelings provided, which they had experienced mostly before the preparation session. A total of 23 different feelings were experienced before the preparation session as shown in Table 3:

TABLE 3: FEELINGS BEFORE PREPARATION SESSION

SEX

Frequency Percent Row Pct Col Pct	EXCITE- MENT	HAPPI- NESS	HOPE	ENTHU- SIASM	SUSPI- CION	AMBIVA- LENCE	SHYNESS	HUMILIA- TION	BLAME	DIS- APPOINT- MENT	HELP- LESS- NESS	REJEC- TION	Total
MALE	4 4.88 11.11 66.67	2 2.44 5.56 100.00	2 2.44 5.56 28.57	2 2.44 5.56 50.00	0 0.00 0.00 0.00	1 1.22 2.78 33.33	2 2.44 5.56 100.00	2 2.44 5.56 66.67	1 1.22 2.78 100.00	4 4.88 11.11 44.44	3 3.66 8.33 50.00	1 1.22 2.78 100.00	36 43.90
FEMALE	2 2.44 4.35 33.33	0 0.00 0.00 0.00	5 6.10 10.87 71.43	2 2.44 4.35 50.00	2 2.44 4.35 100.00	2 2.44 4.35 66.67	0 0.00 0.00 0.00	1 1.22 2.17 33.33	0 0.00 0.00 0.00	5 6.10 10.87 55.56	3 3.66 6.52 50.00	0 0.00 0.00 0.00	46 56.10
Total f %	6 7.32	2 2.44	7 8.54	4 4.88	2 2.44	3 3.66	2 2.44	3 3.66	1 1.22	9 10.98	6 7.32	1 1.22	82 100.00

SEX

Frequency Percent Row Pct Col Pct	SADNESS	UNCER- TAINTY	FRUSTRA- TION	JEALOUSY	ANXIETY	FEAR	DESPAIR	SHOCK	DISBE- LIEF	STRESS	DEPRES- SION	Total
MALE	1 1.22 2.78 16.67	5 6.10 13.89 50.00	2 2.44 5.56 33.33	0 0.00 0.00 0.00	1 1.22 2.78 20.00	1 1.22 2.78 100.00	1 1.22 2.78 33.33	1 1.22 2.78 100.00	0 0.00 0.00 0.00	0 0.00 0.00 0.00	0 0.00 0.00 0.00	36 43.90
FEMALE	5 6.10 10.87 83.33	5 6.10 10.87 50.00	4 4.88 8.70 66.67	1 1.22 2.17 100.00	4 4.38 8.70 80.00	0 0.00 0.00 0.00	2 2.44 4.35 66.67	0 0.00 0.00 0.00	1 1.22 2.17 100.00	1 1.22 2.17 100.00	1 1.22 2.17 100.00	46 56.10
Total f %	6 7.32	10 12.20	6 7.32	1 1.22	5 6.10	1 1.22	3 3.66	1 1.22	1 1.22	1 1.22	1 1.22	82 100.00

The feelings which were experienced most before the preparation session are shown by the responses in the above table:

- Uncertainty - 12.20% (10 responses).
- Disappointment - 10.98% (9 responses).
- Hope - 8.54% (7 responses).
- Excitement, helplessness, sadness and frustration - 7.32% (6 responses) respectively.

These feelings could most probably be linked to the diagnosis which was made prior to the preparation session, causing mostly negative feelings. The hope and excitement can most probably be attributed to the preparation session which was lying ahead.

* **Feelings experienced during preparation session**

Respondents could select any 4 of the 30 feelings provided, which they had experienced during the preparation session. A total of 17 different feelings was experienced during the

preparation session as shown in Table 4:

TABLE 4: FEELINGS DURING PREPARATION SESSION

SEX		EXCITE- MENT	HAPPI- NESS	HOPE	ENTHU- SIASM	AMBIVA- LENCE	GUILT	DIS- APPOINT- MENT	HELP- LESS- NESS	UNCON- CERNED	Total
Frequency	Percent										
Row Pct	Col Pct										
MALE		4	1	4	2	2	0	1	1	0	23
		7.27	1.82	7.27	3.64	3.64	0.00	1.82	1.82	0.00	41.82
		17.39	4.35	17.39	8.70	8.70	0.00	4.35	4.35	0.00	
		57.14	50.00	50.00	50.00	66.67	0.00	50.00	33.33	0.00	
FEMALE		3	1	4	2	1	1	1	2	1	32
		5.45	1.82	7.27	3.64	1.82	1.82	1.82	3.64	1.82	58.18
		9.38	3.13	12.50	6.25	3.13	3.13	3.13	6.25	3.13	
		42.86	50.00	50.00	50.00	33.33	100.00	50.00	66.67	100.00	
Total f		7	2	8	4	3	1	2	3	1	55
%		12.73	3.64	14.55	7.27	5.45	1.82	3.64	5.45	1.82	100.00

SEX		SADNESS	UNCER- TAINTY	FRUSTRA- TION	ANXIETY	DESPAIR	SHOCK	BEWILD- ERMENT	STRESS	Total
Frequency	Percent									
Row Pct	Col Pct									
MALE		0	3	0	2	1	0	1	1	23
		0.00	5.45	0.00	3.64	1.82	0.00	1.82	1.82	41.82
		0.00	13.04	0.00	8.70	4.35	0.00	4.35	4.35	
		0.00	37.50	0.00	66.67	33.33	0.00	50.00	33.33	
FEMALE		1	5	3	1	2	1	1	2	32
		1.82	9.09	5.45	1.82	3.64	1.82	1.82	3.64	58.18
		3.13	15.63	9.38	3.13	6.25	3.13	3.13	6.25	
		100.00	62.50	100.00	33.33	66.67	100.00	50.00	66.67	
Total f		1	8	3	3	3	1	2	3	55
%		1.82	14.55	5.45	5.45	5.45	1.82	3.64	5.45	100.00

The feelings which were experienced most during the session are shown by the responses in the above table:

- Hope - 14.55% (8 responses).
- Uncertainty - 14.55% (8 responses).
- Excitement - 12.73% (7 responses).
- Enthusiasm - 7.27% (4 responses).

Thus the feelings which were experienced most during the preparation session were mainly positive, indicating that the session was experienced positively by most of the respondents. The uncertainty which was experienced could most probably be attributed to the new information provided during the session, causing feelings of uncertainty regarding the procedure.

*** Feelings experienced after preparation session**

Respondents could select any 4 of the 30 feelings provided which they had experienced after the preparation session. A total of

20 different feelings was experienced after the preparation session as shown in Table 5:

TABLE 5: FEELINGS AFTER PREPARATION SESSION

SEX

Frequency Percent Row Pct Col Pct	EXCITE- MENT	HAPPI- NESS	HOPE	ENTHU- SIASM	SUSPI- CION	AMBIVA- LENCE	GUILT	SHYNESS	DIS- APPOINT- MENT	HELP- LESS- NESS	Total
MALE	4 5.97 13.79 44.44	2 2.99 6.90 66.67	3 4.48 10.34 37.50	2 2.99 6.90 50.00	0 0.00 0.00 0.00	3 4.48 10.34 50.00	0 0.00 0.00 0.00	1 1.49 3.45 100.00	1 1.49 3.45 50.00	1 1.49 3.45 20.00	29 43.28
FEMALE	5 7.46 13.16 55.56	1 1.49 2.63 33.33	5 7.46 13.16 62.50	2 2.99 5.26 50.00	1 1.49 2.63 100.00	3 4.48 7.89 50.00	1 1.49 2.63 100.00	0 0.00 0.00 0.00	1 1.49 2.63 50.00	4 5.97 10.53 80.00	38 56.72
Total f %	9 13.43	3 4.48	8 11.94	4 5.97	1 1.49	6 8.96	1 1.49	1 1.49	2 2.99	5 7.46	67 100.00

SEX

Frequency Percent Row Pct Col Pct	EXPOSURE	SADNESS	UNCER- TAINTY	FRUSTRA- TION	ANXIETY	FEAR	DESPAIR	BEWILD- ERMENT	STRESS	DEPRES- SION	Total
MALE	0 0.00 0.00 0.00	3 4.48 10.34 60.00	3 4.48 10.34 100.00	1 1.49 3.45 20.00	1 1.49 3.45 25.00	1 1.49 3.45 50.00	1 1.49 3.45 50.00	1 1.49 3.45 50.00	1 1.49 3.45 50.00	0 0.00 0.00 0.00	29 43.28
FEMALE	1 1.49 2.63 100.00	2 2.99 5.26 40.00	0 0.00 0.00 0.00	4 5.97 10.53 80.00	3 4.48 7.89 75.00	1 1.49 2.63 50.00	1 1.49 2.63 50.00	1 1.49 2.63 50.00	1 1.49 2.63 50.00	1 1.49 2.63 100.00	38 56.72
Total f %	1 1.49	5 7.46	3 4.48	5 7.46	4 5.97	2 2.99	2 2.99	2 2.99	2 2.99	1 1.49	67 100.00

The feelings which were experienced the most after the session are shown by the responses in the above table:

- Excitement - 13.43% (9 responses).
- Hope - 11.94% (8 responses).
- Ambivalence - 8.96% (6 responses).
- Helplessness, sadness and frustration 7.46% (5 responses) respectively.

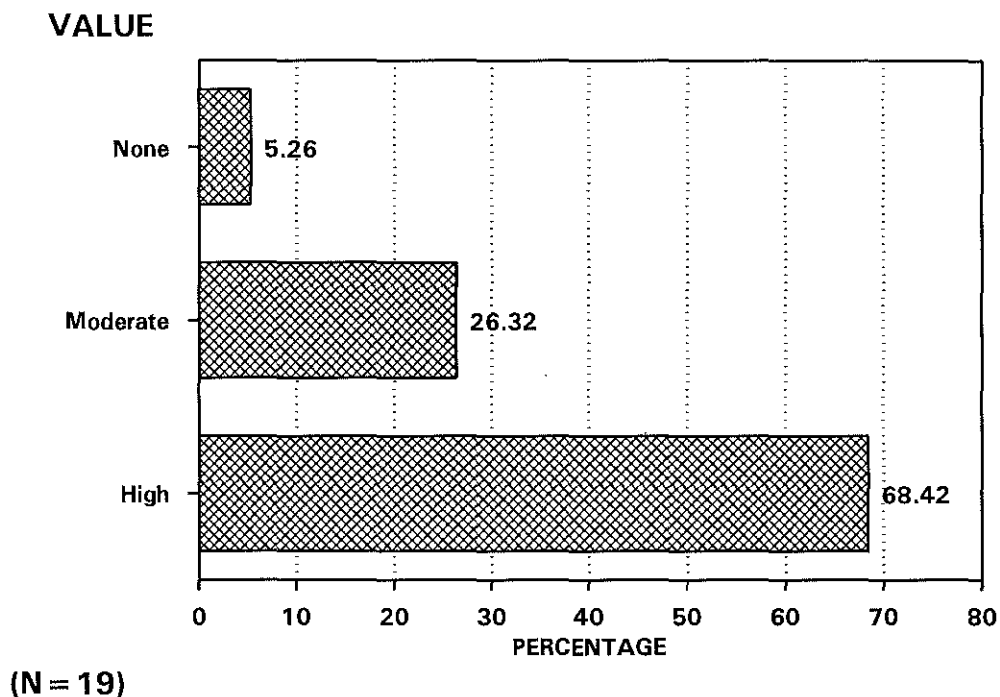
Thus the majority of respondents experienced positive feelings after the preparation session, as they were looking forward to the treatment which would give them a chance of experiencing a pregnancy and having a child. The ambivalent and negative feelings experienced by the respondents could most probably be ascribed to their uncertainty whether they should go ahead with this treatment or not, after having increased knowledge and a more realistic viewpoint.

Thus the feelings experienced throughout the preparation session were mainly positive, with some feelings of uncertainty, ambivalence, helplessness and frustration, which was most probably linked to all the information acquired and the decision which had to be made.

7.3.3.2 Value of preparation session

The aim of this question was to determine how the respondents rated the value of the preparation session on the long-term, as reflected in Figure 73:

FIGURE 73: VALUE OF PREPARATION SESSION



The following is shown in the above figure:

- * 68.42% (13 respondents) rated the value of the preparation session as high (8 males and 5 females).
- * 26.32% (5 respondents) rated the value as moderate (1 male and 4 females).
- * 5.26% (1 male respondent) rated the session of no value.

Thus the majority of respondents gave the session a high value rating, on the long-term. It is interesting that most of these were males. This could most probably be ascribed to the fact that this was the first time they had heard all the facts about this treatment, as the wives would have painted a more positive picture to try and

persuade them to go ahead with treatment. The rest of the respondents rated the value of the session as moderate. Most of these were females and this could most probably be attributed to their having gained a more realistic, eye-opening picture or having had more prior knowledge than the men. Only 1 male found the session of no value. This respondent was a paraplegic and this was the only way he could have children, thus the issues on the donor and secrecy were of no value to his situation, as it was common knowledge and their only option. This on the long-term, the preparation session was rated to be of high value by the majority of respondents.

7.3.3.3 Value of contents of preparation session

The aim of this section was to determine the long-term value which respondents linked to each of the aspects discussed with them during the preparation session. The respondents had to rate each aspect, i.e. medical, legal, religious, ethical-moral and psycho-social aspects, by indicating the value of each aspect. They rated the aspects as shown in Table 6 below:

TABLE 6: VALUE OF ASPECTS DISCUSSED IN SESSION

ASPECTS DISCUSSED DURING PREPARATION SESSION	NO VALUE		MODERATE VALUE		HIGH VALUE		TOTAL	
	f	%	f	%	f	%	N	%
Medical aspects	(1)	06.25	(5)	31.25	(10)	62.50	(16)	100%
Legal aspects	(2)	11.11	(3)	16.67	(13)	72.22	(18)	100%
Religious aspects	(2)	11.11	(5)	27.78	(11)	61.11	(18)	100%
Ethical-moral aspects	(4)	22.22	(5)	27.78	(9)	50.00	(18)	100%
Psycho-social aspects	(2)	10.53	(3)	15.79	(14)	73.68	(19)	100%

Table 6 reflects the following:

- * 62.50% (10 respondents) rated the **medical aspects** to have had a high value, 31.25% (5 respondents) rated the medical aspects to have had a moderate value, while only 6.25% (1 respondent) found it of no value. The average rating (\bar{x}) for the discussion on the medical aspects was $\bar{x} = 2.563$
- * 72.22% (13 respondents) rated the **legal aspects** to have had a high value, 16.67% (3 respondents) rated the legal aspects to have had a moderate value, while 11.11% (2 respondents) found it of no value. One respondent did not rate the value of this

aspect. The average rating (\bar{x}) for the discussion on the legal aspects was $\bar{x} = 2.611$

- * 61.11% (11 respondents) rated the religious aspects to have had a high value, 27.78% (5 respondents) rated these aspects to have had a moderate value, while 11.11% (2 respondents) found it of no value. One respondent did not rate the value of this aspect. The average rating (\bar{x}) for the discussion on the religious aspects was $\bar{x} = 2.50$
- * 50.00% (9 respondents) rated the ethical-moral aspects to have had a high value, 27.78% (5 respondents) rated these aspects to have had a moderate value, while 22.22% (4 respondents) found it of no value. One respondent did not rate the value of this aspect. The average rating (\bar{x}) for the discussion on the ethical-moral aspects was $\bar{x} = 2.278$
- * 73.68% (14 respondents) found the psycho-social aspects to have had a high value, 15.79% (3 respondents) found these aspects to have had a moderate value, while 10.53% (2 respondents) found it of no value. The average rating (\bar{x}) for the discussion on the psycho-social aspects was $\bar{x} = 2.632$

Thus in ranking order from the largest to the smallest value (as 3 is the highest value) according to these means averages (\bar{x}), these aspects were rated in the following order: psycho-social aspects, legal aspects, medical aspects, religious aspects and ethical-moral aspects.

These respondents thus found the psycho-social aspects discussed in the preparation session to have had the highest value, followed by the legal aspects. Furthermore the medical aspects were of value, followed by the religious and ethical-moral aspects. The importance of especially the psycho-social and legal aspects in the preparation of these couples is thus accentuated by these findings. These aspects, are often overlooked by the gynaecologists, as they do not have the time to discuss anything besides the medical aspects with these couples. The literature also confirms the importance of including these aspects in the preparation. (Compare Mahlstedt, 1994:557-567; Ledward *et al.*, 1982:274; Mahlstedt & Greenfeld, 1989:909 and Kovacs *et al.*, 1988:355.) The necessity of these couples undergoing a thorough preparation session including all these aspects, is therefore accentuated by these findings.

7.3.3.4 Value of the psycho-social aspects

The aim of this section was to determine the long-term value of all the psycho-social aspects specifically, this being a social work study. These values are reflected in table 7:

TABLE 7: VALUE OF THE PSYCHO-SOCIAL ASPECTS

ASPECTS DISCUSSED DURING PREPARATION SESSION	NO VALUE		MODERATE VALUE		HIGH VALUE		TOTAL	
	f	%	f	%	f	%	N	%
Self	(4)	21.05	(2)	10.53	(13)	68.42	(19)	100%
Spouse	(1)	05.26	(2)	10.53	(16)	84.21	(19)	100%
Marital relationship	(1)	05.26	(3)	15.79	(15)	78.95	(19)	100%
Work	(4)	21.05	(7)	36.84	(8)	42.11	(19)	100%
Finances	(4)	21.05	(7)	36.84	(8)	42.11	(19)	100%
Religion	(4)	21.05	(3)	15.79	(12)	63.16	(19)	100%
Social life	(4)	21.05	(4)	21.05	(11)	57.89	(19)	100%
Family	(3)	16.67	(5)	27.78	(10)	55.56	(18)	100%
Friends	(4)	22.22	(7)	38.89	(7)	38.89	(18)	100%
Pregnancy	-		(5)	29.41	(12)	70.59	(17)	100%
Secrecy	(3)	17.65	(3)	17.65	(11)	64.71	(17)	100%
The child	-		(2)	11.76	(15)	88.24	(17)	100%

The following can be highlighted from the above table:

- * 68.42% (13 respondents) rated the discussion on the **influence on the self** to have had a high value. The mean or average rating (\bar{x}) for the discussion on the psycho-social implications for the self was $\bar{x} = 2.474$
- * 84.21% (16 respondents) rated the discussion on the **influence on the spouse** to have had a high value. The average rating (\bar{x}) for the discussion on the psycho-social implications on the spouse was $\bar{x} = 2.790$
- * 78.95% (15 respondents) rated the discussion on the **influence on the marital relationship** to have had a high value. The average rating (\bar{x}) for the discussion on the psycho-social implications on the marital relationship was $\bar{x} = 2.737$
- * 42.11% (8 respondents) rated the discussion on the **influence on the work** to have had a high value. The average rating (\bar{x}) for the discussion on the psycho-social implications on work was $\bar{x} = 2.211$

- * 42.11% (8 respondents) rated the discussion on the **influence on the finances** to have had a high value. The average rating (\bar{x}) for the discussion on the psycho-social implications on finances was $\bar{x} = 2.211$, the same as for work as they are directly related.
- * 63.16% (12 respondents) rated the discussion on the **influence on religion** to have had a high value. The average rating (\bar{x}) for the discussion on the psycho-social implications on religion was $\bar{x} = 2.421$
- * 57.89% (11 respondents) rated the discussion on the **influence on the social life** to have had a high value. The average rating (\bar{x}) for the discussion on the psycho-social implications on social life was $\bar{x} = 2.368$
- * 55.56% (10 respondents) rated the discussion on the **influence on the family** to have had a high value. The average rating (\bar{x}) for the discussion on the psycho-social implications on the family was $\bar{x} = 2.389$
- * 38.89% (7 respondents) rated the discussion on the **influence on friends** to have had a high value. The average rating (\bar{x}) for the discussion on the psycho-social implications on the friends was $\bar{x} = 2.167$
- * 70.59% (12 respondents) rated the discussion on the **experience of the pregnancy** to have had a high value. The average rating (\bar{x}) for the discussion on the psycho-social implications on the pregnancy was $\bar{x} = 2.706$
- * 64.71% (11 respondents) rated the discussion on the **influence of secrecy** to have had a high value. The average rating (\bar{x}) for the discussion on the psycho-social implications on the secrecy was $\bar{x} = 2.471$
- * 88.24% (15 respondents) rated the discussion on **influence on the child** to have had a high value. The average rating (\bar{x}) for the discussion on the psycho-social implications on the child was $\bar{x} = 2.882$

Thus it is evident that the majority of respondents rated most of the psycho-social aspects to have had a high value on the long-term. The most prominent aspects which respondents rated to have had the highest value can be seen by the mean averages (\bar{x}) as shown above. When ranked from largest to smallest value (as 3 is the highest value), these respondents firstly rated the discussions on the psycho-social influence on the child to have had the highest value,

followed by the psycho-social influence on the spouse, the marital relationship and pregnancy. Thereafter the psycho-social influence on the self, secrecy, their religion and their social life and family was rated of further importance. These findings stress the importance of discussing the psycho-social aspects in-depth with these couples during preparation, to prepare them for these possible psycho-social implications of artificial fertilization with donor gametes.

7.3.3.5 Influence of preparation session

The aim of this section was to determine whether the preparation session had any influence on the respondents regarding their decision about artificial fertilization with donor gametes. They could choose any three influences. The findings are reflected in Table 8:

TABLE 8: INFLUENCE OF PREPARATION SESSION

SEX		CREATED DOUBTS	MIXED FEELINGS	DECIDED AGAINST	REVEALED NEW ASPECTS	SHOULD RECONSIDER	THOROUGH IMAGE	MORE REALISTIC	DECIDED TO GO ON	MORE CONFIDENT	Total
Frequency	Percent										
Row Pct	Col Pct										
MALE		2 3.45 6.67 66.67	2 3.45 6.67 66.67	4 6.90 13.33 57.14	4 6.90 13.33 50.00	0 0.00 0.00 0.00	5 8.62 16.67 55.56	4 6.90 13.33 40.00	6 10.34 20.00 60.00	3 5.17 10.00 50.00	30 51.72
FEMALE		1 1.72 3.57 33.33	1 1.72 3.57 33.33	3 5.17 10.71 42.86	4 6.90 14.29 50.00	2 3.45 7.14 100.00	4 6.90 14.29 44.44	6 10.34 21.43 60.00	4 6.90 14.29 40.00	3 5.17 10.71 50.00	28 48.28
Total	f %	3 5.17	3 5.17	7 12.07	8 13.79	2 3.45	9 15.52	10 17.24	10 17.24	6 10.34	58 100.00

The following responses as shown in Table 8 are provided in order of priority:

- * 17.24% (10 responses) - Made you think more realistically about donor treatment.
- * 17.24% (10 responses) - Helped you make your decision to go on with donor treatment.
- * 15.52% (9 responses) - Gave a more thorough image of donor treatment.

- * 13.79% (8 responses) - Revealed new aspects regarding donor treatment not previously considered.
- * 12.07% (7 responses) - Helped you decide against donor treatment.
- * 10.34% (6 responses) - Made you feel more confident about donor treatment.
- * 5.17% (3 responses) - Created doubts about donor infertility treatment.
- * 5.17% (3 responses) - Evoked mixed feelings regarding treatment.
- * 3.45% (2 responses) - Made you feel you should reconsider.

Thus it seems from the above-mentioned findings as if the preparation session had a positive effect on the respondents, as it made them more realistic and informative about the treatment and helped them in their decision-making process.

7.3.3.6 Necessity of preparation session

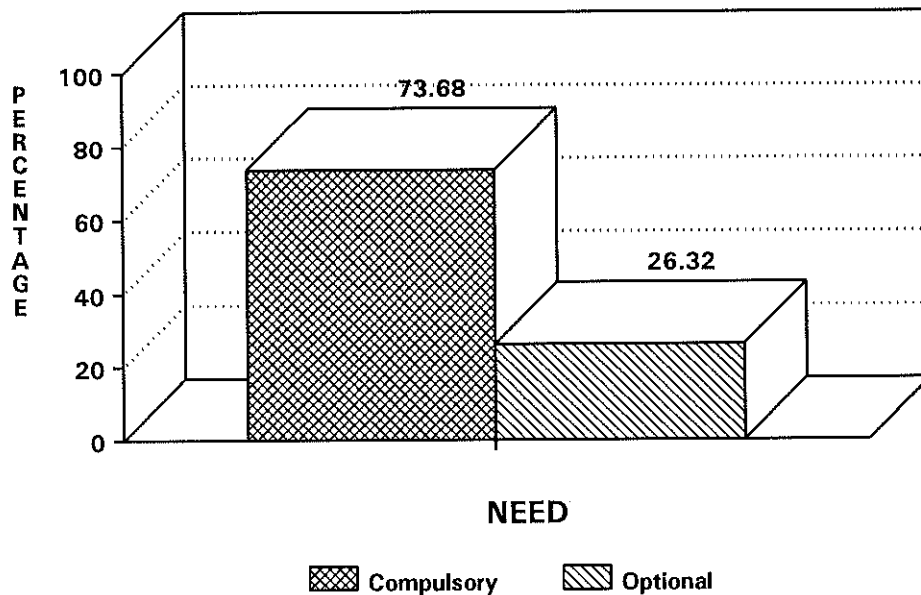
The aim of this question was to determine the necessity of the preparation session for the respondents. Of the respondents, 100% (10 males and 9 females) confirmed that it is definitely necessary to undergo a preparation session for donor infertility treatment.

Their motivations included the following:

- * To inform you on all the aspects involved so that you can make an informed decision.
- * To answer the questions that are bothering you.
- * To help you understand and be more positive.
- * To provide you with more certainty and clarification.
- * It provides valuable information.
- * Helps you to see the pros and cons of this treatment.
- * Guides you in your decision-making process and to evaluate the situation.
- * Ensures that both husband and wife discuss all the issues involved and are more committed.

Thus the necessity of a preparation session is evident from the above. Respondents were furthermore asked whether a preparation session for couples should be: compulsory; optional; or is unnecessary as shown in Figure 74 below:

FIGURE 74: NEED FOR PREPARATION SESSION



(N = 19)

The following as shown in the above figure was found:

- * 73.68% (14 respondents, i.e. 7 males and 7 females) felt it was compulsory to undergo a preparation session.
- * 26.32% (5 respondents, i.e. 3 males and 2 females) felt it should be optional.

Thus the majority felt a preparation session should be compulsory and not one respondent thought it is unnecessary. Thus the need for preparation is confirmed.

7.3.4 Psycho-social data

The aim of this section of the questionnaire was to explore the psycho-social aspects and implications of artificial fertilization with donor gametes.

7.3.4.1 Motives for artificial fertilization with donor gametes

The aim of this section was to determine what the motives of all the respondents were for wanting a child by means of artificial fertilization with donor gametes. They could select any 5 motives which were most important. Twenty-six different possible motives were provided of which a total of 20 were chosen by the respondents as shown in Table 9 below:

TABLE 9: MOTIVES FOR DONOR TREATMENT

SEX

Frequency Percent Row Pct Col Pct	BIOLOGI- CAL INSTINCT	SOCIAL PRESSURE	MUST HAVE A CHILD	INFER- TILITY A SECRET	PREGNAN- CY AND BIRTH	NEED FOR THEIR	ACCEPT CHILD AS OWN	DO NOT WANT TO ADOPT	NOT SELECTED	CHILD 50 % OURS	Total
MALE	3 3.26 6.12 33.33	1 1.09 2.04 100.00	2 2.17 4.08 66.67	1 1.09 2.04 50.00	2 2.17 4.08 25.00	2 2.17 4.08 66.67	6 6.52 12.24 60.00	1 1.09 2.04 33.33	2 2.17 4.08 100.00	2 2.17 4.08 25.00	49 53.26
FEMALE	6 6.52 13.95 66.67	0 0.00 0.00 0.00	1 1.09 2.33 33.33	1 1.09 2.33 50.00	6 6.52 13.95 75.00	1 1.09 2.33 33.33	4 4.35 9.30 40.00	2 2.17 4.65 66.67	0 0.00 0.00 0.00	6 6.52 13.95 75.00	43 46.74
Total f %	9 9.78	1 1.09	3 3.26	2 2.17	8 8.70	3 3.26	10 10.87	3 3.26	2 2.17	8 8.70	92 100.00

SEX

Frequency Percent Row Pct Col Pct	DESIRE CHILD	SPOUSE WANTS CHILD	FAMILY NAME	USELESS WITHOUT CHILD	HAPPY MARRIAGE	PRESSURE FROM PARENTS	PRESSURE FROM FAMILY	PRESSURE FROM FRIENDS	BE GOOD PARENTS	LIFE IN- COMPLETE	Total
MALE	7 7.61 14.29 50.00	3 3.26 6.12 100.00	1 1.09 2.04 100.00	0 0.00 0.00 0.00	3 3.26 6.12 100.00	1 1.09 2.04 50.00	2 2.17 4.08 66.67	2 2.17 4.08 100.00	5 5.43 10.20 71.43	3 3.26 6.12 42.86	49 53.26
FEMALE	7 7.61 16.28 50.00	0 0.00 0.00 0.00	0 0.00 0.00 0.00	1 1.09 2.33 100.00	0 0.00 0.00 0.00	1 1.09 2.33 50.00	1 1.09 2.33 33.33	0 0.00 0.00 0.00	2 2.17 4.65 28.57	4 4.35 9.30 57.14	43 46.74
Total f %	14 15.22	3 3.26	1 1.09	1 1.09	3 3.26	2 2.17	3 3.26	2 2.17	7 7.61	7 7.61	92 100.00

The following responses can be deduced from the above table:

- * 15.22% (14 responses) (7 males and 7 females) reported a strong desire for a child.
- * 10.87% (10 responses) (6 males and 4 females) - that the child will be accepted as their own.
- * 9.78% (9 responses) (3 males and 6 females) - that it was due to their biological instinct and determination.
- * 8.70% (8 responses) (2 males and 6 females) - that they want to experience pregnancy and birth.
- * 8.70% (8 responses) (2 males and 6 females) - that the child would be 50% blood related.
- * 7.61% (7 responses) (5 males and 2 females) - that they will be good parents.

* 7.61% (7 responses) (3 males and 4 females) - that life was incomplete without a child.

Thus the majority of responses show a strong need for a child and that this child would be accepted as if it were their own.

Most of these motives correspond well with those in the literature. Van Delft (1983:35-55) also describes "Biological determination and instinct" as a motive, as well as a strong desire for a child and wanting to experience pregnancy and birth, which he refers to as: "The child-parent wish as a function of socio-cultural realities and relevant pregnancy and parental expectations." Brand & Saayman (1986:64-72) refer to these motives as the essentialness of parenthood. The motives: to experience pregnancy and childbirth, the child will be 50% blood related and the child will be accepted as our own are all major motives for artificial fertilization with donor gametes. (Compare Herrmann *et al.*, 1984:719; Brand & Saayman, 1986:67-68 and Van Delft, 1983:59-65.)

7.3.4.2 Psycho-social implications of successful artificial fertilization with donor gametes

The aim of this section was to determine the psycho-social influence of successful artificial fertilization with donor gametes on respondents. The aim was furthermore to explore the psycho-social influences during the different stages of treatment. Only 7 respondents fell into this category of having had successful artificial fertilization with donor gametes and could complete this section of the questionnaire.

* Feelings experienced

The aim of this section was to explore the feelings experienced throughout treatment. The 7 respondents had to indicate any 3 feelings experienced during each stage of treatment. Thus in this section responses instead of respondents will be referred to.

The feelings which were experienced throughout treatment are shown in the Table 10 below:

TABLE 10: FEELINGS EXPERIENCED THROUGHOUT TREATMENT

	FEELINGS	BEFORE TREATMENT		DURING TREATMENT		AFTER PREGNANCY TEST RESULTS		DURING PREGNANCY		AFTER BIRTH OF CHILD		PRESENTLY	
		f	%	f	%	f	%	f	%	f	%	f	%
1	Excitement	(4)	18.18	(3)	15.79	(5)	33.33	(6)	37.50	(5)	33.33	(4)	25.00
2	Happiness	(2)	9.09	(2)	10.53	(4)	26.67	(4)	25.00	(5)	33.33	(4)	25.00
3	Hope	(2)	09.09	(3)	15.79	(1)	06.67	(1)	06.25	-	-	(1)	06.25
4	Enthusiasm	(2)	09.09	(2)	10.53	(1)	06.67	(1)	06.25	(2)	13.13	(1)	06.25
5	Suspicion	-	-	-	-	-	-	-	-	-	-	-	-
6	Ambivalent feelings	(3)	13.64	-	-	-	-	-	-	-	-	-	-
7	Guilt	-	-	-	-	-	-	-	-	-	-	-	-
8	Shyness	-	-	-	-	-	-	-	-	-	-	-	-
9	Humiliation	-	-	(1)	05.26	-	-	-	-	-	-	-	-
10	Blame	-	-	-	-	-	-	-	-	-	-	-	-
11	Disappointment	-	-	-	-	-	-	-	-	-	-	-	-
12	Helplessness	(2)	09.09	(1)	05.26	(1)	06.67	(1)	06.25	(1)	06.67	(1)	06.25
13	Rejection	-	-	-	-	(1)	06.67	-	-	-	-	-	-
14	Unconcerned	-	-	-	-	-	-	-	-	-	-	-	-
15	Exposure	-	-	-	-	-	-	-	-	-	-	-	-
16	Sadness	(1)	04.55	(1)	05.26	-	-	-	-	-	-	-	-
17	Uncertainty	(2)	09.09	(1)	05.26	-	-	(1)	06.25	-	-	-	-
18	Frustration	(1)	04.55	-	-	-	-	-	-	-	-	-	-
19	Aggression	-	-	-	-	-	-	-	-	-	-	-	-
20	Jealousy	-	-	(1)	05.26	-	-	-	-	-	-	-	-
21	Anxiety	(1)	04.55	(1)	05.26	(1)	06.67	(1)	06.25	(1)	06.67	(1)	06.25
22	Fear	-	-	(1)	05.26	-	-	(1)	06.25	-	-	-	-
23	Despair	-	-	-	-	-	-	-	-	-	-	-	-
24	Shock	-	-	-	-	-	-	-	-	-	-	-	-
25	Bewilderment	-	-	-	-	-	-	-	-	-	-	-	-
26	Disbelief	-	-	-	-	(1)	06.67	-	-	-	-	-	-
27	Stress	(1)	04.55	(1)	05.26	-	-	-	-	-	-	(2)	12.50
28	Depression	-	-	-	-	-	-	-	-	-	-	(1)	06.25
29	Isolation	(1)	04.55	(1)	05.26	-	-	-	-	(1)	06.67	(1)	06.25
30	Other	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL		100%		100%		100%		100%		100%		100%	
N		N = 22		N = 19		N = 15		N = 16		N = 15		N = 16	

- Feelings experienced before treatment

The following can be deduced from the responses in the above Table 10:

- . Excitement - 18.18% (4 responses) (2 males and 2 females)
- . Ambivalence - 13.64% - (3 responses) (1 male and 2 females)
- . Happiness - 9.09% (2 responses) (1 male and 1 female)
- . Hope - 9.09% (2 responses) (2 females)
- . Enthusiasm - 9.09% (2 responses) (2 females)
- . Helplessness - 9.09% (2 responses) (1 male and 1 female)
- . Uncertainty - 9.09% (2 responses) (2 females)
- . The other feelings had only 1 response each, namely, sadness, frustration, anxiety, stress, isolation.
- . A total of 12 different feelings were experienced.

Thus it appears as if the majority of respondents experienced mostly positive feelings before the treatment, which is most probably due to the treatment lying ahead and their hopes of falling pregnant being high. The neutral and negative feelings could be ascribed to their natural fear, anxiety, uncertainty and mixed feelings regarding the unknown which was lying ahead. These feelings of uncertainty and anxiety by the minority of respondents are similar to those found by Beaurepaire *et al.* (1994:229-240), who reported these feelings in both husbands and wives regardless of the stage of treatment. Increased anxiety was also found by Poland *et al.* (1981:68) prior to treatment. Respondents in this study, however, experienced mainly positive feelings in this stage, contrary to the literature, which could be attributed to the optimism of these respondents.

- Feelings experienced during treatment

The following can be deduced from the responses in Table 10:

- . Excitement - 15.79% (3 responses) (2 males and 1 female).
- . Hope - 15.79% (3 responses) (3 females).
- . Happiness - 10.53% (2 responses) (1 male and 1 female).
- . Enthusiasm - 10.53% (2 responses) (1 male and 1 female).

The other feelings each only had 1 response, namely, humiliation, helplessness, sadness, uncertainty, jealousy, anxiety, fear, stress and isolation. A total of 13 different feelings was experienced.

Thus it is evident that the majority of respondents experienced positive feelings during treatment, which could most probably be ascribed to the excitement and hope of a possible pregnancy. The negative feelings experienced by individual respondents could most probably be linked to the stress of the actual treatment process. Similarly Zimmerman (1982:236) found the patients to describe their emotional reactions as disturbing during the actual insemination period. Reading *et al.* (1989:98-99) found increased levels of anxiety in the early stages of treatment. Respondents in this study, however, experienced mainly positive feelings during treatment, with only the minority experiencing negative feelings. The attitudes of these respondents were thus very positive, creating positive feelings.

- Feelings experienced after the pregnancy test results

The following can be deduced from the responses in Table 10:

- . Excitement - 33.33% (5 responses) (2 males and 3 females)
- . Happiness - 26.67% (4 responses) (1 male and 3 females)
- . The rest of the feelings only had 1 response each, namely, hope, enthusiasm, helplessness, rejection, anxiety and disbelief.
- . A total of 8 feelings was experienced.

The majority of feelings experienced was positive and could most probably be ascribed to the happiness with the results or possibly the expectations for the results. This corresponds well with the findings of Zimmerman (1982:236) who found positive feelings, as well as uneasiness at the beginning of the pregnancy.

- Feelings during the pregnancy

The following can be deduced from the responses in Table 10:

- . Excitement - 37.50% (6 responses) (3 males and 3 females)
- . Happiness - 25.00% (4 responses) (1 male and 3 females)
- . The rest of the feelings only had 1 response each, namely, hope, enthusiasm, helplessness, uncertainty, anxiety and fear.
- . A total of 6 feelings were experienced.

Thus the majority of respondents felt positive during the pregnancy, while a few had feelings of uncertainty, helplessness, anxiety and fear. This could most probably be ascribed to the pregnancy and the donor child to be born and the doubts they

had concerning their decision. Similarly, more positive feelings such as euphoria were also found by Zimmerman (1982:236), pride by David & Avidan (1976:531) and satisfaction by Rosenkvist (1981:143). Czyba & Chevret (1979:243), Menning (1982:162) and Sokoloff (1987:14) on the contrary, found couples experiencing mainly tension and anxiety during the pregnancy, which only the minority of respondents in this study experienced. Thus the respondents in this study experienced mainly positive emotions throughout the treatment process, which contradicts these literature findings. This could be related to the fact that these respondents were all well-prepared in the preparation session on all the possible implications and aspects involved and were thus better prepared to deal with the pregnancy.

- Feelings after the birth of the child

The following can be deduced from the responses in Table 10:

- . Excitement - 33.33% (5 responses) (2 males and 3 females)
- . Happiness - 33.33% (5 responses) (2 males and 3 females)
- . Enthusiasm - 13.33% (2 responses) (1 male and 1 female)
- . The rest of the feelings had only 1 response each, namely helplessness, anxiety and isolation.
- . A total of 6 different feelings was experienced.

Thus the majority of respondents felt positive after the birth of the child, while a few respondents felt helpless, anxious and isolated. This could possibly have been the parents whose child was born with an abnormality or could be attributed to respondents who were feeling anxious about people's reaction regarding the baby. These mainly positive feelings after the delivery were also found by Clayton & Kovacs (1982:338), Czyba & Chevret (1979:243) and Semenov et al. (1980:477). Sokoloff (1987:14) and Garner (1985:58S-59S) on the other hand, found mainly anxiety to be present after the birth, which is similar to the negative feelings of the minority of respondents in this study. Thus these findings correspond well with the literature.

- Feelings presently

The following can be deduced from the responses in Table 10:

- . Excitement - 25.00% (4 responses) (2 males and 2 females)
- . Happiness - 25.00% (4 responses) (1 male and 3 females)
- . Stress - 12.50% (2 responses) (1 male and 1 female)

- . The rest of the feelings had only 1 response each, namely, hope, enthusiasm, helplessness, anxiety, depression and isolation.

Thus the majority of respondents presently experienced positive feelings while the rest reported experiencing feelings such as stress, helplessness, depression and isolation. These feelings could possibly be as a result of the secrecy regarding their child which is creating these feelings, and having nobody but each other to turn to for support, could be stressful and very isolating.

Thus in general most respondents experienced positive feelings throughout all the stages of treatment, with the occurrence of some negative feelings as well, linked to their fear anxiety, helplessness, uncertainty, stress and mixed feelings regarding the unknown. These findings corresponded reasonably well with those in the literature as indicated in each stage. In other instances the findings contradicted the literature findings of mainly negative feelings, which could most probably be ascribed to the thorough preparation session couples underwent and their resultant improved preparedness.

* Thoughts experienced

The aim of this section was to explore the thoughts experienced by the 7 respondents throughout treatment. Respondents could select any 3 thoughts experienced during each stage of treatment, thus responses will be referred to instead of respondents. These findings are shown in Table 11 below:

TABLE 11: THOUGHTS EXPERIENCED THROUGHOUT TREATMENT

	THOUGHTS	BEFORE TREATMENT		DURING TREATMENT		AFTER PREGNANCY TEST RESULTS		DURING PREGNANCY		AFTER BIRTH OF CHILD		PRESENTLY	
		f	%	f	%	f	%	f	%	f	%	f	%
1	Am I acceptable to my spouse?	(3)	23.08	(1)	16.67	(1)	25.00	(1)	50.00	(1)	33.33	(2)	25.00
2	Is my spouse acceptable to me	-		-		-		-		-		(1)	12.50
3	Did I make the correct decision?	(1)	7.69	(2)	33.33	-		-		-		(1)	12.50

	THOUGHTS	BEFORE TREATMENT		DURING TREATMENT		AFTER PREGNANCY TEST RESULTS		DURING PREGNANCY		AFTER BIRTH OF CHILD		PRESENTLY	
		f	%	f	%	f	%	f	%	f	%	f	%
4	Did my spouse make the correct decision?	(1)	7.69	-	-	-	-	-	-	-	-	(1)	12.50
5	I feel superior	-	-	-	-	-	-	-	-	-	-	-	-
6	My spouse feels superior	-	-	-	-	(1)	25.00	-	-	-	-	-	-
7	I feel inferior	(1)	7.69	-	-	-	-	-	-	-	-	(1)	12.50
8	My spouse feels inferior	(1)	7.69	(1)	16.67	(1)	25.00	-	-	(1)	33.33	-	-
9	Am I a failure?	(1)	7.69	(1)	16.67	(1)	25.00	(1)	50.00	(1)	33.34	(2)	25.00
10	Is my spouse a failure?	-	-	-	-	-	-	-	-	-	-	-	-
11	Am I to blame?	(1)	7.69	-	-	-	-	-	-	-	-	-	-
12	Is my spouse to blame?	(2)	15.38	-	-	-	-	-	-	-	-	-	-
13	Am I incompetent?	-	-	-	-	-	-	-	-	-	-	-	-
14	Is my spouse incompetent?	-	-	-	-	-	-	-	-	-	-	-	-
15	Am I dirty within?	-	-	-	-	-	-	-	-	-	-	-	-
16	Is my spouse dirty within?	-	-	-	-	-	-	-	-	-	-	-	-
17	Have I sinned?	(1)	7.69	(1)	16.67	-	-	-	-	-	-	-	-
18	Has my spouse sinned?	-	-	-	-	-	-	-	-	-	-	-	-
19	Am I a complete man/woman?	(1)	7.69	-	-	-	-	-	-	-	-	-	-
20	Is my spouse a complete man/woman?	-	-	-	-	-	-	-	-	-	-	-	-
21	Other	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL		100%		100%		100%		100%		100%		100%	
N		N = 13		N = 6		N = 4		N = 2		N = 3		N = 8	

- Thoughts experienced before treatment

The following was deduced from the responses in the above table:

- 23.08% (3 responses) (2 males and 1 female) experienced the following thoughts before treatment as follows: "Am I acceptable to my spouse?"

- . 15.38 (2 responses) (2 females) - thoughts of whether their spouse was to blame.
 - . The other thoughts which were each experienced by one respondent (7.69%) was: "Did I make the correct decision? Did my spouse make the correct decision? I feel inferior. My spouse feels inferior. Am I a failure? Am I to blame? Is my spouse to blame? Have I sinned? Am I a complete woman?"
- These thoughts experienced by the respondents reflect first of all, as indicated by the majority of respondents, that they were unsure whether they were still acceptable to their spouses. This could most probably be attributed to feelings of inferiority or decreased self-worth and uncertainty of sexual identity, due to the infertility problem. More men than women also indicated this thought. The thoughts on whether the spouse was to blame reflected feelings of guilt and blame. The thoughts on whether the correct decision was made by themselves or their spouse indicate their uncertainty regarding their decision about the treatment which they were to undergo. The other thoughts experienced again reflect the feelings of inferiority, failure and guilt as well as blame regarding the infertility. These findings are similar to those reported by Wright *et al.* (1991:106-107) who found women prior to treatment reporting thoughts such as "I'll never get pregnant" and "The baby will be abnormal." These negative thoughts made these women reduce their activity levels and made them more vulnerable to depression. Thus these thoughts are reasonably similar to those negative thoughts found in this study related to listlessness, uncertainty and decreased feelings of self-worth.
- **Thoughts experienced during treatment**
- The following was deduced from the responses in Table 11:
- . 33.33% (2 responses) (1 male and 1 female) experienced the thought: "Did I make the correct decision?"
 - . The other thoughts were all experienced by one respondent each, (16.67%) namely: "Am I acceptable to my spouse? My spouse feels inferior. Am I a failure? Have I sinned?"
- These thoughts once again reflect that the majority of respon-

dents was still unsure whether they had done the correct thing, even when they were already busy with the treatment. The other thoughts once again reflected their feelings of inferiority, failure, guilt and shame while they were busy with the treatment.

- Thoughts experienced after the pregnancy test results

The following was interpreted from the responses in Table 11:

- . Each thought had 1 response only, namely 25.00% respectively: "Am I acceptable to my spouse? My spouse feels superior; My spouse feels inferior; Am I a failure?"

These thoughts are all very much linked to the feelings of inferiority, failure, guilt and uncertainty as a result of the infertility.

- Thoughts experienced during pregnancy

The following was deduced from the responses in Table 11:

- . 50.00% (1 male response) to the thought: "Am I acceptable to my spouse?"
- . 50.00% (1 male response) to the thought: "Am I a failure?"
- . No females reported having experienced any thoughts during this stage.

These findings again confirm the fact that the male respondents especially experienced thoughts related to inferiority and failure which was most probably enhanced by the fact that his wife was pregnant by a donor and not himself.

- Thoughts experienced after the birth

The following interpretations were made from the responses in Table 11:

- . 33.33% (1 male response) to the thought "Am I acceptable to my spouse?"
- . 33.33% (1 female response) to the thought "My spouse feels inferior."
- . 33.34% (1 male response) to the thought "Am I a failure?"

These findings once again show that these males were feeling unsure about themselves, inferior and a failure, while the female could probably sense this also and thought her husband was feeling inferior. The fact that a child was born with the help of a donor, most probably made these thoughts more intense.

- Thoughts experienced presently

Table 11 shows the following responses:

- . 25.00% (2 responses) (1 male and 1 female) experienced the thought: "Am I acceptable to my spouse?"
- . 25.00% (2 responses) (2 males) experienced the thought: "Am I a failure?"
- . 12.50% (1 response) respectively to the thoughts: "Is my spouse acceptable to me?" (1 male). "Did I make the correct decision?" (1 male). "Did my spouse make the correct decision?" (1 male). "I feel inferior" (1 female).

Thus it is interesting that even presently, now that the children are 5 to 6½ years old, these respondents still have feelings of uncertainty whether they are acceptable to their spouse or are a failure.

Thus it is interesting that artificial fertilization with donor gametes evoked mainly thoughts related to uncertainty about their decision and decreased self-worth, as well as some negative thoughts of the self and the spouse on the long-term. These respondents thus seemed to have constant negative thoughts of the treatment, themselves and their spouse on the long-term, which could most probably be attributed to the artificial nature of the conception and the use of an anonymous donor.

*** Influence on marital relationship**

The aim of this section was to determine the influence of artificial fertilization with donor gametes on the marital relationship in the different stages of treatment. The 7 respondents could indicate any 3 influences per stage. Thus responses will be referred to instead of respondents. Table 12 below represents the influence on the marital relationship throughout the treatment process.

TABLE 12: INFLUENCE ON MARITAL RELATIONSHIP THROUGHOUT TREATMENT

		BEFORE TREATMENT		DURING TREATMENT		AFTER PREGNANCY TEST RESULTS		DURING PREGNANCY		AFTER BIRTH OF CHILD		PRESENTLY	
		f	%	f	%	f	%	f	%	f	%	f	%
1	Strengthened your love for each other	(2)	18.18	(2)	22.22	(2)	22.22	(2)	12.50	(2)	20.00	(2)	11.11
2	Increased your mutual respect	(2)	18.18	(3)	33.33	(2)	22.22	(3)	18.75	(3)	30.00	(2)	11.11
3	Made you more affectionate towards each other	-	-	-	-	(1)	11.12	(1)	06.25	(1)	10.00	(2)	11.11
4	Brought you closer together	(2)	18.18	(3)	33.33	(2)	22.22	(2)	12.50	(2)	20.00	(4)	22.22
5	Improved your communication	-	-	-	-	-	-	-	-	-	-	-	-
6	Did more things together	-	-	-	-	-	-	(1)	06.25	-	-	(2)	11.11
7	Sexual relationship improved	(1)	09.09	(1)	11.12	(1)	11.11	(3)	18.75	(1)	10.00	(2)	11.11
8	Weakened your love for each other	(1)	09.09	-	-	-	-	-	-	-	-	-	-
9	Your mutual respect decreased	(1)	09.09	-	-	-	-	-	-	-	-	-	-
10	Made you less affectionate towards each other	-	-	-	-	-	-	-	-	-	-	-	-
11	Drove you apart	-	-	-	-	(1)	11.11	-	-	-	-	-	-
12	Communication deteriorated	-	-	-	-	-	-	-	-	-	-	-	-
13	Did fewer things together	-	-	-	-	-	-	-	-	-	-	-	-
14	Sexual relationship deteriorated	(1)	09.09	-	-	-	-	-	-	-	-	(1)	05.56
15	Quarrels increased	-	-	-	-	-	-	-	-	(1)	10.00	(2)	11.11
16	Blamed each other	-	-	-	-	-	-	-	-	-	-	-	-
17	Humiliated each other	-	-	-	-	-	-	-	-	-	-	-	-
18	Evoked feeling of jealousy	-	-	-	-	-	-	-	-	-	-	-	-
19	Evokes fantasies of the donor	-	-	-	-	-	-	(1)	06.25	-	-	-	-

		BEFORE TREATMENT		DURING TREATMENT		AFTER PREGNANCY TEST RESULTS		DURING PREGNANCY		AFTER BIRTH OF CHILD		PRESENTLY	
		f	%	f	%	f	%	f	%	f	%	f	%
20	Isolated your selves from friends	-		-		-		-		-		-	
21	Feared that people will find out about your secret	(1)	09.09	-		-		-		-		-	
22	Led to an extramarital affair by you	-		-		-		(1)	06.25	-		(1)	05.56
23	Led to an extramarital affair by your spouse	-		-		-		-		-		-	
24	Led to estrangement	-		-		-		(1)	06.25	-		-	
25	Led to divorce	-		-		-		(1)	06.25	-		-	
26	Other	-		-		-		-		-		-	
TOTAL %		100%		100%		100%		100%		100%		100%	
N		N = 11		N = 9		N = 9		N = 16		N = 10		N = 18	

- Influence on marital relationship before treatment

The following is deduced from the responses in Table 12:

- . 18.18% (2 male responses) indicated that their love for each other was strengthened before treatment.
- . 18.18% (1 male and 1 female response) indicated that their mutual respect had increased.
- . 18.18% (1 male and 1 female response) indicated that they were brought closer together.
- . 9.09% (1 male response) indicated that their sexual relationship had improved.
- . 9.09% (1 male response) respectively, indicated that their love for each other had weakened; their mutual respect had decreased; their sexual relationship had deteriorated.
- . 9.09% (1 female response) indicated that they feared that people would find out about their secret, which had an effect on their marriage.

Thus it seems as if the effect on the marital relationship before treatment was mainly positive, with only a few individual negative influences. This is understandable that every-

thing was still very positive as the reality of the treatment had not yet dawned on them. These findings are similar to those of Finegold (1976:90-102) who found no influence on the marriage at any stage whatsoever.

- Influence on marital relationship during treatment

The following is deduced from the responses in Table 12:

- . 33.33% (1 male and 2 female responses) indicated that their mutual respect had increased.
- . 33.33% (1 male and 2 female responses) indicated that they were brought closer together during treatment.
- . 22.22% (1 male and 1 female response) indicated that their love for each other had been strengthened.
- . 11.12% (1 male response) indicated that their sexual relationship had improved.

Thus 9 responses indicated only positive influences on the marriage during treatment. This corresponds well with the findings of D'Elicio *et al.* (1980:409) who found treatment to have no effect on the marital relationships of the couples involved, which he attributed to the fact that they were established in their relationships and had come to terms with their infertility prior to treatment. Cook (1993:31-40) and Humphrey & Humphrey (1987:214) similarly found no evidence to suggest any effect on the couple's marriage. Thus the findings of this study correspond well with the literature.

- Influence on the marital relationship after the pregnancy test results

The following is deduced from the responses in Table 12:

- . 22.22% (1 male and 1 female response) indicated that their love for each other was strengthened.
- . 22.22% (1 male and 1 female response) indicated that their mutual respect had increased.
- . 22.22% (1 male and 1 female response) indicated that they were brought closer together.
- . 11.12% (1 female response) indicated that they became more affectionate toward each other.
- . 11.11% (1 male response) indicated that their sexual relationship improved.
- . 11.11% (1 male response) indicated that they were driven apart after the pregnancy test results.

Thus the majority of responses indicated a positive influence on their marriage after the pregnancy test results, except for 1 male who indicated that this drove them apart. This male respondent was the one who separated from his wife at 3 months of the pregnancy and who got divorced when the baby was born. The literature also confirms mainly positive influences on the marital relationship. (Compare Klock *et al.*, 1993:477-484; Snowden & Mitchell, 1981:46 and Van Delft 1983:262-269.) Berger (1982:54) and Goebel & Lübke (1987:636) on the other hand, found similarly to the 1 respondent in this study, marital break-up and eventually divorce as a result of successful treatment. Thus these findings correspond well with those in the literature.

- Influence on marital relationship during the pregnancy

The following is deduced from the responses in Table 12:

- . 18.75% (2 male and 1 female responses) indicated that their mutual respect had increased.
- . 18.75% (2 male and 1 female responses) indicated that their sexual relationship improved.
- . 12.50% (1 male and 1 female response) indicated that their love for each other was strengthened.
- . 12.50% (1 male and 1 female response) indicated that they were brought closer together during this stage.
- . 6.25% (1 female response) indicated that they were more affectionate toward each other.
- . 6.25% (1 male response) indicated that they did more things together.
- . 6.25% (1 male response) respectively, indicated that fantasies of the donor were evoked; he had an extramarital affair with another woman during this stage; they became estranged and it led to their divorce.

These results are very similar to the findings reported in the literature. (Compare Clayton & Kovacs, 1982:338; Rosenkvist, 1981:143; Berger *et al.*, 1986:822 and Milsom & Bergman, 1982:127.) The fantasies experienced by 1 respondent in this study are also supported by the findings of Blaser *et al.* (1988:18) and the marital discord by Olshansky & Sammons (1985:52S). Thus the influence on the marriage during the pregnancy in this study corresponds reasonably well with that of

the literature.

- Influence on marital relationship after the birth of the child

The following is deduced from the responses in Table 12:

- . 30.00% (2 female and 1 male responses) indicated that their mutual respect for each other had increased.
- . 20.00% (1 male and 1 female response) felt their love for each other had strengthened.
- . 20.00% (1 male and 1 female response) indicated that they had been brought closer together.
- . 10.00% (1 female response) indicated respectively that they became more affectionate toward each other; and that their quarrels increased.
- . 10.00% (1 male response) indicated that the sexual relationship had improved.

Thus it seems as if the influence on the marriage after the birth of the child was mainly positive, which also corresponds well with the feelings experienced by these respondents and the happiness it brought them. These findings also correspond well with those in the literature. (Compare Czyba & Chevret, 1979:243; Mises & Bissery, 1980:477 and Nachtigall, 1993:1846-1849.) Thus these respondents, like those in other studies, were influenced positively in their marital relationship as a result of the birth of the child.

- Influence on the marital relationship presently

The following is deduced from the responses in Table 12:

- . 22.22% (2 male and 2 female responses) indicated that they were brought closer together.
- . 11.11% (2 male responses) indicated respectively that their love for each other was strengthened and that their mutual respect had increased.
- . 11.11% (2 female responses) indicated that they did more things together.
- . 11.11% (1 male and 1 female response) indicated respectively that they were more affectionate toward each other; that their sexual relationship had improved, and that their quarrels had increased.
- . 5.56% (1 male response) indicated respectively that their sexual relationship had deteriorated; and that he was presently having an extramarital affair.

Thus the majority of respondents indicated a positive influence on their marital relationship presently with improvements, with only a few indicating negative influences.

The influence on the marital relationship was mainly positive throughout the different stages with only a few negative influences indicated. These negative influences, that is, the deterioration of the sexual relationship following treatment on the long-term are also confirmed by David & Avidan (1976:531), Laffont & Edelmann (1994:85-92) and Tarlatzis *et al.* (1993:396-401). The mainly positive influences on the marriage are also supported by the literature. (Compare Kremer, 1982:40-43; Finegold, 1976:90-102; D'Elicio *et al.* 1980:409; Snowden & Mitchell, 1981:46; Zimmerman, 1982:235 and Van Delft, 1983:282.) Furthermore, some studies also support the above findings of positive improvements in the marital relationships on the long-term. (Compare Zimmerman, 1982:235; Amuzu *et al.*, 1990:903; Van Staden, 1989:185; Berger, 1980:557; Milsom & Bergman, 1982:127 and Berger *et al.*, 1986:822.) Thus it is evident that artificial fertilization with donor gametes had mainly positive influences on the marital relationship and on the long-term led to improvements or a strengthened marital relationship. This could also possibly be linked to the thorough preparation session they underwent and the fact that they knew what to expect. Only one respondent reported negatively, that it led to their separation and divorce.

*** Concerns**

The aim of this question was to determine the concerns the 7 respondents had throughout treatment as reflected in Table 13 below. Each respondent could indicate 3 concerns per stage of treatment and responses will thus be referred to instead of respondents.

TABLE 13: CONCERNS THROUGHOUT TREATMENT

	CONCERNS	BEFORE TREATMENT		DURING TREATMENT		AFTER PREGNANCY TEST RESULTS		DURING PREGNANCY		AFTER THE BIRTH OF THE CHILD	
		f	%	f	%	f	%	f	%	f	%
1	Threatening miscarriage	(1)	07.69	(1)	12.50	(3)	37.50	(4)	18.18	(1)	03.85
2	Complicated pregnancy	(1)	07.69	-	-	-	-	(2)	09.09	-	-
3	Difficult birth	-	-	-	-	-	-	-	-	(1)	03.85
4	Stillbirth	(1)	07.69	-	-	-	-	-	-	-	-
5	Abnormalities in the baby	(1)	07.69	(1)	12.50	-	-	(1)	04.55	(1)	03.85
6	Premature baby	-	-	-	-	-	-	(1)	04.55	(1)	03.85
7	Physical appearance of the baby	(2)	15.38	-	-	-	-	(2)	09.09	-	-
8	Personality resemblance of the child	(1)	07.69	-	-	-	-	(1)	04.55	-	-
9	Overall disappointment in the baby	-	-	-	-	-	-	-	-	(1)	03.85
10	Genetic history of the baby	-	-	-	-	-	-	-	-	-	-
11	Health of the baby	(1)	07.69	-	-	-	-	(2)	09.09	(3)	11.54
12	Difficulty in bonding with the baby	-	-	-	-	-	-	-	-	-	-
13	Your ability to love the baby	-	-	(1)	12.50	(1)	12.50	(1)	04.55	(2)	07.69
14	Your spouse's ability to love the baby	-	-	-	-	-	-	(1)	04.55	(1)	03.85
15	Your ability to accept the baby as your own	-	-	-	-	-	-	-	-	-	-
16	Your spouse's ability to accept the baby as his/her own	-	-	(1)	12.50	(1)	12.50	(2)	09.09	(2)	07.69
17	Your family's acceptance of the baby	-	-	-	-	-	-	-	-	(1)	03.85
18	Your friends' acceptance of the baby	-	-	-	-	-	-	-	-	-	-
19	Development of a parent-child relationship	-	-	-	-	-	-	-	-	(2)	07.69

CONCERNS	BEFORE TREATMENT		DURING TREATMENT		AFTER PREGNANCY TEST RESULTS		DURING PREGNANCY		AFTER THE BIRTH OF THE CHILD	
	f	%	f	%	f	%	f	%	f	%
20	People might suspect the child's donor conception	-	-	-	-	-	-	-	-	-
21	Fear that people will find out about your secret	-	(1) 12.50	-	-	(1) 04.55	-	-	-	-
22	Rejection of the baby by you	-	-	-	-	-	-	-	-	-
23	Rejection of the baby by others	-	-	-	-	-	-	-	-	-
24	Are you betraying your spouse by going ahead with the donor treatment?	-	-	-	-	-	-	-	-	-
25	Did you disappoint your spouse by not being able to have a biological child?	-	-	-	-	-	-	-	-	-
26	Ability to be a good parent	(1) 07.69	-	-	-	-	-	-	(1) 03.85	-
27	Was the correct decision made?	(1) 07.69	-	-	-	-	-	-	-	-
28	Will the child inherit genetic abnormalities from the donor?	-	-	-	-	-	-	-	(1) 03.85	-
29	The child's possible different nature to you as a couple	(1) 07.69	(1) 12.50	(1) 12.50	(1) 12.50	(1) 04.55	(2) 07.69	-	-	-
30	Your communication with the child	-	(1) 12.50	(1) 12.50	(1) 12.50	(1) 04.55	(1) 03.85	-	-	-
31	How will you cope with the child?	(1) 07.69	-	-	-	-	(2) 07.69	-	-	-
32	The infliction of discipline	(1) 07.69	(1) 12.50	(1) 12.50	(2) 09.09	(3) 11.54	-	-	-	-
33	Other	-	-	-	-	-	-	-	-	-
TOTAL		100%	100%	100%	100%	100%	100%	100%	100%	100%
N		N = 13	N = 8	N = 8	N = 8	N = 22	N = 26	N = 26	N = 26	N = 26

- Concerns before treatment

The following is deduced from the responses in Table 13:

- . The physical appearance of the baby seemed to be the main concern of respondents before treatment with 2 responses (15.38%).
- . Other concerns with 1 response each (7.69%) were: a threat-

ening miscarriage, complicated pregnancy, stillbirth, abnormality in the baby, personality resemblance and health of the baby, as well as the ability to be a good parent, whether the correct decision was made, the child's nature, the ability to cope with the child and the disciplining of the child.

. A total of 13 responses occurred in this stage.

- Concerns during treatment

The following is deduced from the responses in Table 13:

. All concerns in this stage had 1 response (12.50%) each and included: threatening miscarriage, abnormalities in the baby, ability to love the baby, spouse's ability to accept the baby as his own, fear that people will find out about your secret, the child's different nature, communication with the child and disciplining the child.

. A total of 8 responses occurred in this stage.

- Concerns after the pregnancy test results

The following is deduced from the responses in Table 13:

. A threatening miscarriage seemed to be the main concern in this stage with 3 responses (37.50%).

. Other concerns with 1 response each (12.50%) were regarding ability to love the baby, the spouse's ability to accept the baby as his/her own, the child's different nature, communication with the child and disciplining the child.

. A total of 8 responses occurred in this stage.

- Concerns during the pregnancy

The following is deduced from the responses in Table 13:

. A threatening miscarriage seemed to be the major concern in this stage with 4 responses (18.18%).

. A complicated pregnancy, the physical appearance of the child, the health of the child, the spouse's ability to accept the child as his own and disciplining the child all had 2 responses each (9.09%).

. The other concerns with 1 response (4.55%) each were concerning abnormalities, premature baby, personality resemblance of the child, your ability and spouse's ability to love the baby, fear that people would find out about your secret, the child's different nature and communication.

- . A total of 22 responses occurred during this stage, meaning that each of the 7 respondents gave an average of 3 responses each, and that this stage had many concerns compared to the other stages, which is realistic and normal, taking the unknown donor into consideration.

- **Concerns after the birth of the child**

The following is deduced from the responses in Table 13:

- . The health of the child and infliction of discipline were the concerns with the highest responses, 3 responses (11.54%) each.
- . The ability to love the child, the spouse's ability to accept the child as his own, the development of a parent-child relationship, the child's possible different nature and how you will cope with the child, were the subsequent concerns with 2 responses (7.69%) each.
- . The other concerns with 1 response (3.85%) each were a "threatening miscarriage" which shows the respondent did not understand what this term meant as this was not possible at this stage. Furthermore a difficult birth, abnormalities in the baby, a premature baby, overall disappointment in the baby, the spouse's ability to love the baby, the family's acceptance of the baby, the ability to be a good parent, if the child will inherit genetic abnormalities from the donor, and communication with the child.
- . A total of 26 responses were provided in this section meaning that the respondents marked more than 3 choices each in this stage, with this being the stage with the most concerns.

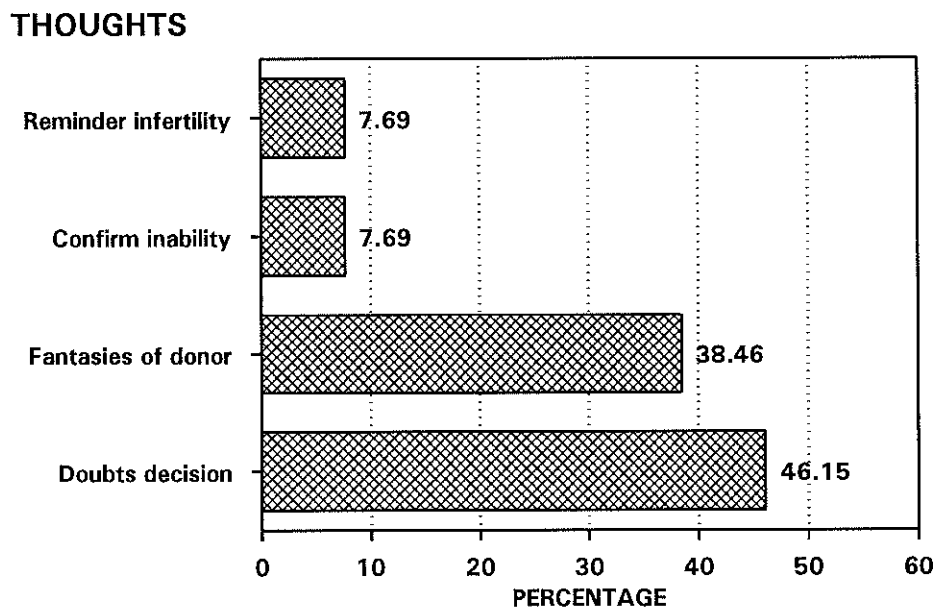
Thus it is evident that the stages of the pregnancy and the birth of the child had the most concerns amongst respondents. Furthermore the physical appearance of the child, abnormalities in the child and fear of disclosure and ability to love were other major concerns of respondents. This is realistic and normal as these were most probably the stages where the reality of this child conceived by means of a donor with all the related concerns dawned on them the most. This is also confirmed in the literature by Czyba & Chevret (1979:243) and D'Elicio *et al.* (1980:401-411) who found women to be concerned about possible

foetal malformations or dysfunctions and problems during the pregnancy and labour. Other concerns also included acceptance and ability to love the child, as well as disciplining the child, communication with the child and the nature of the child. During the interview some of the respondents indicated that of these concerns were still persisting, such as: disciplining the child/children, the father-child relationship and fearing that people will find out about the donor origin of the child. Thus the respondents had long-term concerns related to the child, the parent-child relationship and the secrecy, which is to be expected taking the donor conception, social parenthood and secrecy into account.

*** Thoughts evoked by the child**

The aim of this question was to determine whether the donor child presently evoked any specific thoughts by the respondents in Figure 75 below. The respondents could indicate any 5 concerns, thus responses will be referred to instead of respondents.

FIGURE 75: THOUGHTS EVOKED BY DONOR CHILD



(N = 13)

The following is interpreted from the above figure:

- "Doubts concerning your decision" had the most responses, namely, 6 (46.15%) (3 males and 3 females).
- "Fantasies of the donor" had 5 responses (38.46%) (3 males and 2 females). It is interesting that more males than females fantasized about the donor, which is contrary to the literature.
- Other concerns with 1 response (7.69%) each were "reminder of your infertility" and "confirmation of your inability".

It is interesting that the child made them doubt their decision and fantasize about the donor, which could either mean that they are unhappy or disappointed in the child or are disappointed in themselves and their predicament. This is confirmed further by the child reminding them of the infertility and their inability. This is also corroborated by Sokoloff (1987:14) who found the child to be a constant reminder of the father's infertility and is always described as looking like the father, making him feel threatened. Thus from these findings of the major thoughts evoked by the child, one wonders how happy these respondents really are with the child and if this child has been accepted totally or whether uncertainty, fantasy and blame play a role in prohibiting a normal parent-child relationship from developing.

*** Relationships affected**

The aim of this section was to determine whether relationships with God, spouse, family, friends or colleagues were affected positively or negatively throughout the treatment process.

- Relationships affected before treatment

. God

- + 83.33% (5 respondents, i.e. 3 males and 2 females) reported their relationship with God to have been affected positively before treatment
- + 16.67% (1 female respondent) reported her relationship with God to have been affected negatively before treatment
- + 1 respondent did not respond.

. Spouse

- + 66.67% (4 respondents, i.e. 3 males and 1 female)

reported their relationship with their spouse to have been affected positively before treatment

+ 33.33% (1 male and 1 female respondent) reported their relationship with their spouse to have been affected negatively before treatment

+ 1 respondent did not respond.

. **Family**

+ 75.00% (3 male respondents) reported a positive effect on their relationship with their family

+ 25.00% (1 female respondent) reported a negative effect on her relationship with her family

+ 3 respondents did not respond.

. **Friends**

+ 50% (2 male respondents) reported a positive effect on their relationship with friends

+ 50% (1 male and 1 female respondent) reported a negative effect on their relationship with friends

+ 3 respondents did not respond.

. **Colleagues**

+ 100% (1 male and 1 female respondent) reported a positive effect on their relationship with their colleagues

+ 5 respondents did not respond.

Thus it seems as if most respondents experienced a positive effect on their relationship with God and their spouse before the treatment. The most negative effects on relationships were with their spouse, friends, God and family. This could most probably be ascribed to their decision-making process which involved conflict in these relationships. In total 16 responses (72.73%) regarding all the relationships affected before treatment were positive and 6 responses (27.27%) were negative. Of the 22 responses it is interesting that 14 (63.64%) were male respondents and only 8 (36.36%) were female respondents. This shows that the males (who were all infertile) went through a definite process before treatment which had an effect on their relationships with significant others. This could most probably be ascribed to the coming to terms with infertility and the decision-making process.

- **Relationships affected during treatment**

. **God**

+ 100% (3 male and 3 female respondents) reported a positive effect on their relationship with God during treatment

+ 1 respondent did not respond.

. **Spouse**

+ 100% (3 male and 2 female respondents) reported a positive effect on their relationship with their spouse

+ 2 respondents did not respond.

. **Family**

+ 100% (3 male and 2 female respondents) reported a positive effect on their relationship with their family

+ 2 respondents did not respond.

. **Friends**

+ 75.00% (2 male and 1 female respondent) reported a positive effect on their relationship with friends

+ 25.00% (1 female) reported a negative effect on her relationship with friends

+ 3 respondents did not respond.

. **Colleagues**

+ 100% (1 male and 2 female respondents) reported a positive effect on their relationship with colleagues

+ 4 respondents did not respond.

Thus it seems as if the majority of respondents experienced a positive effect on their relationships during the treatment stage, except for 1 female respondent who reported a negative influence on her relationship with friends. The majority of responses (95.65% or 22 responses) in this stage were regarding a positive effect on relationships and only 4.35% (1 response) was negative. It is interesting that 52.17% (12 responses) were male respondents and 47.83% (11 responses) were female respondents. Thus males and females responded very similarly in this stage.

- **Relationships affected after the pregnancy test**

. **God**

+ 100% (3 male and 3 female respondents) reported a positive effect on their relationship with God

+ 1 respondent did not respond.

. **Spouse**

+ 100% (3 male and 2 female respondents) reported a positive effect on their relationship with their spouse
+ 2 respondents did not respond.

. **Family**

+ 100% (3 male and 3 female respondents) reported a positive effect on their relationship with family
+ 1 respondent did not respond.

. **Friends**

+ 100% (2 male and 2 female respondents) reported a positive effect on their relationships with their friends
+ 3 respondents did not respond.

. **Colleagues**

+ 100% (1 male and 2 female respondents) reported a positive effect on their relationships with their colleagues
+ 4 respondents did not respond.

Thus it is evident that all the respondents who answered this section experienced a positive effect on relationships. These 7 respondents who could answer this section all had positive pregnancy test results and the news of the pregnancy, then most probably had a positive effect on all their relationships. The total of responses in this stage regarding all relationships was 100% positive (12 male responses and 12 female responses). Thus males and females reported this stage to have affected their relationships positively.

- **Relationships affected during the pregnancy**

. **God**

+ 100% (3 male and 3 female respondents) reported a positive effect on their relationship with God
+ 1 respondent did not respond.

. **Spouse**

+ 100% (3 male and 2 female respondents) reported a positive effect on their relationship with their spouse
+ 2 respondents did not respond.

. **Family**

+ 100% (3 male and 2 female respondents) reported a positive effect on their relationship with their family

+ 2 respondents did not respond.

. **Friends**

+ 100% (2 male and 2 female respondents) reported a positive effect on their relationships with friends

+ 3 respondents did not respond.

. **Colleagues**

+ 100% (1 male and 2 female respondents) reported a positive effect on their relationships with colleagues

+ 4 respondents did not respond.

Thus it is evident that only positive effects on relationships were reported by the majority of respondents. The male responses were 52.17% (12) and the female 47.83% (11). Thus both male and female respondents experienced the effect on relationships very similarly in this stage.

- **Relationships affected after the birth of the child**

. **God**

+ 100% (3 male and 3 female respondents) reported a positive effect on their relationship with God

+ 1 respondent did not respond.

. **Spouse**

+ 100% (3 male and 2 female respondents) reported a positive effect on their relationship with their spouse

+ 2 respondents did not respond.

. **Family**

+ 100% (3 male and 3 female respondents) reported a positive effect on their relationship with their family

+ 1 respondent did not respond.

. **Friends**

+ 100% (2 male and 2 female respondents) reported a positive effect on their relationships with friends

+ 3 respondents did not respond.

. **Colleagues**

+ 100% (1 male and 2 female respondents) reported a positive effect on their relationships with their colleagues

+ 4 respondents did not respond.

Thus it is evident that after the birth of the child the relationships were only affected positively, with most responses regarding the relationship with God, family and spouse. This

could most probably be attributed to the birth of the child and the acceptance and happiness concerning this child as well as the pressure to have a child which had ceased. In this stage there were 12 male responses and 12 female responses. They thus responded equally regarding the positive effect on relationships in this stage.

- **Relationships affected presently**

. **God**

+ 100% (3 male and 3 female respondents) reported a positive effect on their relationship with God

+ 1 respondent did not respond.

. **Spouse**

+ 80.00% (2 male and 2 female respondents) reported a positive effect on their relationship with their spouse

+ 20.00% (1 male respondent) reported a negative effect

+ 2 respondents did not respond.

. **Family**

+ 83.33% (2 male and 3 female respondents) reported a positive effect on their relationship with their family

+ 16.67% (1 male respondent) reported a negative effect

+ 1 respondent did not respond.

. **Friends**

+ 100% (2 male and 2 female respondents) reported a positive effect on their relationship with friends.

. **Colleagues**

+ 100% (1 male and 2 female respondents) reported a positive effect on their relationships with colleagues

+ 4 respondents did not respond.

Thus it is evident that the majority of respondents reported positive effects on their relationships presently. The negative effects on relationships were reported concerning relationships with the spouse and with family. This could most probably be ascribed to the secrecy issue and lack of support, the donor issue or the child. The positive effects on the relationship were 91.67% (22 responses) and the negative effect 8.33% (2 responses) during this stage.

Thus the most relationships negatively affected were in the before treatment stage, which can most probably be ascribed to

the decision-making period and as a result of the pressure to have a child; the during treatment stage could be ascribed to the uncertainty regarding the decision and the unknown which lay ahead, and the present stage, could be ascribed to dealing with the realities of having a child, especially being a donor child and the implications which go along with this, such as secrecy, lack of support, resulting stress and the effect on relationships. Some respondents did not respond to this section, so it was obviously not of importance to them or they could not remember.

The relationships affected in total throughout the treatment process were are reflected in the table below, which shows the total numbers of responses throughout the treatment process:

TABLE 14: RELATIONSHIPS AFFECTED BY SUCCESSFUL TREATMENT

RELATIONSHIP WITH:	POSITIVE		NEGATIVE		TOTAL	
	f	%	f	%	f	%
God	(35)	97.22	(1)	02.78	(36)	100
Spouse	(28)	90.32	(3)	09.68	(31)	100
Family	(30)	93.75	(2)	06.25	(32)	100
Friends	(21)	87.50	(3)	12.50	(24)	100
Colleagues	(17)	100	-		(17)	100

The following is deduced from Table 14 in order of priority:

. **God**

+ 97.22% (35 responses, 18 male and 17 female) - positively affected

+ 2.78% (1 female response) - negatively affected

The reasons for this negative effect on the relationship with God was motivated as being the result of an unstable relationship with God and thus feeling rejected; and as a result of frustration and no hope causing a feeling of being a failure. The mean or average rating (\bar{x}) for the relationship with God was $\bar{x} = 1.028$

. **Spouse**

+ 90.32% (28 responses, 17 male and 11 female) - positively affected

+ 9.68% (2 male and 1 female response) - negatively affected.

The reasons motivated for this negative effect on the relationship with the spouse were as a result of the emotional ups and downs in their relationship because of the donor situation; an unstable relationship; and it affected the marital relationship negatively, leading to separation and divorce. Thus one respondent reported separation and divorce with a 14% divorce rate amongst couples who underwent successful treatment. Similar low divorce rates were reported in the literature by Berger (1982:54) who found a ratio of 1:800 marriages of these couples to end in divorce after a 7 year follow-up study. Goebel & Lübke (1987:636) found a 10% divorce amongst couples who underwent successful treatment. Thus the divorce rate in this study was slightly higher for couples who underwent successful treatment than that of the literature. The mean or average rating (\bar{x}) for the relationship with the spouse was $\bar{x} = 1.097$

. **Family**

- + 93.75% (17 male and 13 female responses) - positively affected
- + 6.25% (1 male and 1 female response) - negatively affected. The reasons motivated for the negative effect on the relationship was due to the ups and downs in their relationship or unstable relationship as a result of the children. The mean or average rating (\bar{x}) for the relationship with family was $\bar{x} = 1.063$

. **Friends**

- + 87.50% (12 male and 9 female responses) - positively affected
- + 12.50% (1 male and 2 female responses) - negatively affected. The reasons motivated for the negative effect on the relationship was due to the ups and downs in their relationship as a result of the children; and due to the attitude of friends which changed negatively as a result of this treatment. The mean or average rating (\bar{x}) for the relationship with friends was $\bar{x} = 1.125$

. **Colleagues**

- + 100% (6 males and 11 females) - positively affected. It is interesting that the females were in the majority concerning the responses regarding colleagues, even

though only 3 of the females were working in an occupation compared to all the males. This shows that females are more open, communicate more readily and have closer relationships with their colleagues than males. The mean or average rating (\bar{x}) for the relationship with colleagues was $\bar{x} = 1$

Thus from these findings and the average ratings (\bar{x}), if one ranks these different relationships from the smallest to the largest \bar{x} , as the smallest (closest to 1) would be positive and the largest (closest to 2) would be negative, the following relationships, which were the majority, were affected positively: colleagues, God, family, spouse and friends. If one then looks at the relationships most negatively affected, it was the minority and was with friends, spouse, family, God and colleagues. The mostly positive effects on relationships can most probably be ascribed to the positive effect of being pregnant, having a child and being accepted as "normal", as well as feeling more positive within, after having achieved this success. The few negative effects can most probably be ascribed to the negative influence of this treatment and which the resultant child has on the relationships as motivated above by the respondents.

* **Social aspects influenced**

The aim of this section was to determine the influence on various aspects regarding everyday social life throughout the treatment process. Only 7 respondents who had had successful artificial fertilization with donor gametes, could answer this section.

- **Influence on aspects before treatment**

. **Social life**

- + 75.00% (1 male and 2 female respondents) reported a positive influence on their social life before treatment
- + 25.00% (1 male respondent) reported a negative influence on his social life before treatment
- + 3 respondents did not respond.

. **Work**

- + 75.00% (1 male and 2 female respondents) reported a

- positive influence on their work before treatment
- + 25.00% (1 male respondent) reported a negative influence on his work
- + 3 respondents did not respond.

. Finances

- + 60.00% (1 male and 2 female respondents) reported a positive influence on their financial situation
- + 40.00% (1 male and 1 female) reported a negative influence on their financial situation
- + 2 respondents did not respond.

. Housing

- + 100% (1 male and 2 female respondents) reported a positive influence on their housing situation
- + 4 respondents did not respond.

Thus it is evident that before treatment most aspects were affected positively, and the finances, social life and work were affected negatively. This could most probably be ascribed to the infertility evaluation and all the costs and time involved which affected these aspects negatively. In this stage in total, 75.00% (12 responses) of the aspects were affected positively and only 25.00% (4 responses) were affected negatively. Thus it was mainly a positive influence during this stage. Nine females' responses (56.25%) and 7 males responses (43.75%) were made to this stage of treatment.

- Influence on aspects during treatment

. Social life

- + 100% (1 male and 2 female respondents) reported a positive influence on their social life during treatment
- + 4 respondents did not respond.

. Work

- + 100% (1 male and 2 female respondents) reported a positive influence on their work during treatment
- + 4 respondents did not respond.

. Finances

- + 60.00% (1 male and 2 female respondents) reported a positive influence on their finances during treatment
- + 40.00% (1 male and 1 female respondent) reported a negative influence
- + 2 respondents did not respond.

. **Housing**

- + 100% (1 male and 2 female respondents) reported a positive influence on their housing situation
- + 4 respondents did not respond.

Thus the majority of aspects were affected positively during this stage. Only the finances were reported by 2 respondents to have had a negative effect, which can be ascribed to the costs associated with this form of treatment. Thus 85.71% (12 responses) were positive influences and 14.29% (2 responses) were negative influences. Interestingly 9 females made up the majority of responses (64.29%) in this stage of treatment compared to only 5 male responses (35.71%), as the females endured the treatment and most probably experienced the effects more directly.

- **Influence on aspects after the pregnancy test**

. **Social life**

- + 100% (1 male and 2 female respondents) reported a positive influence on their social life after the pregnancy test
- + 4 respondents did not respond.

. **Work**

- + 100% (1 male and 2 female respondents) reported a positive influence on their social life after the pregnancy test
- + 4 respondents did not respond.

. **Finances**

- + 100% (1 male and 2 female respondents) reported a positive influence on their finances after the pregnancy test
- + 4 respondents did not respond.

. **Housing**

- + 100% (1 male and 2 female respondents) reported a positive influence on their housing situation after the pregnancy test
- + 4 respondents did not respond.

Thus all the aspects were reported to have been influenced positively after the pregnancy test (100%) that is, 12 responses. Eight of the responses (66.67%) were made by females and 4 responses (33.33%) by males. Thus more females

responded to this stage than males, as they experienced the pregnancy test results more directly, which affected their relationships.

- **Influence on aspects during the pregnancy**

. **Social life**

+ 100% (1 male and 2 female respondents) reported a positive influence on their social life during the pregnancy

+ 4 respondents did not respond.

. **Work**

+ 100% (1 male and 2 female respondents) reported a positive influence on their work during the pregnancy

+ 4 respondents did not respond.

. **Finances**

+ 100% (1 male and 2 female respondents) reported a positive influence on their finances during the pregnancy

+ 4 respondents did not respond.

. **Housing**

+ 100% (1 male and 2 female respondents) reported a positive influence on their housing during the pregnancy

+ 4 respondents did not respond.

Thus all the aspects were reported to have been positively influenced during the pregnancy (100%) that is, 12 responses. Eight of the responses (66.67%) were made by females and 4 responses (33.33%) by males. Thus more females responded to this stage than males, as they were affected more directly in this stage, having an effect on their relationships.

- **Influence on aspects after the birth**

. **Social life**

+ 66.67% (1 male and 1 female respondents) reported a positive influence on their social life after the birth

+ 33.33% (1 female respondent) reported a negative influence on her social life

+ 4 respondents did not respond.

. **Work**

+ 66.67% (1 male and 1 female respondent) reported a positive influence on their work after the birth

+ 33.33% (1 female respondent) reported a negative influence on her work

+ 4 respondents did not respond.

. **Finance**

+ 100% (1 male and 2 female respondents) reported a positive influence on their finances after the birth

+ 4 respondents did not respond

. **Housing**

+ 100% (1 male and 2 female respondents) reported a positive influence on their housing after the birth

+ 4 respondents did not respond.

Thus it is evident that the majority of aspects were influenced positively after the birth of the child (83.33%) - 10 responses. Only the social life and work were reported to have been affected negatively with 2 responses (6.67%). Eight female responses (66.67%) were made compared to 4 male responses (33.33%).

- **Influence on aspects presently**

. **Social life**

+ 50.00% (1 male and 1 female respondent) reported a positive influence on their social life presently

+ 50.00% (1 male and 1 female respondent) reported a negative influence on their social life presently

+ 3 respondents did not respond.

. **Work**

+ 75.00% (2 males and 1 female respondent) reported a positive influence on their work presently

+ 25.00% (1 female respondent) reported a negative influence on her work presently

+ 3 respondents did not respond.

. **Finances**

+ 50.00% (1 male and 1 female respondent) reported a positive influence on their finances presently

+ 50.00% (1 male and 1 female respondent) reported a negative influence on their finances presently

+ 3 respondents did not respond.

. **Housing**

+ 100% (2 male and 2 female respondents) reported a positive influence on their housing presently

+ 3 respondents did not respond.

Thus the majority responses were regarding positive influences and the most negative influences were concerning the social life, finances and work. This could most probably be ascribed to the routine of having a child, as well as the costs and responsibilities involved. Thus it is evident that the majority of responses (68.75%) 11 responses were concerning positive influences and (31.25%) 5 responses were regarding negative influences. Eight male and 8 female responses were made in this stage.

The aspects influenced in total throughout the treatment process are reflected in the table below, which shows the total numbers of responses throughout the treatment process:

TABLE 15: SOCIAL ASPECTS INFLUENCED BY SUCCESSFUL TREATMENT

SOCIAL ASPECTS	POSITIVE		NEGATIVE		TOTAL	
	f	%	f	%	f	%
Social life	(16)	80.00	(4)	20.00	(20)	100
Work	(17)	85.00	(3)	15.00	(20)	100
Finances	(17)	73.91	(6)	26.09	(23)	100
Housing	(19)	100	-		(19)	100

The following is deduced from Table 15 in order of priority:

. **Social life**

- + 80.00% (16 responses, 6 male and 10 female) - positively influenced
- + 20.00% (2 male and 2 female responses) - negatively influenced. The reasons provided by the respondents for this negative influence on the social life were: social life deteriorated as a result of having children; can't do what you often plan; unity in the family is more important. The mean or average rating (\bar{x}) for the influence on the social life was $\bar{x} = 1.2$

. **Work**

- + 85.00% (7 male and 10 female responses) - positively influenced
- + 15.00% (1 male and 2 female responses) - negatively influenced. The reasons provided by the respondents for the negative influence on their work were: had to stop

working after the birth, unable to find a job again thereafter; could not concentrate at work; involvement with colleagues was influenced. The mean or average rating (\bar{x}) for the influence on work was $\bar{x} = 1.15$

. **Finances**

- + 73.91% (6 male and 11 female responses) - positively influenced
- + 26.09% (3 male and 3 female responses) - negatively influenced. The reasons provided by the respondents for this negative influence on the finances were: costs involved in raising children; twins - must purchase everything for two; children to care for, this involves costs. The mean or average rating (\bar{x}) for the influence on finances was $\bar{x} = 1.26$

. **Housing**

- + 100% (7 male and 12 female responses) - positively influenced. The reasons respondents provided for this positive influence was that they had to provide sufficient housing; they were a real family in their own home. The mean or average rating (\bar{x}) for the influence on housing was $\bar{x} = 1$

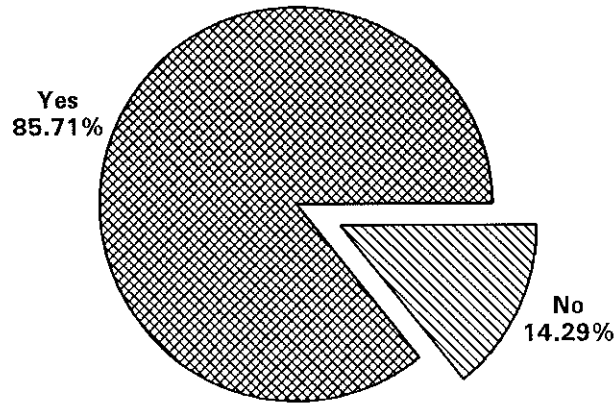
Thus if one ranks these aspects from smallest to largest \bar{x} value, as the smallest (closest to 1) is positive and the largest (closest to 2) is negative, then the aspects influenced positively are: housing, work, social life and finances. This majority of positive influence could be ascribed to these respondents improving their housing situation as a result of having a child/children, being more stable in their work, having a more satisfying social life and being accepted more since having a child/children and the financial situation being affected least positively due to the costs of treatment, the pregnancy and birth, as well as raising a child. Thus it is evident that the majority of aspects were influenced positively throughout treatment. The aspects which were influenced negatively, ranked in order, were finances, social life and work, which were most probably linked to the costs of treatment and having children as mentioned, as well as the responsibilities, routine and time involved in rearing children which

could affect one's social life and work.

* **Happiness with the child**

The aim of this question was to determine whether the 7 respondents were happy with the child they had, who was conceived by means of artificial fertilization with donor gametes, as reflected in Figure 76:

FIGURE 76: HAPPINESS WITH CHILD



(N = 7)

From this figure it is clear that:

- 85.71% (3 male and 2 female respondents) were happy with their "donor" child.
- 14.29% (1 male respondent) was unhappy due to the fact that his child had been born with a severe congenital abnormality and died due to complications at 8 months.

Thus the majority of respondents was happy with their child, conceived by means of artificial fertilization with donor gametes. Their motivations for this happiness included: gives us lots of joy; we are a real family; both were a bonus and a gift from God. These findings are confirmed by those of Blaser *et al.* (1988:19) and Berger (1980:557) who in their studies found couples to be happy with their child and even desiring a second child.

Thus it is evident from the findings in this section that there were various psycho-social implications resulting from successful artificial fertilization with donor gamete treatment on the long-term. Some aspects were more negatively affected, while others were positively affected. In general these respondents were not too adversely affected by successful treatment and seemed to be happy with their child and their strengthened marital relationships. They did, however, still report a few negative implications such as experiencing stress, uncertainty, lowered self-esteem, fantasies and anxieties presently and the minority had suffered marital discord or break-up. Thus successful artificial fertilization with donor gametes had certain negative, but mainly positive implications for the respondents in this study.

7.3.4.3 Psycho-social implications of unsuccessful or no artificial fertilization with donor gametes

The aim of this section was to determine the psycho-social influence of either unsuccessful artificial fertilization with donor gametes or no such treatment at all. Twelve respondents fell into this category and could complete this section of the questionnaire.

*** Unsuccessful or no treatment**

The aim of this question was to determine how many respondents had unsuccessful treatment and how many had no treatment at all, as reflected below:

- 50.00% (3 male and 3 female respondents) had had unsuccessful artificial fertilization with donor gametes.
- 50.00% (3 male and 3 female respondents) had had no artificial fertilization with donor gamete treatment at all.

* **Feelings experienced**

The aim of this question was to determine the feelings experienced by the 12 respondents as a result of their unsuccessful or no artificial fertilization with donor gametes. Respondents could indicate any 5 feelings they experienced as a result of undergoing unsuccessful treatment or as a result of deciding against treatment as shown in Table 16 below in terms of responses:

TABLE 16: FEELINGS AFTER UNSUCCESSFUL/NO TREATMENT

SEX

Frequency Percent Row Pct Col Pct	EXITE- MENT	HOPE	ENTHU- SIASM	AMBIVA- LENCE	BLAME	DIS APPOINT- MENT	HELP- LESS- NESS	SADNESS	Total
MALE	1 2.22 5.00 50.00	0 0.00 0.00 0.00	1 2.22 5.00 100.00	2 4.44 10.00 50.00	1 2.22 5.00 100.00	2 4.44 10.00 28.57	2 4.44 10.00 33.33	3 6.67 15.00 42.86	20 44.44
FEMALE	1 2.22 4.00 50.00	1 2.22 4.00 100.00	0 0.00 0.00 0.00	2 4.44 8.00 50.00	0 0.00 0.00 0.00	5 11.11 20.00 71.43	4 8.89 16.00 66.67	4 8.89 16.00 57.14	25 55.56
Total f %	2 4.44	1 2.22	1 2.22	4 8.89	1 2.22	7 15.56	6 13.33	7 15.56	45 100.00

SEX

Frequency Percent Row Pct Col Pct	UNCER- TAINTY	FRUSTRA- TION	DESPAIR	DIS- BELIEF	STRESS	DEPRES- SION	ISOLA- TION	OTHER	Total
MALE	1 2.22 5.00 50.00	2 4.44 10.00 50.00	2 4.44 10.00 66.67	1 2.22 5.00 100.00	1 2.22 5.00 50.00	0 0.00 0.00 0.00	0 0.00 0.00 0.00	1 2.22 5.00 100.00	20 44.44
FEMALE	1 2.22 4.00 50.00	2 4.44 8.00 50.00	1 2.22 4.00 33.33	0 0.00 0.00 0.00	1 2.22 4.00 50.00	2 4.44 8.00 100.00	1 2.22 4.00 100.00	0 0.00 0.00 0.00	25 55.56
Total f %	2 4.44	4 8.89	3 6.67	1 2.22	2 4.44	2 4.44	1 2.22	1 2.22	45 100.00

The following is highlighted from the above table:

- Disappointment - 7 responses (2 male and 5 female) (15.56%).
- Sadness - 7 responses (3 male and 4 female) (15.56%).
- Helplessness - 6 responses (2 male and 4 female) (13.33%)
- Ambivalence - 4 responses (2 males and 2 females) (8.89%)
- Frustration - 4 responses (2 males and 2 females) (8.89%)
- Despair - 3 responses (2 males and 1 female) (6.67%)
- Other feelings with 2 responses (4.44%) each were: excitement, uncertainty, stress, depression and feelings with 1 response (2.22%) were: hope, enthusiasm, blame, disbelief, isolation and other which was motivated as anger.

Most of these feelings are linked to feelings resulting from a dream which was shattered or something you want but cannot have. The females responded more to this question (25 responses) than the males (20 responses), showing that the female experienced more feelings or could remember experiencing more than the males. The literature also describes similar feelings following unsuccessful treatment, such as Brand & Saayman (1986:87) who found emotional stress concerning the failure, Hamerlynck & Schagen (1980:599) who found feelings of frustration and that the women in particular went through a difficult period, as well as Rosenkvist (1981:143) who found severe emotional reactions following unsuccessful treatment. Thus unsuccessful treatment did evoke various negative feelings experienced more intensely by women.

*** Thoughts evoked**

The aim of this question was to determine the thoughts evoked by having had unsuccessful or no treatment. The 12 respondents could indicate any 5 thoughts. These thoughts are shown in the Table 17 below in terms of responses:

TABLE 17: THOUGHTS EVOKED BY UNSUCCESSFUL/NO TREATMENT

SEX

Frequency Percent Row Pct Col Pct	ACCEPT- ABLE TO SPOUSE	SPOUSE ACCEPT- ABLE	MY CORRECT DECISION	SPOUSE CORRECT DECISION	SPOUSE FEELS SUPERIOR	I FEEL INFERIOR	SPOUSE FEELS INFERIOR	Total
MALE	2 6.45 13.33 66.67	0 0.00 0.00 0.00	3 9.68 20.00 60.00	1 3.23 6.67 50.00	1 3.23 6.67 100.00	0 0.00 0.00 0.00	1 3.23 6.67 33.33	15 48.39
FEMALE	1 3.23 6.25 33.33	1 3.23 6.25 100.00	2 6.45 12.50 40.00	1 3.23 6.25 50.00	0 0.00 0.00 0.00	1 3.23 6.25 100.00	2 6.45 12.50 66.67	16 51.61
Total f %	3 9.68	1 3.23	5 16.13	2 6.45	1 3.23	1 3.23	3 9.68	31 100.00

SEX

Frequency Percent Row Pct Col Pct	AM I A FAILURE	AM I TO BLAME	AM I INCOM- PETENT	HAVE I SINNED	AM I A COMPLETE PERSON	OTHER	TOTAL
MALE	2 6.45 13.33 50.00	1 3.23 6.67 33.33	1 3.23 6.67 50.00	1 3.23 6.67 50.00	1 3.23 6.67 33.33	1 3.23 6.67 100.00	15 48.39
FEMALE	2 6.45 12.50 50.00	2 6.45 12.50 66.67	1 3.23 6.25 50.00	1 3.23 6.25 50.00	2 6.45 12.50 66.67	0 0.00 0.00 0.00	16 51.61
Total f %	4 12.90	3 9.68	2 6.45	2 6.45	3 9.68	1 3.23	31 100.00

The following is highlighted from the above table:

- Did I make the correct decision - 5 responses (3 males and 2 females) (16.13%).
- Am I a failure - 4 responses (2 males and 2 females) (12.90%).
- Am I acceptable to my spouse - 3 responses (2 males and 1 female) (9.68%).
- My spouse feels inferior - 3 responses (1 male and 2 females) (9.68%).
- Am I to blame - 3 responses (1 male and 2 females) (9.68%).
- Am I a complete man/woman (person) - 3 responses (1 male and 2 females) (9.68%).
- Other thoughts with 2 responses (6.45%) each were: Did my spouse make the correct decision? Am I incompetent? Have I

sinned?

Most of these thoughts are linked to uncertainty regarding their decision, thoughts linked to decreased feelings of decreased self-image and sexual identity, as well as rejection and guilt. Thus the question asked as a result of this is whether these people have really come to terms with their infertility yet or not. It seems as if the fact that they had unsuccessful treatment reawakened all the experiences they had when coming to terms with their infertility. Olshansky & Sammons (1985:52S) found males to have thoughts regarding their inability to conceive, their manhood and guilt toward their wives, family and society. Females had thoughts related to anger and guilt in not being able to share in their husband's failures. David & Avidan (1976:531) found thoughts linked to guilt in males, that they could not give proof of their manhood or act as real fathers and that they could not fulfil the expectations of their families and society and accused themselves. The females had thoughts of guilt in not sharing in their husband's failure and in the pride in their femininity which they could prove. These findings in the literature therefore are very prominent of guilty thoughts. The thoughts of respondents in this study, however, though similar, were more linked to their decreased self-image and sexual identity, as well as to rejection and guilt.

*** Influence on marital relationship**

The aim of this question was to determine whether having had unsuccessful or no treatment had any influence on the marital relationship. The 12 respondents could indicate any 5 influences. These influences are shown in Table 18 below in terms of responses:

TABLE 18: INFLUENCE OF UNSUCCESSFUL/NO TREATMENT ON MARITAL RELATION-
SHIP

SEX										
Frequency	Percent									
Row Pct	Col Pct	STRENGTH- ENED LOVE	IN- CREASED RESPECT	MORE AFFEC- TIONATE	CLOSER TOGETHER	IMPROVED COMMUNI- CATION	DID MORE TOGETHER	WEAKENED LOVE	LESS AFFEC- TIONATE	Total
MALE		2 4.88 10.00 40.00	2 4.88 10.00 40.00	2 4.88 10.00 40.00	4 9.76 20.00 50.00	3 7.32 15.00 75.00	1 2.44 5.00 33.33	1 2.44 5.00 100.00	1 2.44 5.00 100.00	20 48.78
FEMALE		3 7.32 14.29 60.00	3 7.32 14.29 60.00	3 7.32 14.29 60.00	4 9.76 19.05 50.00	1 2.44 4.76 25.00	2 4.88 9.52 66.67	0 0.00 0.00 0.00	0 0.00 0.00 0.00	21 51.22
Total f	%	5 12.20	5 12.20	5 12.20	8 19.51	4 9.76	3 7.32	1 2.44	1 2.44	41 100.00

SEX

SEX									
Frequency	Percent								
Row Pct	Col Pct	DROVE US APART	DID LESS TOGETHER	SEX WORSENER	MORE QUARRELS	EXTRA- MARITAL AFFAIRS	DIVORCE	OTHER	Total
MALE		0 0.00 0.00 0.00	1 2.44 5.00 50.00	0 0.00 0.00 100.00	1 2.44 5.00 100.00	0 0.00 0.00 0.00	1 2.44 5.00 50.00	1 2.44 5.00 100.00	20 48.78
FEMALE		1 2.44 4.76 100.00	1 2.44 4.76 50.00	1 2.44 4.76 100.00	0 0.00 0.00 0.00	1 2.44 4.76 100.00	1 2.44 4.76 50.00	0 0.00 0.00 0.00	21 51.22
Total f	%	1 2.44	2 4.88	1 2.44	1 2.44	1 2.44	2 4.88	1 2.44	41 100.00

The following is highlighted from the above figure:

- Brought us closer together - (4 male and 4 female responses (19.51%).
- Strengthened our love for each other - (2 male and 3 female responses) (12.20%).
- Increased our mutual respect - (2 male and 3 female responses) (12.20%).
- More affectionate toward each other - (2 male and 3 female responses) (12.20%).
- Improved our communication - (3 male and 1 female response) (9.76%).
- Did more things together - (1 male and 2 female responses) (7.32%).
- Other influences with 2 responses (4.88%) each were: Did fewer things together and led to divorce.

Thus it is evident that the majority of respondents experienced

a positive influence on their marital relationship following unsuccessful or no treatment. Only a minority experienced negative influences including divorce. In the interviews these 2 respondents also stated an extra-marital affair by the 1 spouse, separation and that they were presently in the process of divorce. Most of these couples, however, had an enriched marital experience following unsuccessful treatment or having decided against treatment. This could be attributed to their devoting themselves to each other as a result and maintaining their secret. Berger et al. (1986:822), similarly state that the marriage is stabilized by each partner's need to remain loyal to the other's secret and this enhances their love and respect for each other. Thus unsuccessful or no treatment had mainly a positive influence on the marital relationship.

*** Relationships affected**

The aim of this question was to determine whether the relationships were affected by the unsuccessful or no treatment. Twelve respondents could answer this question.

- God

- . 50.00% (1 female respondent) reported a positive influence on her relationship with God following unsuccessful treatment or the decision to have no treatment.
- . 50.00% (1 male respondent) reported a negative influence on his relationship with God following unsuccessful treatment or no treatment.
- . 10 respondents did not respond.
- . The mean or average rating (\bar{x}) for the relationship with God was $\bar{x} = 1.5$

- Spouse

- . 60.00% (2 male and 1 female respondent) reported a positive influence on their relationship with their spouse.
- . 40.00% (1 male and 1 female respondent) reported a negative influence on their relationship with their spouse.
- . 7 respondents did not respond.
- . The mean or average rating (\bar{x}) for the relationship with the spouse was $\bar{x} = 1.4$

These 2 respondents who reported a negative influence on their relationship with their spouse, reported the wife having an

extra-marital affair, subsequent separation and that they were presently in the process of getting divorced. Goebel & Lübke (1987:636) found a 35% divorce rate amongst couples who had undergone unsuccessful artificial fertilization with donor gametes. The divorce rate for couples in this study who had undergone unsuccessful artificial fertilization with donor gametes was 33%, very similar to that found in the literature, which is quite high. This could most probably be attributed to the stress, disappointment, anger and blame that go along with unsuccessful or no treatment.

- **Family**

- . 25.00% (1 male respondent) reported a positive influence on his relationship with family.
- . 75.00% (1 male and 2 female respondents) reported a negative influence on their relationships with family.
- . 8 respondents did not respond.
- . The mean or average rating (\bar{x}) for the relationship with family was $\bar{x} = 1.75$

- **Friends**

- . 0% respondents responded to this section.

- **Colleagues**

- . 100% (1 male and 1 female respondent) reported a positive influence on their relationships with colleagues.
- . 10 respondents did not respond.
- . The mean or average rating (\bar{x}) for the relationship with colleagues was $\bar{x} = 1$

Thus it is evident that the majority of respondents did not respond to this question. They most probably found it of no significance or could not remember whether any relationships were positively or negatively affected. The few respondents who did respond experienced both positive and negative influences on their relationships. This can clearly be seen in the \bar{x} ratings which are all closer to 2, which is negative. Thus if ranked from largest to smallest, as largest (closest to 2) is negative, then the family relationships were most negatively influenced and this was motivated as: the family distanced themselves; and the family were shocked to find out that they had unsuccessfully undergone this treatment and would have brought "other blood" into the family. Secondly their negative

relationship with God they motivated as: feeling rejected by God; and positively they motivated: felt closer to God and developed a stronger religion. Thirdly their negative relationship with their spouse they motivated as: our love for each other deteriorated and led to separation. Thus rejection and blame were the main reasons provided for these negative influences on their relationships.

If one compares the positive influence on the relationships which was slightly higher, then the relationship with colleagues was affected most positively, followed by the relationship with the spouse, God and family. This could most probably be attributed to their being more settled in their work and subsequent relationship with colleagues, since not undergoing any more treatment and having to take off at work. Furthermore the positive relationship with the spouse corresponds well with the positive influence of the marriage discussed earlier as a result of unsuccessful treatment. The less positive relationships with God and family again correspond well with the more negative influences motivated above. The relationship with friends was not responded to at all in this section, making it of least importance to those who had unsuccessful treatment.

If one compares the relationships influenced by successful treatment with those by unsuccessful treatment, it is interesting that most relationships were affected positively and that those with colleagues were most positively affected by both successful and unsuccessful treatment. The relationships affected positively by successful treatment were ranked: colleagues, God, family, spouse and friends compared to unsuccessful treatment, ranked: colleagues, spouse, God, family. Thus the colleagues, God, spouse and family were most positively influenced by both successful and unsuccessful treatment, with friends least positively affected or not even mentioned. More respondents also responded to the successful treatment than to the unsuccessful. The relationships affected negatively by successful treatment were ranked: friends, spouse, family, God and colleagues, compared to the relationships affected negatively by unsuccessful treatment ranked: family, God and spouse.

Thus there is no direct correlation in order of ranking, except that the relationships with family, spouse and God were negatively affected in both instances, with the relationships with friends not mentioned at all by those who had unsuccessful treatment. Thus the relationships with those close to respondents were mainly positively affected, but were also negatively affected for some, whether treatment was successful or unsuccessful. The positive effects for successful treatment were, however, the majority.

* **Social aspects influenced**

The aim of this question was to determine whether unsuccessful or no treatment had any influence on the social aspects of the 12 respondents.

- **Social life**

- . 50.00% (1 male respondent) reported a positive influence on their social life following unsuccessful/no treatment.
- . 50.00% (1 female respondent) reported a negative influence on their social life.
- . 10 respondents did not respond.
- . The mean or average rating (\bar{x}) for the social life was $\bar{x} = 1.5$

- **Work**

- . 50.00% (1 male respondent) reported a positive influence on his work.
- . 50.00% (1 female respondent) reported a negative influence on her work.
- . 10 respondents did not respond.
- . The mean or average rating (\bar{x}) for work was $\bar{x} = 1.5$

- **Finances**

- . 100% (1 female respondent) reported a negative influence on their finances.
- . 11 respondents did not respond.
- . The mean or average rating (\bar{x}) for finances was $\bar{x} = 2$

- **Housing**

- . 0% - (no respondents) responded to this question.

Thus it is evident that the majority of respondents did not respond to this section, which could probably be attributed to the fact that they found it of no significance or could not

remember if any of these aspects were influenced. Of the few respondents who did respond, the \bar{x} ratings are closer to 2 which is negative and were ranked as follows: finances, work and social life. These negative influences were motivated as: did not want to go out where there were children; started leading separate social lives; became more determined as a woman to start a career and this took up all of her time as she became over-involved and eventually they separated; the treatment, travelling and hospitalization was expensive and drained them financially.

Thus it seems as if the social aspects influenced negatively led to either isolation or leading separate lives or contributed to marital break-up. Thus the few respondents who did respond to this section experienced mainly negative influences on these aspects. The fact that a few respondents answered this section makes it difficult to come to definite conclusions.

If one compares the influence of these aspects with successful and unsuccessful treatment, then these aspects were affected positively by successful treatment, and negatively by unsuccessful treatment (but only a few respondents responded).

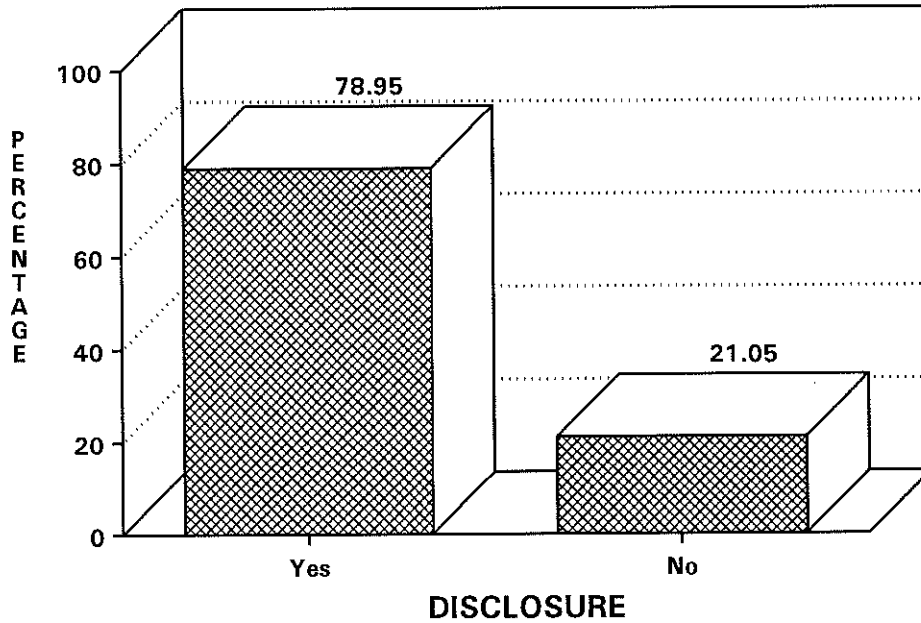
7.3.4.4 Secrecy

The aim of this section was to determine the psycho-social implications of secrecy regarding artificial fertilization with donor gametes for all the 19 respondents.

*** Disclosure of secret**

The aim of the question was to determine whether respondents had told anyone about their secret, that is, artificial fertilization with donor gametes as illustrated in Figure 77 below:

FIGURE 77: DISCLOSURE OF SECRET



(N = 19)

It is clear from the above figure that:

- 78.95% (8 male and 7 female respondents) had told someone about the treatment.
- 21.05% (2 male and 2 female respondents) had not told anybody.

Thus the majority of respondents disclosed the secret while only 4 respondents had kept it a secret. Thus the respondents had more open attitudes it seems regarding disclosure of their treatment, which is also recommended in most studies in the literature. (Compare De Wert, 1986:38; Matot & Gustin, 1990:632; Van Staden, 1989:175-176; Snowden *et al.*, 1983:110-113 and Milsom & Bergman, 1982:127.) Disclosure or non-disclosure is, however, a very sensitive and personal issue, which has to be discussed individually with each couple and they have to make the final decision. A more open attitude, however, should be recommended to them.

* **To whom secret was disclosed**

The aim of this question was to determine to whom the respondents turned to, to disclose their secret as shown in Table 19 below. Respondents could indicate all the persons told, thus they are referred to as responses in this section.

TABLE 19: TO WHOM SECRET WAS DISCLOSED

SEX

Frequency Percent Row Pct Col Pct	PATERNAL MOTHER	PATERNAL FATHER	MATERNAL MOTHER	MATERNAL FATHER	WIFE'S SIBLINGS	HUSBANDS SIBLINGS	PATERNAL GRAND- PARENTS	Total
1	5	5	4	5	3	4	0	44
	5.43	5.43	4.35	5.43	3.26	4.35	0.00	47.83
	11.36	11.36	9.09	11.36	6.82	9.09	0.00	
	55.56	62.50	40.00	45.45	42.86	44.44	0.00	
2	4	3	6	6	4	5	1	48
	4.35	3.26	6.52	6.52	4.35	5.43	1.09	52.17
	8.33	6.25	12.50	12.50	8.33	10.42	2.08	
	44.44	37.50	60.00	54.55	57.14	55.56	100.00	
Total f	9	8	10	11	7	9	1	92
%	9.78	8.70	10.87	11.96	7.61	9.78	1.09	100.00

SEX

Frequency Percent Row Pct Col Pct	MATERNAL GRAND- PARENTS	FAMILY	FRIENDS	COL- LEAGUES	SOCIAL WORKER	PRIEST	DOCTOR	Total
1	0	4	4	2	4	0	4	44
	0.00	4.35	4.35	2.17	4.35	0.00	4.35	47.83
	0.00	9.09	9.09	4.55	9.09	0.00	9.09	
	0.00	50.00	50.00	66.67	50.00	0.00	57.14	
2	2	4	4	1	4	1	3	48
	2.17	4.35	4.35	1.09	4.35	1.09	3.26	52.17
	4.17	8.33	8.33	2.08	8.33	2.08	6.25	
	100.00	50.00	50.00	33.33	50.00	100.00	42.86	
Total f	2	8	8	3	8	1	7	92
%	2.17	8.70	8.70	3.26	8.70	1.09	7.61	100.00

The following is highlighted from the above table:

- Maternal father - 11 responses (11.96%).
- Maternal mother - 10 responses (10.87%).
- Paternal mother - 9 responses (9.78%).
- Husband's siblings - 9 responses (9.78%).
- Paternal father - 8 responses (8.70%).
- Family - 8 responses (8.70%).

- Friends - 8 responses (8.70%).
- Social worker - 8 responses (8.70%).
- Wife's siblings - 7 responses (7.61%).
- Doctor - 7 responses (7.61%).
- Colleagues - 3 responses (3.26%).
- Maternal grandparents - 2 responses (2.17%).
- Paternal grandparents - 1 response (1.09%).
- Priest/Pastor - 1 response (1.09%).

It is interesting that the wife's father was told by the majority of respondents, followed by the wife's mother and the husband's mother. This could most probably be ascribed to it not being their family name which is directly affected. The husband's brothers and sisters were subsequently told, with whom he most probably has a better relationship, followed by the husband's father, who seemed to be the last of the direct family to be told, as it most probably affected him more directly in terms of the family name and an heir. It is also interesting that the wife's siblings were a lower priority in terms of direct family, as well as the grandparents. Thus it was family members to whom this secret was disclosed. This corresponds well with the literature, where Van Staden (1989:178) and Milsom & Bergman (1982:127) also found disclosure to take place to family members. Klock & Maier (1991:491-492) similarly to this study, found the following family members and persons whom the secret was disclosed to: mother, father, best friend, physician, close friend, sister, brother, therapist, co-worker and employer. Snowden *et al.* (1983:110-113) on the other hand, found disclosure in their study to be to family and friends. Snowden *et al.* (1983:100-123) interestingly found, contradictory findings to this study, in that couples preferred telling the paternal parents, because of the fear of the maternal parents feeling disappointed in the husband. In this study the maternal parents were told by more respondents than the paternal parents, as they most probably feared their reactions because of their name it affected directly. Most women also have a closer relationship with their mother and/or parents than men do with theirs, thus telling them first. Thus the findings in this study, of disclosure being mainly to family, friends, and the social worker and doctor involved in the treatment, is reasonab-

ly similar to findings in the literature, except for the disclosure to the maternal parents being higher in this study, compared to the paternal parents in the literature.

* **Reactions of people who were told**

The aim of this question was to determine how people who were told reacted to this news as shown in Table 20 below. Respondents could indicate all the applicable reactions, thus they are referred to as responses in this section.

TABLE 20: REACTIONS OF PERSONS TOLD

SEX		CONDEMN- ED TREAT- MENT	ENCOUR- AGED TREATM	ETHICAL CONCERNS	LEGAL CONCERNS	PSYCHO- SOCIAL CONCERNS	EMOTION- AL SUPPORT	RETAIN SECURITY	SUPPORT DECISION	SHOCKED BY NEWS	Total
MALE	Frequency Percent Row Pct Col Pct	3 7.50 13.64 60.00	4 10.00 18.18 50.00	1 2.50 4.55 50.00	1 2.50 4.55 100.00	1 2.50 4.55 100.00	4 10.00 18.18 57.14	1 2.50 4.55 33.33	6 15.00 27.27 54.55	1 2.50 4.55 50.00	22 55.00
FEMALE		2 5.00 11.11 40.00	4 10.00 22.22 50.00	1 2.50 5.56 50.00	0 0.00 0.00 0.00	0 0.00 0.00 0.00	3 7.50 16.67 42.86	2 5.00 11.11 66.67	5 12.50 27.78 45.45	1 2.50 5.56 50.00	18 45.00
Total	f %	5 12.50	8 20.00	2 5.00	1 2.50	1 2.50	7 17.50	3 7.50	11 27.50	2 5.00	40 100.00

The following findings are highlighted from the above table:

- Supported us in our decision - 11 responses (27.50%).
- Encouraged donor treatment - 8 responses (20.00%).
- Provided emotional support - 7 responses (17.50%).
- Condemned donor treatment - 5 responses (12.50%).
- Promised to retain the secret - 3 responses (7.50%).
- Mentioned ethical-moral concerns - 2 responses (5.00%).
- Shocked by the news - 2 responses (5.00%).
- Mentioned legal concerns - 1 response (2.50%).

- Discussed the psycho-social concerns - 1 response (2.50%). It is evident from these findings that the majority of reactions was very positive and supportive and only the minority were negative reactions. Others reacted by mentioning possible concerns or implications, as if to help them change their minds. Milsom & Bergman (1982:127); Snowden et al. (1983:110-116) and Van Staden (1989:178) similarly found the reactions of family members and close friends told to be very supportive, encouraging and enabling an open discussion of matters with on-going support. Thus these findings correspond well with those in the literature of positive, encouraging, on-going supportive reactions of the family members and close friends told.

* **Reasons for non-disclosure**

The aim of this question was to determine why some respondents preferred not to disclose their secret as shown in the table below. Respondents could mark all the applicable reasons and will thus be referred to as responses in this question.

TABLE 21: REASONS FOR NON-DISCLOSURE

SEX

Frequency Percent Row Pct Col Pct	PRIVATE MATTER	OUR OWN BUSINESS	INFER- TILITY SECRET	FEAR OF SPOUSAL EXPOSURE	FEAR OF REAC- TIONS	FEAR OF EXPOSING CHILD	FEAR RE- JECTION OF CHILD	FEAR IN- FLUENCE ON CHILD	Total
MALE	2 10.53 40.00 40.00	1 5.26 20.00 25.00	1 5.26 20.00 50.00	0 0.00 0.00 0.00	1 5.26 20.00 50.00	0 0.00 0.00 0.00	0 0.00 0.00 0.00	0 0.00 0.00 0.00	5 26.32
FEMALE	3 15.79 21.43 60.00	3 15.79 21.43 75.00	1 5.26 7.14 50.00	1 5.26 7.14 100.00	1 5.26 7.14 50.00	1 5.26 7.14 100.00	2 10.53 14.29 100.00	2 10.53 14.29 100.00	14 73.68
Total f %	5 26.32	4 21.05	2 10.53	1 5.26	2 10.53	1 5.26	2 10.53	2 10.53	19 100.00

The following is highlighted from the above table:

- It is a private matter - 5 responses (26.32%).

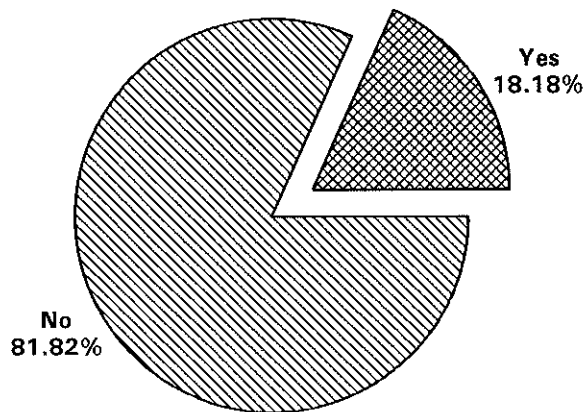
- Its our own business and nobody needs to know - 4 responses (21.05%).
- Our infertility is a secret - 2 responses (10.53%).
- Fear of people's reactions - 2 responses (10.53%).
- Fear rejection of the child - 2 responses (10.53%).
- Fear of the influence it will have on the child - 2 responses (10.53%).
- Fear exposure of my spouse - 1 response (5.26%).
- Fear of exposing the child - 1 response (5.26%).

Thus the majority of reasons was linked to it being private and unnecessary to tell as people are unaware of their infertility and with the pregnancy and birth people will assume it is their own child. The other reasons were linked to fears of reactions, exposure and influences. Snowden *et al.* (1983:103-110) also found privacy to be a major reason for secrecy, while Snowden & Mitchell (1981:106-108) found the fact that nobody needs to know, as nobody knows of the infertility and everything can appear as normal, to be the main reason for non-disclosure. Thus these findings are very similar to the findings in the literature.

*** Plans to tell in future**

The aim of this question was to determine whether respondents planned to tell anyone in the future about their secret.

FIGURE 78: PLANS TO TELL IN FUTURE



(N = 11)

It is clear from the above figure that:

- 81.82% (9 respondents) planned not to tell anyone in the future.
- 18.18% (2 respondents) planned to tell.
- 8 respondents did not respond.

Thus the majority of respondents planned not to tell people in the future. The reasons motivated were: no reason to; nothing to do with them; private matter which can have an influence on the child; it should not be known; only if someone was in the same situation - would tell them. Non-disclosure for the future thus seemed important to the respondents now, as they already had the children, and most probably preferred to be accepted as any other normal family.

*** Feelings evoked by secrecy**

The aim of this question was to determine whether secrecy evoked any feelings. Respondents could select any 5 feelings. These findings are reflected in Table 22 below in terms of responses:

TABLE 22: FEELINGS EVOKED BY SECRECY

SEX

Frequency Percent Row Pct Col Pct	EXITE- MENT	HAPPI- NESS	HOPE	ENTHU- SIASM	AMBIVA- LENCE	EXPOSURE	SADNESS	UNCER- TAINTY	DESPAIR	Total
MALE	1 5.26 25.00 33.33	0 0.00 0.00 0.00	1 5.26 25.00 25.00	1 5.26 25.00 50.00	0 0.00 0.00 0.00	0 0.00 0.00 0.00	0 0.00 0.00 0.00	1 5.26 25.00 50.00	0 0.00 0.00 0.00	4 21.05
FEMALE	2 10.53 13.33 66.67	2 10.53 13.33 100.00	3 15.79 20.00 75.00	1 5.26 6.67 50.00	2 10.53 13.33 100.00	1 5.26 6.67 100.00	2 10.53 13.33 100.00	1 5.26 6.67 50.00	1 5.26 6.67 100.00	15 78.95
Total f %	3 15.79	2 10.53	4 21.05	2 10.53	2 10.53	1 5.26	2 10.53	2 10.53	1 5.26	19 100.00

The following findings are highlighted from the above table:

- Hope - 4 responses (21.05%).
- Excitement - 3 responses (15.79%).
- Happiness - 2 responses (10.53%).
- Enthusiasm - 2 responses (10.53%).
- Ambivalence - 2 responses (10.53%).
- Sadness - 2 responses (10.53%).
- Uncertainty - 2 responses (10.53%).

Thus it seems as if the feelings evoked by the secrecy were mainly positive, with a few negative feelings, as each couple was together guarding this secret to protect each other, which most probably made them feel positive toward each other. The negative feelings were most probably linked to the uncertainty of what lay ahead and the sadness of being so alone and isolated in this situation, not being able to share their experience with anybody. Manuel *et al.* (1980:421) sums this up as follows: "Secrecy has a high psychological price ... the very deep and legitimate need to communicate and share, has to be defended against constantly, ... related at times, to mood or behavioural disturbances, ..., paranoid fears, projection and isolation." This describes the possible reasons for the negative feelings experienced by the minority of respondents well. It is interesting, however, that the majority of respondents in this study experienced positive feelings most probably linked to their happiness and positive coping mechanisms.

*** Influence of secrecy on marital relationship**

The aim of this question was to determine whether secrecy had any influence on the marital relationship. Respondents could select any 5 influences. These findings are indicated in Table 23 below and is reflected in terms of responses:

TABLE 23: INFLUENCE OF SECRECY ON MARITAL RELATIONSHIP

SEX		STRENGTH- ENED LOVE	IN- CREASED RESPECT	MORE AFFEC- TIONATE	CLOSER TOGETHER	IMPROVED COMMUNI- CATION	DID MORE TOGETHER	SEX WORSE- NED	FEAR OF DIS- CLOSURE	EXTRA- MARITAL AFFAIR	Total
Frequency	Percent	Row Pct	Col Pct								
MALE	1	2	1	2	1	2	1	0	0		10
	4.17	8.33	4.17	8.33	4.17	8.33	4.17	0.00	0.00	0.00	41.67
	10.00	20.00	10.00	20.00	10.00	20.00	10.00	0.00	0.00	0.00	
	33.33	50.00	50.00	40.00	33.33	50.00	100.00	0.00	0.00	0.00	
FEMALE	2	2	1	3	2	2	0	1	1		14
	8.33	8.33	4.17	12.50	8.33	8.33	0.00	4.17	4.17	4.17	58.33
	14.29	14.29	7.14	21.43	14.29	14.29	0.00	7.14	7.14	7.14	
	66.67	50.00	50.00	60.00	66.67	50.00	0.00	100.00	100.00	100.00	
Total f	3	4	2	5	3	4	1	1	1		24
%	12.50	16.67	8.33	20.83	12.50	16.67	4.17	4.17	4.17		100.00

The following findings are highlighted from the above table:

- Brought you closer together - 5 responses (20.83%).
- Increased your mutual respect - 4 responses (16.67%).
- Did more things together - 4 responses (16.67%).
- Strengthened your love for each other - 3 responses (12.50%).
- Improved your communication - 3 responses (12.50%).
- More affectionate towards each other - 2 responses (8.33%).

Thus the majority of responses were concerning positive influences of the secrecy on the marriage. This can most probably be attributed to the fact that the secrecy made them more dependent on each other, closer and isolated. Berger et al. (1986:822) mention in this regard that the marriage is stabilized by each partner's need to remain loyal to the other's secret and this enhances their love and respect for each other. Thus the positive influence of secrecy on the marital relationship can most probably be attributed to their enhanced relationship.

* **Concerns related to secrecy**

The aim of this question was to determine the concerns respondents had which were related to the secrecy. Respondents could indicate any 3 concerns. These findings are illustrated in Table 24 below and is reflected in terms of responses:

TABLE 24: CONCERNS RELATED TO SECRECY

SEX		NO EMO- TIONAL SUPPORT	DEPEND ON EACH OTHER	FEAR DISCLO- SURE	CHILD FINDING OUT	SECRECY CORRECT DECISION	REACTION OF PEOPLE	DONOR HAS AIDS	Total
Frequency	Percent	Row Pct	Col Pct						
MALE	0	2	0	1	1	0	0	4	33.33
	0.00	16.67	0.00	8.33	8.33	0.00	0.00		
	0.00	50.00	0.00	25.00	25.00	0.00	0.00		
	0.00	50.00	0.00	100.00	50.00	0.00	0.00		
FEMALE	1	2	1	0	1	2	1	8	66.67
	8.33	16.67	8.33	0.00	8.33	16.67	8.33		
	12.50	25.00	12.50	0.00	12.50	25.00	12.50		
	100.00	50.00	100.00	0.00	50.00	100.00	100.00		
Total f	1	4	1	1	2	2	1	12	
%	8.33	33.33	8.33	8.33	16.67	16.67	8.33	100.00	

The following findings are highlighted from the above table:

- We are mutually dependent on each other for support - 4 responses (33.33%).
- Did we make the correct decision to keep it secret? - 2 responses (16.67%).
- How will people react if they find out? - 2 responses (16.67%).
- Other concerns with 1 response (8.33%) each were: No emotional support from others; we fear that the secret is disclosed to others; we fear that the child will find out about this secret; we fear that the donor could have had AIDS.

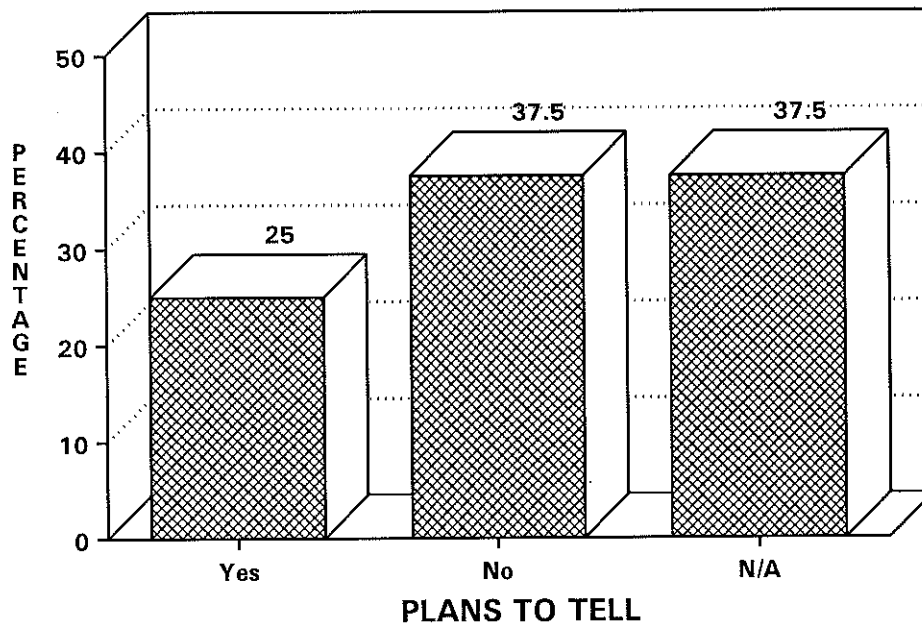
Thus the majority of respondents were concerned about only

having one another for mutual support. Furthermore they experienced uncertainty regarding their decision and how to deal with the situation if the secret were to be disclosed. Matot & Gustin (1990:632) sums this up very well by stating: "The secret can only be kept on the condition that it is never forgotten, but always present in the mind of the keeper." Thus this secret created permanent concerns and uncertainties in the mind of these respondents in this study.

*** Plans to tell the child**

The aim of this question was to determine whether respondents planned to tell the child of their artificial fertilization with donor gamete treatment and the donor origin.

FIGURE 79: PLANS TO TELL THE CHILD



(N = 16)

The following is evident from the above figure:

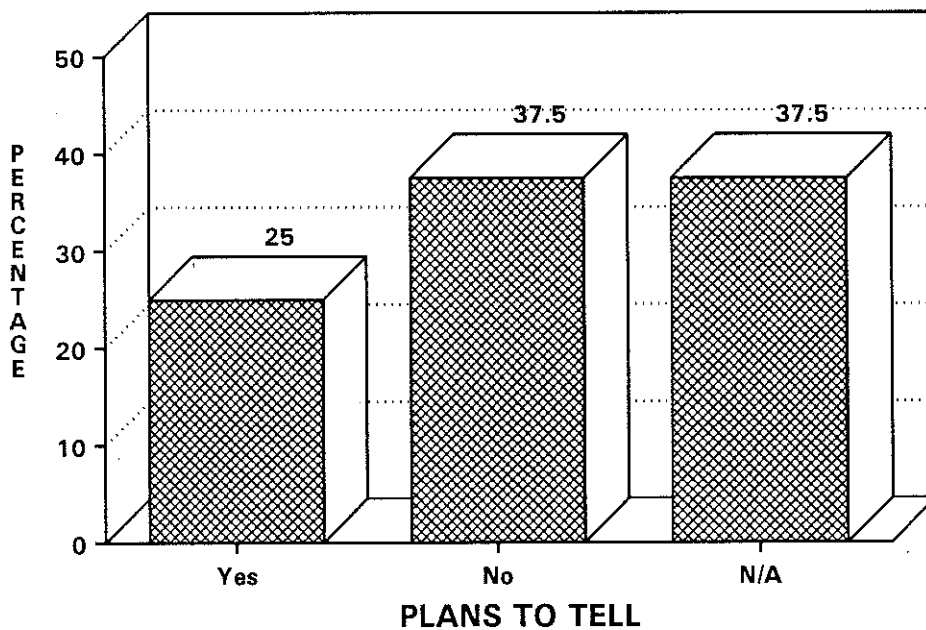
- 25.00% (2 male and 2 female respondents) planned to tell their child in the future.
- 37.50% (3 male and 3 female respondents) planned not to tell

having one another for mutual support. Furthermore they experienced uncertainty regarding their decision and how to deal with the situation if the secret were to be disclosed. Matot & Gustin (1990:632) sums this up very well by stating: "The secret can only be kept on the condition that it is never forgotten, but always present in the mind of the keeper." Thus this secret created permanent concerns and uncertainties in the mind of these respondents in this study.

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- 37.50% (3 male and 3 female respondents) planned not to tell

their child in the future.

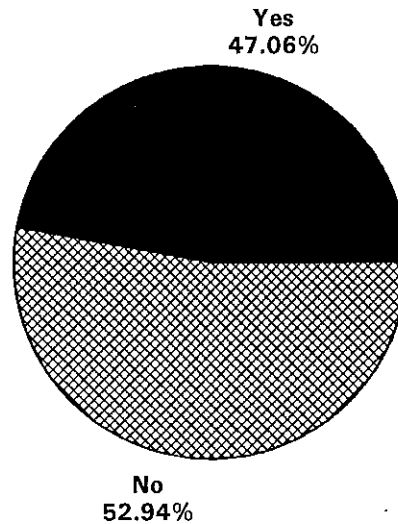
- 37.50% (3 male and 3 female respondents) marked not applicable.

Thus only 4 respondents planned to tell their child and 6 planned not to. Somehow respondents misunderstood this question as the yes/no response was meant for the 7 respondents who had a donor child and the not applicable was meant for the remaining 12 respondents. Three respondents did not complete this question. Thus the respondents responded to whether they would tell their children (donor, biological or adopted) about their undergoing artificial fertilization, whether successful or unsuccessful. Thus one cannot conclude whether the 4 respondents were going to tell their donor child of his/her origin or merely their biological or adopted children of their unsuccessful treatment. The reasons respondents motivated for telling or not telling their child were: depending on the circumstances; might break our bond; yes at 4-5 years of age; the doctor said it was not necessary to tell; have accepted them as my own - no guilt feelings. Thus only the minority were planning to tell their child and the majority not. The literature also shows that the majority of couples in various studies, plans not to tell the child. (Compare Jones, 1984:317; Manuel *et al.*, 1980:422-427; Daniels, 1988:382; Waltzer, 1982:98; Schover *et al.*, 1992:583-590 and Klock *et al.*, 1994:477-484.) Some studies, on the contrary, were in favour of telling the child. (Compare Purdie *et al.*, 1992:27-28 and Milson & Bergman, 1982:127.) Thus it is evident that it is a difficult sensitive issue which needs to be discussed with and decided on individually by each couple. In this study, however, it seems as if only the minority of respondents was planning to tell their child.

*** Would respondents tell again**

The aim of this question was to determine whether respondents who had disclosed their secret, would again tell if they knew then what they know now. This is reflected in Figure 80 below:

FIGURE 80: TELLING AGAIN



(N = 17)

From the above figure it is clear that:

- 47.06% (4 male and 4 female respondents) would tell again if they could have the situation over.
- 52.94% (5 male and 4 female respondents) would not tell again if they could have the situation over.
- 2 respondents did not answer this question.

The reasons motivated by the respondents were: It remains a private matter; it's got nothing to do with anyone; no would not tell and would never have undergone this treatment, as a child and marriage were hurt in the process; nothing to be ashamed of; no regrets telling; would tell my brother and sister-in-law again as they have maintained the secret. Thus it seems as if the majority would not tell or disclose their secret again if they could have the situation over, as it is seen as a private matter. The one respondent went as far as regretting telling and having undergone treatment as he suffered many losses in the

process. Klock & Maier (1991:491-492) similarly found that when couples were asked if they would tell someone if they could have it over, 87% said they would tell no one. Thus it seems as if the majority of respondents in this study regrets having disclosed their secret, similar to the literature study.

7.3.5 Professional Services

The aim of this section was to do a long-term evaluation of how respondents valued the services of all the disciplines involved in their treatment, to determine when social work intervention was needed the most and to provide respondents with the opportunity to make recommendations to improve on future services.

7.3.5.1 Value of services of different disciplines

The aim of this section was to do a long-term evaluation of how respondents valued the services of the different disciplines involved during the different stages of treatment, that is during preparation for treatment, during treatment and after treatment.

*** Value of the preparation for treatment**

The following findings illustrate the values for the different disciplines during this stage:

- Medical doctor

- . 80.00% (6 male and 6 female respondents) rated the doctors services during this stage as of high value.
- . 13.33% (1 male and 1 female respondent) rated these services of moderate value.
- . 6.67% (1 female respondent) rated it of no value.
- . 4 respondents did not respond.

Thus the services of the medical doctor, that is, the gynaecologist, were rated of high value by the majority of respondents regarding the preparation for treatment, as the gynaecologist at the clinic involved where all the respondents were prepared, did a thorough preparation.

- Nurse

- . 50.00% (1 male and 3 female respondents) rated the services of the nurse to be of high value.
- . 37.50% (3 female respondents) rated it of moderate value.
- . 12.50% (1 female respondent) rated it of no value.

. 11 respondents did not respond.

Thus the services of the nurse during the preparation for treatment stage was only rated by a few respondents, (8) of which only half (4) rated it of high value. This could most probably be attributed to the fact that the nurse was not so involved in the preparation of couples for treatment at the clinic where all the respondents were prepared.

- **Social worker**

- . 88.89% (9 male and 7 female respondents) rated the services of the social worker regarding the preparation of treatment to be of high value.
- . 5.56% (1 female respondent) rated it of moderate value.
- . 5.56% (1 female respondent) rated it of no value.
- . Only 1 respondent did not respond.

Thus the majority of respondents (16) rated the preparation for treatment by the social worker (researcher), to be of high value, and only 1 of moderate and no value respectively. It seems as if the social worker's services (the preparation session) which all the respondents underwent during this stage, was rated very high, the highest of all the disciplines by most respondents.

- **Psychologist**

- . 14.29% (1 female respondent) rated the services of the psychologist during this stage to be of high value.
- . 42.86% (2 males and 1 female respondent) rated it of moderate value,
- . 42.86% (1 male and 2 female respondents) rated it of no value.
- . 12 respondents did not respond.

Thus it seems as if the psychologist was only rated moderately by the majority of respondents or of no value by the same number of respondents. Thus the services of the psychologist in the team were not rated very well in this stage and only by a few (7) respondents.

- **Minister/Priest**

- . 20.00% (1 female respondent) rated the services of the minister of religion to be of high value.
- . 80.00% (1 male and 3 female respondents) rated it of no value.

. 14 respondents did not respond to this question.

Thus the value of the services of a minister of religion was rated by a very small number respondents (5), of which only 1 rated it of high value. This could most probably be attributed to the fact that most churches are against this form of treatment and that only a few respondents most probably went to see their minister/priest prior to treatment. There was also no theologian on the team at the clinic involved.

- **Laboratory personnel**

. 66.67% (2 male and 4 female respondents) rated these services of high value during this stage.

. 33.33% (1 male and 2 female respondents) rated it of no value.

. 10 respondents did not respond.

Thus the laboratory personnel were rated of high value by 6 respondents regarding the preparation for treatment, as they most usually prepared respondents on the technicalities of the procedure regarding the preparation of the gametes.

- **Administrative personnel**

. 28.57% (1 male and 1 female respondent) rated the services of the administrative personnel to be of high value.

. 14.29% (1 female respondent) rated it of moderate value.

. 57.14% (1 male and 3 female respondents) rated it of no value.

. 12 respondents did not respond.

Thus, the services of the administrative personnel, who were involved in making the appointments and often providing support per telephone, were only rated of high value by 2 respondents and of moderate value by 1 respondent. The majority of respondents (4) rated their services of no value.

Thus it is evident from the findings in this preparation stage that the services of the social worker was rated by most respondents (16) (88.89%) to be of high value, followed by the medical doctor rated of high value by 12 respondents (80%). This was followed by the laboratory personnel, (6 respondents) (66.67%) and the nurse (4 respondents) (50%).

* **Value during treatment**

The following findings illustrate the values for the different disciplines during treatment:

- **Medical Doctor**

- . 100% (6 male and 6 female respondents) rated the services of the medical doctor during treatment to be of high value.
- . 7 respondents did not respond.

Thus the 12 respondents who did answer this question all rated the doctor's services of high value during treatment. The 7 respondents who did not respond were most probably respondents who did not undergo treatment (6) and 1 other who did not respond. Thus the doctor's treatment was valued.

- **Nurse**

- . 71.43% (1 male and 4 female respondents) rated the services of the nurse during treatment of high value.
- . 14.29% (1 male respondent) rated it of moderate value.
- . 14.29% (1 female respondent) rated it of no value.
- . 12 respondents did not respond.

Only a few respondents (7) answered this section of which the majority of respondents (4) rated the services of the nurse during treatment of high value.

- **Social Worker**

- . 50.00% (1 male and 2 female respondents) rated the services of the social worker during treatment to be of high value.
- . 33.33% (2 male respondents) rated it of moderate value.
- . 16.67% (1 female respondent) rated it of no value.
- . 13 respondents did not respond.

Thus only 6 respondents answered this section of which 3 rated the services of high value and 2 of moderate value. Only some had most probably had contact with a social worker at the clinic for support during treatment.

- **Psychologist**

- . 50.00% (1 female respondent) rated the services of the psychologist of moderate value during treatment.
- . 50.00% (1 female respondent) rated the services of no value.
- . 17 respondents did not respond.

Thus only 2 respondents answered this section of which 1 rated the services of moderate and the other of no value.

The psychologist did not seem to play an important role during treatment, at the clinic or practice where treated.

- Minister/Priest

- . 50.00% (1 female respondent) rated the services of the minister of religion of high value during treatment.
- . 50.00% (1 female respondent) rated the services of no value.
- . 17 respondents did not respond.

Thus only 2 respondents answered this section of which 1 rated the services of high value and the other of no value. The minister of religion did not seem to play an important role during treatment.

- Laboratory personnel

- . 71.43% (3 male and 2 female respondents) rated the services of the laboratory personnel during treatment to be of high value.
- . 28.57% (1 male and 1 female respondent) rated the services of no value.
- . 12 respondents did not respond.

Thus only 7 respondents answered this section of which 5 rated the services of high value and 2 of no value.

- Administrative personnel

- . 33.33% (1 male respondent) rated the value of the services of the administrative personnel of high value.
- . 33.33% (1 female respondent) rated it of moderate value.
- . 33.33% (1 female respondent) rated it of no value.
- . 16 respondents did not respond.

Thus only 3 respondents answered this section of which 1 rated the services of high value and 1 of moderate value. Thus the administrative personnel did not seem to play an important role during treatment.

Thus of all the disciplines during treatment, it is evident that the services of the medical doctor was rated to be of the highest value by the most respondents (12) (100%). This was followed by the nurse (5 respondents) (71.43%), the laboratory personnel (5 respondents) (71.43%) and the social worker (3 respondents) (50%). This could be ascribed to the medical doctor performing the treatment and playing the most active

role, usually assisted by the nurse, as well as the laboratory personnel who prepared the gametes. The social worker at the clinic offered emotional support during treatment.

* **Value after treatment**

The following findings illustrate the values for the different disciplines after treatment:

- **Medical doctor**

- . 87.50% (2 male and 5 female respondents) rated the services of the medical doctor after treatment to be of high value.
- . 12.50% (1 male respondent) rated it of moderate value.
- . 11 respondents did not respond.

Thus only 8 respondents answered this section of which 7 rated the services of the doctor of high value. The doctor usually followed these patients up on a routine basis following treatment, especially after successful treatment.

- **Nurse**

- . 60.00% (1 male and 2 female respondents) rated the services of the nurse after treatment to be of high value.
- . 20.00% (1 female respondent) rated it of moderate value.
- . 20.00% (1 female respondent) rated it of no value.
- . 14 respondents did not respond.

Thus only 5 respondents answered this section of which 3 rated the services of the nurse of high value. Thus the nurse did not seem to play such an important role after treatment, at the clinic or practice where treated.

- **Social Worker**

- . 80.00% (2 male and 2 female respondents) rated the services of the social worker of high value after treatment.
- . 20.00% (1 female respondent) rated it of no value.
- . 14 respondents did not respond.

Thus only 5 respondents answered this section of which 4 rated the services of high value. Thus the social worker did not seem to play such an important role after treatment, at the clinic or practice where treated.

- **Psychologist**

- . 50.00% (1 female respondent) rated the services of the psychologist of moderate value after treatment.
- . 50.00% (1 female respondent) rated it of no value.

. 17 respondents did not respond.

Thus only 2 respondents answered this section of which only 1 rated the services of moderate value. Thus the psychologist did not seem to play an important role after treatment.

- **Minister/Priest**

. 50.00% (1 female respondent) rated the services of the minister of religion to be of high value after treatment.

. 50.00% (1 female respondent) rated it of no value.

. 17 respondents did not respond.

Thus only 2 respondents answered this section of which only 1 respondent rated the services of high value. Thus the minister of religion did not seem to play an important role after treatment.

- **Laboratory personnel**

. 80.00% (2 male and 2 female respondents) rated the services of the laboratory personnel after treatment of high value.

. 20.00% (1 female respondent) rated it of no value.

. 14 respondents did not respond.

Thus only 5 respondents answered this section of which 4 rated the services of high value.

- **Administrative personnel**

. 33.33% (1 male respondent) rated the services of the administrative personnel of high value.

. 33.33% (1 female respondent) rated the services of moderate value.

. 33.33% (1 female respondent) rated the services of no value.

. 16 respondents did not respond.

Thus only 3 respondents answered this section of which only 1 respondent rated the services of high value. The administrative personnel did not seem to play an important role after treatment.

It is evident from this stage that the services of the medical doctor were rated to be of the highest value by the majority of respondents (7) (87.50%). This was followed by the services of the social worker (4) (80%), the laboratory personnel (4) (80%) and the nurse (3) (60%). This could most probably be ascribed

to the doctor who followed the patients up routinely after treatment, the social worker who probably provided support and intervention when necessary and the laboratory personnel who provided test results and possibly non-identifying information concerning the donor. The nurse most probably briefly saw patients during the routine follow-up appointments with the doctor and also provided support.

When each discipline was evaluated throughout the treatment stages in total responses, the results were as follows as illustrated in Table 25 below:

TABLE 25: VALUE OF EACH DISCIPLINE

PROFESSIONAL	NO VALUE		MODERATE VALUE		HIGH VALUE		TOTAL	
	f	%	f	%	f	%	f	%
Medical doctor	(1)	02.86	(3)	08.57	(31)	88.57	(35)	100
Nurse	(5)	25.00	(3)	15.00	(12)	60.00	(20)	100
Social Worker	(3)	10.34	(3)	10.34	(23)	79.31	(29)	100
Psychologist	(5)	45.45	(5)	45.45	(1)	09.09	(11)	100
Pastor	(6)	66.67	-	-	(3)	33.33	(9)	100
Laboratory personnel	(6)	28.57	-	-	(15)	71.43	(21)	100
Administrative personnel	(6)	46.15	(3)	23.08	(4)	30.77	(13)	100

The following is deduced from the above table:

- **Medical doctor**

- . 88.57% (31 responses) - high value.
- . 8.57% (3 responses) - moderate value.
- . 2.86% (1 response) - no value.
- . The mean of average value (\bar{x}) for the doctor was $\bar{x} = 2.86$

- **Nurse**

- . 60,.00% (12 responses) - high value.
- . 15.00% (3 responses) - moderate value.
- . 25.00% (5 responses) - no value.
- . The mean or average value (\bar{x}) for the nurse was $\bar{x} = 2.35$

- **Social Worker**

- . 79.31% (23 responses) - high value.
- . 10.34% (3 responses) - moderate value.
- . 10.34% (3 responses) - no value.
- . The mean or average value (\bar{x}) for the social worker was

$$\bar{x} = 2.69$$

- **Psychologist**

- . 9.09% (1 response) - high value.
- . 45.45% (5 responses) - moderate value.
- . 45.45% (5 responses) - no value.
- . The mean or average value (\bar{x}) for the psychologist was $\bar{x} = 1.64$

- **Minister/Priest**

- . 33.33% (3 responses) - high value.
- . 66.67% (6 responses) - no value.
- . The mean or average values (\bar{x}) for the minister was $\bar{x} = 1.67$

- **Laboratory personnel**

- . 71.43% (15 responses) - high value.
- . 28.57% (6 responses) - no value.
- . The mean or average value (\bar{x}) for the laboratory personnel was $\bar{x} = 2.43$

- **Administrative personnel**

- . 30.77% (4 responses) - high value.
- . 23.08% (3 responses) - moderate value.
- . 46.15% (6 responses) - no value.
- . The mean or average value (\bar{x}) for the administrative personnel was $\bar{x} = 1.85$

It is evident from these findings and the \bar{x} values, that when ranked from largest to smallest value (3 is the highest value), the medical doctor was ranked with the highest value, followed by the social worker, laboratory personnel and nurse. The administrative personnel, minister and psychologist were ranked lower by the respondents. Thus it is clear that the doctor, social worker, laboratory personnel and nurse played the most significant roles throughout the treatment process as rated by these respondents and shown by the averages (\bar{x}). The services of the medical doctor and the social worker were rated the highest by these respondents and this acknowledges the important roles these 2 disciplines played in the artificial fertilization with donor gamete treatment process. This included the preparation, the treatment, the follow-up and counselling of these respondents.

7.3.5.2 Recommendations for the team

The aim of this question was to determine whether the respondents had any recommendations for the improved services of the team.

* **Medical doctor**

- Should provide non-identifying information on the donor - 3 responses (50.00%).
- Infertility evaluation of couples should be more thorough to eliminate problems in both spouses - 1 response (16.67%).
- Doctors should never take away your hope, but mention all the options available and the slight chance of a spontaneous pregnancy - 1 response (16.67%).
- Doctors should break the news of the infertility diagnosis in a more gentle, subtle and tactful way, not making you feel you are "a hopeless case with no chance" - 1 response (16.67%).

* **Social Worker**

- There should be regular contact with social workers - 1 response (14.29%).
- Social workers should contact couples once a year - 1 response (14.29%).
- There should be more counselling during treatment - 1 response (14.29%).
- The preparation period should consist of more sessions with the social worker - 1 response (14.29%).
- The selection process should be more thorough - 1 response (14.29%).
- All couples should be seen regularly on a routine basis on the long-term - 2 responses (28.57%).

* **Psychologist**

- There should be one routine session with a psychologist - 1 response (100%).

* **Minister/Priest**

- There should be one routine session with a minister of religion - 1 response (100%).

Thus the respondents indicated very interesting needs and recommendations for the medical doctor, social worker, psychologist and minister of religion. These recommendations show the need for more regular contact and counselling as well as needs for more information on the donor, better selection and medical evaluation, as well as

better communication between the patient and the team members.

7.3.5.3 Need for social work counselling

The aim of this question was to determine the need respondents had for social work counselling throughout the treatment process. Respondents could indicate all the applicable needs throughout the stages provided. The responses are indicated in Table 26 below:

TABLE 26: NEED FOR SOCIAL WORK INTERVENTION

SEX

Frequency Percent Row Pct Col Pct	AFTER DIAG- NOSIS	AFTER TREAT- MENT	DECISION MAKING	AFTER PREP SESSION	AFTER DECISION	AFTER DECIDING AGAINST	BEFORE TREAT- MENT	DURING TREAT- MENT	AFTER UN- SUCCESS	Total
MALE	4 4.44 9.09 57.14	6 6.67 13.64 46.15	5 5.56 11.36 50.00	4 4.44 9.09 80.00	1 1.11 2.27 33.33	1 1.11 2.27 50.00	5 5.56 11.36 45.45	3 3.33 6.82 42.86	4 4.44 9.09 33.33	44 48.89
FEMALE	3 3.33 6.52 42.86	7 7.78 15.22 53.85	5 5.56 10.87 50.00	1 1.11 2.17 20.00	2 2.22 4.35 66.67	1 1.11 2.17 50.00	6 6.67 13.04 54.55	4 4.44 8.70 57.14	8 8.89 17.39 66.67	46 51.11
Total f %	7 7.78	13 14.44	10 11.11	5 5.56	3 3.33	2 2.22	11 12.22	7 7.78	12 13.33	90 100.00

SEX

Frequency Percent Row Pct Col Pct	AFTER SUCCESS	AFTER MIS- CARRIAGE	DURING PREG- NANCY	BEFORE BIRTH	AFTER BIRTH	FIRST FEW MONTHS	PRESENT- LY	OTHER	Total
MALE	1 1.11 2.27 50.00	1 1.11 2.27 20.00	2 2.22 4.55 100.00	1 1.11 2.27 100.00	2 2.22 4.55 50.00	2 2.22 4.55 100.00	1 1.11 2.27 50.00	1 1.11 2.27 50.00	44 48.89
FEMALE	1 1.11 2.17 50.00	4 4.44 8.70 80.00	0 0.00 0.00 0.00	0 0.00 0.00 0.00	2 2.22 4.35 50.00	0 0.00 0.00 0.00	1 1.11 2.17 50.00	1 1.11 2.17 50.00	46 51.11
Total f %	2 2.22	5 5.56	2 2.22	1 1.11	4 4.44	2 2.22	2 2.22	2 2.22	90 100.00

The following findings are highlighted from the above table:

- * After donor infertility treatment was recommended - 13 responses (14.44%).
- * After unsuccessful donor infertility treatment - 12 responses (13.33%).
- * Preparation before donor infertility treatment - 11 responses (12.22%).

- * During the decision-making period before donor infertility treatment - 10 responses (11.11%).
- * After the infertility diagnosis was made - 7 responses (7.78%).
- * During donor infertility treatment - 7 responses (7.78%).
- * After the preparation session - 5 responses (5.56%).
- * After the miscarriage - 5 responses (5.56%).
- * Directly after the birth of the child - 4 responses (4.44%).
- * After the decision was made to go ahead with treatment - 3 responses (3.33%).
- * Other with 2 responses (2.22%) each were: after deciding against treatment, after successful donor infertility treatment, during the pregnancy, during the first few months with the baby at home, and presently.
- * Before the birth - 1 response (1.11%).

Thus it is evident that there is a great need for social work counselling throughout the treatment process. The greatest need was: after this form of treatment was recommended, after unsuccessful treatment, the preparation before treatment and during the decision-making process. Ledward *et al.* (1982:274) also confirm the need for social work counselling during the decision-making stage, as do Snowden *et al.* (1983:83) and Brand & Saayman (1986:75-77). The need for counselling regarding the preparation of couples is also confirmed by Nachtigall (1993:1846-1851), Klock & Maier (1991:494), Van Staden (1989:165) and Olshansky & Sammons (1985:52S).

Thus the medical social worker has an important task to fulfil throughout the treatment process as expressed by these respondents. It is therefore important that there is a social worker on the team or that these couples are referred for the preparation and counselling to a social worker in private practice.

7.3.5.4 Recommendations for the social worker

The following recommendations were made by respondents for the social worker:

- * Regular follow-up during treatment - 3 responses (23.08%).
- * There should be regular follow-up contact - 2 responses (15.38%).
- * Social worker should provide more advice and support - 2

responses (15.38%).

- * Should help couples to make it through the decision-making process providing sufficient information and guidance - 2 responses (15.38%).
- * Social worker should be available when you just need to talk - 1 response (7.69%).
- * Social worker can understand the problem and should be available - 1 response (7.69%).
- * Follow-up after successful or unsuccessful treatment - 1 response (7.69%).
- * Straight after the decision has been made couples should have an intensive counselling session - 1 response (7.69%).

Thus it is evident that these respondents all had needs and times when they could have made use of the social worker as recommended. Thus there is a need for social work counselling throughout the entire treatment process.

7.3.5.5 Necessity of social worker

The aim of this question was to determine whether social work preparation and counselling for couples who undergo artificial fertilization with donor gametes is a necessity.

- * 100% (19 respondents) regarded social work preparation and counselling for couples undergoing artificial fertilization with donor gametes a necessity.

Thus it is evident that these respondents regarded social work preparation and counselling as a necessity and that the social worker has a rightful place in the team performing artificial fertilization with donor gametes. A definite need for this was reflected by these respondents.

The motivations respondents provided for this were as follows:

- * Need for a preparation session. (Informs couples of the advantages and disadvantages of this form of treatment, to be well prepared for treatment, to know of all the aspects involved, to clarify all the issues and have more certainty) - 9 responses (64.29%).
- * Need this information provided by social worker to make a better decision - 1 response (7.14%).

- * Need to discuss uncertainties and issues with someone like the social worker - 1 response (7.14%).
- * Need to gain knowledge on this treatment and its implications to know better - 1 response (7.14%).
- * Need regular support - 1 response (7.14%).
- * Need regular contact with the social worker who is a constant person you can see with your problems - 1 response (7.14%).

Thus the necessity of the social worker's involvement during the preparation, counselling and regular follow-up is again accentuated by these respondents.

7.3.6 Future plans

The aim of this section was to determine what the future plans of all these respondents were.

7.3.6.1 Artificial fertilization with donor gametes

The aim of this question was to determine whether respondents would consider this form of treatment again for the future.

- * 42.11% (3 male and 5 female respondents) would consider this form of treatment again.
- * 57.89% (7 male and 4 female respondents) would not consider it again.

It is interesting that the majority of respondents would not consider this form of treatment again, which consisted of more males than females. More females than males would consider it again.

The reasons motivated by 11 of the respondents were:

- * Yes, but want the same donor - 2 responses (18.18%).
- * Yes, want another child - 1 response (9.09%).
- * Yes, because the child would be a part of me - 1 response (9.09%).
- * Yes, the only option to consider - 1 response (9.09%).
- * No, cannot afford to - 1 response (9.09%).
- * No, was not the correct decision, everybody got hurt in the process - 1 response (9.09%).
- * No, have already had a hysterectomy - 1 response (9.09%).
- * No, adoption was best, wife had a hysterectomy - 1 response (9.09%).

* No, had own children spontaneously - 2 responses (18.18%). It is interesting that some respondents wanted to have another child by donor and even asked for the same donor or motivated that the child would be part of them and that this was the only option to consider. Those respondents who did not want to have this form of treatment either stated so because of unhappiness with previous treatment or that it was not applicable to them because of the wife having had a hysterectomy or because of having their own spontaneous or adopted children.

7.3.6.2 Alternatives

The aim of this question was to determine what other alternatives those, who did not want to consider artificial fertilization with donor gametes again, were contemplating.

- * 75.00% (5 male and 4 female respondents) stated that they already had a child/children and were not considering any future alternatives.
- * 16.67% (2 female respondents) were considering adoption (interestingly their male counterparts were not).
- * 8.33% (1 male respondent) wanted to remain childless.

Thus the majority were happy with their donor, adopted or biological children and were considering no other alternatives. Only 2 respondents (females) were considering adoption and their male counterparts were obviously not, as they had not responded to this alternative. One male respondent preferred to remain childless (he was a paraplegic).

Subsequently, the case studies of these couples will be discussed.

7.4 CASE STUDIES OF COUPLES

A case-study of each couple in this study will subsequently be provided, as part of the qualitative element in this study. Extracts transcribed from the tape recordings of the interviews will be included and shared in these case studies, as well as a personal document (a letter) from one of the respondents. The aim is to fulfil the objectives of qualitative research to a certain extent, as this study only contains elements of qualitative research. Neuman

(1994:28) refers to qualitative research as collecting data in the form of words, while Marlow (1992:66) on the other hand states: "It uses small numbers of subjects, in-depth interviews, narrative techniques and observation. By means of these case studies and personal accounts, each couple's unique circumstances after 7 years will be described and the long-term psycho-social implications of artificial fertilization with donor gametes, whether successful, unsuccessful or decided against will be described. A long-term evaluation of the value of the preparation session and the role it played in their decision-making will also be concentrated on. These couples will be divided into 3 groups: successful, unsuccessful and decided against treatment.

7.4.1 Couples who had successful artificial fertilization with donor gametes

7.4.1.1 Couple A

Mr. and Mrs. A have been married for 12½ years; their home language is English and they reside in Springs, Gauteng. Mr. A is 37 years and Mrs. A 31 years old. They are in the Methodist Church and both completed standard 10. Mr. A also has a Diploma in Accounting. Mr. A holds a managerial position in a large organization and Mrs. A is a housewife. This couple sought help for their infertility problem after 4½ years of marriage with no pregnancy. They underwent all the infertility examinations and were diagnosed as having primary infertility due to Mr. A being azoospermic. Mrs. A was normal with no infertility problems. They decided together on artificial fertilization with donor gametes, as they wanted to experience pregnancy and birth and felt such a child would be more their child than an adopted child. They made their decision to go ahead with treatment and had their first artificial fertilization with donor gamete treatment (AID) 7 months after the preparation session. They rated the preparation session of high value and felt that it had helped them make their decision to go ahead with treatment. Their first attempt was unsuccessful and they underwent a second attempt, 2 months later. This was again unsuccessful. Four months later in January 1989 they finally had success with a third treatment attempt with a resultant positive pregnancy test at the Infertility Clinic of H.F. Verwoerd Hospital. They then had no further contact with the

clinic, due to the distance which had to be travelled and returned to their own gynaecologist in Springs. Mrs. A had to have an emergency caesarean in August '89 at 7 months at the J.G. Strijdom Hospital, where an unknown gynaecologist on duty performed the caesarean. She gave birth to twin girls born prematurely at 7 months. One baby had minor heart and lung complications after the birth, which was corrected with minor surgery and medication. These twins will be turning 7 years in August 1996. They informed the gynaecologist at H.F. Verwoerd Hospital of the birth of their twin girls soon after the birth.

They disclosed their secret to Mr. A's brother and his wife only. They received no information on the donor at the time of treatment and Mrs. A would now like to have known what the donor's occupation was. Mr. A did not want to know anything about him. They did not plan to tell the children, as Mrs. A said: "At the moment it is not applicable. If Mr. A should get very ill and the children are scared it might be hereditary, then maybe I would tell them. But if there is no reason to tell them, I don't see why we should." Mr. A said: I do not plan to tell, as I am scared it may breakup the bond between us. Not now but later when they can understand, the questions might come why, why didn't you tell us, why did you have us, why did you go for treatment, who is our father?" Mrs. A said: "If there is no reason to tell, why tell? Nobody else knows. They know no different, I can't say what we are going to do in the future. Only if it is a desperate situation we might need to tell in the future. If the question never comes up, why bring it up?" Mr. A agreed with her.

The response to the question are you happy with the physical appearance of the child? Mr. A said: "Oh yes" and Mrs. A "I'm happy." They said that one twin resembles Mrs. A and the other Mr. A, physically and in nature. Mr. and Mrs A reported that quarrels in their marriage had increased after the birth of the twins and their social life, work and finances experienced strain. Both Mr. and Mrs. A reported that they were still experiencing some stress presently and that Mrs. A was experiencing a bit of depression. Both indicated they had feelings of decreased self-worth in the questionnaire and Mr. A admitted in his questionnaire to having had an extra-marital affair. It could not be determined if it was ongoing, as it

was not discussed openly during the interview, and it seemed as if Mrs. A was not aware of it. Mrs. A stated that she wanted another child, but Mr. A was not in favour of it. Both felt the need for a regular yearly follow-up contact with the social worker. They expressed the need for guidance in how to discipline their children. On the whole, they seemed a reasonably happy family, who seemed to be living a bit of an isolated life and were experiencing some strains as a result of having had twins, which was unexpected and as a result of their secrecy and lack of support. They suffered some negative psycho-social implications, but also experienced some positive psycho-social influences on the long-term as a result of successful artificial fertilization with donor gametes.

7.4.1.2 Couple B

Mr. and Mrs. B have been married for 17 years, their home language is Afrikaans and they reside in Secunda, Mpumalanga. Mr. B is 42 and Mrs. B 35 years old. They are in the Old Apostolic Church and both completed standard 8. Mr. B works as a security guard and Mrs. B is a housewife. Mr. and Mrs. B sought help for their infertility problem after 3 years of marriage and were then diagnosed with primary infertility due to Mr. B being azoospermic, which was probably related to him having had mumps as a teenager. Mrs. B was normal. They decided together on artificial fertilization with donor gametes as a result of wanting a child desperately and because the waiting list for adoption was too long. They rated the preparation session of moderate value and said it had helped them to decide to go ahead with artificial fertilization with donor gametes. They then underwent one artificial fertilization with donor gametes attempt with a private gynaecologist in Pretoria with success, but had a miscarriage at 3 months. They then left it and decided 2 years later to again undergo artificial fertilization with donor gametes at the same gynaecologist, had success, but unfortunately again had a miscarriage at 3 months. Four years later they decided to again undergo artificial fertilization with donor gametes and this time at H.F. Verwoerd Hospital, where they underwent one treatment attempt 2 months after the preparation session. This was unsuccessful and they had another treatment attempt 7 months later which was again unsuccessful. They then went back to the private gynaecologist where they underwent one more artificial fertilization with donor gametes

attempt, months later, this time with success. Thus, they finally had success after the fifth artificial fertilization with donor gametes attempt. They received no information on the donor and Mrs. B would like to have known if he is a medical doctor, as most donors are, while Mr. B would like to have known what sort of nature he has. After the successful treatment, they went back to their own gynaecologist in Secunda for follow-up. A baby girl was born in December 1989 by means of an epidural caesarean in a private hospital in Trichardt, performed by their own gynaecologist. Both spouses were happy with the physical appearance of their daughter as she resembles the wife and her family. She is now 6½ years old. They disclosed the secret to their closest family on both sides, as they were all aware of his infertility problem. As Mr. B said "Ons het so daaroor besluit. Wat help dit jy hou dit geheim, een of ander tyd gaan dit uitkom. Wat se nagevolge gaan dit hê vir die kind as sy uitvind jy is nie haar werklike ouer nie? Almal weet van my infertiliteit en ons het besluit om vir die naaste familie en vriende daarvan se sê." Mrs. B disclosed this to 2 close friends who were also infertile and motivated them for treatment. They also decided to tell their child because all the family knew. Mrs. B told her at the age of 4 as follows: "Jy is 'n baie spesiale kind. Mamma en pappa het vir jare en jare probeer om 'n baba te hê maar kon nie en toe het die dokter gesê pappa kan nooit kinders van sy eie hê nie. Ons het liewe Jesus gevra om ons te help en hy het gesê ons moet na 'n ander dokter toe gaan. Die dokter het 'n oom gekry wat ons graag wou help. Hy het vir die dokter 'n klein saadjie gegee wat die dokter toe in mamma geplant het. Die saadjie het toe in mamma se maag gegroei om 'n baba te word. Die spesiale babatjie is toe gebore en dit was jy, vir wie ons so dankbaar is." This referral to her being special and wanted, they were planning to continue telling her in the future, as well as the fact that her father is her only father and not this other man, as he only wanted to help them and then went away. This couple reported that they sometimes felt they were living in isolation, but otherwise they were happy. Mr. B mentioned his concerns in the questionnaire about the disciplining of the child, that he sometimes felt a bit inferior and had concerns of other people knowing about his daughters' donor origin. Mrs. B reacted to the issue of people finding out as follows: "Dit is nie 'n probleem nie, want ek voel ek het dit op 'n eerlike manier gedoen, waar ander vrouens sal gaan

rondslaap om 'n kind te hê. Ek kon daardie maklike manier ook gevolg het as ek wou, maar ek het deur baie pyn, stres en geld gegaan om my kind te hê. So as iemand vir my kom sê hulle hoor my man is nie die pa van my kind nie, dan sal ek sê, luister hoe weet ek jy het nie rondgeslaap om joune te hê nie, so bly liewer stil, want ek het myne op 'n eerlike manier gekry!" Thus even though this couple were in a lower socio-economic class, they were happy with their child and leading a happy normal family life. They both did have the need for another child, but wanted the same donor, which they were then told was not possible. Thus they have accepted having this one child for whom they are grateful, and are leading a happy normal family life. Successful artificial fertilization with donor gametes thus seems to have had mainly positive psycho-social influences on this couple on the long-term.

7.4.1.3 Couple C

Mr. and Mrs. C have been married for 14 years, their home language is Afrikaans and they reside in Potchefstroom, North West province. Mr. C is 40 years old and Mrs. C 34 years old. Mr. C completed his trade as a mechanic and is now a traffic inspector. Mrs. C completed standard 10 and is a housewife. They are in the Apostolic Church. They had a miscarriage at 3½ years of marriage and were 2 years later diagnosed with secondary infertility due to Mr. C having oligozoospermia. Mrs. C is normal. Both decided on artificial fertilization with donor gametes as they wanted to experience a pregnancy and birth of the child, who would be 50% blood related. They preferred this above adoption. They both rated the preparation session to have been of high value and it made them more realistic and confident about the treatment, sketched a more thorough perspective and helped them decide to go ahead with treatment. They underwent their first artificial fertilization with donor gametes attempt at H.F. Verwoerd Hospital 4 months after the preparation session, which was successful. Mr. C was present in the room while the insemination was performed, which he experienced very positively. At 11 weeks the sonar showed it was triplets and at 12 weeks unfortunately she had a spontaneous miscarriage in Potchefstroom. They then went to a private gynaecologist in Potchefstroom, where they underwent a second artificial fertilization with donor gametes attempt 7 months later. This gynaecologist did not unfortunately allow Mr. C to be present

during the actual insemination, and he had to wait outside. He was very disappointed and would of course liked to have been present. This attempt was successful and she gave birth by caesarean section to a boy in November 1989. They decided to have a second child soon thereafter and had a third artificial fertilization with donor gametes attempt at the same gynaecologist 6 months later, which was again successful. A second son was born by caesarean section in April 1991. These 2 sons differ in age by 15 months. A different donor was used for each child and they received no information on either donor, which they preferred that way. Mr. and Mrs. C decided to keep it a total secret, thus nobody knows about the donor origin of their children except Mr. and Mrs. C. The personalities of both children differ totally, with one being an extrovert and very active and the other being an introvert. He prefers sitting playing on his own quietly. They do, however, resemble each other physically with dark hair, but the one is larger in stature like the wife's family and the other one is smaller in stature like the husband's family. People have apparently commented: "Die mannetjie lyk net soos sy oupa, maar waar kom hy aan sy rustigheid? Dan sê ek dat ek ook so was toe ek klein was. Maar die 'koppeling' is 100% daar, daar is niks wat snaaks is nie. Die kleintjie het blou oë, soos my familie en die oudste het bruin oë soos haar familie. So alles pas baie mooi in, regtig waar en ons is baie gelukkig. Die passing was goed, die geaardhede, fisiese voorkoms, familietrekke, alles is daar." Mrs. C said: "Al wat my gepla het, was dat dit 'n vreemde man is wat ek nie ken nie." Mr. C said: "Dit het my nie gepla nie want hy was nie fisies by haar nie en ek verkies ook om niks van hom te weet nie. Ek dink dit is moeiliker vir my om dit te aanvaar as vir haar, want die kinders is hare. Daarom skuif ek dit liever uit my gedagtes, aanvaar ek hulle 100% as my eie en maak ek hulle so groot."

They are both very happy with their children and have preferred to forget about the whole donor issue, as Mr. C said "Ek het die donor-aspek afgeskryf en wat my aanbetref bestaan daar nie so iets nie, hulle is myne en klaar, ek dink nie daaroor nie!" Mrs. C said: "In die begin het ek bietjie skuldig gevoel daaroor en gedink oor die skenker, maar naderhand vergeet jy liever." Mr. C also added: "Ek dink die huiwering en die dinge wat 'n mens begin terugdink aan die donor, gaan nog kom, soos wie is dit, wat - maar ek skuif dit liever

net uit my kop, ek het daai blaadjie uitgeskeur!" Everybody thinks they had infertility treatment with their own gametes and that it is their own biological children. They are also happy they kept it a total secret, it works better that way.

Thus it seemed from this interview that this couple were very happy with their children and their family life. They were trying their best to lead a normal family life and had no regrets, but were grateful for the way it worked out for them. Thus successful artificial fertilization with donor gametes had mainly positive psycho-social influences on this couple on the long-term.

7.4.1.4 Couple D

Mrs. D could not be traced for this study, only Mr. D due to divorce. This interview with him alone gave an account of their situation from his perspective. Mr. and Mrs. D were both 24 years old and were married for 4 years before they sought help for their infertility problem. Mrs. D had suffered 5 habitual abortuses and Mr. D was diagnosed with a certain genetic chromosome problem contributing to this. Their home language was Afrikaans and they were in the Dutch Reformed Church. Both Mr. and Mrs. D completed standard 7 and Mr. D then completed his trade as an electrician. Mr. D worked for a large mine in the Northern Transvaal (Elandsrand) when they underwent the preparation session and Mrs. D was a housewife. Apparently Mr. D was never very positive about this alternative, but Mrs. D very badly wanted to experience a pregnancy and birth and pressurized and made him feel guilty, until he finally agreed for her sake. Mr. D found the preparation session to have been of moderate value as he already felt ambivalent. It helped him decide against treatment and created further ambivalent feelings, but he knew it is what his wife wanted and was forced to agree. Their first treatment attempt occurred 6 months after the preparation session at H.F. Verwoerd Hospital and was successful with a positive pregnancy test. They then moved to Upington where they went to their general practitioner for further follow-up. Things started going very negatively in their marital relationship after the treatment, with their sexual relationship deteriorating, their respect and love for each other decreasing and Mrs. D even started fantasizing about the donor. Mr. D experienced an influence on his religion, social life and relationships

with friends. Mrs. D also started disclosing the secret to their family and friends, which he was not at all in favour of. He eventually started having an extra-marital affair and they were finally driven apart and separated in the third month of the pregnancy. Mr. D then distanced himself from his wife and never took further interest in the pregnancy or birth of the child. As he stated: "Alhoewel ek nooit die kind gesien het nie, nie geweet het wanneer hy gebore is nie en eers later van die kind se probleme te hore gekom het, was ek bereid om alles in my vermoë te doen om dit vir hom so gerieflik moontlik te maak. Ek het geweet dat ek nooit regtig ten volle sal kan vergoed vir die verkeerde besluit wat ek gemaak het nie."

Mrs. D gave birth to a baby boy in February 1989 at the provincial hospital in Upington. It was a normal birth and her general practitioner performed the delivery. The pregnancy had been normal with no complications and no abnormality of the baby had been detected during the pregnancy. Thus Mrs. D was expecting her baby to be normal and it must have come as a major shock when she gave birth to this baby with 2 different genetic abnormalities, Down's Syndrome and Fallots tetralogy. To make matters even worse, she most probably was alone with no support after the birth of this baby and her husband had deserted her for another woman and showed no interest in the pregnancy or birth of the child. This baby also had to be rushed to a paediatrician in Kimberley regularly (the closest paediatrician) due to regular attacks of a lack of oxygen he had, turning blue within seconds. Apparently Mr. D paid all the medical bills, but she refused him to have any contact with the baby. He never saw the child. The baby died at the age of 8 months due to complications. Mrs. D only let Mr. D know of the death of the baby after the funeral. This must of course have been a very traumatic lonely period for Mrs. D who most probably had intense feelings of anger, blame, hatred and rejection towards Mr. D for having deserted her when she most probably needed him most. Their divorce was finalized in March 1989, 2 months after the baby was born.

Mr. D got remarried 1½ years later to the other woman. Their names were presently on the waiting list for adoption. Mrs. D apparently later remarried as well and Mr. D heard that she had a baby girl with

her present husband who is a farmer somewhere in the Northern Cape. Mr. D had totally lost contact with her and her family and she could therefore not be traced for this study, after several attempts by researcher and a private investigator.

Mr. D who is now 32 years old, showed a lot of remorse during the interview for what had happened. He felt the wrong decision had been made and a child had suffered in the process. Mr. D stated: "Ek dink voornemende egpare moet baie voorbereidingsessies met 'n maatskaplike werker ondergaan. Hulle moet noukeuring geëvalueer word voordat 'n finale besluit tot kunsmatige inseminasie met skenkersaad gemaak word. Hulle moet ten minste 6 maande neem om te besluit want 'n verkeerde besluit kan baie nadelig en pynlik wees vir 'n baba wat gebore word en dan werk dit nie uit nie." Thus Mr. D felt this was all due to a wrong and hasty decision which was made, even though they had their treatment 6 months after the preparation session. Maybe they had made their decision very soon after the preparation session, but only had treatment 6 months later. Thus the selection, preparation and decision-making period is stressed as of utmost importance by this case. This couple had definitely suffered severe negative psycho-social implications on the long-term as a result of successful artificial fertilization with donor gametes.

7.4.1.5 Discussion

If one considers all these couples who had successful artificial fertilization with donor gametes with a resultant child/children, then it seems from these case studies and interviews that 2 of the couples (Couple B and C) were very happy with their child/children, it had a positive effect on their marriage and they were leading normal happy family lives. The one couple (Couple B) were more open in their attitude regarding secrecy and had disclosed to family, close friends and the child. The other couple (Couple C) had not disclosed their secret to anyone and were planning to keep it a secret and never tell the children or anyone else. They felt it was best to forget about it and accept the children as their own. Couple A seemed to be happy with their twin girls, but it had had definite psycho-social implications on their marriage, on them as individuals and they were leading rather isolated lives. Only Mr. A's brother and his wife knew about the donor origin of their children and they

were not planning to tell their children unless there was reason to in the future. They were thus leading a reasonably happy family life, having suffered some negative psycho-social implications. Couple D had had a very negative, traumatic and ugly experience which ended in divorce and the child who died. It seems as if Mr. D was still suffering from the negative psycho-social implications affecting him as an individual as a result of this experience, and his ex-wife most probably as well. This case had thus turned out for the worst unfortunately, which he blames on a wrong decision having been made, leading to their marital break-up and negative parting.

Thus successful artificial fertilization with donor gametes had positive psycho-social influences on 2 of the couples (4 respondents) in this group and negative as well as positive influences on 1 couple (2 respondents). Lastly it had a severe negative and traumatic influence on 1 couple (1 respondent, the other could not be traced) ending in divorce, abnormalities and death of the child and a very negative parting from each other.

7.4.2 Couples who had unsuccessful artificial fertilization with donor gametes

7.4.2.1 Couple E

Mr. and Mrs. E have been married for 11½ years, their home language is Afrikaans and they reside in Heidelberg, Gauteng. Both Mr. and Mrs. E are 36 years old, are in the Dutch Reformed Church and are both teachers with a Higher Teaching Diploma. Mrs. E is currently a housewife and Mr. E also plays rugby for a provincial team. They sought help for their infertility problem after 3 years of marriage, when they were diagnosed with primary infertility due to Mr. E having severe oligoteratozoospermia (OTA syndrome) and Mrs. E being normal. Mr. E rated the preparation session to have been of high value, while Mrs. E rated it of moderate value. They felt that it gave them a more thorough and realistic perspective of the donor treatment, but made them feel they must first reconsider. They first underwent inseminations using their own gametes 3 times without success, before deciding later to undergo artificial fertilization with donor gamete treatment, 4 years after the preparation session, by two different private gynaecologists in Pretoria. They underwent several AID

treatment attempts (9+) and 3 IVF-D attempts in a period of 3 years. During this period they had one successful treatment attempt with a pregnancy which lasted 2 months after which Mrs. E aborted. No success was again achieved after that. Mrs. E also developed a hypersensitivity syndrome as a result of all the hormones used during this treatment period and had to stop treatment. Now she has to use the pill permanently even though they are infertile, to regulate her hormones. Mr. E stated in this regard: "Na haar komplikasies het ons besluit dit is tot daartoe en nie verder nie en ons het toe besluit ons sal nie meer voortgaan met behandeling nie en haar liggaam het gesê dit is nou genoeg." Mrs. E added: "Die teenstrydigheid van alles is dat hulle my soveel hormoonbehandeling gegee het, dat my liggaam glad nie meer die hormone wou aanvaar nie. Elke keer as hulle my hormoon behandeling gegee het, het ek kieste in my buise gekry wat dan verwyder moes word voor die behandeling. Dit het naderhand so erg geword dat ek nou nie meer eierselle mag afskei nie en moet die pil vir die res van my lewe gebruik." The fact that their treatment was unsuccessful had an emotional effect on them, evoking feelings of hopelessness, heartbrokenness and disappointment, as they both had a desire to experience pregnancy and the birth of a child. Mrs. E experienced thoughts of inferiority and Mr. E thoughts regarding guilt and whether he was acceptable to his wife. They reported their marriage to have been influenced positively and that it actually enriched their marital relationship, as well as their religion. Mrs. E mentioned the negative psycho-social implications being that their social life was affected as she did not want to go out if there would be children present, she had to stop teaching as a result of all the complications occurring regularly and their finances were affected by the treatment expenses and the travelling costs. They only informed her parents and sisters of the treatment they underwent. The only concerns they had about the secrecy, were the fact that they were mutually dependent on each other for support and that the donor might have had AIDS. Concerning the preparation session they underwent, Mr. E stated: "Die voorbereidingsessie het ons gehelp met ons besluitneming, want ons het op daardie stadium nog nie geweet of ons moet voortgaan of nie." Mrs. E added: "Dit het ons gehelp om ons besluit te maak." They felt such a session was essential to know all the advantages and disadvantages before you decide. After the unsuccessful treatment they accepted

that they cannot go ahead with further treatment due to Mrs. E's complications and decided to try adoption as alternative. They then applied for adoption at CMR, Johannesburg and received their baby girl for adoption in 1992. She is now 3½ years old and they are on the waiting list for a second child. They are very happy with their daughter, in their marriage and are leading a happy normal family life. Thus it seems as if the unsuccessful artificial fertilization with donor gamete treatment had some negative psycho-social influences on the couple on the long-term, but now they were happy and leading a normal family life.

7.4.2.2 Couple F

Mr. and Mrs. F have been married for 17½ years, are Afrikaans speaking and reside in Rustenburg, North West Province. Mr. F is 37 years old and Mrs. F 36 years old and they are in the Evangelistic Church. Mr. F completed his trade as an electrician and Mrs. F completed standard 10. Mr. F works for a large firm in Rustenburg and Mrs. F works as a debiting clerk at a food distributing firm. They sought help for their infertility problem after 8 years of marriage and were diagnosed with secondary infertility with 1 previous miscarriage, due to Mr. F having severe teratozoospermia and oligozoospermia. Mr. F rated the preparation session to have been of high value and Mrs. F rated it to have been of moderate value. It gave them a more thorough image of donor infertility and made them more realistic about it, revealing aspects they had not previously considered. It also created some ambivalent feelings about this treatment. They struggled with their decision-making regarding artificial fertilization with donor gametes following the preparation session. They finally decided to give it a try and underwent their first treatment attempt (IVF-D) 10 months after the preparation session. This was unsuccessful and they decided as Mrs. F stated: "Ons het besluit om dit net daar te stop, omdat ons gevoel het dit was nie vir ons nie". After the unsuccessful treatment Mrs. F experienced feelings of disappointment, frustration and confusion and had thoughts of being a failure, being incompetent, feeling she is to blame and wondering if they had made the correct decision. Mr. F also experienced feelings of disappointment, sadness and disbelief and his thoughts evoked were concerning whether the correct decision had been made and if his spouse would feel inferior as a result of

the unsuccessful treatment. Their marital relationship was mainly positively affected and their relationship with family negatively. Mrs. F stated: "Na die familie van ons onsuksesvolle behandeling uitgevind het, was hulle reaksie - hoe durf jy vreemde bloed in ons familie inbring?" Mr. F stated that his relationship with God was negatively affected as he felt rejected. Mrs. F's concerns regarding the secrecy were that they were mutually dependent on each other for support, they received no emotional support from others and had they made the correct decision to maintain this as a secret? They disclosed this to their close family and friends.

After their unsuccessful treatment they decided on adoption as alternative. After a selection process of a year, they were accepted and received their baby boy 2 weeks after being selected. They underwent an open adoption and met the mother, supported her before and after the birth and Mrs. F was fortunate to be admitted to the hospital after the birth and to take care of her baby son straight after the birth like any other normal mother. They are both very happy with their son and in their marriage and family life. They send regular photos and letters to the biological mother via the social worker. Thus it seems as if the unsuccessful artificial fertilization with donor gametes had only minor negative psychosocial influences on them, but mainly positive ones. They seem to be very happy with their adopted son and to be leading a happy fulfilling family life.

7.4.2.3 Couple G

Mr. and Mrs. G have been married for 10 years and were residing in Pretoria at the time of the preparation session. Mr. G is 40 years old and in the Roman Catholic Church and Mrs. G is 36 years old and in the Anglican Church. Mr. G completed standard 10 and has his own business, while Mrs. G also completed standard 10 and is the owner of a guest house. They knew of Mr. G's infertility problem (azoospermia due to having mumps at the age of 13) before they got married, as he had previously been married for 6 years and had accepted this. Prior to coming to H.F. Verwoerd Hospital for treatment and the preparation session they had already undergone 4 AID treatment attempts privately without success. It was a joint decision to undergo artificial fertilization with donor gametes, so

that she could experience pregnancy and birth. Mr. G rated the preparation session to have been of high value and Mrs. G rated it of moderate value. It gave them a more thorough image of donor treatment, made them more realistic and confident and revealed aspects they had not previously considered. It helped them decide to have more donor infertility treatment attempts. They underwent more AID treatment attempts for a period of 3 years after the preparation session at 3 private gynaecologists in Johannesburg, Pietermaritzburg and Durban, which were all unsuccessful. They then moved to Durban and later decided to apply for adoption. Soon thereafter they were notified of their baby they would be getting. A few days before the arrival, the mother decided to keep the baby and the adoption fell through. This was very traumatic for them. This failed adoption and all the unsuccessful treatment attempts created various negative psycho-social implications. Mr. G experienced the following feelings after the unsuccessful treatment: helplessness, despair, blame, sadness and frustration, while Mrs. G experienced feelings of helplessness, disappointment, sadness, frustration and depression. The thoughts experienced by Mr. G were concerning the decision, being a failure, incompetent and to blame, while Mrs. G's thoughts included being a failure, to blame, having sinned, being an incomplete woman and thinking her spouse must feel inferior. The influence it had on their marriage for Mr. G was: It weakened our love for each other, made us less affectionate toward each other, we did fewer things together, our communication deteriorated and quarrels increased, which then led to estrangement. According to Mrs. G: It drove us apart, we did fewer things together, our sexual relationship deteriorated, and I had an extramarital affair, which led to estrangement. Thus their marital relationship was definitely negatively affected as well as their relationships with family and friends who distanced themselves. It also affected their social life and work.

They disclosed the secret to close family and friends who gave them a great deal of support. The secrecy made them feel uncertain and ambivalent and made them isolate themselves from friends. Mr. G's main concern was that they were mutually dependent on each other for support. But after this unsuccessful treatment and their unsuccessful adoption their marital relationship deteriorated so that it

finally led to estrangement. It was at this point that they were interviewed separately. Mrs. G then moved to Cape Town and Mr. G stayed in Durban. (The information from the 2 interviews were combined for the purposes of this case study). Concerning their separation and the causes, Mrs. G stated that: "Our infertility was a catalyst in our marriage, I do not blame him though, as I knew of his infertility problem before we got married." Other complicating factors were her mother's death and brother's illness, as well as her extra-marital affair. She then decided to move to Cape Town to be close to her brother who needed her support. Mr. G stated: "The infertility did have an effect on my wife. She was tense and experienced stress after each attempt which was unsuccessful. It worked on her nerves. I could have been more supportive, I realize now, I used to keep quiet which was wrong." Thus it is evident that the unsuccessful artificial fertilization with donor gametes had definite negative psycho-social implications for this couple, together with the unsuccessful adoption, which led to their estrangement. They are presently in the process of divorce.

7.4.2.4 Discussion

These 3 couples who had unsuccessful treatment, all experienced some negative psycho-social influences with their emotions being affected negatively and experiencing negative thoughts as a result of the treatment being unsuccessful. Couple E and Couple F reported their marital relationship to have become more enriched and that they were leading happy family lives with their adopted child. Couple G experienced mainly negative psycho-social implications with negative feelings, negative thoughts, negative influences on their marital relationship, on their relationships with others and on the everyday social aspects. This led to an extra-marital affair, separation and they are presently in the process of getting divorced. Thus one can conclude that unsuccessful artificial fertilization with donor gametes had a definite negative psycho-social influence on one couple, but mainly some positive influences on the other two couples with some negative influences. These 2 couples were now leading a happy life with their adopted child.

7.4.3 Couples who had decided against artificial fertilization with donor gametes

7.4.3.1 Couple H

Mr. and Mrs. H have been married for 10½ years, are Afrikaans-speaking and reside in Vanderbijlpark, Gauteng. Mr. H has a B.Juris and LLB degree, is 43 years old and is a lawyer for a large legal firm in Vanderbijlpark, while Mrs. H completed standard 8, is 33 years old and is a housewife. Mr. H is a paraplegic with azoospermia as a result. He has been a paraplegic since he was 23 years old. Mrs. H has abnormal Fallopian tubes and fimbria. Both were aware of Mr. H's problem before they got married. They were first considering adoption, but then decided on IVF-D so that Mrs. H could experience pregnancy and birth. As this was the only way Mrs. H could ever experience a pregnancy with Mr. H being a paraplegic, it was normal to them and they felt their situation is different to that of other couples in this regard and they will not experience all the psychosocial implications. Mrs. H's motives for treatment was she wanted to experience a pregnancy, the child would be accepted as their own and they needed an heir. Mr. H felt the child will be accepted as their own, as he had a strong desire for a child, thought they would be good parents, they had not been accepted for adoption and it was due to their biological determination and instinct. They underwent the preparation session which they experienced positively and of high value and as Mr. H stated: "Hierdie kennis is nodig vir 'n ingeligte besluit." It gave them a more thorough image and revealed aspects they had not yet considered. It made Mrs. H feel they should first reconsider and Mr. H feel they should go ahead with it. After the preparation session Mrs. H underwent tests for severe persistent migraines she was experiencing. They then discovered she had epilepsy and the medication she was on to control it, could not be used during pregnancy. They wrote to the Infertility Clinic as Mr. H explained: "Ons het toe geskryf en gevra as sy voortgaan met behandeling en swanger raak, mag sy die middel dan vir die tydperk nie gebruik nie, en of daar iets anders was wat sy kan gebruik. Ons het nie kans gesien daarvoor dat as sy swanger geraak het en dat sy vir 9 maande moes aanvalle kry terwille van 'n swangerskap nie. Die Kliniek het ons toe nooit terug geantwoord nie, wat onaanvaarbaar was en ons het dit toe daar gelaat." Mrs. H experienced feelings of

disappointment, stress, depression and heartbrokenness. She wondered whether she accepted her spouse and whether they had made the correct decision. They then accepted their general practitioner's advice of taking the epilepsy medication and not being allowed to use it during pregnancy. They were also not accepted for adoption due to certain qualities which they did not have, Mr. H being too old and Mrs. H being too young. Mr. H stated: "Ons het verstaan dat ons nie kwalifiseer om aan te neem nie, ons het hierdie probleem daarna bespreek met die infertiliteitskliniek en het toe besluit om dit te los." Mr. G stated: "Ronel het nog na die tyd af en toe broeis geraak en wou die gesprek daarvoor heropen. Ek het op daardie stadium besluit dit is nie meer 'n opsie nie en my daarby berus. Sy het met tye opstandig geraak daarvoor en wou weer daarvoor praat, maar ons is nou verby daardie stadium. Ons is nou te oud en ons lewenspatroon het gevestig geraak. Ek het dit miskien beter aanvaar as sy." Mrs. H furthermore stated: "Ek het aanhoudende infeksies en vergroeisels ook vir jare gehad, wat erger geraak het en toe het die dokter besluit om wel 'n histerektomie te doen in begin 1995. Ek moet sê ek voel nou goed, ek voel nie hartseer of so nie, en het my lankal daarop voorberei." Mrs. H added to this: "Daar is tye wat ek nou na die histerektomie voel dat ons 'n kind moet aanneem, dan is daar weer tye wat ek dink nee. Ek is bang vir as ek eendag oud word en hy gaan voor my, dan is ek alleen, met geen kinders na wie ek toe kan gaan nie." Mr. H furthermore explained: "Op die stadium het ek vir myself besluit om nie kinders te hê nie. Ek kan ook nie indink dat daar 'n situasie sal kom waar ek van plan sal verander nie. Ronel twyfel by tye. Dan is daar ook tye waar ons sê dit is die beste, ons is tevrede met ons situasie en ons wil nie daaraan verander nie."

Thus it seems as if this couple had to accept their childlessness due to so many factors working against them, such as firstly Mr. H being a paraplegic, not being accepted for adoption, Mrs. H being diagnosed with epilepsy, the medication not allowing her to go ahead with treatment, the clinic not answering their letters and Mrs. H finally having a hysterectomy. Mr. H seems to be adamant about remaining childless, while Mrs. H still seems to have a reasonably strong desire for a child, which he will not allow her to fulfil and she then accepts it again, only to have reawakened desires later again for a child. They, however, do seem happy in their marriage, are

established in their home, his career and financially. Thus the fact that they had no artificial fertilization with donor gametes seemed to have had no long-term psycho-social implications on Mr. H who has accepted his paraplegia and their childlessness. It has, however, had long-term psycho-social implications for Mrs. H who has still not accepted her childlessness and is still yearning for a child, which sometimes affects her and she raises the subject again.

7.4.3.2 Couple I

Mr. and Mrs. I have been married for 14 years and reside in Evander, Mpumalanga. Mr. I is 41 years old and Mrs. I is 31 years old and they are in the Old Apostle Church. Mr. I completed his trade as an electrician and works at a mine in Evander and Mrs. I completed standard 10 and is a housewife. They sought help for their infertility problem after 5½ years of marriage and were diagnosed with primary infertility due to Mr. I having severe teratozoospermia and Mrs. I having one open Fallopian tube only. Mr. I had previously been married and was aware of his problem, so only Mrs. I's problem came as a surprise. They both rated the preparation session to have had high value as it made them more realistic about treatment, it revealed aspects they had not yet considered and made them doubt whether they should go ahead with it. They both later decided together on artificial fertilization with donor gametes, as the child would be 50% theirs and they had a strong desire for a child. Four months after the preparation session they would have their first treatment attempt, but then Mrs. I decided against it as she stated: "Ek sal altyd voel dit is nie sy kind nie en die gevolg is ons besluit toe om dit heeltemal te los en liever kinderloos te bly." Mr. I said: "Dit sou my glad nie gepla het nie want ons het saam besluit daaroor en as 'n mens 'n besluit geneem het, moet jy aanvaar wat jy besluit het. Maar my vrou het toe getwyfel en ons het dit daar gelaat." They then decided to leave the treatment totally. Then suddenly a miracle occurred and Mrs. I fell pregnant spontaneously. Mrs. I motivated as follows: "Twee maande later was ek naer en ek het gedink ek het 'n maagseer. Ek het toe dokter toe gegaan en hy het gesê ek is swanger! Ek en my man het gehuil, my man, so groot man as wat hy is, ons het altwee gehuil van blydschap, daar waar ek hom by sy werk buite by die hek gaan vertel het, ons kon dit nie glo nie - net die idee ons kon nie kinders hê nie. My ma, ek het

haar in die dorp ontmoet om haar te vertel en daar in die winkel waar ek haar vertel het dat ek swanger is, het ons altwee kliphard gehuil. Die mense het ons aangekyk asof daar dood is. Daarom het ek besluit my kind se naam moet beteken 'geskenk van die Here' en toevallig het ons toe in 'n boek gesien Mathys, my man se naam, beteken 'geskenk van die Here' en toe gee ons hom ook die naam." Mr. I stated that he would of course have given him his name even if it meant something else. Furthermore Mrs. I stated that she had a caesarean and they so wished her husband could be present, but the gynaecologist would not allow it. Mrs. I mentioned: "Direk na hy gebore is het die dokter hom net so vol bloed in 'n komborsie toegedraai en vir my man buite gaan wys. Jy kan sien op die foto's, toe soen my man hom met bloed en al. My ma hulle sê dit was 'n vreeslike hartseer storie." Mr. I agreed that it was a wonderful experience. Their son was born in January 1989.

The only negative aspect the couple mentioned, was that they were sorry they told everyone of their initial plans to undergo artificial fertilization with donor gametes, because after the birth of their son, nobody would believe that it was their own biological child. They then all assumed Mrs. I had cheated Mr. I and it was someone else's child. They stated that it is sad that people have such a negative attitude about donor treatment and towards people with infertility problems who have a spontaneous pregnancy. Mr. and Mrs. I and their 7 year old son seem to be very happy and leading a normal fulfilling family life. They experienced no psycho-social implications as a result of having no treatment, except for one - people were still sceptical about their child being their own biological child. Thus the disclosure of the secret initially had created the only negative long-term psycho-social implications for them.

7.4.3.3 Couple J

Mr. and Mrs. J have been married for 16 years, are German speaking and reside in Pretoria. Mr. J is 41 years old and has a MBA degree and has his own business, while Mrs. J is 38 years old, has a MA degree and is currently busy with her D.Litt et Phil degree at a University where she is a lecturer. They are in the Lutheran Church. They sought help for their infertility problem after 4 years of having no success and were diagnosed as having primary infertility

due to Mr. J's severe oligoteratozoospermia (OTA syndrome). They were aware of there possibly being a problem in Mr. J as he had had an operation at 11 years of age to bring down an undescended testis (cryptorchidism). Mrs. J was normal. At the clinic they were told there is no hope for them to ever achieve a pregnancy using their own gametes and that their only options would be adoption or artificial fertilization with donor gametes. They experienced this as shattering news. Mr. J stated: "We were basically told that we are a hopeless case and that we shouldn't get our hopes too high. We weren't ready for this news and decided to go somewhere else." Mrs. J added: "We just decided we are not going to give up and we joined the IVF support group 6 months later in Johannesburg and met a doctor who was practising at a private clinic in Johannesburg. He was sympathetic towards us and willing to try various options using our own gametes." He first tried hormone treatment on Mr. J and then ZIFT using their own gametes with the transvaginal oocyte aspiration in November 1988. They transferred 3 fertilized zygotes into the Fallopian tube and this first attempt was successful with a twin pregnancy. A twin boy and girl were born in July 1989, 3 weeks prematurely by means of a caesarean.

As a result of their success and the unhappiness they still felt towards H.F. Verwoerd Hospital's Infertility Clinic for telling them they would not be able to achieve success using their own gametes, Mrs. J wrote a letter a few months after the birth of their twins to the Infertility Clinic to prove to them that they had achieved success, despite their recommendation. She never posted the letter, but has kept it all these years. As it was still an unresolved issue for them, they wished for researcher to have it. The letter read as follows:

30 January 1990

The Dean
Faculty of Medicine
University of Pretoria
0002 Pretoria

Dear Prof X

Re: Infertility Clinic

Today it is exactly three years ago that you, Prof. X, personally broke the worst news of our our lives to us, namely that we would never have a child of our own due to a male factor problem. You recommended that we resort

to AID or adoption. Fortunately we refused to accept this as a final verdict.

After receiving this shattering news from you, we joined the IVF Support Group through which we met Dr. R. from a private Clinic in Johannesburg. He was very sympathetic towards us, and although he warned us that the chances of success were low, he was prepared to at least try to help us. We were relieved that we did not have to undergo all the tests that had been done before and that treatment could commence fairly soon. When hormone treatment and cryopreservation of spermatozoa did not show the desired results, it was decided to resort to the new ZIFT procedure. And lo and behold - the first attempt was successful! Our twins, who were born on 24 July 1989, are today the joy of our lives.

We appreciate the fact that the H.F. Verwoerd Infertility Clinic is state-subsidized and assume that the subsidy depends to a large extent on the success rate achieved. However, we feel very strongly that in order to prevent unnecessary heartbreak, such as that experienced by us, patients for whom the outlook for success is slim, or whom you are not interested in treating, should be advised rather to seek help from a private clinic. Please tell them that private clinics might be prepared to help them, but that you are not prepared to. If you explain to them why not, they will understand and seek help elsewhere. But please, do not just break off all hope where there is still hope left, as you did in our case.

For one thing we are, however, grateful to your Infertility Clinic, and that is that your gynaecologists and andrologists/urologists work so closely together. It was only through this co-operation that our problem could be pinpointed. Two private gynaecologists whom we consulted previously treated the female factor instead of the male factor.

Sincerely hoping that this letter might help some desperate couple.

Yours faithfully,

Mr. and Mrs. J.

This letter firstly reflects on how traumatically they experienced the way the news of their diagnosis was shared with them. Thereafter their lost hope is reflected, which was again raised by the sympathetic doctor who was willing to try again. They then miraculously achieved success with ZIFT, using their own gametes and had twins. These children obviously were the greatest gift and most joyous occasion in their lives, if interpreted from this letter. The unresolved anger and blame is then reflected in the next part of this letter referring to the clinic's assumed policy. A plea and future recommendation is then made not to create similar traumatic experiences for other couples, but to rather improve their tactics in breaking the news of the diagnosis. Some positivity and gratefulness is, however, reflected in the last part of the letter, where the Infertility Clinic is commended for their thorough infertility investigations and detection of the problem, as well as for their effective teamwork.

This letter is also a good example of how intensely emotional couples are when diagnosed initially and that they must be treated and

communicated with very sensitively, a great deal of empathy must be shown and their hope must never be taken away. This unresolved issue of this couple was settled by means of catharsis during the interview and by providing researcher with the letter. They then felt they had finally said their say and felt better about it.

In 1991 Mrs. J suddenly out of the blue fell pregnant spontaneously. A baby girl was born in January 1992. According to Mrs. J "It was a big surprise, I was very glad I had her, because with the twins it was such a lot of work and I had a very strict routine. With her I could really enjoy her."

This couple was very happy and grateful for what they could achieve, contrary to their diagnosis. They were happy in their marriage, were richly blessed with 3 children and were leading a happy fulfilling family life. They had not experienced any negative psycho-social implications as a result of not having undergone artificial fertilization with donor gametes. They only had some unresolved feelings about the way in which their diagnosis had been put across to them and about the alternatives which were mentioned. They had proven that they can have children of their own, by having 3. This unresolved issue and their feelings related to this were dealt with in the interview. They felt much better after sharing it with researcher and being able to hand their letter over to someone who had worked at the clinic at that time, as well as to finally tell someone from the clinic at that time, that they had had 3 children of their own.

7.4.3.4 Discussion

Of these 3 couples who had decided against artificial fertilization with donor gametes, only 1 couple was still childless. This couple, (Couple H), had decided to remain childless and Mr. H had come to terms with his decision. Mrs. H, however, was still yearning for a child, but her husband had made the decision and would not reconsider. She was therefore suffering minor long-term psycho-social implications as a result of having decided against treatment. The other 2 couples (Couples I and J) had had their own biological children and were leading happy, normal, fulfilling family lives. Couple I was still experiencing some negative psycho-social implica-

tions as a result of having disclosed their initial plan to undergo artificial fertilization with donor gametes. People were sceptical that it was not their own biological child, but that Mrs. I had cheated her husband and someone else was the father. Couple J had some unresolved feelings and a need to tell someone from the clinic at that time of their feelings experienced following the news of their diagnosis and their hope which was taken away, as well as to show that they had proven them wrong by having 3 children of their own. These feelings were resolved during the interview and their need fulfilled by handing their original letter they had wanted to post to the clinic, to researcher, as well as being able to show their 3 children they had. These 3 couples therefore seemed to be happy in their present situation, especially those with their own biological children.

7.4.4 Conclusion

Thus from these case studies of all the respondents who were included in this study, it can be seen how each one's situation had different, diverse results 7 years later, as a result of each of their different, unique circumstances, even though they had all initially set out to undergo artificial fertilization with donor gametes. By means of these case studies, the respondents' own accounts of how they experienced certain real life situations were reflected on, as transcribed from the tape recordings of the interviews, as well as sharing a letter from the one respondent as a personal document. This was done in order to give more depth and background to each couple's specific situation. Themes which were observed during the interview were reflected on within these cases, as well as across these cases. These included their unique circumstances and the factors which had played a role in changing their situation, their experiences of artificial fertilization with donor gametes, whether successful, unsuccessful or having decided against it and these contributing factors; the long-term psycho-social implications of artificial fertilization with donor gametes experienced by them, whether positive or negative, and their present circumstances. Thus each couple's situation could be illustrated and described more in-depth.

Subsequently the hypothesis formulated for this study will be

discussed and tested.

7.5 HYPOTHESIS TESTING

The hypothesis for this stage of research will be tested according to the results discussed, as well as the discussions of the case studies.

- * **Hypothesis 3:** If couples undergo artificial fertilization with donor gametes, they will experience long-term psycho-social implications.
- * **Results:**
 - **Successful artificial fertilization with donor gametes**
 - . The majority of respondents reported to be experiencing feelings of stress presently, as well as depression, helplessness, anxiety and isolation. This could most probably be attributed to the psycho-social implications of the donor child and secrecy, having no or very little emotional support, fearing that people will find out, and as a result isolating themselves, which are definite long-term psycho-social implications.
 - . The majority of respondents experienced the following thoughts throughout and after the treatment, during the pregnancy, after the birth of the child and presently: Am I acceptable to my spouse? Did I make the correct decision; Am I a failure? My spouse feels inferior; I feel inferior; Have I sinned? Thus it seems as if the treatment and the resultant child caused thoughts related to uncertainty, decreased self-worth, incompetence and blame. This could most probably be attributed to the infertility, the use of donor gametes and whether was the right decision, being pregnant with an anonymous man's child, living a lie with a child who is only 50% theirs and being a social parent and not a biological parent, which are definite long-term psycho-social implications.
 - . Only the minority of respondents indicated psycho-social implications on their marriage throughout the treatment process till presently: their love for each other had weakened; their mutual respect had decreased, their sexual relationship had deteriorated; they were driven

apart; they experienced fantasies of the donor; had an extra-marital affair; became estranged and got divorced. The majority of respondents experienced positive improvements in their marital relationship. Thus on the whole the marital relationship of the majority of respondents was affected positively and only the minority experienced negative psycho-social implications on their marital relationship and even marital break-up and divorce.

- . Concerns experienced by only a minority of respondents up to until the birth of the child were: the physical appearance of the child; the spouse's ability to accept the child as his own; development of a parent-child relationship; ability to love the child; communication with the child; disciplining the child and fear that people will find out about the child's donor origin. These are reasonably normal concerns, taking the situation into account but could become psycho-social implications if they persist. Some of the respondents indicated their present problems during the interview in disciplining the child/children, fearing that people will find out about the child's donor origin and the father-child relationship. Thus some of these concerns were still persisting at the time of the interview and can be considered as long-term psycho-social implications for a few of the respondents.
- . The majority of respondents reported the following thoughts which were presently evoked by the child: Doubts concerning their decision; fantasies of the donor; a reminder of our infertility; confirmation of his inability. Thus it is evident that this child constantly reminded them of their infertility and inability, made them fantasize about the donor and made them wonder whether they had made the correct decision in having this child. These are definite long-term implications of the successful artificial fertilization with donor gametes.
- . Only the minority of respondents reported a negative effect on the relationships with God, their spouse, family and friends presently, as a result of the artificial fertilization with donor gametes. This the respon-

dents motivated as feelings rejected by God; the emotional ups and downs in their marital relationship because of the treatment causing an unstable relationship; leading to marital break-up, separation and divorce; unstable relationship with the family resulted from the treatment, attitudes of friends changed and relationships were unstable as a result of the treatment. Thus a few respondents experienced definite long-term effects on their relationships as a result of the successful treatment.

- . Only the minority of respondents indicated a negative effect on social aspects such as their social life, work and finances from the birth of their child to the present. These were as a result of the costs involved in the treatment, birth and raising of the child and the added responsibilities and routine in raising a child which often affected their work and social life.
- . Only 1 respondent was unhappy with the child as this child had been born with a severe abnormality and had died at the age of 8 months. This couple had already experienced marital problems during the treatment period, separated shortly after the first trimester of the pregnancy and got divorced before the child was born. This respondent stated that he regretted ever making the decision and going ahead with the treatment as a child and a marriage had been hurt and lost in the process. All this had definite long-term psycho-social implications on these 2 respondents.
- . The majority of respondents reported having concerns related to the secrecy: We are mutually dependent on each other for support; Did we make the correct decision to keep it a secret? How will we deal with the situation if somebody finds out? These respondents therefore had only each other to confide in, they were still unsure whether they should keep it a secret, and they were unsure and anxious about how they would deal with the situation if someone finds out. These respondents were therefore experiencing long-term psycho-social implications related to the secrecy regarding this treatment and

the child.

Thus it can be concluded that these respondents who underwent successful artificial fertilization with donor gametes had suffered certain long-term psycho-social implications. These findings pertaining to this group of respondents therefore support the hypothesis: If couples undergo artificial fertilization with donor gametes, they will experience long-term psycho-social implications.

- **Unsuccessful artificial fertilization with donor gametes**

- . The majority of respondents experienced feelings of disappointment, sadness, helplessness, frustration, ambivalence and despair following unsuccessful artificial fertilization with donor gametes.
- . The majority of respondents experienced the following thoughts evoked by the unsuccessful treatment: Did I make the correct decision? Am I a failure? Am I acceptable to my spouse? My spouse feels inferior; Am I to blame? and Am I a complete man/woman? Thus the unsuccessful treatment created definite thoughts linked to uncertainty regarding their decision, decreased self-identity, self-blame, and decreased sexual identity, which is a definite long-term psycho-social implication.
- . Only a minority of respondents experienced psycho-social implications on their marital relationship as a result of unsuccessful artificial fertilization with donor gametes, which included doing fewer things together and leading to a divorce. In the interview the 1 respondent also admitted to an extra-marital affair with the resultant separation and present process of divorce.
- . The majority of respondents indicated that their relationships with their family, with God and their spouse had been negatively affected as a result of the unsuccessful artificial fertilization with donor gametes. This was a definite long-term psycho-social implication.
- . The minority of respondents stated that their social life and work had definitely been affected by the unsuccessful artificial fertilization with donor gametes, as they did not want to go out any more where there were children.

They also became so over-involved in their career that it contributed to their marital break-up, with a definite long-term psycho-social implication.

Thus it can be concluded from the above that the couples who had unsuccessful artificial fertilization with donor gametes had suffered from certain long-term psycho-social implications of this treatment. **These findings therefore support the hypothesis: If couples undergo artificial fertilization with donor gametes, they will experience long-term psycho-social implications.**

7.6 SUMMARY

The research process utilized in this empirical study was firstly described. This study represented the third stage of research: "A longitudinal study of the long-term psycho-social implications of artificial fertilization with donor gametes."

The interpretation of the research findings were subsequently discussed and represented graphically:

- * The various biographic particulars of the 19 respondents were discussed, namely age, sex, marital status, qualifications, occupation, religion and children. The majority of respondents were aged between 35 to 39 years, 10 respondents were males and 9 respondents were females, the majority was still married, with 2 respondents separated and 1 divorced (his ex-wife could not be traced for this study). Their qualifications and occupations had remained very similar to the previous stage of research, as well as their religion.
- * The majority of respondents had children from this marriage, with 7 respondents who had donor children, 4 respondents who had adopted children and 4 respondents who had their own biological children.
- * The medical data was subsequently discussed. Thirteen of the respondents had undergone artificial fertilization with donor gamete treatment and 6 had not undergone treatment.
 - The majority of respondents had undergone AID and the

minority IVF-D. The majority had undergone this treatment within 1 year of the preparation session, and the rest 2 to 3 years thereafter.

- The majority of respondents had undergone at least 3 to 4 treatment attempts and were treated by private gynaecologists, closely followed by those treated at H.F. Verwoerd Hospital's Infertility Clinic.
- Only 9 respondents eventually had successful artificial fertilization with donor gametes with a resultant positive pregnancy test.
- Only 2 respondents had received information on the donor while the majority had not and now wanted information about the donor.
- The first child was born in all cases within 1 to 2 years after the preparation session. The majority of children were born in provincial hospitals, in 4 of the provinces by caesarean section. Only 1 respondent had a natural birth. In the majority of cases the doctor who performed the delivery/caesarean was not the same doctor who had performed the treatment and was mostly the general practitioner of the respondents.
- A total of 6 children were born conceived by means of artificial fertilization with donor gametes. Three were boys and 3 were girls, of which 2 girls were a set of twins. One child was born with Down's Syndrome and a lung abnormality and died at the age of 8 months. The 5 remaining children are all healthy today. The majority of respondents were happy with the physical appearance of their child/children, who resembled either the wife or someone in either the husband's or wife's family.

* The long-term evaluation of the preparation session was the following section to be discussed.

- The preparation session was rated to have had a high value on the long-term by the majority of respondents. The psycho-social aspects discussed during the session, were rated to have had the highest value, followed by the legal aspects, the medical aspects, the religious aspects and lastly the ethical-moral aspects. The various psycho-social aspects

discussed, were viewed as being of great importance for the preparation session.

- The preparation session mainly helped the respondents to make their decision, to be more realistic and to have a thorough perspective of artificial fertilization with donor gametes. The preparation session was rated to be of absolute necessity by all the respondents, for couples who plan to undergo artificial fertilization with donor gametes.

* The psycho-social data regarding artificial fertilization with donor gametes was subsequently discussed, including:

- The main motives for wanting to undergo artificial fertilization with donor gametes were: a strong desire for a child, the child will be accepted as our own, due to biological determination and instinct, want to experience a pregnancy and the child will be 50% blood related.
- Successful artificial fertilization with donor gametes and the psycho-social implications were the following findings to be discussed, including:
 - . The feelings experienced by respondents who underwent successful artificial fertilization with donor gametes were mainly positive before treatment, during treatment, after the pregnancy test results, during the pregnancy, after the birth of the child and presently. The negative feelings reported were only before treatment: ambivalence, helplessness and uncertainty, and presently: stress, depression, helplessness, anxiety and isolation.
 - . The thoughts experienced throughout the treatment process were mainly linked to lowered self-esteem, uncertainty regarding the decision, self-blame and being a failure or incompetent.
 - . The influence on the marriage was mainly positive throughout the treatment process, except for 2 respondents who reported an extra-marital affair, increased quarrels, deterioration in their sexual relationship, separation and divorce.
 - . Concerns throughout the treatment process were normal and included concerns of a threatening miscarriage, abnormalities, spouse's ability to accept the child as his own,

the health of the child and ability to love the child. Concerns which were still persisting presently were the infliction of discipline, the development of the father-child relationship and that people would find out about the donor origin of the child.

- . Thoughts evoked by the child were concerning their doubts in having made the correct decision, fantasizing about the donor and reminding them of their infertility and their inability.
- . The relationships were mainly positively influenced throughout the treatment process.
- . The social aspects were mainly positively influenced throughout the treatment process.
- . The majority of respondents (excluding 1 respondent) were happy with their child/children who gave them lots of joy.
- Unsuccessful or no artificial fertilization with donor gametes and the psycho-social implications were the following findings to be discussed, which included:
 - . The feelings experienced as a result of the unsuccessful or no treatment, included mainly feelings of disappointment, sadness, helplessness, ambivalence and frustration.
 - . The thoughts evoked by the unsuccessful or no treatment were regarding their doubts in making the correct decision, being a failure, feeling inferior, incompetent, unacceptable to spouse and being to blame.
 - . The influence of the unsuccessful treatment or no treatment on the marital relationship was mainly positive, except for 2 respondents who reported an extra-marital affair, separation and presently in the process of divorce as a result of the unsuccessful treatment.
 - . The relationships were positively and negatively influenced as a result of the unsuccessful treatment.
 - . The social aspects influenced as a result of the unsuccessful treatment were mainly the social life and work.
- Secrecy and the resultant psycho-social influences were subsequently discussed, including:
 - . The majority of respondents had disclosed the secret of their treatment to someone. The reactions of these persons were mainly positive and very supportive.

- . The reasons for non-disclosure amongst the majority of respondents were: it is a private matter and nobody needs to know.
 - . The feelings evoked by the secrecy were mainly positive as well as the influence of secrecy on the marriage. The concerns related to the secrecy were that they were mutually dependent on each other for support, were unsure if they made the correct decision to keep it a secret and were fearful of how they would deal with the situation if someone would find out. Only the minority of respondents planned to tell the child.
- * The findings or the evaluation of professional services were discussed next.
- The value of the services of the various disciplines involved were discussed as evaluated during the treatment process. Throughout the total treatment process the medical doctor and social worker were rated to have the highest value in terms of the services rendered. Various helpful recommendations were also made by the respondents for different team members.
 - The need for social work intervention was indicated by respondents throughout all the stages of treatment.
- * The future plans of the respondents were explored. The majority were happy with the child/children they had and only 1 respondent was considering adoption and another remaining childless.
- * Subsequently the case studies of the couples in this study were discussed, taking extracts from the interviews and including a personal document. This provided depth, showed each couple's unique circumstances over a 7 year period and their psychosocial experiences of artificial fertilization with donor gametes whether successful, unsuccessful or not having undergone treatment at all.

Lastly the hypothesis for this stage of research was supported by the findings.

The next chapter consists of the medical social work guideline for the preparation and counselling of couples undergoing artificial fertilization with donor gametes.

CHAPTER 8

A MEDICAL SOCIAL WORK GUIDELINE FOR THE PREPARATION AND COUNSELLING OF COUPLES UNDERGOING ARTIFICIAL FERTILIZATION WITH DONOR GAMETES

8.1 INTRODUCTION

Artificial fertilization with donor gametes is a field which is still new and unknown to the majority of medical social workers. As it is a very specialized field and there is secrecy involved, it is not so accessible and it is difficult to become involved in or gain knowledge of. Many infertile couples undergo this form of treatment and the need therefore exists for medical social workers to be specialized in this field. Due to the nature of this treatment, the secrecy involved and the anonymous donor, there are various aspects which couples have to be prepared for, before they can make a decision to go ahead with treatment. The holistic preparation of couples for artificial fertilization with donor gametes is proposed in this study, regarding the medical, legal, ethical-moral, religious and psycho-social aspects. A need therefore exists for a medical social work guideline for the preparation and counselling of couples who undergo artificial fertilization with donor gametes.

This chapter fulfils part of the first aim of this study: To develop, implement, evaluate and describe a guideline for the holistic preparation of couples for artificial fertilization with donor gametes. The objective is: To describe and provide a medical social work guideline for the holistic preparation of couples for artificial fertilization with donor gametes. It also fulfils the third aim of this study: To provide a medical social work guideline for the counselling of couples undergoing artificial fertilization with donor gametes.

Thus in this chapter as guideline for the holistic preparation of couples for artificial fertilization with donor gametes will be described, which will be followed by a guideline for the counselling of these couples.

8.2 DEFINITIONS OF KEY CONCEPTS

The key concepts used in this chapter will subsequently be defined.

8.2.1. Medical Social Work

Medical Social Work is defined by the New Dictionary of Social Work (1995:39) as: "Specialized field in social work practised in hospitals and other health care facilities and aimed at the social and personal implications of sickness and health." Furthermore, Laurence-Carbonatto & Du Preez (1990:317) confirm this by stating: "Medical social work can be defined as the practice of social work in an inter-disciplinary health setting, with the primary focus on the illness, hospitalization, treatment or disability and the psycho-social effect on the patient, the family and the community." Ritter (1992:6) similarly refers to medical social work as: "... 'n spesialiteitsrigting in die maatskaplike werk wat in die gesondheidsveld verrig word en gerig is op die maatskaplike en emosionele implikasies wat 'n liggaamlike of psigiese siektetoestand vir die pasiënt, gesin en gemeenskap tot gevolg het."

On the other hand, Funnel, Levin & Hochstadter (1990:367) maintain that: "Social workers in a hospital setting have a special understanding of and skills to deal with the psycho-social impact of illness, disability, hospitalization and death. The social worker, as a member of a multi-disciplinary team, aims to assist patients and their families to cope constructively with crises brought about by these events, thereby preventing the occurrence of further psychological and emotional problems. In this way he has enormous potential to contribute to total patient care." Thus the social worker in the hospital is an indispensable member of the inter-disciplinary team, who has a very important contribution to make in terms of her knowledge, skills and tasks, as well as to ensure the implementation of the holistic approach with each patient.

Social work in health care is defined in an even broader context by Barker (1991:141) as follows: "Social work in health care is the social work practice that occurs in hospitals and other health settings to facilitate good health, prevent illness and aid physically ill patients and their families to resolve the social and

psychological problems related to illness."

Thus medical social work or social work in health care can be defined as the practice of social work in an inter-disciplinary health setting, focusing on illness, disability, hospitalization and treatment, and the psycho-social effect on the patient, family and community. It also concentrates on the prevention of illness and promotion of health by means of education and primary health care.

8.3 A MEDICAL SOCIAL WORK GUIDELINE FOR THE HOLISTIC PREPARATION OF COUPLES FOR ARTIFICIAL FERTILIZATION WITH DONOR GAMETES

The holistic preparation of couples for artificial fertilization with donor gametes is proposed in this study as being imperative and a definite prerequisite for this form of treatment. No research has been performed thus far on the preparation of couples for artificial fertilization with donor gametes, nor is there any literature available on this topic. The first aim for this study therefore is as follows: "To develop, implement, evaluate and describe a guideline for the holistic preparation of couples for artificial fertilization with donor gametes". This will be partly achieved in this section, namely, to **describe** a guideline for the holistic preparation of couples for artificial fertilization with donor gametes. The development of the preparation session and the detailed contents thereof, namely, the medical, legal, ethical-moral, religious and psycho-social aspects of artificial fertilization with donor gametes, are described in chapters 1, 2, 3, 4 and 5 of this thesis. The empirical research on the implementation and evaluation of this preparation session is discussed in Chapter 6. This section is therefore aimed at describing the guideline for the preparation of couples for artificial fertilization with donor gametes.

Various authors refer to the need for patient preparation. The importance of preparation is accentuated by Kovacs *et al.* (1988:355) who state that the couples should consult the social worker for a detailed discussion of the social, ethical and legal implications of AID. Furthermore, Ledward *et al.* (1982:274) stress the importance of the medical social worker in elucidating the psycho-social reactions to AID. In support of this Mahlstedt (1994:557-567)

recommends patient preparation, especially concerning the emotional consequences. On a similar note Van Thiel *et al.* (1990:823) strongly recommend psychological advice prior to treatment, as do Klock & Maier (1991:494) and Beck (1983:385). Olshansky & Sammons (1985:52S) on the other hand refer to the importance of preparation on the medical and legal aspects only. Thus it appears as if the preparation on the psychological aspects is stressed as being of importance, while preparation on the medical, legal, social and ethical aspects are also considered to be essential.

A recommendation on an extensive preparation is made by Thompson & Boyle (1982:218), who recommend the importance of counselling on the ethical, religious, legal and practical implications and the ability to recognize that a couple is at ease with their final decision. This is supported by Jequier (1986:145), who recommends that a small booklet be compiled on these issues and given to the patient. Extensive patient preparation is also emphasized by Mahlstedt & Greenfeld (1989:909). Thus the need for more thorough patient preparation from a broader perspective is highlighted.

The skills and training of personnel to provide patients with as much information as possible, are stressed by Soutoul, Body, Pierre & Kone (1989:919-929) who state that this is important, so that patients can give informed consent. Van Staden (1989:165) also emphasizes that the couples found it difficult to make a decision and expressed a need for more information. Nachtigall (1993:1846-1851) also emphasizes the importance of providing advice to couples considering the option of donor treatment, while Halman *et al.* (1993:1046-1054) refer to the importance of sharing information with these patients and of their understanding of this procedure. Thus the importance of preparation is emphasized, as well as the patients being able to give informed consent, once they have sufficient information.

In support of this the research findings evaluating the preparation session on a short-term and long-term basis are subsequently referred to. The short-term evaluation of the preparation session in the empirical study in Chapter 6, found respondents providing mainly positive feedback regarding the session. All the respondents (100%) recommended the preparation session for future couples planning to

undergo artificial fertilization with donor gametes. A large amount of new information was reported to have been gained during the session by 92% of the male respondents and 91% of the female respondents. Their ability to understand all the aspects discussed, was reported by 100% of the males and 79% of the females. All the respondents (100%) reported a clarification of aspects with a few new concerns raised.

Their ability to understand artificial fertilization with donor gametes and to thus have a clearer perspective of all the related aspects was reported by 93% males and 100% females. The majority of respondents also reported mainly experiencing positive feelings following the preparation session and that the time spent on the session had been sufficient.

The long-term evaluation of the preparation session in the empirical study in Chapter 7, found respondents also providing mainly positive feedback regarding the session. All the respondents (100%) reported the necessity of a preparation session and 73.68% stressed that it should be compulsory, while 26.32% felt it should be optional. The majority of respondents (68.42%) rated the value of the preparation session to be high, while 26.32% rated it as moderate and only 5.26% (1 respondent) rated it of no value. Furthermore the majority of respondents reported that the session: made them more realistic about treatment, helped them to make their decision, gave them a more thorough perspective of artificial fertilization with donor gametes, informed them of the advantages and disadvantages, prepared them for treatment, and clarified all the issues involved. They also recommended that the preparation period consist of more sessions.

Thus it is evident that the need for preparation of these patients for artificial fertilization with donor gametes has been recognized and the importance of providing these couples with sufficient information. By having more information, these couples will be enabled to make a decision and give their informed consent. The whole issue of informed consent is also becoming more and more important in terms of human rights. Thus the need and importance of thorough, holistic preparation of couples for artificial fertilization with donor gametes is essential and should be a prerequisite

for treatment.

Subsequently a guideline for the holistic preparation of couples for artificial fertilization with donor gametes will be provided. Firstly the administrative aspects of the preparation session will be discussed, followed by the contents of the preparation session.

8.3.1 The administrative aspects of the preparation session

A preparation session should be held with all couples planning to undergo artificial fertilization with donor gametes. This session should be held individually with each couple, and not in a group context as is often done with adopting parents. This matter is far too sensitive and secretive to deal with in a group session and must be dealt with individually.

This session should take place some time after the diagnosis was made and this alternative was mentioned. It is recommended that the couple should have passed the crisis period following the diagnosis and have been able to come to terms with their infertility. They must have considered this option and be interested in it. Both spouses have to be present during the preparation session.

The duration of the session can vary from a full morning or afternoon session of approximately five hours, to a full day session of approximately seven hours, with a lunch-break between, depending on various factors. These factors include:

- * Whether both spouses can afford to take off work for a full day or half-day;
- * how far away the couple live;
- * the educational and intellectual level of the couple and ability to comprehend;
- * whether they have any previous knowledge, information or experience of artificial fertilization with donor gametes or not;

- * whether both spouses feel equally positive and motivated, or whether one spouse has been pressurized into the situation and is not really interested; and
- * whether the couple has been assessed and selected for this treatment procedure or has been referred without being selected.
- * The half-day preparation session implemented in this study was evaluated as sufficient by the majority of respondents (85% males and 91% females). It was evaluated as being too long by 15% males and 9% females. Thus a half-day session should suffice.

This session could be held at the clinic or hospital where the procedure will be performed, or at the private practitioner's consulting rooms, or the medical social worker's office or private practice. A seminar room can also be used for this purpose. The only criteria are that this venue should be free of any disturbances, excessive noise or interruptions. A warm, positive, private and safe atmosphere should be created by the medical social worker and the venue should also enhance this, so that these couples can feel comfortable to discuss this sensitive, private and secretive issue.

The information that is provided in this preparation session should be put across in a stimulating and interesting manner. This should stimulate the couple in the learning process and motivate them to want to know more of this interesting topic, as well as to encourage them to ask questions and to participate in this preparation session. Audiovisual equipment should be used if at all possible, such as an overhead projector, a video machine and a slide projector. This could make the session more interesting and stimulating. Furthermore literature and examples of case studies can be used, as well as role-play of certain situations. The couple should be seen together in this session, but should also each be seen individually at some point during the session. This could help to determine each individual's need, feelings, fears, attitude and motivation concerning artificial fertilization with donor gametes.

Furthermore, a measurement scale or questionnaire can be used prior

to and after the session in the form of a pre-test and post-test, as was implemented in this study. This could help to determine the couple's knowledge of artificial fertilization with donor gametes and all the related aspects prior to the preparation session, as well as directly afterwards. The success of the preparation session in helping these couples to gain knowledge on all these aspects can thus be measured, the medical social worker can be more accountable as a professional and prove the results and importance of preparation to the rest of the inter-disciplinary team.

8.3.2 The contents of the preparation session for artificial fertilization with donor gametes

Subsequently the contents of the preparation session will be described as a guideline. The detail of these contents, that is, the medical, legal, ethical-moral, religious and psycho-social aspects regarding artificial fertilization with donor gametes, have been described in-depth in chapters 2, 3, 4 and 5 of this thesis and cannot be repeated again in this chapter. For this detailed information the reader can utilize chapters 2, 3, 4 and 5 as a knowledge base and resource for each of these aspects, which should be discussed with these couples during the preparation session. The contents should include the following:

8.3.2.1 The infertility diagnosis and motives for choosing this alternative

The details of the infertility diagnosis, the causes, when it was made and how they experienced it, must be discussed with the couple to determine whether they have come to terms with their infertility yet. The detailed information on infertility, the investigations, causes and treatment, can be found in Chapter 2 of this thesis. The information on the psycho-social implications of infertility and the process of coming to terms with infertility is discussed in Chapter 5.

The alternatives the couple have considered, namely, adoption, childlessness or artificial fertilization with donor gametes, must be discussed, concentrating on each spouse's viewpoint regarding these alternatives and why they have decided against it or for it. Their reasons for choosing artificial fertilization with donor

gametes must be explored and discussed in-depth. It must also be determined whether both spouses are equally motivated to go ahead with this form of treatment and what their expectations and insight are. Each spouse should also be interviewed individually so as to explore any fears, uncertainties, unwillingness, feelings of being pressurized or inconsistencies compared to what was said in the combined interview. Their individual and combined motives for a child and parenthood must be assessed and discussed, so as to develop insight. Their individual and combined motives for artificial fertilization with donor gametes must also be explored and discussed. The detailed information on the motives for artificial fertilization with donor gametes, as well as for a child and parenthood, can be found in Chapter 5 of this thesis.

If there are any concealed motives or inconsistencies in their individual and combined interviews, these couples should not be prepared further, but given time to first sort out their differences, and to return when both feel positive about this alternative. If both are motivated for this form of treatment, the preparation can commence.

8.3.2.2 The medical aspects

The detailed medical information on infertility, the causes, investigations and treatment can be found in Chapter 2 of this thesis, while the detailed medical information on artificial fertilization with donor gametes can be found in Chapter 3.

During this part of the preparation session the medical aspects regarding artificial fertilization with donor gametes must be discussed in-depth with the couple. The gynaecologist or andrologist usually discusses this information very briefly with the couple and often uses medical jargon to such an extent, that the couple are confused and do not fully understand what they are told. There usually is no time for the patient to ask the doctor to repeat this information, as the next patient is usually already waiting. The medical social worker can therefore repeat this information, in conjunction with the gynaecologist, but using terms which are more understandable to the couple.

The following is a guideline for the preparation of couples on the medical aspects regarding artificial fertilization with donor gametes:

- * Their diagnosis and the causes of their infertility should be discussed.
- * Their indications for artificial fertilization with donor gametes, that is, the male and female indications should be discussed. This could help determine whether they have insight in why they can only attempt heterologous infertility treatment procedures using donor gametes and not homologous treatment procedures using their own gametes.
- * The history and incidence of this form of treatment can be mentioned briefly, so as to help these couples realise they are not the only persons in the world in this situation, but that it has been performed for centuries and that many people are in the same predicament.
- * Recipient selection on medical grounds should be included, concentrating on the medical indications, such as: general health, no history of drug abuse, alcoholism, sexually transmissible diseases, AIDS and genetic or psychiatric disorders.
- * Donor selection and preparation is of utmost importance to discuss, as couples often have questions in this regard. A thorough discussion of the donor screening process and criteria for selection is therefore essential. Furthermore, the preparation of the donor on his responsibilities regarding his donation, the number of times he can donate and his compensation should be discussed.
- * Recipient-donor matching and the criteria used in the matching process must be described, as these also cause feelings of fear and anxiety if they are not aware of this.
- * The various methods of artificial fertilization with donor gametes should be highlighted, with a brief description of each

treatment procedure and the process of treatment. These include AID, IVF-ET-D, GIFT-D, ZIFT-D, TET-D or EIFT-D, D-OT, POST-D, transvaginal intra-follicular insemination and surrogate motherhood.

- * The use of fresh versus frozen gametes can also be discussed.

The medical aspects discussed in the preparation session were rated on the long-term to have had a high value by 62.50% of the respondents in this study. This aspect had the third highest value (see Chapter 7). This preparation on the medical aspects should enable couples to gain sufficient knowledge on the medical aspects of artificial fertilization with donor gametes, so as to make them more realistic in terms of what this treatment entails. If there are still uncertainties and too many medically related questions, it would be advisable that the couple consults the gynaecologist again or one of the nurses or other medical practitioners. This guideline is merely an outline of what the preparation of medical aspects should entail and should always be discussed in conjunction with the gynaecologist. Chapters 2 and 3 of this thesis are referred to for further detailed information on the medical aspects.

8.3.2.3 The legal aspects

The detailed information on the legal aspects of artificial fertilization of persons with donor gametes can be found in Chapter 4 of this thesis. Couples need to be prepared on the legal aspects, so that they are aware of what control there is in the performing of this procedure, the rights of the child, the donor, the surrogate mother and the recipients. The legal aspects discussed in the preparation session were rated on the long-term to have had a high value by 72.22% of the respondents. This aspect was rated to have the second highest value (see Chapter 7).

The following is a guideline for the preparation of the legal aspects:

- * A brief overview of the legal perspectives and legislation of various countries can be provided to help couples gain insight

in why the South African legislation is so specific and strict compared to that of most other countries. The countries where legislation is available on this form of treatment include: the U.S.A., the United Kingdom, various European countries, Australia and New Zealand, as well as Canada.

- * The South African legal perspective and legislation in this regard should be discussed in detail, so as to help these couples gain knowledge and insight in the situation and what their rights and obligations are, as well as what form of control is exercised concerning the medical practitioner, the treatment, the donor, the child, the recipients and other related aspects.

- * A discussion of the following South African legislation should be included in the preparation session:
 - The Human Tissue Act, 1983 (Act No. 65 of 1983).
 - The Regulations regarding the artificial insemination of persons and related matters, R.1182, 1986.
 - The Children's Status Act, 1987 (Act No. 82 of 1987).
 - The Draft regulations regarding the artificial fertilization of persons and related matters, 1991.
 - The pending Surrogate Motherhood Act, 1992, project 65, a proposed bill.

The contents of the above-mentioned legislation can be found in Chapter 4. By means of this preparation on the legal aspects of artificial fertilization with donor gametes, couples should gain knowledge on the presence and contents of applicable legislation and should be allowed to ask questions about all their uncertainties in this regard. Couples should also be encouraged to consult their own lawyer in this regard prior to commencing with treatment. Further detailed information on these legal aspects can be found in Chapter 4 of this thesis.

8.3.2.4 The ethical-moral aspects

There are various ethical-moral issues regarding artificial fertilization with donor gametes which should be addressed during the preparation session. These aspects are described in detail in

Chapter 4 of this thesis. It is important that couples are aware of these issues with which they might be confronted with and that they can use this opportunity to raise any dilemmas they have in this regard. The ethical-moral aspects discussed in the session were rated on the long-term to have had a high value by 50% of the respondents in this study (see Chapter 7).

The following are a few examples of the ethical-moral issues which can be discussed and debated on with the couple:

- * Artificial fertilization with donor gametes is disrespectful of the human person; children are born of a father who is merely a name on a file; this procedure bypasses the natural act of intercourse and procreation; the donor begets without ever knowing the child; does this involve a dehumanization of human sexuality?; can this be seen as adultery?; masturbation; sexual piety; compensation of donors; selection of donors and the practice of eugenics; secrecy and anonymity; the question of consanguinity and possible consanguineous marriages resulting.
- * Furthermore the use of donor gametes is questioned; the ethical status of the embryo and the beginning of life; commercialization of sperm and oocyte banks; gametes which are frozen and ready to be matched and dispatched; making babies in laboratories; embryo adoption; burial services for embryos; and involvement of third parties (donor) in procreation.

These are all controversial issues which should be debated during the session and can also be referred to for further detail in Chapter 4. Couples should be encouraged to raise their own ethical-moral uncertainties and questions during this session. By means of this session they should gain knowledge and be able to sort out some of these dilemmas. It should also enable them to reconsider these factors further during the decision-making period. A bio-ethicist can also be consulted if the couple so wishes.

8.3.2.5 The religious aspects

It is important that the perspectives of different religions regarding artificial fertilization with donor gametes are discussed

during the preparation session. The couple's own religion must also be taken into consideration and specific attention given to the viewpoint of their religion and church as far as it is possible. The religions aspects are discussed in detail in Chapter 4 of this thesis. The religious aspects discussed in the session were rated on the long-term to have had a high value by 61.11% of the respondents in this study (see Chapter 7).

The following are examples of the religious aspects which can be discussed:

- * Churches of the Christian religion which are opposed to artificial fertilization with donor gametes are: Roman Catholic, Lutheran and Anglican. The other churches have less outspoken viewpoints and say no in some circumstances and yes in other.
- * The Orthodox Jewish church or Judaism is also opposed to this form of treatment.
- * The Islamic faith strictly condemns the practice of artificial fertilization with donor gametes and it is rarely practised since it is a ground for divorce.
- * The traditional African churches condemn the practice of artificial fertilization with donor gametes and in fact deny that men can be infertile. They deal with this issue secretively amongst the family, by encouraging the wife to have sexual intercourse with the husband's brother or another family member. The husband remains unaware of this and the resultant child who he is led to believe is his own, maintains the family genetic link and bloodline.
- * Some issues concerning this form of treatment are unacceptable to most religions and these include:
 - _ Masturbation to obtain sperm.
 - Depersonalization of sex.
 - Marriage and third party intrusion.
 - Adultery.
 - Invading God's territory.

- The unpredictability factor.
- Incest in the case of consanguineous marriages resulting amongst donor offspring.
- Anonymity of the donor.
- The responsibility factor and the fact that the donor relinquishes all responsibility toward his/her offspring.

It is important that couples have an opportunity to raise their own religious uncertainties or fears. Concerning the viewpoints of their own religion, they should gain knowledge if they are unaware of it. When a couple want a child and this is the only alternative, they will be confronted with feelings of guilt and uncertainty, if they know their religion is against this form of treatment. It is then recommended that they should also consult a theologian in this regard, or clergy from their religion to help them in their final decision-making process. Further detailed information on the religious aspects can be found in Chapter 4 of this thesis.

8.3.2.6 The psycho-social aspects

There are various psycho-social aspects which should be discussed with couples during the preparation session. The detailed information on the psycho-social aspects are described in Chapter 5 of this thesis and can be used as a knowledge base and guideline for the preparation session. The psycho-social aspects discussed in the session were rated on the long-term to have had a high value by 73.68% of the respondents in this study. This aspect was rated to have the highest value (see Chapter 7).

The following psycho-social aspects should be discussed with couples during the preparation session:

- * **Their motives for a child and parenthood, as well as their motives for a child by means of artificial fertilization with donor gametes** should be assessed and discussed. This can be followed by a general discussion of motives from various studies and can be shared with them to help gain insight in possible further motives. It is important that both spouses are equally motivated and have similar motives. This should give them some information to think about further during the decision-making

process.

- * The motives of the donor should also be discussed to help them gain insight in the donor's situation and why he or she is willing to donate gametes.

- * The decision-making period and process are very important aspects to be discussed with each couple. This should be discussed in-depth with them, providing them with possible guidelines in terms of what has to take place during this period which follows the preparation session:
 - The decision has to be made over an extended period of time, of at least three months duration.
 - The couple must have resolved their infertility crisis, completed their grieving process and come to terms with their infertility.
 - They must redefine their marital relationship, reconstruct their sexual identity and their idea of a traditional genetically-linked family.
 - They have to make a paradigm shift from biological parenthood to social parenthood.
 - Couples must first undergo the preparation session to have more information and knowledge to enable them to make a more rational decision.
 - It should be a combined decision.

- * **Secrecy and anonymity regarding recipients and donors is a further aspect of importance:**
 - The whole issue of secrecy and whether the parents plan to maintain the secret or disclose it to others, must be discussed in-depth. Findings from various studies can be shared with them in this regard.
 - Their reasons for secrecy and components of secrecy should be explored and discussed.
 - The advantages and disadvantages of secrecy must be discussed with them.
 - Anonymity of the donor should also be discussed and the reasons why donors want to remain anonymous, as found in various studies. This should be dealt with to help these

couples gain insight in the donor's position.

- Non-identifying information of the donor which can be provided and their need for this information should be explored and discussed, as well as non-identifying information of them being shared with the donor.
 - Disclosure to family members and friends should be explored, how they will go about it and the reactions they could expect. Some findings from various studies can be shared with them to help them with this difficult decision.
 - Disclosure to the child is a very important aspect and this should be discussed in-depth with each couple. Their reasons in favour of or against telling the child should be explored and findings from various studies should be revealed to help them with this complex decision. Ways of telling the child must be discussed and when it can take place. Results from studies of the reactions of children who have been told should also be shared with these couples. It still, however, remains their own choice.
 - This discussion on secrecy was rated to have had a high value on the long term by 64.71% of the respondents in this study (see Chapter 7).
- * The **emotional reactions resulting from treatment** is another aspect of importance, as stress is usually experienced during the treatment stage. Mutual support should be encouraged and ways of enhancing their coping mechanisms.
- * The possible **psycho-social implications of artificial fertilization on the individuals** involved must be discussed during the preparation session. These individuals include the recipient husband and wife, as well as the donor. Some findings of studies should also be shared with the couple to help them gain insight in the possible psycho-social implications of treatment. These implications include, for example, feelings of guilt, fantasies of the donor, conflicts, increased stress levels and anxiety. This discussion was rated to have had a high value on the long-term by 68.42% of the respondents in this study (see Chapter 7).

- * The possible **psycho-social implications on the marital relationship** is a further aspect of importance to be discussed. The essentiality of a stable marital relationship must be stressed and the importance of mutual support. The possible effect on the sexual relationship, the marital conflict evoked, as well as feelings of guilt, resentment and jealousy can be mentioned. Some findings of studies dealing with marital discord, as well as with positive results where the marital relationship was enhanced should also be shared. The importance of the quality of the marital relationship and mutual support should be accentuated. This discussion was rated to have had a high value on the long-term by 78.95% of the respondents (see Chapter 7).
- * The **pregnancy and childbirth** are further aspects to be included in the discussion:
- The couple should be made aware of all the adaptations, fears, the incidence of abnormalities, and the tension and anxiety experienced during the pregnancy.
 - They should be prepared in such a way that they have a realistic idea of what it is like to be pregnant and to give birth to the child, as well as what possible adaptations lie ahead.
 - Unrealistic fantasies must therefore be explored and discussed.
 - The positive experience of the pregnancy and childbirth and the enhanced bonding process for both husband and wife during the pregnancy and childbirth must be accentuated. This could help them to compare the differences between this option and adoption.
 - Results from various studies regarding the experience of the pregnancy and the birth should also be shared with them, for example fantasizing about the donor and the child.
 - They should furthermore be prepared to a certain extent on the actual delivery process, whether a natural birth or caesarean.
 - This discussion was rated to have had a high value on the long-term by 70.59% of the respondents in this study (see Chapter 7).

- * **Parenthood** is an important issue to be discussed: and
 - The adaptations to be made must be discussed as well as the responsibilities of being a parent.
 - The experience of social parenthood should be discussed, and some results of studies performed in this regard can be shared with these couples.
 - Biological versus social parenthood should be discussed, as well as the importance of a combined approach, mutual support and a stable marital relationship needed to make this parenthood succeed.
 - Parental guidance can also be provided in terms of dealing with this child. The chances of being over-protective or having difficulty enforcing discipline, because of the gratefulness for and uniqueness of this child, should be discussed and discouraged.

- * **The child** who is donor-created needs to be discussed in-depth:
 - The child who is conceived by means of artificial fertilization with donor gametes is a very special, planned and wanted child. The only difference is, that this child is not a biologically-linked child of both spouses. The paradigm shift from a biologically-linked child to a donor-created child must be discussed with these couples.
 - The resemblance of the child is an issue with which many couples are preoccupied and must be discussed.
 - The results of findings from various studies concerning the physical, psychomotor, psycho-social and intellectual development of the child and the incidence of abnormalities should also be shared with them, as these are issues which usually cause unnecessary concern in most couples.
 - The disclosure of the secret to the child should be discussed in-depth during this session, including the reasons in favour of telling the child and reasons against telling the child. Some results of studies performed in this regard can be shared, specifically the reactions of children who were told. The aspects to be taken into consideration when deciding to tell the child should be discussed with the couple and how to tell the child. It can even be enacted in a role-play situation.

- Furthermore, it is important that these couples are made aware of the fact that this child is as normal as any other child in terms of development and should be raised as such.
- This discussion was rated to have had a high value on the long-term by 88.24% of the respondents in this study (see Chapter 7).

* **The artificial family** compared to a traditional biologically-linked family should be discussed and the couple should be encouraged to make the paradigm shift in this regard.

- Non-disclosure to other family members should be discussed and the whole issue of deceiving the family in terms of kinship and bloodline and creating dishonesty and distrust.
- The couple's own family situation can be assessed and to whom they would disclose or not and why?
- Reactions of family members who were told from findings of studies, can be shared and when and how they were told.
- How to go about telling family members who can be trusted should be explored.
- The situation of telling family members, but not the child, is another important aspect and the danger of the child finding out accidentally.
- The ability of creating a normal and harmonious family relationship and providing the child with sufficient love, warmth and security can be discussed and how this couple has the right to have a child and become a family by means of artificial fertilization with donor gametes.
- This discussion was rated to have had a high value on the long-term by 55.56% of the respondents in this study (see Chapter 7).

Thus the part of the preparation session on the psycho-social aspects of artificial fertilization with donor gametes is more comprehensive and very important to help prepare these couples on all the possible experiences and implications regarding this alternative. This information will ensure that they gain sufficient knowledge and are more realistic in terms of what they could experience. This will also help them in their final decision-making process.

This guideline for the preparation of couples for artificial

fertilization with donor gametes has been described according to the medical, legal, ethical-moral, religious and psycho-social aspects which must be discussed with these couples. This chapter merely serves as a guideline and the detailed information to be utilized during the preparation session on each of these aspects, can be found in chapters 2, 3, 4 and 5 of this thesis.

The preparation session should help the couples to gain sufficient knowledge regarding artificial fertilization with donor gametes and all the related aspects, so as to enable them to be more realistic and to assist them in their decision-making process which follows the preparation stage.

It is important that the medical social worker can determine whether these couples have gained knowledge as a result of this preparation session, so as to be more accountable to the rest of the interdisciplinary team. A questionnaire was specifically designed for this purpose in this study, to measure the knowledge of the respondents prior to and after the implementation of the preparation session. The A-B-A single system design, as described in chapter 1 of this thesis, was implemented for this purpose. These findings were discussed in Chapter 6.

The preparation of couples for artificial fertilization with donor gametes should be a prerequisite to treatment and should be available at all hospitals, clinics and private practices where this treatment is performed. If it is not available, as no social worker is employed, these couples should be referred to a medical social worker in private practice, who is skilled at performing such a preparation session and providing all the necessary information. This guideline and the detailed information in the rest of the thesis, should act as a guideline, resource and knowledge base for medical social workers planning to become specialized in this field of treatment and offering this preparation to prospective couples for artificial fertilization with donor gametes.

Subsequently a schematic representation of the guideline for the preparation of couples for artificial fertilization with donor gametes will be provided in Table 27. This should help to make this guideline more practical and easier to implement.

TABLE 27: A MEDICAL SOCIAL WORK GUIDELINE FOR THE HOLISTIC PREPARATION OF COUPLES FOR ARTIFICIAL FERTILIZATION WITH DONOR GAMETES

GUIDELINE

CONTENTS OF PREPARATION SESSION

■ INFERTILITY DIAGNOSIS AND MOTIVES

■ PSYCHO-SOCIAL ASPECTS

■ LEGAL ASPECTS

■ MEDICAL ASPECTS

■ RELIGIOUS ASPECTS

■ ETHICAL-MORAL ASPECTS

The medical social work guideline for the counselling of couples undergoing artificial fertilization with donor gametes will subsequently in the following section.

8.4 A MEDICAL SOCIAL WORK GUIDELINE FOR THE COUNSELLING OF COUPLES UNDERGOING ARTIFICIAL FERTILIZATION WITH DONOR GAMETES

Medical social work with couples undergoing artificial fertilization with donor gametes is a new field for medical social workers, with no guidelines available for the counselling of these couples. Literature in this regard is also very limited. Most clinics or gynaecologists in private practice do not offer any counselling services and the preparation of couples is mainly limited to the medical aspect of treatment only. The third aim of this study: "To provide a medical social work guideline for the counselling of couples undergoing artificial fertilization with donor gametes", will be aimed at and achieved by means of this section. A guideline for medical social work counselling, according to the stages of artificial fertilization with donor gametes, will be provided.

The need for a guideline for counselling is confirmed by the Council for Science and Society (1984:49) who state: "The present counselling is very inadequate and usually devolves on the doctor, if it is offered at all. Busy medical people are not necessarily the best people to undertake this task and it may be thought that specially trained personnel should carry it out." Leeton (1988:324) corroborates this by stating: "Counselling of recipient couples in all aspects of treatment is imperative and should always be available." Olshansky & Sammons (1985:52S) also advocate counselling services for couples choosing artificial insemination of donor sperm, to facilitate grief work and resolve many of the conflicts surrounding donor insemination. They emphasize that counselling should be provided before initiating procedures. Porter & Christopher (1984:313) also stress that counselling is an essential part of the treatment of infertility and that counsellors are integral members of the infertility treatment team. Klock & Maier (1991:494) moreover stress that counselling should be available, if not mandatory, for this group of patients, while Carr *et al.* (1990:909) maintain that support

and counselling prior to, during and after treatment should be improved.

Thus it is evident that counselling should be available on a routine basis at all infertility clinics, and that it should be provided before, during and after treatment. The medical social worker or a counsellor should be an active and integral member of the interdisciplinary team at an infertility clinic.

The need for counselling of these couples was explored by Amuzu *et al.* (1990:903) who found that out of their three hundred and fifty seven couples treated, seven sought private counselling before treatment and three sought private counselling after treatment. The rest of the respondents thought that they might have benefitted from counselling. Klock *et al.* (1994:477-484) similarly found 95% of their forty two recipient couples to believe that a psychological consultation should be a mandatory part of the donor insemination treatment. The results of a study by Tarlatzis *et al.* (1993:396-401) also strongly support the belief that infertile couples undergoing different treatments, need psychological counselling and supportive psychotherapy. Beaurepaire *et al.* (1994:229-240) corroborate this by stating that counselling facilitates ongoing psycho-social functioning and reduces anxiety. Humphrey & Humphrey (1987:218) confirm that the psychological needs of these candidates for assisted reproduction could be met by trained counsellors. Counselling can therefore meet the needs of these couples and help them to deal with the psycho-social aspects of artificial fertilization with donor gametes, as discussed in Chapter 5.

The need for more research in the field of counselling, selecting and interviewing potential parents undergoing artificial fertilization with donor gametes, is emphasized by Manuel & Czyba (1980:472), as little information is available on this. This need for research to improve counselling services is also mentioned by Nachtigall (1993:1846-1849). David & Avidan (1976:532) appropriately add: "To the five known characters in the AID drama, that is, the mother, the donor, the stepfather, the child and the gynaecologist, we should add another important one, the psychologist, to ensure a complete chance of success in this form of treatment of the infertile couple

undergoing artificial insemination by donor." Another important character must be added, that is, the medical social worker.

In this longitudinal study as discussed in Chapter 7, the respondents were asked whether they felt couples like them needed long-term social work counselling. All the respondents (100%) regarded social work counselling as a necessity. Their motivations included: Need to discuss uncertainties and issues with someone like a social worker; need regular contact with a constant person you can see with your problems; need regular support and advice; a social worker should be available when you just need to talk; social workers can understand the problem and should be available when needed; follow-up is necessary after successful or unsuccessful treatment; should be there to help couples through the decision-making process; straight after couples have made their decision there should be an intensive counselling session; need this information provided by social worker during preparation to make a better decision.

One can thus confirm that a social worker or counsellor is an indispensable member of the inter-disciplinary team at an infertility clinic to meet the needs of the patients by providing counselling services. These counselling services should include the selection of couples, the preparation of couples prior to artificial fertilization with donor gametes, as well as ongoing supportive counselling during and after treatment, pregnancy and the birth of the child.

The need for social work intervention during the different stages of treatment were expressed by the respondents in Chapter 7 in this longitudinal study. They recommended counselling during the following stages in order of priority:

- * After donor infertility treatment was recommended.
- * After unsuccessful donor infertility treatment.
- * For preparation before donor infertility treatment.
- * While you are busy deciding about donor infertility treatment.
- * After the infertility diagnosis was made.
- * During treatment.
- * After the preparation session.
- * After a miscarriage.

- * Directly after the birth of the child.
- * After the decision was made to go ahead with treatment.
- * After the decision was made against treatment.
- * After successful treatment.
- * During the pregnancy.
- * During the first few months with the baby at home.
- * Presently.
- * Before the confinement/birth.

Thus it is evident that the respondents in the study had a need for counselling at every possible stage of treatment ranging from when the diagnosis was made to presently, thus confirming the need for a long-term counselling.

Subsequently a medical social work guideline for counselling of couples undergoing artificial fertilization with donor gametes will be described. This guideline will be described in terms of the stages of treatment as they occur, in researcher's opinion, as the main stages where a need exists for counselling as found in the empirical study. These include the assessment and selection stage, the preparation stage, the decision-making stage, the treatment stage, the pregnancy and childbirth stage and the family stage.

8.4.1 The assessment and selection stage

Artificial fertilization with donor gametes is a very intricate procedure, as a result of all the medical, legal, ethical-moral, religious and psycho-social aspects involved, as can be found in chapters 2, 3, 4 and 5. Not all couples are able to deal with these issues effectively and the third anonymous person involved, that is, the donor, complicates matters even further. It is therefore essential that these couples are thoroughly assessed and selected for this form of treatment.

On the contrary Leeton (1988:324) states: "It is difficult to justify strict assessment criteria for potential AID couples, when parents of naturally-born children are given no similar assessments." It is difficult to justify selection if one takes into consideration that parents of naturally-born children are not assessed at all. But if

one does consider the presence of a third anonymous person, the donor, the situation does become more complex. If one adds to this all the related medical, legal, ethical-moral, religious and psychosocial aspects concerned, one has to consider selection of these couples, as not every person will be able to cope and deal with this "artificial family" situation and the secrecy involved.

The involvement of a medical social worker or counsellor is emphasized by Kovacs *et al.* (1988:355) who state that their medical social worker has been an integral part of their programme and performs the pretreatment assessment. With regard to this assessment, Clayton & Kovacs (1980:210) state that involvement of social workers in pretreatment assessment of AID, differs from centre to centre in Australia. In some centres no social worker is involved, whereas in others the prospective couples undergo intense screening, resembling that required for adoption. They state that it should not be a selection, but an information-giving interview. Researcher does not agree with this, as it should be a thorough assessment and hence information gathering interview. The preparation session is an information-giving session.

The screening interview should form part of the initial evaluation and medical investigation, according to Seibel & Taymor (1982:142), who suggest a routine procedure. Blaser *et al.* (1988:20) state that the positive results of AID in many studies should not lead to a carefree indication for AID and a routine but conservative screening should be followed. Seikowski & Glander (1990:811) on the other hand state that there is no need for more restriction in the selection of couples, provided that a good psychological diagnostic interview is held before the treatment.

In this regard, researcher recommends that a thorough assessment interview be held and selection be performed on a routine basis with each couple during either the infertility investigation period prior to the recommendation of artificial fertilization with donor gametes or prior to the preparation session. One respondent in this study in Chapter 7, also recommended that the selection process should be more thorough to avoid cases like his which ended in divorce.

An early psychological assessment, in the opinion of Graf & Glander (1980:774) from Germany, will yield favourable psychological development of both the couple and children born as a result of AID. A stable psychic status and good communication between the partners is of utmost importance to yield such positive results. It is difficult to confirm this statement, as many more factors than those Graf & Glander (1980:774) mention, play a role in whether the couple and their child will be happy as a family. The assessment and selection interview can, however, act as a preventative measure and help to exclude couples who have problems or who will not be able to deal with the situation.

This is confirmed by Leeton (1988:324) who maintains that counselling implies the sympathetic exploration of all possible psycho-social problems that may be associated with this treatment, although the presence of these problems does not necessarily preclude acceptance for treatment. This is confirmed by Brand & Saayman (1986:75) who state in relation to this: "Keuring behoort in 'n redelike mate te verseker dat KIS toegepas word op egpare met suiwer motiewe en stabiele huweliksverhoudings."

It is therefore essential that couples are thoroughly assessed and selected for treatment, so as to ensure that those recipients selected, are couples who will be able to deal with the situation and be able to offer a positive family environment for this child to be raised in. Various aspects have to be taken into consideration during the selection interview, which will subsequently be explored as described in various studies. The selection of couples, however, will not be described in-depth as it is not an aim of this study, as it will replicate that which has already been studied.

The importance of an assessment of the couple's suitability for acquiring a family by this method, that is, the selection of recipients, is discussed by Thompson & Boyle (1982:217), who mention a sound marital relationship and genuine motives for wanting a child as important aspects to be taken into consideration. Waltzer (1982:95) adds to this, the emotional make-up of the husband and wife, their adjustment to each other, the presumable stability of the marriage, their attitude toward children and the particular reasons

that have led them to seek help. Needleman (1987:139) mentions a more extensive list of aspects to be included: the couple's strengths and weaknesses, marital relationship, support networks, unique circumstances, perceptions of infertility, coping mechanisms and realism about the procedure. Laurence (1989:79) similarly recommends the following to be included in the assessment interview: individual coping mechanisms, ability to deal with stress, the marital relationship, the emotional experience of infertility, the family reactions, their support systems, financial position and working and housing circumstances. Furthermore Seikowski & Glander (1989:43) from the Karl-Marx University in Leipzig, Germany, suggest the following to be of importance in determining the psychological situation of a couple: coping with infertility, the character of the desire for a child, the level of stress tolerance, the ability to cooperate, and the agreement to compromise. D'Andrea (1984:76), on the other hand, suggests an assessment of the marital relationship, infertility history, feelings and the grieving process to be of importance before they are ready to move ahead with their lives. Berk & Shapiro (1984:44) similarly indicate the need to explore the family of origin, marital relationship, personality attributes, long-range personal and couple goals, personal values and the impact of the infertility trauma. Rutledge (1979:262) corroborates this, including an overview of the couple's relationship, areas of conflict, the wish for a child, previous attempts and frustrations, personality development and the mental and emotional health of each person.

Thus it is evident that the majority of literature prescribes thorough assessment and selection of couples, taking into consideration the marital relationship, their personality characteristics, emotional stability, their coping mechanisms, the emotional experience of infertility, levels of stress tolerance, motives for wanting a child, support systems, family involvement and socio-economic circumstances.

The psychological screening of recipient couples for donor insemination is also described by Schover, Greenhalgh, Richards & Collins (1994:176-178), who compared the psychological factors and pregnancy outcome. There were no specific factors which could be found to predict the pregnancy outcome of treatment. Thus it seems as if one

can conclude that the personality or psychological make-up of the person does not necessarily predict the success of the treatment. It does, however, play a role in how the person will cope with the treatment and possible implications.

The screening dimensions, as Van Staden (1989:143-149) refers to these aspects to be taken into consideration during the selection interview, include: the marital relationship prior to and after the diagnosis of infertility; the desire to have children; the decision-making process; other alternatives to involuntary childlessness; the families of origin; the social and cultural context; secrecy; the donor and the act of donating sperm; nature and nurture and the donor family. It seems as if Van Staden (1989:143-149) a psychologist, combined the aspects of the selection interview and some aspects which, in researcher's opinion, are more applicable to be dealt with in a separate preparation session. The psycho-social indications for selection, according to psychologists Brand & Saayman (1986:77-78), should include: emotional maturity and stability; a genuine need for parenthood; having come to terms with infertility; development of a new psychosexual identity; a stable motive; marital relationship; good communication; and favourable socio-economic circumstances. These aspects mentioned are very similar to and confirm those mentioned previously.

A thorough list of indications for selection is furthermore provided by Van Delft (1983:113-115), a psychologist and social worker by profession, as follows:

- * "Man en vrou se identiteitsvorming en psigoseksuele ontwikkeling moet goed funksioneer.
- * Die egpaar moet kan onderskei tussen biologiese voortplanting en psigososiale ouerskap.
- * Die egpaar moet 'n oop, vrye en eerlike kommunikasiepatroon hê.
- * Die man moet vrede gemaak het met sy infertiliteit of subfertiliteit. Hy moet nie in sy manlikheid bedreig voel nie.
- * Die man moet hom kan vereenselwig met die feit dat die vervulling van vaderskap in sy geval in sosiale en nie in biologiese sin sal geskied nie.
- * Die vrou moet berus by die infertiele status van haar huwelik.

Die vrou moet nie van KIS gebruik maak uit weerwraak omdat haar man nie 'n kind kan verwek nie.

- * Die egpaar se kinderwens moet berus op sinvolle oordeel en nie slegs om deel te wees van die portuurgroep nie.
- * Die swangerskap moet nie 'n beveiligingsmaatreël vir 'n wankelrige huwelik wees nie.
- * Die kinderwens moet deur albei eggenotes gedeel word.
- * Die egpaar moet aanvaarbare en verantwoordbare opvoedkundige sienswyses hê.
- * Die kinderwens moet nie voortspruit uit druk van buite, byvoorbeeld, ouers nie.
- * Die egpaar moet die morele, etiese, religieuse en juridiese aspekte van KIS bestudeer en oorweeg het.
- * Die egpaar moet eers 'n 'afkoelperiode', wat 'n paar maande kan duur, toelaat waarin hulle hul kinderwens meer logies en minder hartstogtelik kan oorweeg en oordink."

This list of indications for AID can also be used for other artificial fertilization with donor gamete procedures. Where the infertile male is constantly referred to above, one will also have to take the infertile female into consideration where donor oocytes are used, or both spouses if a donor embryo is used. Thus, one can use this as a guideline for the assessment and selection interview with recipient couples for artificial fertilization with donor gametes.

Researcher does not, however, agree with Van Delft (1983:113-115) on the last two aspects mentioned. The moral, ethical, religious and legal aspects can be discussed with the couple and the necessary information provided during the preparation session, as discussed earlier in this chapter. Thereafter, the couple should be allowed a "cooling-off" period to make their final decision.

The contra-indications for selection of recipient couples are also provided by Van Delft (1983:115-117) as follows:

- * "Infertiliteit as gevolg van psigologies-seksuele impotensie.
- * Alleenstaande vroue, hetsy ongetroud, geskei of weduwee.
- * Lesbiese vroue.
- * Egpaar van verskillende rasse-groepe.

- * Egpaar van verskillende kerkverband.
- * Wanneer 'n egpaar behep is met die keuse van 'n skenker en wanneer die kind sekere karaktereienskappe of intellektuele vermoëns moet hê.
- * Wanneer die huwelik geestelik en seksueel nie volwaardig en gesond is nie.
- * Wanneer een van beide eggenotes nie geestelik volwaardig en gesond is nie.
- * Wanneer die eggenotes nie dieselfde intensiteit van begeerte na 'n kind het nie.
- * Wanneer daar twyfel bestaan aangaande die opvoedkundige kapasiteite by een of albei van die eggenotes.
- * Wanneer daar 'n groot leeftydsverskil tussen man en vrou is (10 jaar).
- * Albei eggenotes moet minstens 25 jaar oud wees.
- * Die egpaar moet minstens 5 jaar getroud wees. (Sommige medici vereis dokumentêre bewys dat die egpaar wettig getroud is om te voorkom dat ongetroude of lesbiese vroue deur middel van KIS 'n kind kry.)
- * Wanneer die man of vrou nie hul onvrugbaarheid en kinderloosheid verwerk het nie.
- * As dit nie onomstootlik bewys is dat die rede vir kinderloosheid nie binne redelike perke van moontlikheid opgehef kan word nie.
- * As KIS konflikte van emosionele of lewensbeskoulike aard sal veroorsaak.
- * Wanneer die egpaar of 'n eglid nie in staat is om die verskillende aspekte wat KIS op inter- en intrapersoonlike vlak kan ontlok, begryp of verstaan nie.
- * KIS mag nie toegepas word as plaasvervanging vir seksuele gemeenskap tussen die egpaar as gevolg van struwelinge en onmin nie.
- * Wanneer 'n egpaar KIS deurloop en na 'n reeks onsuksesvolle inseminasies besluit om daarmee op te hou en later van tyd weer om KIS aansoek te doen, mag dit 'n aanduiding wees van ambivalensie. Ambivalensie is altyd 'n teenindikasie. Die probleem ontstaan dat daar baie moeilik gekontroleer kan word of en hoeveel keer 'n egpaar al by 'n ander medikus KIS onsuksesvol meegemaak het.
- * 'n Egpaar wat afsprake met die medikus of 'n ander lid van die

span nie nakom of vooraf uitstel nie, of wat herhaaldelik afsprake uitstel, moet nie vir KIS oorweeg word nie."

These contra-indications for the selection of couples, as described above, apply to AID. With a few adaptations to take infertile females or both infertile spouses into consideration, these criteria can also be used when assessing couples for selection for artificial fertilization with donor gametes and can be a contra-indication that the couple should not be selected.

These various criteria mentioned by Van Delft (1983:113-117) as indications and contra-indications, can therefore serve as a good guideline for the assessment and selection of recipient couples for artificial fertilization with donor gametes. A few minor adaptations can be made, as mentioned above, to make this guideline more versatile for use with both infertile males and females. Combined selection interviews with husband and wife should take place, as well as an individual period with each spouse, during this assessment interview. This could reveal information of the one spouse not reflected in the combined interview, for example being pressurized into the situation. Thus a combined session with separate and combined interviews is recommended.

One can also utilize various measurement scales during this interview to confirm the assessment and also to be more accountable. Numerous scales are available in the literature. At the Department of Social Work, University of Pretoria, researcher is a member of the Research Committee, who have established a data base on the most important measurement scales which are available and can be used by social workers. Selected scales can be utilized during this interview in order to be more accurate and accountable. Bloom & Fischer (1982:152-160) suggest and thoroughly describe the use of the various Hudson indexes, which for example, include the index for marital satisfaction (IMS), sexual satisfaction (ISS), self-esteem (ISE) and family relations (IFR).

The use of applicable measurement scales is therefore encouraged to form part of the assessment and selection interview, so as to be more certain of the final assessment and in order to be more accountable

as a professional. Artificial fertilization with donor gametes is a complex form of treatment, with various medical, legal, ethical-moral, religious and psycho-social aspects involved. The assessment and selection of recipient couples should therefore be thorough and accountable, selecting only those couples who meet the necessary criteria for selection. Hopefully this will ensure that these couples have the necessary skills and characteristics to deal and cope with the situation in the future and that they are able to offer the child a stable, positive and harmonious family environment to be raised in. Thus the medical social worker has an important task to fulfil in this stage.

8.4.2 The preparation stage

Once a couple has been selected for artificial fertilization with donor gametes, they should undergo a thorough preparation session. This will enable them to gain knowledge on all the medical, legal, ethical-moral, religious and psycho-social aspects regarding artificial fertilization with donor gametes. Hereby they will be able to make a more rational, well-thought through decision during the decision-making stage, and be able to give informed consent.

The need for preparation is recommended by various specialists in the field. (Compare Carbonatto, 1995:53; Halman *et al.*, 1993:1046-1054; Nachtigall, 1993:1846-1851; Klock & Maier, 1991:494; Van Thiel *et al.*, 1990:823; Soutoul *et al.*, 1989:919-929; Van Staden, 1989:165; Laurence, 1989:83; Jequier, 1986:145; Olshansky & Sammons, 1985:52S; Beck, 1983:385 and Thompson & Boyle, 1982:218.) Thus it is evident that there is a need for preparation and that the preparation of these couples should take place before they can make a final decision. Van Staden (1989:165) corroborates this by emphasizing the need couples have expressed for information, so as to be able to make a fully considered decision.

All the respondents (100%) in the longitudinal study in Chapter 7, emphasized the need for social work counselling before treatment. They motivated that it provided sufficient information and guidance to help prepare couples for treatment. They also emphasized the necessity of a preparation session to prepare them for treatment,

clarify all the issues, inform them of all the advantages and disadvantages and to help them make a decision and give informed consent. More sessions during the preparation period were also recommended. The preparation session made them more realistic with a more thorough perspective of this form of treatment and all the aspects involved. Thus their need for counselling during this stage was emphasized.

A guideline for the preparation of couples for artificial fertilization with donor gametes was discussed in section 8.3 of this chapter, to fulfil the need for a guideline which exists. The contents of this preparation session are described in this guideline and should be implemented during this stage. These contents of the preparation session include a discussion of the infertility diagnosis and motives for choosing this alternative and the medical, legal, ethical-moral, religious and psycho-social aspects regarding artificial fertilization with donor gametes. Each of these aspects are described and discussed in-depth in chapters 2, 3, 4 and 5 of this thesis. These chapters can therefore be used as a knowledge base and resource for the discussion of these specific aspects during this stage.

The preparation stage should thus consist of a preparation session with the couple by the medical social worker and should help them to gain sufficient knowledge on artificial fertilization with donor gametes and all the related aspects, as discussed in the guideline for preparation in section 8.3. The contents of the preparation session will therefore not be repeated again in this section, as one can refer to section 8.3 for further information concerning this.

It is therefore essential that couples be prepared for artificial fertilization with donor gametes, including the medical, legal, ethical-moral, religious and psycho-social aspects. This should take place prior to the decision-making stage, to enable these couples to make a thorough decision and to enable them to give informed consent. The preparation session should be a prerequisite for treatment.

8.4.3 The decision-making stage

The decision-making stage is a stage in which couples should be allowed a period of time to reconsider their situation and make a thorough combined decision regarding artificial fertilization with donor gametes.

A period of several months is recommended by Mahlstedt & Greenfeld (1989:909) which in their opinion will lead to better adjustment to the subsequent treatment choices. This waiting period, Ledward *et al.* (1982:274) refer to as being desirable and necessary for patients who need extra time to rationalize their thoughts and acceptance of artificial fertilization with donor gametes. They also state that during this time clinic doctors, nurses and the medical social worker should be available for further discussions. Snowden *et al.* (1983:83) add to this that many couples would appreciate guidance during this stage. Brand & Saayman (1986:75-77) similarly mention: "Die ideale toedrag sou wees dat egpare sielkundig begelei en emosioneel ondersteun word deur hierdie hele krisisperiode. Praktisyns stem saam dat 'n besluit om KIS te ondergaan, nie oorhaastig geneem moet word nie, maar wel deurdag moet wees. 'n Tydperk van beredenering en besluitneming verseker dat KIS nie 'n kitsoplossing is wat later berou sal word nie. Dit kan derhalwe geensins 'n eensydige besluit wees nie." This decision therefore has to be made over an extended period of time, must be well thought over and should be a joint-decision. It is also evident that the couples do need supportive counselling during this stage, as expressed by respondents in the longitudinal study in Chapter 7, which was motivated as follows:

- * Need social work intervention while you are busy deciding about donor infertility treatment;
- * need this information from the preparation session to make a better decision;
- * couples should be helped to make it through the decision-making process providing sufficient information and guidance; and
- * straight after the decision has been made couples should have an intensive counselling session.

Furthermore the necessity of the preparation session and all the

information provided was emphasized as being important to enable couples to make the decision and to give informed consent.

To make this decision is not an easy task, as this form of treatment is much more complex, with a donor being involved. The couple must also have come to terms with their infertility before they make this decision. D'Andrea (1984:76) similarly emphasizes the importance of encouraging both husband and wife to complete the grieving process before beginning the treatment procedure. There should also be a precise and clear decision on the matter, before entering treatment, according to Englert *et al.* (1991:305-314). Thus it is important for the medical social worker to establish whether the couple has come to terms with their infertility and whether the grieving process has been completed. Only then are they ready and able to make this major decision. In this long-term follow-up study as discussed in Chapter 7 of this thesis, one of the couples (Couple D), had a tragic experience. Their treatment was successful, but unfortunately their child was born with a severe congenital abnormality. He died 8 months later. This couple got divorced shortly after the birth of the child. Only the husband could be traced in the follow-up study in Chapter 7 and he described this as a very negative and traumatic experience in his life. He felt that they did not consider this option very carefully, had made their decision much too hastily and were not ready for this form of treatment when they made their decision. He recommended that couples in future be allowed at least six months to make this decision. He has since remarried and their names are on a waiting list for adoption.

This decision-making period is also very stressful, as the couple know that this decision will change the rest of their lives. Owens *et al.* (1993:880-885) found less distress in couples who had made their decision, compared to those who were still in the decision-making process. Supportive counselling throughout this period is therefore essential.

It is therefore recommended that these couples have a period of a few months, at least three months to consider all the information they have at hand, following the preparation session on artificial fertilization with donor gametes. They also need to have come to

terms with their infertility and gender identity which excludes the ability to procreate, before they are emotionally ready and able to make a rational decision. Furthermore, the couple need to compare biological parenthood and social parenthood and have to overcome their traditional idea of biologically-linked parenthood and replace it with the notion of social parenthood. They must be able to make a paradigm shift to social parenthood, a partly biologically-linked child or a non-biologically-linked child, depending on whether the gametes of one of the spouses will be used or not. They have to learn to accept that they cannot create a shared biological child as a sign of their love for each other, but a donor-created and partly biologically-linked child instead as a sign of their unity and love. This process of making a paradigm shift has to occur before the couple can be ready to create this donor or artificial family.

During this decision-making process the medical social worker should guide and support these couples and recommend that the following occurs:

- * A period of at least three months is spent on the decision-making process.
- * The couple have come to terms with their infertility and gender identity which excludes the ability to procreate a biologically-linked child.
- * They must be able to overcome the traditional idea of biologically-linked parenthood and to make the paradigm shift to accepting social parenthood as an alternative.
- * They must be able to make the paradigm shift of not being able to create a biologically-linked child as a sign of their love for each other, but a donor-created and partly biologically-linked child as a sign of their unity and love.
- * They must be able to make a paradigm shift from being unable to create a traditional family, but able to create an artificial family.
- * They must thoroughly reconsider all the medical, legal, ethical-moral, religious and psycho-social aspects regarding artificial fertilization with donor gametes, as discussed with them in the preparation session.
- * They must make a joint-decision.

It is essential that all these aspects are thoroughly discussed and monitored by the medical social worker during this stage and that sufficient guidance and emotional support are offered throughout. Once a couple has gone through the decision-making process and a joint-decision has been made, they should be ready to go ahead with artificial fertilization with donor gamete treatment.

8.4.4 The treatment stage

Treatment can be very stressful for the couple and supportive counselling is recommended throughout the treatment stage. Skills should be developed in dealing with stress, as these couples are aware of this being their final chance to have a child, and they are very nervous and anxious.

The treatment stage includes waiting for a suitable donor to be matched with, waiting to get into a suitable treatment cycle, regular visits to the clinic by the female patient for routine monitoring, the actual treatment procedure and lastly the pregnancy test and waiting for the test results. If treatment is unsuccessful, the couple have to decide whether they want to attempt another treatment cycle or whether they are deciding enough is enough, and that they are settling for childlessness or adoption.

The most stressful period during this stage, according to Blaser *et al.* (1988:18), is the time during the insemination. This is also confirmed by Laurence (1989:84) who found the period of insemination or embryo transfer to be most stressful, followed by the period before and after the pregnancy test. Laurence (1989:84) emphasizes the importance of supportive counselling during these periods of treatment, especially to help reduce the stress levels. Van Delft (1983:272-284) found all the women in his study to experience the treatment as emotionally stressful, while one woman experienced it so traumatic that she could not even drive her motor car home. Czyba & Chevret (1979:243) found most women to feel uneasy before their first treatment, and had stomach ache during the cycles in which conception occurred. Anxiety was also expressed about the sperm sample used and whether it was possible to make a mistake and use the wrong donor's sample. Interestingly, the majority respondents in the

longitudinal study in Chapter 7, did not experience as much stress and anxiety as reflected in the literature during treatment, but experienced mainly positive feelings. They did, however, express a need for social work counselling during treatment, thus confirming the need for supportive counselling.

The husbands also usually wished to be present during the insemination and managed to attend, despite their busy working schedule. The presence of the husband during the actual treatment procedure is encouraged, as it can help in making him feel a part of the process, in the case where male sperm was used. Interestingly, in this study, all the husbands were present on the day of treatment, but waited in the waiting room. The gynaecologist would not allow them to be present, even if they so desired to. Supportive counselling to the husband at this stage should be encouraged. When female gametes are used, the wife still is part of the procedure as she still experiences the pregnancy. In this regard Prattke & Gass-Sternas (1993:516-527) found wives to have greater stress levels and to use more ways of coping with the stress than the husbands. Herrmann *et al.* (1984:719), however, found that it was the women who had to bear the major part of the intrapsychic burden and who suffered more as a result of her husband's sterility. McEwan *et al.* (1987:115) and Humphrey & Humphrey (1987:216) on the other hand found the husbands to need more emotional support during treatment. Thus, it is clear that supportive counselling to both spouses throughout treatment is essential. The spouses also need to be encouraged to offer mutual support to each other during treatment.

Thus the emotional stress experienced during the treatment stage by both spouses is confirmed by these studies and the need for emotional support is evident. The findings of this empirical study in Chapter 7, however, contradicted this. The husbands should also be encouraged to attend the actual procedure if possible, and to offer the necessary emotional support to the wife. Where more intense treatment procedures are implemented and performed in an operating theatre, this will of course not always be possible. Mutual support should, however, be encouraged throughout the treatment stage.

The importance of supportive counselling during treatment is

emphasized by Laurence (1989:84), who claims that supportive counselling is essential during treatment and can help to reduce stress and enable couples to cope more effectively with treatment. Needleman (1987:135) is also of the opinion that treatment is extremely stressful and the major task of the medical social worker is to provide supportive counselling at each stage of the procedure. Thus supportive counselling should be provided on a routine basis.

Fantasies of the donor are also often experienced during the treatment stage by the women, as is corroborated by Brewaeys *et al.* (1993:23-35) and Blaser *et al.* (1988:18). This was also found in the empirical study in Chapter 7. This can be understood, if one takes into consideration that they are being impregnated with an unknown male's sperm, in the case of infertility of the male spouse. The husband can also fantasize about the donor and whom the child will resemble. This needs to be dealt with by the medical social worker, helping the couple to develop insight and prevent these fantasizing incidences from creating possible marital conflict.

Feelings of guilt are also often experienced during the treatment stage by both the husbands and wives. The wives feel guilty because they did not share in their husbands' failures in reproduction and are being impregnated with a strange man's sperm. The husbands feel guilty because they were unable to create a family and meet the expectations of their wife, family, as well as society. This was also found in the empirical study as discussed in Chapter 7. (Compare Olshansky & Sammons, 1985:52S and David & Avidan, 1976:531.) These feelings of guilt need to be dealt with and discussed during supportive counselling sessions. Respondents in the empirical study were found to experience various negative thoughts throughout the treatment process regarding their decision, themselves and their spouse. Supportive counselling could help alleviate these thoughts.

Treatment can also have an effect on the sexual relationship as stated by Wright *et al.* (1991:105); Olshansky & Sammons (1985:52S) and Schover *et al.* (1992:583-590). This could most probably be ascribed to the couple's perception of their own intimate relationship, with the idea of being conceived by a donor constantly being in their thoughts. The findings of the empirical study in Chapter

7 also found the minority to report an effect on their sexual relationship. However, most studies show little evidence of marital discord as a result of treatment. (Compare Klock *et al.*, 1994:477-484; Owens *et al.*, 1993:880-885; Cook, 1993:31-40; Humphrey & Humphrey, 1987:214; Zimmerman, 1982:235 and Snowden & Mitchell, 1981:46.) Thus it is evident that supportive counselling is necessary throughout the treatment stage to help prevent marital discord or problems in the sexual relationship.

The period when the actual treatment procedure is being performed, as well as the pregnancy test and waiting for the results, seem to be the most stressful periods during treatment, as mentioned earlier, and should be accompanied by supportive counselling sessions. If the pregnancy result is negative, implying that treatment was unsuccessful, these couples should be followed up with a counselling session. This was also recommended by respondents in the findings in Chapter 7. Besides the emotional support and opportunity for catharsis, these couples should also be given an opportunity to discuss whether they want to continue with another treatment cycle, or whether they want to settle for childlessness once and for all.

Unsuccessful treatment can result in severe emotional reactions, according to Rosenkvist (1981:143), while Brand & Saayman (1986:87) confirm the negative effect of unsuccessful treatment on the marital relationship, as well as emotional stress. This was similarly found by a few respondents who had unsuccessful treatment in the empirical study in Chapter 7. Meijer *et al.* (1980: 599) furthermore report feelings of frustration and a particularly difficult period for the women. Counselling for these couples is absolutely essential and should be offered on a routine basis to help them through this crisis and to assist them in their decision regarding their future. Relationships with significant others and various social aspects such as social life, work and finances were also reported by respondents to have been affected by unsuccessful treatment, as discussed in Chapter 7, thus confirming the need for supportive counselling.

The treatment stage can therefore be experienced as emotionally stressful by couples. It can also create fantasies of the donor and the child and can lead to feelings of guilt. Furthermore, it can

have an effect on the sexual relationship and can possibly create marital discord, especially if unsuccessful. Supportive counselling throughout the treatment stage is thus essential and can help to reduce stress levels and possibly prevent further problems from occurring during this stage. All patients should therefore be seen on a routine basis during this stage and especially when the actual procedure is performed, as well as subsequent to the pregnancy test, while waiting for the results. Spouses should also be encouraged to offer each other mutual support during treatment, as they are often the only other support system besides the inter-disciplinary team, due to the secrecy involved. Thus the medical social worker has an important task to perform during this stage.

8.4.5 The pregnancy and childbirth stage

Once the pregnancy test result is positive and treatment has in other words been successful, the couple are usually elated and very happy. Finally their dream of all these years of having a child has come true. There are, however, many adaptations which have to be made and the couple have to start preparing themselves for the pregnancy which lies ahead, as well as for the childbirth and parenthood. They also have to be made aware of certain adaptations concerning the pregnancy, childbirth and parenthood, of which they are unaware. Their fears and uncertainties concerning the pregnancy, childbirth and the possibilities of a miscarriage or of an abnormality also have to be dealt with.

These fears and doubts concerning possible abnormalities or problems during the pregnancy and labour, are confirmed by D'Elicio *et al.* (1980:407-411), who found mostly women to experience these uncertainties and fears. Berger (1982:52) confirms this, and adds that it is the feelings of guilt that evoke these fears of abnormalities in the child. Stone (1980:673), however, states that several reports have shown that the incidence of congenital malformations is less than that in the case of the general population. Couples should be made aware of this low incidence of abnormalities to set their minds at ease. Women who have conceived naturally also express similar fears and anxieties regarding the possibility of a miscarriage or of an abnormality. One can therefore understand how much more intense

these fears and anxiety must be for these patients, who have conceived by means of the gametes of a stranger. Similar fears were also expressed by respondents in the empirical study in Chapter 7. Support in this regard is needed to help alleviate these fears.

Anxiety, uncertainty and fear are experienced concerning the pregnancy, as well as fear of a possible miscarriage. Fear of a miscarriage was also expressed by respondents in the empirical study. Czyba & Chevret (1979:243) found couples experiencing tension and anxiety during the pregnancy, being unsure of the possibility of completing a full-term pregnancy and having fears of a miscarriage. They also reported anxiety at the beginning of the pregnancy, for once the pregnancy was confirmed the artificial fertilization with donor gametes was forgotten. Clamar (1980:173-177), on the other hand, reported the early experience of the pregnancy to be very traumatic as it confirmed their inability and failure to conceive naturally. Garner (1985:58S-59S) confirms that the pregnancy raises new anxieties and that many of these patients call the gynaecologist over each minor event in the pregnancy. This issue should be discussed with the couple and the gynaecologist as being normal and similar to what occurs in most natural first pregnancies. Zimmerman (1982:235) corroborates that this pregnancy is no different from most first pregnancies. Bernstein *et al.* (1988:407) furthermore, claims that these patients feel very guilty about expressing any ambivalence towards the pregnancy. This could most probably be ascribed to these patients feeling that they should be forever grateful that they are pregnant, and negative feelings regarding the adaptations will then cause feelings of guilt. Respondents in the empirical study in Chapter 7 did experience various concerns related to the pregnancy, abnormalities, miscarriage and birth of the child. Supportive counselling could help reduce these concerns.

Thus it is evident that these patients do experience fears, anxiety, negative feelings, feelings of guilt and ambivalence during the pregnancy as a result of the circumstances. This should be discussed with the couple during this stage and the normality of these feelings should be expressed, so as to help reduce the feelings of guilt that they might experience. Couples also have to be prepared on all the possible adaptations and responsibilities during the pregnancy.

These include the nausea in the mornings, the discomforts and physical changes to the woman's body, the healthy diet to be followed, no smoking or alcohol and the reduction in the rate and desire for sexual intercourse, especially toward the third trimester. Furthermore, the preparations and changes in the home for the coming of the baby which have to be made, can also be discussed, as this is a new experience for this couple.

Regarding the possible influence of the pregnancy on the marital relationship, these couples also have to be prepared on this. Most studies, however, reveal no significant effect on the marital relationship. (Compare Seikowski & Glander, 1990:811; Blaser *et al.* 1988:19; Garner, 1985:59S and Rosenkvist, 1981:143.) Brand & Saayman (1986:88) mention that from the first day of the pregnancy, the husband and wife develop an unequal relationship with the unborn child, as a result of the infertility of one spouse and the use of donor gametes. This could create possible marital discord and has to be dealt with at the beginning of the pregnancy. Clamar (1980:173-177), however, mentions that it is the husband's choice whether he wants to become involved in the wife's pregnancy and accept the situation and this concept of fatherhood. In this regard Berger *et al.* (1986:822) found the husbands who supported their wives, to adapt more successfully to the pregnancy.

Thus it is important that the husband should be encouraged from the beginning of the pregnancy to support his wife and become a part of the pregnancy experience. This will help him to accept his social fatherhood and enhance his bonding with the unborn child. Once the couple support each other, this pregnancy can become a mutual experience and the chances of marital discord can be alleviated or decreased. The respondents in the empirical study in Chapter 7 experienced various negative thoughts related to their decision, themselves and their spouse and expressed the need for supportive counselling during this stage.

As the pregnancy continues, these couples can be provided with supportive counselling on a regular basis or as the need arises. They can also be prepared on parenthood and their skills can be enhanced. Usually this period is more relaxed and less anxiety-

prone. The couple can also take on a normal role in the family and society, with no more pressure and anxiety present as before the pregnancy. They can still maintain their secret and are accepted by society, as they are fulfilling the expectation of producing a child.

The rate of supportive counselling can again be increased once the time of the confinement approaches, as the level of anxiety will once again increase amongst these couples. This is confirmed by Menning (1982:162) and Sokoloff (1987:14). Furthermore, Sokoloff (1987:14) maintains that the mothers become more preoccupied with fantasies of the donor as the time of delivery approaches. This should be discussed with the couple by the medical social worker and insight developed in the normality of this, helping the husband not to feel jealous, but to also discuss his fantasies of the donor and who the child will resemble, with his wife. Together they should share their fears and anxieties.

As the date of childbirth approaches, the couple should be prepared thoroughly for the birth, whether a natural birth or caesarean. This could help reduce the fear and anxiety. They should also be encouraged to attend private classes on pregnancy and birth, as this could help them to feel like any other couple who conceived naturally, and also help prepare them for the birth. The husband will also benefit by being coached on how to assist the wife during the delivery. The husband must be encouraged to be present at the birth, so as to enhance the bonding process with the baby, as well as to support his wife in this mutual endeavour. Only positive results have been revealed in studies concerning the experience of the birth, with both spouses feeling elated and relieved. (Compare Seikowski & Glander, 1990:811; Semenov *et al.*, 1980:477 and Czyba & Chevret, 1979:243.) Similar positive results were also reported by the respondents in Chapter 7. A need was, however, expressed for social work counselling during the pregnancy, directly after the birth of the child and during the first few months at home with the baby, confirming their need for support and intervention.

This stage therefore requires supportive counselling throughout the pregnancy, as well as prior to, and directly after the childbirth. The beginning of the pregnancy especially seems to be a period of

increased anxiety, fear and uncertainty regarding the pregnancy, a possible miscarriage and an abnormality in the child. Supportive counselling is therefore of utmost importance during this period. Later in the pregnancy the medical social worker can prepare the couple for parenthood and enhance their parenting skills. Furthermore, the "open door" policy, where couples can make an appointment if they so desire, can be followed. Telephonic support during this period would also be helpful. Once the time of the birth approaches, supportive counselling can again be offered on a regular basis, as the feelings of anxiety, uncertainty and fear are again increased at this stage. Preparation for the childbirth is then provided and the presence of the husband encouraged. The medical social worker can therefore play an important role during this stage.

8.4.6 The family stage

Once the child has been born, the couple have finally fulfilled their life-long dream of becoming parents and being a family. There are many adaptations to be made with the arrival of the baby and they have to start taking on the responsibilities of parenthood. Their freedom becomes more limited and they have to take on a set routine for the sake of the child. These adaptations have to be discussed with the couple and their parenting skills have to be developed and enhanced.

The mother-child relationship seems to be very close as a result of the child being her biological child and these mothers are often over-protective toward the child. The father-child relationship also appears to be very positive, with fathers devoting a great deal of time to the child and even being more involved than biological fathers. These parents also often have difficulty in disciplining the child. (Compare Sokoloff, 1987:14; Goebel & Lübke, 1987:636; Zimmerman, 1982:236; Milsom & Bergman, 1982:127; Rosenkvist, 1981:133-147 and Manuel & Czyba, 1980:471.)

Thus the parent-child relationship seems to be very positive and both parents are very involved in their child-rearing. This can most probably be ascribed to their need for a child and being so grateful by centring their lives around this child. The difficulty in

disciplining the child is most probably due to their feeling they should be forever grateful for this child, for whom they have waited so long. Enforcing discipline would only make them feel guilty. A similar need for advice with the disciplining of the child was also expressed by some of the respondents in the empirical study in Chapter 7.

These couples have to be provided with parental guidance on how to deal with the child and how to enforce discipline. Their parenting skills have to be enhanced and they have to develop insight, so as not to feel guilty when being strict with the child. They have to redesign their idea of biological versus social parenthood and have to accept that they are the only parents this child will ever have. Social parenthood therefore seems to require even more effort and responsibility and has to be a mutual endeavour. The quality of the marital relationship and mutual support is of utmost importance for this family to be successful.

The quality of the parent-child relationship was compared in three different groups, by Golombok *et al.* (1993:17-22), namely, parents with children conceived by means of artificial fertilization by donor gametes, parents with adopted children and parents with naturally conceived children. They found that the quality of the parent-child relationship of the parents with children conceived by means of artificial fertilization with donor gametes was in actual fact more superior to that of the other two groups. Similar positive findings were also revealed by Pettee & Weckstein (1993:1963-1965) where the children were conceived by means of oocyte donation. No studies have revealed negative parent-child relationships thus far. Even in cases of divorce the fathers still considered themselves as the fathers, even though donor sperm was used. They still maintained regular contact with the child after the divorce and maintained their fatherhood responsibilities (Goebel & Lübke, 1987:636). The parent-child relationship in the empirical study in Chapter 7 was also reported to be positive by all the respondents who had children.

It seems as if the parent-child relationship is very positive in these families and that the parents accept the child as their own. This child is a planned and wanted child and a very special child. He/she, however, still needs to be treated like any other child and disciplined so as to develop norms and values in life and to be able to function successfully as a person in society.

With regard to secrecy and whether to tell the child or not, the medical social worker can provide information on the advantages and disadvantages of secrecy and that there is nothing shameful in what they have done, that it needs to be kept a secret. It is something that has become part of their lives and should in other words be integrated into their lives. These couples should be guided on how to go about telling the child and when it could be a suitable time to tell. The final decision on telling the child or not, however, still remains that of the parents. They should still be made aware of the child's right to know of his filiation or genetic origin. Various authors have discussed the issue of telling the child or not. (Compare Shenfield, 1994:1348-1354; Matot & Gustin, 1990:633; Amuzu *et al.*, 1990:904 and Snowden *et al.* 1983:116-124.) This information was shared with the couples during the empirical study interviews. Of the 4 couples in the empirical study in Chapter 7, only 1 had decided to tell the child and had already started the process. The other 2 couples had decided to keep it a secret. The fourth couple's child had died.

If the couple does decide to tell the child, they should create a positive, warm and comfortable atmosphere in which to disclose this news to the child, when they feel the time is right to do so. Both parents should be present and they should make the child aware of how loved and wanted he/she is, and how carefully he/she was planned and created especially for them to fulfil this unending desire for a child, which they were unable to conceive together. The circumstances which led to their decision to go ahead with artificial fertilization with donor gametes should be discussed, as well as the reasons for this choice above adoption or childlessness. The wonderful experience of the pregnancy and birth and how they felt to

finally have this special child, should also be shared. Some non-identifying information of the donor can also be provided as the child gets older and has a need to know more of his/her genetic origin. It seems as if the child needs to be informed of these circumstances from an early age already, but obviously it must be information that the child can understand. More detailed information can be provided gradually, at intervals, as the child gets older. By the time the child reaches adolescence he/she should be fully aware of the situation, so as to be able to form his/her own identity.

This information was shared with the 4 couples who had had successful treatment, during the personal interviews. As discussed in Chapter 7, 2 of these couples decided not to tell the children, the other couple's child had died, and only the remaining couple decided to tell the child.

This couple (Couple B), as discussed in the case study in Chapter 7 of this thesis, had a daughter by means of AID. They explained that they had told their daughter of 6½ years, from the age of 3 years. The way the mother had done it was making her daughter aware of the fact that they had struggled for so many years to have a child which they so dearly wanted. The doctor had told her daddy that he cannot have a child because there was something wrong with him. The doctor then asked another man to help them and he gave a little seed to the doctor who implanted it in mummy, so that she and daddy could finally have a baby they had waited for and dreamt of for so long. They were very thankful to this kind man that he helped to make them become a mummy and a daddy with such a beautiful gift of a daughter whom they so dearly loved. This is a way of telling the child.

Some studies have reflected positive and less positive reactions of children who were only told of their donor origin, once they were in either their adolescent, early adulthood or adulthood stages. (Compare Van Staden, 1989:188; Van Delft, 1983:287-291 and Snowden *et al.*, 1983:98-123.) From these studies it can be deduced that the

actual event of disclosure and how it is put across is a very significant and crucial moment, which could affect this person for the rest of his/her life. Thus it is important that these couples are guided in this process during this stage.

It is recommended that the following aspects be taken into consideration during the disclosure to the child:

- * The atmosphere.
- * The presence of both parents.
- * The parent-child relationship.
- * The stage of development of the child, and at least prior to adolescence.
- * A reflection of the uniqueness, specialness and appreciation for the child who was carefully planned and wanted.
- * An explanation of the circumstances which led to the decision of choosing this alternative.
- * The positive and elating experience of the pregnancy and childbirth for the parents.
- * Biological versus social parenthood.
- * Some non-identifying information of the donor.

It, however, remains each couple's own decision if, when and how they want to tell their child. This can merely serve as a possible guideline.

The importance of disclosure to the family members has also been described in various studies. (Compare Braverman & English, 1992:353-363; Van Staden, 1989:178-192; Snowden *et al.*, 1983:46-54 and Milsom & Bergman, 1982:127.) The extended family can also not be deceived in terms of the genetic link of the child or the blood relationship. A family relationship is usually based on trust and honesty and if the secrecy is maintained by the couple, they are placing the whole family under false presumption regarding their relationship with this child. When the child becomes an heir, for example, it can create a very deceitful and unethical situation.

These issues have to be discussed with couples during this stage, and the unique family circumstances, culture, lifestyle and quality of relationships taken into consideration. Only the couple will know and can decide who can be trusted with this secret and whether they will disclose their situation to the whole family, only a few close relatives or nobody. In the empirical study in Chapter 7 only 3 of the couples who had achieved success had disclosed the secret to selected family members. The fourth couple had told nobody. The majority of couples who had unsuccessful treatment disclosed this to various family and friends, with mainly positive reactions.

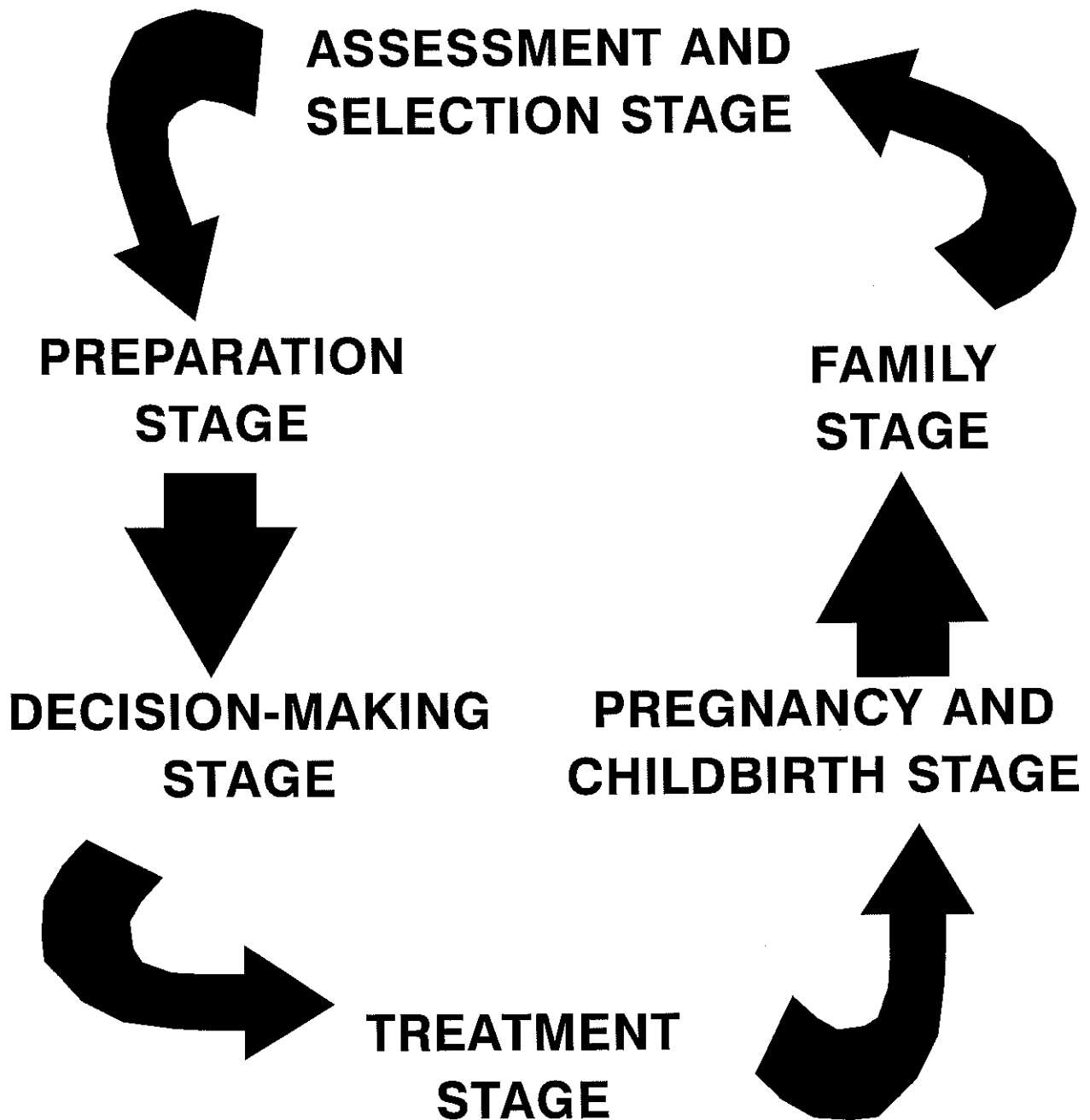
These couples have to be guided in redefining their traditional ideas of a genetically-linked family to that of an artificially-created donor family. They have the right to be accepted as any other family, as they have carefully planned and wanted their child. They are able to provide love, warmth and security to this child in a harmonious and stable family relationship. Once they have accepted this, they can try to maintain a more open attitude and to live their lives as a normal happy family.

The medical social worker can therefore play an important role in the family stage, helping the family adapt to and cope with their situation. They can be provided with parental guidance, supportive counselling and guidance on telling the child and the family. Finally they must learn to accept themselves as a normal family and to thus get on with their lives with a more relaxed and open attitude.

Subsequently a schematic representation of the guideline for the counselling of couples undergoing artificial fertilization with donor gametes will be provided in Table 28. This should help to make this guideline more practical and easier to implement.

TABLE 28: A MEDICAL SOCIAL WORK GUIDELINE FOR THE COUNSELLING OF COUPLES UNDERGOING ARTIFICIAL FERTILIZATION WITH DONOR GAMETES.

GUIDELINE



The aim of this chapter was to provide a medical social work guideline for the preparation and counselling of couples undergoing artificial fertilization with donor gametes. The guideline for the preparation of couples for artificial fertilization with donor gametes was specifically proposed in this study. The essentialness of the preparation of couples prior to their decision-making period regarding this form of treatment was stressed. Furthermore, this preparation session should be a prerequisite for couples undergoing this form of treatment. The guideline for counselling was described according to the stages of the treatment process, so as to make this process clearer and to look at the specific tasks of the medical social worker in each stage. It is hoped that these guidelines will encourage medical social workers to become involved in this relatively unknown and secretive field. A need exists for more medical social workers to become specialized in this field, as most private clinics and gynaecologists performing these methods of treatment, have no form of preparation for these couples, besides the medical preparation, and have no counselling services. The importance of the preparation of these couples for artificial fertilization with donor gametes and the ongoing counselling throughout the treatment process was accentuated, as well as the need for medical social workers in this field.

8.5 SUMMARY

This chapter focused on a medical social work guideline for the preparation and counselling of couples undergoing artificial fertilization with donor gametes.

- * A guideline for the preparation of couples who plan to undergo artificial fertilization with donor gametes was firstly described, as proposed in this study and being part of the first aim of this study. The preparation session concentrated on preparing couples for artificial fertilization with donor gametes, with regard to the medical, legal, ethical-moral, religious and psycho-social aspects.

- * A guideline for the counselling of couples undergoing artificial fertilization with donor gametes was also described, according

to the stages of treatment as proposed in this study. These stages include the assessment and selection stage, the preparation stage, the decision-making stage, the treatment stage, the pregnancy and childbirth stage and the family stage.

- * Each guideline was also presented schematically so as to make them more practical and easier to implement.
- * It is hoped that this chapter will encourage more medical social workers and equip them to become involved in the preparation and counselling of couples undergoing artificial fertilization with donor gametes.

The following chapter will focus on the summary, conclusions and recommendations which have arisen from this study.

CHAPTER 9

GENERAL SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

9.1 INTRODUCTION

Artificial fertilization with donor gametes as an alternative to remaining childless, is becoming more popular and sought after amongst infertile couples. This could be ascribed to the fact that babies are becoming less available for adoption, with more young mothers keeping their babies, artificial fertilization with donor gametes is becoming more acceptable to the community, with changing attitudes and more openness and the rate of infertility amongst couples increasing.

Couples requesting this form of treatment usually have limited knowledge, if any, of the medical, legal, ethical-moral, religious and psycho-social aspects involved and need to be prepared on all these aspects before they can make a decision to commence with treatment. Once having started with the treatment, these couples need regular follow-up supportive counselling through all the stages of treatment, as well as on the long-term once they have had their child, as possible long-term psycho-social implications could occur.

Artificial fertilization with donor gametes is a reasonably new and unknown field of specialization for social workers with very little literature and research findings available. This study thus aimed at providing this knowledge, by means of an extensive literature research study and by means of empirical research, developing, implementing, evaluating and describing a guideline for the holistic preparation of couples for artificial fertilization with donor gametes. Furthermore, the long-term psycho-social implications of artificial fertilization with donor gametes, whether successful or unsuccessful, were explored and described by means of a longitudinal study, with couples seven years after having undergone the above-mentioned preparation session.

This chapter focusses on the general summary, conclusions and recommendations arising from this study. It will be structured in

such a way, so as to highlight the central focus of each chapter in this thesis by means of a summary, conclusions and recommendations, according to the following themes:

- * General orientation to the study.
- * The medical aspects regarding infertility and artificial fertilization with donor gametes.
- * The legal aspects regarding artificial fertilization with donor gametes.
- * The ethical-moral and religious aspects regarding artificial fertilization with donor gametes.
- * The psycho-social aspects related to artificial fertilization with donor gametes.
- * The empirical study on the preparation of couples for artificial fertilization with donor gametes.
- * The empirical longitudinal study on the long-term psycho-social implications of successful or unsuccessful artificial fertilization with donor gametes.
- * The medical social work guideline for the preparation and counselling of couples undergoing artificial fertilization with donor gametes.

9.2 GENERAL ORIENTATION TO THE STUDY

9.2.1 Summary

Chapter one provided a general introduction and orientation to the study. It commenced with the motivation for the choice of the subject, the problem formulation, the aims and objectives of the study and the hypotheses. This was followed by the research methodology, including the type of research, the research design, research procedures, the methods of data collection and the pilot study. Subsequently the research population was described and delimited, the key concepts for this study were defined and the problems and limitations of the study were discussed. This chapter ended with an overview of the contents of the thesis.

The aims of this study included:

- Aim 1:** To develop, implement, evaluate and describe a guideline for the holistic preparation of couples for artificial fertilization with donor gametes.

Aim 2: To do a longitudinal study of the same respondents to determine the long-term psycho-social implications of successful or unsuccessful artificial fertilization with donor gametes.

Aim 3: To provide a medical social work guideline for the counselling of couples undergoing artificial fertilization with donor gametes.

These aims were met by means of this study and will be referred to by each appropriate theme.

The hypotheses for this study were formulated as follows:

Hypothesis 1: When couples request artificial fertilization with donor gametes, they have limited knowledge of all the medical, legal, ethical-moral, religious and psycho-social aspects related to this treatment.

Hypothesis 2: If couples are prepared for artificial fertilization with donor gametes by means of a holistic preparation session, they will gain more knowledge regarding all the aspects related to this treatment.

Hypothesis 3: If couples undergo artificial fertilization with donor gametes, they will experience long-term psycho-social implications.

These hypotheses were tested and supported by the findings of this study and will be referred to by each appropriate empirical study.

9.2.2 Conclusions

- * Social work literature and research on artificial fertilization with donor gametes is very limited and as a result it was necessary to utilize literature from the fields of medicine, gynaecology, andrology, urology, spermatology, endocrinology, infertility, reproductive medicine, nursing, law, medical-legal-ethics, theology, psychiatry and psychology. A need for social work research and literature in this field of specialization was identified and fulfilled by means of this study.

- * Most private gynaecologists or infertility clinics merely prepare couples on the medical aspects and pay very little attention, if any, to the legal, ethical-moral, religious and psycho-social aspects of artificial fertilization with donor

gametes. A need for research and a guideline for the holistic preparation of couples for this treatment were identified and fulfilled by means of this study, as well as the promotion of the holistic multi-disciplinary team approach.

- * Literature and research on the long-term psycho-social implications of artificial fertilization with donor gametes are limited, especially in South Africa, and specifically regarding the long-term implications of both successful and unsuccessful treatment. A need was identified for research and knowledge in this regard and was fulfilled by means of this study.
- * As artificial fertilization with donor gametes is a reasonably new field of specialization for social workers, very little literature is available on this area of specialization and a limited number of social workers are knowledgeable of or skilled in this area of specialization. A need for a social work guideline for the counselling of couples undergoing artificial fertilization with donor gametes was identified and fulfilled by means of this study.
- * The focus in health care in the South African Government nowadays is mainly on funding state primary health care services, which concentrates on family planning and the overpopulation problem and not on reproductive medicine. The question could be asked: "Why this study and was it applicable?" The answer which was concluded, was that this study is applicable, as a need exists for this treatment and for improved services for the increasing numbers of infertile couples in our developed population, who are requesting artificial fertilization with donor gametes as an alternative to childlessness.
- * It is important to maintain a fair balance between curative and preventative services in South Africa, and that these two complement each other. Artificial fertilization with donor gametes is a form of treatment mainly offered by gynaecologists in private practice nowadays and at a few university training hospitals. As medical aid schemes do not cover this form of treatment, these couples are all private patients paying

themselves for these expensive procedures. Thus this is mainly a privately-funded curative service, for which there is an increasing demand nowadays. These couples will go to any length to be able to bear a child who will at least be 50% biologically theirs, other than adoption. They are willing to pay these astronomical fees and should be provided with improved holistic multi-disciplinary services, as they have a right to it, just as any other patient has.

- * This study thus makes an important contribution in terms of the private health care services in South Africa. Furthermore this is a treatment procedure which is becoming increasingly popular and of which the services need to be improved on, as striven for in this study.

9.2.3 Recommendations

- * This form of treatment has many medical, legal, ethical-moral, religious and psycho-social aspects which play a role, and this is not a procedure where merely the preparation on the medical aspects should be viewed as sufficient, but a holistic preparation of these couples is strongly recommended.
- * The multi-disciplinary team approach and a holistic treatment plan should be striven for by Infertility clinics and gynaecologists in private practice, performing artificial fertilization with donor gametes.
- * More social work research on a larger scale with all racial groups should be conducted on couples undergoing artificial fertilization with donor gametes throughout South Africa, so as to fulfil the need for more social work literature in South Africa in this regard. Even though this study made a major contribution, much more research and literature are still needed and therefore recommended.
- * More long-term social work research with a larger research population undergoing artificial fertilization with donor gametes is needed to support this study and to be able to make conclusions regarding the general population.

- * The South African health care services should strive at maintaining a fair balance between preventative and curative services, as well as state and private health services. These services should also complement each other and not necessarily be duplicated. Reproductive medicine and artificial fertilization with donor gametes is an important field of medicine and form of treatment, which is still in demand in private health services and should be improved on by multi-disciplinary research, such as this study.

9.3 THE MEDICAL ASPECTS OF INFERTILITY AND ARTIFICIAL FERTILIZATION WITH DONOR GAMETES

9.3.1 Summary

Chapter 2 focused on the medical aspects of infertility and consisted of the following: definitions of key concepts; (the medical terms used in this chapter were numerous and were provided in Appendix 1 of this thesis); a description of infertility and the incidence of infertility; the infertility investigations such as the initial assessment interview, the female, male and combined examinations; the causes of infertility; and the various treatment options available using the gametes of both husband and wife.

This chapter fulfilled part of Aim 1 of this study: "To develop, implement, evaluate and describe a guideline for the holistic preparation of couples for artificial fertilization with donor gametes." The objective fulfilled in this chapter was: To develop and describe the contents of the preparation session, by providing an in-depth description of all the medical aspects related to infertility and the treatment options available.

Chapter 3 focused on the medical aspects of artificial fertilization with donor gametes, and consisted of the following: definitions of the key concepts; the history of artificial fertilization with donor gametes; the incidence of artificial fertilization with donor gametes; the medical indications for artificial fertilization with donor gametes, including the male indications and female indications; the selection and preparation of recipients couples; donor selection and preparation; recipient-donor matching; methods of artificial

fertilization with donor gametes; and the use of fresh gametes versus frozen gametes.

This chapter fulfilled part of Aim 1 of this study: "To develop, implement, evaluate and describe a guideline for the holistic preparation of couples for artificial fertilization with donor gametes." The objective fulfilled in this chapter was: To develop and describe the contents of the preparation session, by providing an in-depth description of all the medical aspects related to artificial fertilization with donor gametes.

9.3.2 Conclusions

- * Infertility is often confused with sterility, but must never be seen as being synonymous with sterility, as infertility refers to the inability to conceive after a year or more of regular sexual intercourse without contraception, or the inability to maintain a pregnancy to term. It is classified as primary infertility if the patient has never conceived, or secondary infertility if the patient has conceived and had a miscarriage, or has a child but struggles to fall pregnant again. It is important that when an infertility diagnosis is made, the above-mentioned is explained to the couple, so that their hope is never taken away completely, as is often the case, and that they are not led to believe they are sterile, unless if proven so by the infertility examinations.
- * The incidence of infertility is increasing constantly without any definite reason. Thus more and more couples are seeking infertility investigations and treatment. Psycho-social assessments of these couples are essential to serve as a catchment area for couples with marital, sexual or psychological problems contributing to their infertility problem. Unnecessary infertility investigations can be avoided and time and money can be saved by determining non-medical causes.
- * It is important that only the most essential infertility examinations are performed on both the male and female patients, as they are costly and are often not all necessary. The causes of the infertility problem must be explained thoroughly to the

couple, so as to prevent uncertainty, misunderstanding and blame.

- * Infertility treatment options using both husband's and wife's gametes are not as complicated as when using donor gametes, as there are not as many implications involved, that is, the legal, ethical-moral, religious and psycho-social implications. It is, however, still important that these couples are selected and prepared for this treatment using their own gametes, as a result of the costs involved, as well as the possible psycho-social implications.
- * Medical social workers involved in the counselling of infertile couples should have sufficient knowledge of these medical aspects of infertility before providing services to these couples. This chapter serves as a knowledge base and resource for this information needed.
- * Artificial fertilization with donor gametes is not a new technology of today, as misconceived by most people, but goes back as far as 220 AD. Artificial insemination with donor semen (AID) was the first technique used and since then many other techniques have been developed in the twentieth century, using donor sperm, donor oocytes and donor embryos, as well as surrogate motherhood using donor uteri. A whole new world of options are thus now available for couples who would otherwise have had to resort to adoption or childlessness. These various options, as discussed in Chapter 3, should be discussed with couples when artificial fertilization with donor gametes is recommended as an alternative, together with their male and female indications, the use of fresh and frozen gametes and which options would be most suitable for them. A thorough knowledge of the medical aspects of artificial fertilization with donor gametes, as discussed in Chapter 3, is essential before work with these couples can be commenced.
- * The thorough selection of the recipients for treatment is essential and the screening process should include all the necessary medical and infertility examinations, as discussed in

Chapter 2, as well as screening on psycho-social grounds by a medical social worker or a psychologist. This should be a prerequisite for artificial fertilization with donor gametes, as it is a more complicated form of treatment with the third anonymous person, the donor, being involved.

- * The preparation of recipient couples before deciding to commence with treatment is essential, as they need to be able to make an informed decision and give informed consent.

- * Donors for artificial fertilization with donor gametes should undergo an extensive selection and preparation process before being considered as a donor. This selection process should include all the necessary screening tests and examinations, as discussed in Chapter 3. Furthermore, donors and their spouse if at all possible, should be prepared on the medical, legal, ethical-moral, religious and psycho-social aspects related to the donating of their gametes, before a decision is made to donate. The medical social worker can play an important role in this regard.

- * Recipient-donor matching should take place according to the aspects discussed in Chapter 3. Donors, as well as recipients, should be able to state their wishes, (realistically), regarding the characteristics or criteria of the recipients and donors respectively.

- * Recipients and donors should be provided with sufficient non-identifying information on the donor and recipient respectively, unless they prefer to know nothing.

- * A thorough knowledge of the medical aspects of artificial fertilization with donor gametes, as discussed in Chapter 3, is essential for the medical social worker to select, prepare and counsel recipient couples for artificial fertilization with donor gametes, but it is also as essential for all team members to have this knowledge. Chapter 3 serves as a knowledge base and resource for this information.

9.3.3 Recommendations

- * Both husband and wife should undergo the infertility examinations to ensure that the correct diagnosis is made and that the correct alternative treatment option is recommended, taking the indications of both spouses into account and not only one, as is often the case.

- * Couples should be prepared for the infertility investigations and treatment using their own gametes as it is costly and stress is involved.

- * More time should be spent by gynaecologists and andrologists providing couples with thorough information on their infertility diagnosis, when breaking the news to them. It is recommended that this information is conveyed in a delicate and caring manner, as it is usually experienced very traumatically by these couples. All the alternatives and treatment options should be discussed with them thoroughly and their hope should never be taken away completely, as the remote chance of a spontaneous pregnancy still exists, and has occurred in the past. The difference between infertility and sterility should also be mentioned.

- * All infertile couples should be assessed psycho-socially before commencing with the infertility examinations and treatment. This can help to determine possible non-medically related factors contributing to their infertility problem and save them a great deal of time and money. Furthermore it can serve as a screening process for treatment. The medical social worker can perform an important task in this regard.

- * Recipient couples should be selected for artificial fertilization with donor gametes, by undergoing the various infertility examinations, as well as a thorough psycho-social assessment by a medical social worker, or psychologist, as this is a more complicated form of treatment with various implications.

- * Recipient couples should be thoroughly prepared for artificial fertilization with donor gametes by means of a preparation

session, regarding the medical, legal, ethical-moral, religious and psycho-social aspects. The medical social worker can fulfil an important task in this regard, as well as other team members.

- * It is recommended that donors undergo a form of preparation besides the selection process. This should include their spouse or partner and the preparation session should focus on the medical, legal, ethical-moral, religious and psycho-social aspects concerning the donor. This session should be held before a decision to donate is finally made, so that informed consent is given.
- * Recipient-donor matching should occur, according to the criteria discussed in Chapter 3, and both donor and recipients should be allowed to state their wishes regarding certain criteria of the recipients and donor respectively. They should also be provided with non-identifying information on the donor or recipient, unless they prefer none.
- * A thorough knowledge of the medical aspects of infertility, as discussed in Chapter 2, as well as the medical aspects of artificial fertilization with donor gametes, as discussed in Chapter 3, is essential and should be a prerequisite for all team members working with these couples.
- * Health services for infertile couples are still essential with the increasing incidence of infertility. As this is not a priority of the state health services, it should become an even greater priority of the private health services. Medical aid schemes should also cover this form of treatment with a certain limit per year, similar to dental fees. These couples have a right to this treatment, just as any other patient has a right to other treatment. As they are willing to pay, they should at least be assisted and the necessary quality services should be rendered.

9.4 THE LEGAL ASPECTS OF ARTIFICIAL FERTILIZATION WITH DONOR GAMETES

9.4.1 Summary

Chapter 4 focussed on the legal perspectives regarding artificial fertilization of persons with donor gametes and consisted of the following: the definitions of key concepts and the legal perspectives in the United States of America, the United Kingdom, Europe, Australia, New Zealand, Canada, and South Africa.

This chapter fulfilled part of Aim 1 of this study: "To develop, implement, evaluate and describe a guideline for the holistic preparation of couples for artificial fertilization with donor gametes. The objective fulfilled in this chapter was: To develop and describe the contents of the preparation session, by giving a broad overview and discussion of the legal aspects and legislation pertaining to artificial fertilization with donor gametes in South Africa and other countries.

9.4.2 Conclusions

- * Countries where artificial fertilization with donor gametes has been practised to a greater extent with resultant legislation are: the United States of America; the United Kingdom; European countries such as France, Germany, Spain and Italy; Australia, New Zealand and Canada.

- * The legal systems in most of these countries differ immensely and some have federal systems, with legislation differing from one state to another. The legislation of some countries is very strict, while others still need many improvements.

- * In South Africa various acts and regulations have been approved, while others are still pending. Most of this legislation is very thorough and makes provision for the donor, the recipients, the artificial fertilization with donor gamete treatment procedure, the medical screening of donors and recipients, the information which recipients should receive, the matching of donors and recipients, the central register for the registration of all artificial fertilizations with donor gametes which should take place, as well as the births, the medical practitioner and the

premises, and the artificially produced child. Furthermore a pending bill also makes provision for surrogate motherhood which is very specific and will promote a strictly controlled practice of surrogate motherhood.

- * South Africa is one of the few countries with specific legislation regarding different methods of artificial fertilization, which are thorough and strict and promote a controlled, ethically more acceptable practice, where all parties involved are protected by the legislation. The South African legislation is a fine example for other countries to strive for.
- * A limitation in the South African legislation is the fact that the psycho-social aspects are not so specifically mentioned. More detail should be provided regarding the psycho-social assessment and selection of the recipient couples.
- * The preparation of couples is vaguely referred to in the South African legislation and should be more specifically mentioned in terms of a compulsory holistic preparation, including the medical, legal, ethical-moral, religious and psycho-social aspects of artificial fertilization with donor gametes.
- * Another limitation in the South African legislation is the number of pregnancies per donor (5). Something which should be taken into consideration, is the number of children the donor already has and how many he might have in the future, if he marries more than once. These children together with his "donated" children, could then amount to a substantial number, increasing the chances of consanguineous marriages.

9.4.3 Recommendations

- * A thorough knowledge of the South African legislation, as discussed in Chapter 4, is strongly recommended for those team members working with couples undergoing artificial fertilization with donor gametes.
- * These legal perspectives and the South African legislation on artificial fertilization with donor gametes, as discussed in

Chapter 4, should be discussed with couples as part of the legal aspects of the preparation session.

- * South African legislation should be regularly revised to accommodate new methods of artificial fertilization with donor gametes.
- * It is recommended that the South African legislation is revised to be more specific about the psycho-social assessment and selection of couples for artificial fertilization with donor gametes and that it is made compulsory, similar to the requirement for adopting parents.
- * It is recommended that the South African legislation is revised concerning the number of pregnancies per donor, which should be decreased, as the number of children the donor might have besides the donor children, should also be taken into consideration.
- * It is recommended that the South African legislation is revised to be more specific in describing the holistic preparation of couples, to include the medical, legal, ethical-moral, religious and psycho-social aspects of artificial fertilization with donor gametes and that it is made compulsory and a prerequisite for treatment, similar to the preparation of adopting parents.

9.5 THE ETHICAL-MORAL AND RELIGIOUS ASPECTS OF ARTIFICIAL FERTILIZATION WITH DONOR GAMETES

9.5.1 Summary

Chapter 4 focussed on the ethical-moral and religious aspects regarding artificial fertilization with donor gametes and consisted of the following: the definitions of key concepts, the ethical-moral perspectives regarding artificial fertilization with donor gametes and the religious perspectives of various churches and religions regarding artificial fertilization with donor gametes.

This chapter fulfilled part of Aim 1 of this study: "To develop, implement, evaluate and describe a guideline for the holistic preparation of couples for artificial fertilization with donor

gametes." The objective fulfilled in this chapter was: To develop and describe the contents of the preparation session, by giving a broad overview and discussion of the ethical-moral and religious aspects regarding artificial fertilization with donor gametes.

9.5.2 Conclusions

- * Many ethical-moral issues have been raised concerning artificial fertilization with donor gametes. The major themes or issues seem to include the means of practice, as many countries do not have uniform guidelines, control, records or legislation to protect the persons involved, or do not select the persons involved. Other issues raised are concerning the donor who is compensated and who donates without ever taking on parental responsibility or even knowing the child conceived of him. Further aspects include the intrusion of a third party in the marriage, the "planned adultery" and the use of gametes outside of the marital union. Furthermore the means of obtaining the sperm, that is, masturbation, is unacceptable, as well as the freezing, storing and discarding of gametes.

- * The Orthodox Jewish, Roman Catholic, Lutheran and Anglican Churches are particularly opposed to artificial fertilization with donor gametes, while the Protestant Churches and Dutch Reformed Churches have a more moderate outlook. The Islamic Faith also strictly condemns this form of treatment, as do the traditional African religions, who rather approve of adultery amongst family members to bear a child who is blood-linked.

- * The main religious issues regarding artificial fertilization with donor gametes with which the various churches and religions have a problem are: man is playing God; invasion of God's territory; a third party is introduced into the intimate sphere of marriage; procreation of new life is exclusive, non-transferable and inalienable; depersonalization of sex and loss of intimacy; the use of masturbation to collect sperm which is seen as evil and is prohibited; seeking a child by another man is immoral; the anonymity of the donor; the relinquishing of responsibility; and the technical adultery.

9.5.3 Recommendations

- * The ethical-moral and religious issues, as discussed in Chapter 4, must be discussed in-depth with couples during the preparation session.
- * A thorough knowledge of both the ethical-moral and religious issues as, discussed in Chapter 4, is essential to prepare these couples undergoing artificial fertilization with donor gametes.
- * The different churches and religions should regularly review their viewpoints on artificial fertilization with donor gametes and should develop a more open attitude.
- * The community should be educated on artificial fertilization with donor gametes and should develop a more open attitude.

9.6 THE PSYCHO-SOCIAL ASPECTS REGARDING ARTIFICIAL FERTILIZATION WITH DONOR GAMETES

9.6.1 Summary

Chapter 5 focussed on the psycho-social aspects of artificial fertilization with donor gametes and included the following: definition of key concepts; the psycho-social implications of infertility which includes: coming to terms with infertility; the psycho-social aspects of artificial fertilization with donor gametes which includes: motives for a child and parenthood; motives for artificial fertilization with donor gametes; motives of the donor; the decision-making period and process; secrecy and anonymity regarding recipients and donors; emotional reactions resulting from treatment; psycho-social effects on the individual, the recipient husband and wife and the donor; as well as the marital relationship; the experience of the pregnancy; childbirth and parenthood; the influence on the child and the artificial family.

This chapter fulfilled part of Aim 1 of this study: To **develop, implement, evaluate and describe** a guideline for the holistic preparation of couples for artificial fertilization with donor gametes. The **objective** fulfilled in this chapter was: To develop and describe the contents of the preparation session, by providing an in-

depth description of all the psycho-social aspects of artificial fertilization with donor gametes. This chapter also fulfilled part of Aim 2 of this study: To do a longitudinal study of the same respondents to determine the long-term psycho-social implications of successful or unsuccessful artificial fertilization with donor gametes. The objective fulfilled in this chapter was: To provide an in-depth description of all the psycho-social implications of artificial fertilization with donor gametes.

9.6.2 Conclusions

- * Before a couple can consider artificial fertilization with donor gametes, it is important that they have come to terms with their infertility. This entails a process of going through an emotional crisis after the news of the diagnosis and through various emotional stages and a mourning process, where the loss of a pregnancy and a child is mourned. During this process of coming to terms with their infertility they also go through a process of evaluating themselves as individuals, especially their sexual identity and self-image, as well as their marital relationship. They have to assess their own interpretation of sexual potency and reproductive potency and not see it as synonymous, but as two different aspects. They have to redefine the goals in their marital relationship and they have to assess the meaning of having genetically-linked versus donor-linked children. Once they have gone through this process and have come to terms with it, they can start considering alternatives such as artificial fertilization with donor gametes.

- * Once a couple contemplates artificial fertilization with donor gametes as an alternative to childlessness it is important that they are first thoroughly assessed and selected.

- * Before deciding on artificial fertilization with donor gametes, it is important that couples undergo a holistic preparation session covering all the aspects related to artificial fertilization with donor gametes. This will enable them to make an informed decision. It is also important that they take sufficient time to make their joint decision and that they are able to make the paradigm shift from being traditional biologi-

cal parents, to one being a social parent and the other being a biological parent.

- * Secrecy or disclosure is a sensitive and complex issue which remains each couple's own decision, depending on their unique family circumstances and it can have psycho-social implications. Telling or not telling the child is also a personal matter, but if other family members are told, the child also has to be told. It is important that these couples are provided with all the information on secrecy and disclosure and how to go about telling the child. This should be included in the preparation session.
- * Artificial fertilization with donor gametes is a treatment process which can be very stressful as a result of the third anonymous person involved and the uncertainty of the end results. Couples thus need supportive counselling throughout the treatment process.
- * Artificial fertilization with donor gametes has certain long-term positive and negative psycho-social influences on the individuals involved, that is, the recipient husband and wife and the donor and his/her spouse, as well as on the marital relationship. The experience of the pregnancy, the childbirth and parenthood is mainly positive, with the child bringing a great deal of happiness.
- * The "artificial family" is an important aspect to be discussed with couples, regarding the issue of secrecy and placing the family under a false impression, that the child is blood-linked. These families do, however, seem to live normal happy family lives and reactions to the disclosure are mainly positive.

9.6.3 Recommendations

- * Couples must first have come to terms with their infertility, have made the paradigm shift from genetically-linked children and traditional parenthood to donor-linked children and social parenthood, before they should even consider artificial fertilization with donor gametes as an alternative. A thorough

psycho-social assessment of these couples and a selection process are strongly recommended.

- * The thorough holistic preparation of couples for artificial fertilization with donor gametes, in the form of a preparation session concentrating on all the medical, legal, ethical-moral, religious and psycho-social aspects involved, is essential and is recommended as a prerequisite to enable couples to make an informed decision before commencing with treatment.
- * The decision to go ahead with artificial fertilization with donor gametes should be made over a substantial period of time, allowing the couple to consider all the aspects involved and to make a joint-decision. A time period of at least 3 months is recommended for the decision-making period, prior to commencing with treatment.
- * Gynaecologists should be informed of the importance of this 3 month waiting period in order for couples to make a joint-decision, and gynaecologists should make couples adhere to this period before commencing with treatment.
- * Secrecy or disclosure is a complex and sensitive issue and remains the decision of each couple according to their unique circumstances. These couples should be provided with all the information on secrecy and disclosure during the preparation session, in order to help them make their decision whether to disclose the secret to the child and family. A more open attitude is, however, recommended, as this would create a healthier, more open relationship and create less stress.
- * Gynaecologists should be informed of the secrecy and anonymity issue and should encourage couples to make their own decision.
- * Artificial fertilization with donor gametes can have positive and negative psycho-social influences on the couple, the donor, the child and the family and it is recommended that they should be prepared thoroughly on these possible influences during the possible preparation session. Supportive counselling on a long-

term basis is also recommended.

- * Donors should also be thoroughly prepared on the possible psycho-social influences which the donation could have on him/her. It is recommended that donors are also holistically prepared, if at all possible.

9.7 EMPIRICAL STUDY ON THE PREPARATION OF COUPLES FOR ARTIFICIAL FERTILIZATION WITH DONOR GAMETES

9.7.1 Summary

Chapter 6 focussed on the empirical study on the implementation and evaluation of the preparation session for artificial fertilization with donor gametes, and included the following: firstly a discussion of the research process, followed by the main focus of the chapter being the interpretation of the research findings. The chapter ends with the testing of the hypotheses and the summary.

This chapter fulfilled part of **Aim 1** in this study: To develop, **implement, evaluate** and describe a guideline for the holistic preparation of couples for artificial fertilization with donor gametes. The **objectives** fulfilled by this chapter were: To implement the guideline in a preparation session for the holistic preparation of couples for artificial fertilization with donor gametes; and to evaluate the effectiveness of the preparation session on a short-term basis.

9.7.2 Conclusions

- * Both male and female respondents were in an age category 22-37 years, slightly older than couples usually plan their first child and they were married between 2 and 10 years. Thus they had at least had sufficient time to grow in their marital relationship and prepare for parenthood.
- * The respondents had suffered infertility problems for 2 to 6 years before deciding on artificial fertilization with donor gametes. All the couples had infertility as a result of a male infertility problem and some due to a combined male and female problem. They thus all had been yearning for a child and

planning for parenthood for a number of years.

- * The majority of respondents had only completed a certain level of schooling, representing the lower to middle class of society and the minority had technikon or university training, representing the middle to upper class of society. This lower level of qualifications could have been a factor in the understanding and insight of the respondents regarding the preparation session. The majority of respondents had average middle class occupations, while the rest had both lower and upper-middle class occupations, similar to their qualifications.
- * More males than females had been previously married, with fewer males having children from the previous marriage than the females. This possibly indicated the presence of their infertility problem in the previous marriage already.
- * The majority of respondents had made a joint-decision to undergo artificial fertilization with donor gametes and their motives were mainly their combined need or own need for a child, or that they wanted a child in their home.
- * A poor knowledge of the medical aspects of artificial fertilization with donor gametes was reflected by the majority of respondents during the pre-test, while during the post-test, all the respondents reflected a good knowledge.
- * A poor knowledge and awareness of the legal aspects of artificial fertilization with donor gametes was reflected by the majority of respondents during the pre-test, while during the post-test all respondents were aware of the legal aspects and had an improved knowledge.
- * Uncertainty regarding the ethical-moral issues prevailed during the pre-test, while during the post-test, all respondents felt they had come to terms with these ethical-moral issues.
- * Concerning the churches' attitude regarding artificial fertilization with donor gametes, the majority of respondents thought

during the pre-test that the church was positive, while during the post-test, all of the respondents knew the churches' attitude was negative and had increased knowledge of the religious aspects.

* Concerning the psycho-social aspects regarding artificial fertilization with donor gametes the following is concluded:

- The majority of females and fewer males thought their parents would approve of their undergoing artificial fertilization with donor gametes, confirming the male guilt and uncertainty regarding their diagnosis and the family reactions.
- The majority of respondents reported having disclosed their plans for artificial fertilization with donor gametes to someone. The majority had shared this secret with professionals, followed by maternal parents, paternal parents and siblings. The fact that respondents had told professionals first, contradicted the literature and was ascribed to the objectivity from outsiders. The fact that firstly the maternal parents and then the paternal parents were told, was ascribed to their not wanting to disappoint the paternal parents, as this would directly affect their family name and bloodline.
- The main reasons for not disclosing the secret was ascribed to the fact that nobody needs to know and that it was their own private problem.
- The main reasons for secrecy were reported to be: wanting to protect the child, the spouse and themselves and the family name, as well as being scared of rejection and feeling inferior.
- The respondents had more realistic viewpoints regarding the implications of secrecy during the post-test compared to the pre-test and mainly thought of the constant lies, the tension and anxiety and never being able to share this with others.
- Feeling left out, feeling inferior, jealous and guilty were aspects which male respondents considered as possible implications of treatment, while fantasizing about the donor, feeling guilty and blaming the husband were psycho-

social aspects which female respondents considered most after the pre-test.

- The morning nausea and being present at the birth were aspects of the pregnancy mostly considered by the male respondents during the pre- and post-test, while the husband's need for intercourse during the pregnancy and losing their figure were the aspects mostly considered by female respondents. Furthermore the male respondents showed most concern about a possible stillbirth, an abnormal pregnancy and a miscarriage and the female respondents about a stillbirth and a miscarriage. These were realistic concerns.
- Concerning the child, the male respondents were concerned about raising a child of whom they were not the biological father, as well as the adaptation to a child in their lives, while the female respondents were concerned about their ability to be a good mother, and about a colic baby and nappy changing. They thus reflected uncertainty, fear and a lack of readiness for a child. Furthermore both the male and female respondents had concerns about mental retardation, physical disability, minimal abnormalities and intellectual level of the child. Females were also more concerned about the resemblance of the child than men.
- The male's certainty regarding their ability to be good parents decreased from the pre-test to the post-test while that of the females increased. Thus the males seemed to become more realistic and unsure as they gained more knowledge, while the females became more sure of their ability, which could be a sign of being unrealistic or feeling very sure of themselves. Interestingly males and females felt they would improve their skills by gaining practical experience with children of family and friends and reading applicable literature. Respondents showed very few fears related to parenthood and seemed reasonably confident.
- More respondents reported having thoughts of the donor after the preparation session than before, reflecting their knowledge gained and becoming more realistic about the donor. Both male and female respondents gained consider-

able knowledge during the preparation session, being more concerned about the possible psycho-social effect on the donor. After the preparation session all the respondents had gained knowledge on the donor selection and aspects considered during the selection process, as well as on donor-couple matching and the aspects taken into consideration during the matching process. They also gained knowledge on aspects such as the number of pregnancies per donor and donor compensation. Thus all the respondents gained considerable knowledge on aspects related to the donor as a result of the preparation session. Fewer males than females wanted to know something about the donor following the preparation session, possibly indicating their preference to forget about this donor who could be a threat to them, while the females felt a need to know something, so as to stop fantasizing about him.

- If treatment was successful the majority of respondents felt they would return for a second child. If unsuccessful, the majority of respondents had not yet thought of what their decision would be. This could have indicated their being unrealistic about the success rate of treatment. The majority of respondents also indicated that they would feel heartbroken if treatment was unsuccessful and experience it as traumatic.

* The short-term evaluation of the preparation session yielded the following results, which can be concluded as follows:

- Respondents had increased positive feelings and some negative feelings regarding artificial fertilization with donor gametes.
- All the aspects discussed in the session had been clarified.
- New information had been provided.
- New concerns had been developed.
- The contents were understood very well.
- None of the aspects discussed were too personal.
- The time spent on the session was sufficient.
- They had gained knowledge and had a clearer understanding.

- They recommended the preparation session as a prerequisite for artificial fertilization with donor gametes.

* Thus the preparation session proved to be successful in preparing couples for artificial fertilization with donor gametes and the respondents gained substantial knowledge on all the medical, legal, ethical-moral, religious and psycho-social aspects.

* Thus **Hypothesis 1:** When couples request artificial fertilization with donor gametes, they have limited knowledge of all the medical, legal, ethical-moral, religious and psycho-social aspects; and

Hypothesis 2: If couples are prepared for artificial fertilization with donor gametes by means of a holistic preparation session, they will gain more knowledge regarding all the aspects related to this treatment, were supported by the findings in this empirical study.

9.7.3 Recommendations

* Couples requesting artificial fertilization with donor gametes should be married for a few years and have come to terms with their infertility, before requesting a treatment procedure such as artificial fertilization with donor gametes, so that their marital relationship is stable and they are more prepared for parenthood.

* It is important and hence recommended that couples make a joint-decision to undergo artificial fertilization with donor gametes and that their motives for treatment are assessed.

* The respondents in this study showed a poor knowledge in the pre-test regarding the medical, legal, ethical-moral, religious and psycho-social aspects, and a much more improved knowledge during the post-test as a result of the preparation session. It is essential that couples are thoroughly prepared on all these aspects in a holistic preparation session, as proposed in this study as a prerequisite for all couples planning to undergo this form of treatment.

- * It is important that couples are especially thoroughly prepared on all the psycho-social aspects related to artificial fertilization with donor gametes, as the respondents in this study were much more realistic regarding these psycho-social implications during the post-test, following the preparation session. These aspects should include secrecy and disclosure, the implications of treatment on the individual, the marital relationship, as well as the the influences of the pregnancy, the child, parenthood and the donor.

- * It is essential that the possibility of treatment being unsuccessful is also mentioned to the couples, so that they can also consider other options if artificial fertilization with donor gametes fails.

- * More research with a larger research population is recommended on the preparation of couples for artificial fertilization with donor gametes, so as to be able to make more conclusions regarding the general population. The use of a control group and experimental group would be ideal to test the effectiveness of the preparation session.

- * Research is recommended on the need for the holistic preparation of donors for donating gametes for an artificial fertilization with donor gametes programme.

9.8 EMPIRICAL STUDY ON THE LONG-TERM PSYCHO-SOCIAL IMPLICATIONS OF ARTIFICIAL FERTILIZATION WITH DONOR GAMETES

9.8.1 Summary

Chapter 7 focussed on the empirical longitudinal study on the long-term psycho-social implications of artificial fertilization with donor gametes and included the following: firstly the research process was discussed, followed by the main focus of the chapter being the interpretation of the research findings. Subsequently a case-study of each couple was provided followed by a brief discussion respectively. This chapter ended with the testing of the hypotheses and the summary.

This chapter fulfilled Aim 2 of this study: To do a longitudinal study of the same respondents to determine the long-term psycho-social implications of successful or unsuccessful artificial fertilization with donor gametes. The objective fulfilled was to explore and describe the long-term psycho-social implications of successful or unsuccessful artificial fertilization with donor gametes.

9.8.2 Conclusions

- * The age category of the respondents in this study was 30-43 years and the mean or average (x) age of all the respondents was $x = 36.8$ years. These respondents were all now in an age category 7 years older than the previous empirical study.
- * A total of 19 respondents (10 males and 9 females) of the original 30 respondents had been traced and were interviewed for this study, that is, a 63% response rate was achieved, which is phenomenal for a panel longitudinal study, where one can be lucky if one can get a 50% response.
- * Concerning the marital status of these respondents, the majority of respondents were still married during this 7 year follow-up study, while 15.79% (3) were divorced or separated and in the process of divorce. Infertility and the artificial fertilization with donor gametes was a factor which contributed to the separation and divorce of these respondents.
- * The qualifications of these respondents were mainly matric, followed by standard 8 or less, a trade, a diploma or a degree. These respondents' qualifications had remained more or less the same since the previous empirical study, with only one male and one female improving their qualifications by completing a post-graduate degree. The occupations of the respondents also seemed to have improved since the previous empirical study, where the majority was performing blue collar jobs at the time of this study, they were now performing white collar jobs. They thus had average middle class careers with the minority in upper-middle class careers.

- * The religion and church denominations of the respondents remained more or less the same since the previous empirical study, with the majority being in the Dutch Reformed and other more charismatic churches.

- * Concerning children, the majority of respondents (14) now had children from their present marriage, with a fifteenth respondent's child who had died at 8 months. Compared to the previous study, no respondents had had a child from this same marriage, thus these respondents had fared well since the previous study 7 years ago. Whilst they had all originally set out to undergo artificial fertilization with donor gametes, they now had varying unique situations and children from different origins. The majority of respondents had children by means of artificial fertilization with donor gametes, while the rest had either an adopted child or their own biological child/children. The majority had 1 child, while some respondents had 2 or 3 children. The sexes of the children in the donor, adopted and biological group were all equal, with no particular inclination to a specific sex.

- * Artificial fertilization with donor gametes had been attempted by the majority of respondents, of which the majority had AID and a few had IVF-D. Six respondents did not undergo treatment. Thus the majority of respondents underwent treatment and by means of AID.

- * Treatment was commenced with by the majority of respondents within 0 to 1 year of the preparation session. The majority of respondents had 3 to 4 treatment attempts. Only 9 of the 13 respondents who underwent treatment, had successful treatment with a resultant positive pregnancy test. Of these 9 respondents only 7 had a successful pregnancy, while 2 had a miscarriage. Thus only 7 (53.85%) of the 13 respondents who underwent treatment, had successful artificial fertilization with donor gametes with a resultant child/children, which is a very high success rate.

- * Gynaecologists in private practice were mainly responsible for

the treatment of the majority of respondents, followed by the Infertility Clinic at H.F. Verwoerd hospital. The majority were treated by the same gynaecologist each time, while one couple was treated by different gynaecologists each time. Continuity was of importance amongst these respondents. Treatment was performed mainly in Pretoria, but also in Johannesburg, Potchefstroom, Pietermaritzburg and Durban. Thus this treatment seemed to take place mainly in private practice, with patients being private and paying for this expensive treatment themselves.

- * Not one of the husbands was physically present in the room where the treatment was performed, but they were either in the waiting room or waiting outside. This was because they did not want to be present or because the gynaecologist performing the treatment did not allow them to be present. Thus the husbands were excluded from the actual treatment procedure, which could have long-term negative effects on them. These gynaecologists thus need to develop insight on the importance of the husband's presence during treatment and to be more open about allowing them to be present.
- * Only 2 respondents had intercourse directly after the treatment procedure, which they motivated as: "It was for our conscience." They had felt guilty and awkward about the situation and having had intercourse made them feel better about it. The majority did thus not have a need for intercourse after treatment.
- * The duration of the pregnancy with the 9 respondents who had a positive pregnancy test, was a full-term pregnancy for 5 of the respondents, a seven-month pregnancy for 2 respondents with the resultant premature birth of their twins and a miscarriage at 6 weeks gestation for 2 respondents. The majority of respondents experienced no complications or abnormalities with the pregnancy or baby, whilst 3 did. Thus the pregnancies and babies seemed to be within a normal range.
- * Information on the donor, that is, non-identifying information, was not provided to the majority of respondents who underwent

treatment and not to any of those respondents who had successful treatment. The gynaecologists and reproductive biologists at the sperm bank were therefore very conservative in this regard and need to be enlightened on the need some couples have for such information. Most of the respondents who had successful treatment, had a need to know the donor's occupation, where he came from in South Africa and what type of personality or nature he has.

* The births of these babies or the first child, took place within 1 to 2 years after undergoing the preparation session. The majority were born in a provincial hospital and the births took place in Johannesburg, Potchefstroom, Upington and Trichardt. The majority of respondents had a caesarean or epidural caesarean, with one respondent delivering by means of natural birth. The majority of deliveries was performed by the patients' general practitioner, with only 2 patients remaining with the gynaecologist who had performed the treatment. The trend was to go to a doctor other than the treatment doctor and in their own home-town. This could most probably be attributed to their not wanting anyone to know of the origin of their baby. The majority stated that they had told the delivery doctor about the donor origin of their child. It was, however, difficult to determine whether this was true or whether they had kept it a secret from this doctor.

* A total of 6 children were born by means of artificial fertilization with donor gametes, of which 3 were boys and 3 were girls. One boy died at the age of 8 months due to a severe abnormality and complications, while one child had a minor abnormality which was corrected by means of surgery. Thus the abnormality rate was slightly high. All 5 the remaining children were reported to be healthy at present. The respondents all claimed to have informed the treatment doctor of the birth of their child, for the purposes of registering the birth in the Central Register for artificial fertilization with donor gametes, as prescribed by South African legislation. This could not be verified and one wonders whether they were telling the truth or whether the birth of their donor child has remained a

secret.

- * All the respondents except one were happy with the physical appearance of their child and the recipient-donor matching. This respondent was the one whose child was born with Down's Syndrome and who died at 8 months. The rest of the respondents motivated their happiness being due to the child resembling both parents or one parent and the family and the fact that people had commented on the resemblance. Resemblance with someone in the family was an important factor.

- * From the long-term evaluation of the preparation session the following can be concluded:
 - Feelings of hope and excitement were experienced by the majority of respondents before, during and after the preparation session for artificial fertilization with donor gametes, as respondents were positive towards treatment. The negative and ambivalent feelings were attributed to the uncertainty regarding that which lay ahead, their decision to go ahead with treatment or not and the knowledge they had gained which created some of these feelings.
 - The preparation session was rated on the long-term by the majority of respondents to have had a high value. All the respondents confirmed that such a session was a necessity for all couples planning to undergo artificial fertilization with donor gametes and the majority felt such a session should be compulsory for all such couples.
 - The psycho-social aspects discussed in the preparation session were rated to have had the highest value by the majority of respondents, followed by the legal, medical, religious and ethical-moral aspects. This is a good indication of which aspects were of value to these respondents on the long-term and which should be included in a preparation session.
 - The psycho-social aspects, which had the highest value on the long-term were the discussions on the child, the spouse, the marital relationship, the pregnancy, the self, secrecy and religion. This shows the importance of the preparation on the psycho-social aspects.

- The preparation session was reported by the majority of the respondents to have made them think more realistically about donor treatment, it helped them make their decision to go ahead with treatment and it gave them a more thorough image or perspective of donor treatment. Thus the majority of respondents reported that on the long-term the preparation session made a very positive contribution.

- * The motives of the respondents for artificial fertilization with donor gametes were reported by the majority of respondents to be: a strong desire for a child, the child will be accepted as their own, and that it was due to their biological determination and instinct, they wanted to experience a pregnancy and the child would be 50% blood related. These motives corresponded well with the literature and were therefore normal healthy motives.

- * The psycho-social influence of successful artificial fertilization with donor gametes on couples on the long-term can be concluded as follows:
 - Before treatment the majority felt excited and also had ambivalent feelings about the treatment and the unknown which lay ahead. During treatment mainly positive feelings were experienced due to the positive attitude and hope for a pregnancy. After the pregnancy test results mainly positive feelings were experienced, as well as during the pregnancy and after the birth of the child. Presently, mainly positive feelings were experienced as well as feelings of stress, and some anxiety, depression and isolation. These were ascribed to the secrecy and having nobody to turn to but each other. Thus in general mainly positive feelings were experienced throughout the treatment process, except for before and presently, where some negative feelings were also experienced. This positiveness of the respondents was ascribed to their improved preparedness due to the preparation session.
 - The thoughts experienced by the majority of respondents throughout the treatment process were related to their uncertainty about themselves, their decreased self-worth,

their being accepted by their spouse, being a failure and to blame, as well as whether the correct decision was made. This was attributed to the artificial nature of their treatment and the use of an anonymous donor which evoked these thoughts.

- The influence on the marital relationship was mainly reported to be positive by the majority of respondents throughout the treatment process, except for one respondent who reported increased quarrels, deterioration of sexual relationship, being driven apart, an extramarital affair, separation and divorce. This was the couple who had separated during the pregnancy, later got divorced and of whom the child died at 8 months. In general though, the successful treatment had a positive influence on the marital relationships, which could be ascribed to their being prepared as a result of the preparation session, as well as due to their positive marital relationships.
- The concerns evoked by respondents throughout the treatment process were related to the pregnancy, the birth, abnormalities or complications with the baby and the physical appearance and health of the child. Their ability to love and discipline the child and for the spouse to accept the child as his own, were further concerns. Some of these concerns such as disciplining and communication with the child, the father-child relationship and the fear of people finding out were still persisting presently. Thus artificial fertilization with donor gametes did evoke long-term concerns by these respondents, which is understandable taking the donor, the social parenthood and secrecy into account.
- The donor child evoked thoughts by the respondents related to doubting their decision, fantasizing about the donor, reminding them of their infertility and confirming their inability. Thus they were either disappointed with their decision and the child, or in themselves and their predicament and the child was possibly a slight threat to the husband with his infertility problem. One wonders how happy these couples really are with their child/children and whether these fantasies and constant reminder of the

infertility contributes to affecting the parent-child relationship. Despite this, the majority of respondents were happy with their child and felt they were a real family.

- Relationships which were affected positively by successful treatment in order of priority were: the relationships with colleagues, God, family, spouse and friends. These positive influences on the relationships were ascribed to the positive effect of the pregnancy and birth of a child on these couples, as well as being accepted as a normal family. Thus successful artificial fertilization with donor gametes had a positive long-term effect on relationships.
- The social aspects which were influenced positively by successful artificial fertilization with donor gametes, in order of priority were: housing, work, social life and finances. This was attributed to their having a child and having to improve their housing, and having to become more stable in their work and leading a satisfying social life, being accepted as a normal family with their child. Only their financial situation was least positively affected due to the costs of treatment, pregnancy and raising a child.

* The psycho-social influences of unsuccessful artificial fertilization with donor gametes can be concluded as follows:

- Six respondents had unsuccessful treatment and 6 had no treatment.
- Regarding the feelings experienced after unsuccessful or no treatment, the majority of respondents experienced negative feelings which were ascribed to their dream of having a baby not coming true. Interestingly more females than males responded, showing the females either experiencing it more emotionally or remembering more about their feelings. These feelings showed that these respondents went through a difficult emotional period following their unsuccessful treatment.
- The thoughts experienced by these respondents following unsuccessful or no treatment were mainly negative and linked to their uncertainty regarding their decision, a

decreased self-image and sexual identity, as well as rejection and guilt. It seems as if the same thoughts and experiences linked to coming to terms with their infertility were reawakened by the unsuccessful treatment and they would have to go through the same process of coming to terms with their predicament again.

- The marital relationship was mainly affected positively by the unsuccessful or no treatment and it seemed to have enriched the majority of marital relationships. Only 2 of the respondent experienced a negative influence on their marriage, leading to an extramarital affair and separation and they are presently in the process of divorce.
- The relationships which were affected were only indicated by a few respondents, with mainly a negative influence on firstly the relationships with family, God and their spouse. The reasons were linked to disappointment, rejection and blame as a result of the unsuccessful or no treatment.
- The social aspects were also mainly negatively affected by the unsuccessful or no treatment and only a few respondents responded. Their finances were mostly affected due to the costs of treatment, followed by their work in which they became over-involved and obsessed and their social life which deteriorated as they did not want to go where there were children present.

* Regarding secrecy the long-term experience was concluded as follows by all respondents:

- The majority had told someone about their artificial fertilization with donor gametes. They had told the following persons in this order of priority: maternal father, maternal mother, paternal mother, husband's siblings, paternal father, family, friends, social worker, wife's siblings, doctor, colleagues, maternal grandparents, paternal grandparents and priest/pastor lastly. The wife's parents had been told by more respondents than the husband's parents and the husband's mother was told by more than the husband's father. This was ascribed to the husband's parents, and especially the father being affected more directly in terms of their family name and bloodline.

Thus only a few had maintained a total secret. The reactions of the people who were told were mainly positive and supportive.

- The reasons for not disclosing the secret were because it was private and unnecessary to tell, as people were unaware of their infertility and would assume it was their child with the pregnancy and birth of the child.
- The majority of respondents planned not to tell anyone in the future about their artificial fertilization with donor gametes, as they had no reason to and it was a private matter.
- The secrecy evoked mainly positive feelings, with a few negative feelings and the influence on the marital relationship was mainly positive, as couples felt it brought them closer as they were dependent on each other and more isolated.
- The concerns evoked by the secrecy were about only having each other for mutual support, about the uncertainty related to their decision and how to deal with the situation in the future, if someone found out.
- The majority of respondents planned not to tell the child, as they had accepted the child as their own and were afraid that it would affect their relationship, while others said they would tell, depending on the circumstances.
- The majority of respondents felt that they would not tell again if they could have the situation over again.

* Concerning the evaluation of the professional services on the long-term the following is concluded:

- Respondents valued the services of these different professions involved in their treatment highly in the following order of priority: medical doctor, social worker, laboratory personnel and nurse.
- Respondents recommended that the medical doctor should: provide non-identifying information on the donor, do a more thorough infertility evaluation, never take away their hope and break the news of the diagnosis in a more gentle, subtle and tactful manner.
- Respondents recommended the following regarding the social

worker: the preparation session with the social worker is a necessity for all couples; they needed the information and knowledge to discuss uncertainties in order to make a better decision; regular follow-up contact with the social worker, as there is a need for regular support and contact; the social worker should be available when you have a need to talk to provide advice and support; the social worker should help couples through the decision-making process with a counselling session to provide sufficient information and guidance; and should follow-up after successful and unsuccessful treatment.

- All the respondents regarded the social work preparation session and counselling for couples undergoing this treatment a necessity.
- Respondents expressed a need for social work counselling and support at the following stages of the treatment process, in order of priority:
 - . After donor infertility treatment was recommended.
 - . After unsuccessful treatment.
 - . The preparation before treatment.
 - . While in the decision-making process.
 - . After the infertility diagnosis was made.
 - . During treatment.
 - . After the preparation session.
 - . After the miscarriage.
 - . Directly after the birth of the child.
 - . After the decision was made to go ahead with treatment.
 - . After the decision was made deciding against treatment .
 - . After successful treatment.
 - . During the pregnancy.
 - . During the first few months at home with the baby.
 - . Presently.
 - . Before the birth.

Thus social work counselling was recommended throughout the treatment process.

* The majority of respondents would not consider artificial

fertilization with donor gametes again, while those who would, wanted another child, but with the same donor.

- * The majority of respondents were not considering other alternatives, some were considering adoption, while one was happy to remain childless.

- * Concerning the case studies on the 4 couples who had successful artificial fertilization with donor gametes, the following conclusions are made: Two of the couples (B and C) were very happy with their child/children, it had a positive effect on their marital relationship and they were leading happy, normal family lives. The one couple had maintained an open attitude about secrecy, telling family, close friends and the child, while the other couple had told nobody and were also not planning to tell their 2 sons. One couple (A) was happy with their twin girls, but it had affected their marital relationship and them as individuals and they were living isolated lives. Only the husband's brother and wife knew and they were not planning to tell their 2 daughters. One couple (D) had had a very sad and traumatic experience, separating during the pregnancy, getting divorced after the birth of the child, who was born with Down's Syndrome and other complications and the child died at 8 months. Mr D was still suffering from long-term psycho-social implications. Thus successful artificial fertilization with donor gametes had mainly positive psycho-social influences on 4 respondents, negative and positive influences on 2 respondents and severe negative influences on 1 respondent.

- * Concerning the case studies on the 3 couples who had unsuccessful artificial fertilization with donor gametes, the following conclusions are made: Two of the couples (E and F) experienced positive psycho-social influences on their marital relationship and were leading happy family lives with their adopted child. They experienced a few negative psycho-social implications as a result of their unsuccessful treatment. The other couple (G) had suffered various negative psycho-social implications leading to an extramarital affair and separation and is presently in the

process of divorce. Thus unsuccessful artificial fertilization with donor gametes had definite negative psycho-social influences on the one couple, and both positive and negative influences on the other 2 couples, who were now leading happy lives with their adopted child.

* Concerning the case studies of the 3 couples who decided against artificial fertilization with donor gametes, the following is concluded: One couple (H) of which the husband was a paraplegic, had suffered some unfortunate circumstances, forcing them to decide against treatment and to remain childless. They suffered some negative psycho-social influences, as well as some positive influences and were leading a reasonably happy married life without children. Mrs (H) had suffered the most negative psycho-social implications and still had a strong desire for a child, but Mr H was adamant that they would remain childless. One couple (I) had a sudden miraculous spontaneous pregnancy soon after deciding against treatment and was very happy with their own biological son and were leading a happy normal family life. They felt they experienced only positive psycho-social influences as a result of their decision. The only negative implication was that they had disclosed their plans for treatment to everyone initially and after the sudden birth of their son, nobody believed that it was their own child, and thought Mrs I was unfaithful. The other couple (J) had decided against donor treatment and tried treatment with their own gametes once more with success and gave birth to a twin boy and girl. Two years later they had a miraculous spontaneous pregnancy and a girl was born. This family was leading a very happy, normal family life with their 3 biological children and felt they had experienced only positive influences as a result of their decision. Thus deciding against artificial fertilization with donor gametes had negative and positive psycho-social influences on one couple and only positive psycho-social influences on the two other couples. The one couple, however, as a result of disclosing their plans experienced some negative effect, where people did not believe it was their own child.

* The hypothesis for this empirical study: **Hypothesis 3:** If

couples undergo artificial fertilization with donor gametes, they will experience long-term psycho-social implications was supported by the findings of this empirical study.

9.8.3 Recommendations

- * It is recommended, as requested by the respondents, that the medical doctor should break the news of the infertility diagnosis in a more subtle, gentle and tactful manner and that the couple's hope should never be taken away completely, but that the slight chance of a pregnancy ever occurring is still mentioned.
- * Couples requesting artificial fertilization with donor gametes should be married for a few years and be of a more mature age before being accepted for treatment, so that their marital relationship is more stable and they are mature enough and more prepared for this demanding and more complicated biological and social parenthood.
- * Couples should have reasonable qualifications of at least standard 8 and higher, so as to be able to understand this form of treatment, all the medical, legal, ethical-moral, religious and psycho-social aspects involved, as well as the possible implications and how to deal with them.
- * The motives of recipient couples for wanting to undergo artificial fertilization with donor gametes should be assessed and discussed prior to making a decision and undergoing treatment.
- * A preparation session is recommended, as it helped the respondents in this study to make their decision, to be more realistic, to have a thorough perspective of artificial fertilization with donor gametes and it also revealed aspects they were unaware of.
- * The preparation session is recommended as a necessity for all couples planning to undergo artificial fertilization with donor gametes and should be compulsory and a prerequisite for

treatment, as recommended by respondents in this study. A preparation session must include sufficient information on the psycho-social aspects, the legal, medical, religious and ethical-moral aspects, as was also recommended in order of priority by the respondents in this study. The psycho-social aspects discussed in the preparation session should include thorough discussions on the following aspects as recommended by the respondents in this study: the influences on the child, the spouse, the marital relationship, the pregnancy, the self, secrecy and religion.

- * The discussion of the psycho-social aspects during the preparation session should include a thorough discussion of: the feelings or emotions that could be evoked throughout the treatment process, the thoughts they could experience, the possible influence on themselves and their marital relationship, the concerns they might have, the child, and the possible effect the child could have on them, the influence on relationships with others and on social aspects in their lives, as well as the influence of secrecy. This discussion on secrecy should concentrate on: to whom they will disclose the secret and why, whom they will tell and why, why they will not tell anybody, the reactions of people they tell, telling the child or not and why and when, and the possible implications secrecy could lead to.

- * Couples should be made realistically aware of the success rate of artificial fertilization with donor gametes and the fact that they might have to undergo a few treatment attempts without success or even with success and could then still have the remote chance of miscarriage.

- * Recipient couples should be informed of the possibility of abnormalities at birth by the donor child, being the same as that of natural biological children and that there is no need to be alarmed at an increased abnormality rate.

- * Recipient couples should be made aware of the fact that the physical resemblance of the child to them, is not the most important aspect, but also the nature of the child, interests

and smaller physical characteristics. Many natural biological children do not resemble their parents either and nobody is concerned. It is only due to the recipient parents being sensitive about people finding out, that the resemblance becomes so important to them, and they should be enlightened on this.

- * Recipient couples should be informed that they could experience many mixed and negative feelings following the preparation session, as they become more knowledgeable and realistic about the treatment and uncertain about their decision.

- * As the majority of couples were treated by private gynaecologists, it is important that gynaecologists are informed of the importance of the holistic preparation of these couples regarding the medical, legal, ethical-moral, religious and psycho-social aspects. These couples should be referred to a professional in private practice who is specialized in this field, such as a medical social worker, who can prepare them in a preparation session as recommended in the guideline in Chapter 8.

- * Couples planning to undergo artificial fertilization with donor gametes should be encouraged to make their decision over a period of at least 3 months, so as to enable them to make a thorough joint-decision.

- * Gynaecologists, andrologists and reproductive biologists should be informed of the importance of providing recipient couples with some non-identifying information on the donor and vice versa, as this could help to fulfil this need they have to know something about this person and could help to reduce the fantasizing.

- * Gynaecologists should be enlightened on the importance of the presence of the husband during the actual treatment procedure such as AID, so as to feel a part of the conception and be involved and supportive to the wife from the start. The presence of the husband during the treatment procedure is thus strongly recommended.

- * Gynaecologists should be made aware of the fact that most of these couples disappear after treatment to a doctor of their choice, closer to home, who most probably knows nothing of their treatment. This doctor then usually monitors the pregnancy and performs the delivery of the baby, often unaware of the donor origin of the child. These couples then do sometimes not even inform the gynaecologist of the birth of their child for registration purposes as required by South African legislation. Gynaecologists should find some way of keeping these patients or maintaining regular contact with them telephonically at least.

- * An inter-disciplinary team approach is recommended for artificial fertilization with donor gametes. Respondents in this study valued the services of the following team members most, in order of priority: the medical doctor, the social worker, the laboratory personnel and the nurse. Infertility Clinics should have an inter-disciplinary team consisting of these team members, while private gynaecologists do not. In such instances the recipient couples should be referred to these professionals in private practice, specializing in this field.

- * The services of a medical social worker in an artificial fertilization with donor gametes treatment programme are recommended, whether part of the team or referred to in private practice. This is essential as respondents in this study valued the preparation session of a social worker very highly and recommended counselling throughout the entire treatment process.

- * Long-term social work counselling of couples undergoing artificial fertilization with donor gametes is recommended throughout the whole treatment process. Respondents in this study recommended the need for social work counselling in every stage of treatment, as discussed in Chapter 7 and Chapter 8.

- * Research is recommended to determine the long-term psycho-social implications of artificial fertilization with female donor gametes and surrogate motherhood, whether successful or unsuccessful, to compare to the findings of this study with male

donor gametes.

- * More research with a much larger research population over a similar long-term period is recommended, to determine the long-term psycho-social implications of artificial fertilization with male and female donor gametes, whether successful or unsuccessful, so as to be able to make conclusions to support this study and regarding the general population.

- * Research is recommended to determine the long-term psycho-social implications on donors, whether male or female, of donating gametes for an artificial fertilization with donor gametes programme.

9.9 A MEDICAL SOCIAL WORK GUIDELINE FOR THE PREPARATION AND COUNSELLING OF COUPLES UNDERGOING ARTIFICIAL FERTILIZATION WITH DONOR GAMETES

9.9.1 Summary

Chapter 8 focussed on the medical social work guideline for the preparation and counselling of couples undergoing artificial fertilization with donor gametes and consisted of the following: the definitions of key concepts, a medical social work guideline for the holistic preparation of couples for artificial fertilization with donor gametes, including the administrative aspects of the preparation session and the contents of the preparation session for artificial fertilization with donor gametes. Subsequently a medical social work guideline for the counselling of couples undergoing artificial fertilization with donor gametes was provided, including the assessment and selection stage, the preparation stage, the decision-making stage, the treatment stage, the pregnancy and childbirth stage and the family stage.

This chapter fulfilled the final part of Aim 1 of this study: To develop, implement, evaluate and describe a guideline for the holistic preparation of couples for artificial fertilization with donor gametes. The objective fulfilled in this chapter was: To describe and provide a medical social work guideline for the holistic

preparation of couples for artificial fertilization with donor gametes. This chapter also fulfilled Aim 3 of this study: To provide a medical social work guideline for the counselling of couples undergoing artificial fertilization with donor gametes.

9.9.2 Conclusions

- * The holistic preparation of couples for artificial fertilization with donor gametes is proposed in this study as being imperative and a definite prerequisite for couples undergoing this form of treatment.
- * Both the short-term evaluation of the preparation session in Chapter 6 and the long-term evaluation in Chapter 7 reflected a high value rating and stressed the necessity of the preparation session for couples planning to undergo artificial fertilization with donor gametes.
- * The preparation session is essential as it helped the respondents to gain more knowledge on all the aspects, it helped them to have a more thorough and realistic perspective and helped to be able to make an informed decision.
- * The preparation session, as proposed in Chapter 8, should consist of a thorough discussion of the infertility diagnosis and motives for choosing this alternative, the medical, legal, ethical-moral, religious and psycho-social aspects of artificial fertilization with donor gametes, and should be a half-day session with both the recipient husband and wife present.
- * A thorough knowledge of the medical, legal, ethical-moral, religious and psycho-social aspects of artificial fertilization with donor gametes, as discussed in Chapters 2 to 5, is essential to be able to perform the preparation session.
- * The medical social work counselling of couples undergoing artificial fertilization with donor gametes is essential, as a definite need was reflected by the respondents in the study in Chapter 7, for counselling throughout all the stages of treatment. Medical social work counselling should be provided

during the following stages as proposed in Chapter 8: The assessment and selection stage, the preparation stage, the decision-making stage, the treatment stage, the pregnancy and childbirth stage and the family stage.

- * A thorough knowledge of firstly the psycho-social aspects, as discussed in Chapter 5, is essential in order to provide counselling services, but also a knowledge of the medical, legal, ethical-moral, religious and psycho-social aspects of artificial fertilization with donor gametes, as discussed in Chapters 2 to 5, as these aspects are also often referred to in the entire treatment process.

9.9.3 Recommendations

- * The holistic preparation of all couples planning to undergo artificial fertilization with donor gametes is recommended as a compulsory prerequisite for this treatment, so as to standardize the quality and efficiency of this service for couples throughout South Africa.
- * A half-day preparation session is recommended as the ideal, and should include thorough discussions of: the infertility diagnosis and motives for choosing this alternative; and the medical, legal, ethical-moral, religious and psycho-social aspects of artificial fertilization with donor gametes as proposed in the guideline for preparation in Chapter 8.
- * A thorough knowledge of all the medical aspects regarding infertility and artificial fertilization with donor gametes, as well as of the legal, ethical-moral, religious and psycho-social aspects of artificial fertilization with donor gametes, is recommended as a prerequisite to perform this preparation session and is available in Chapters 2 to 5 of this thesis, which can be utilized as a knowledge resource.
- * Long-term medical social work counselling is recommended for couples undergoing artificial fertilization with donor gametes and should occur in the following stages as recommended in the guideline in Chapter 8: The assessment and selection stage, the

preparation stage, the decision-making stage, the treatment stage, the pregnancy and childbirth stage, and the family stage.

- * A thorough knowledge of the psycho-social aspects especially, as discussed in Chapter 5, is recommended before providing counselling services throughout these treatment stages. A thorough knowledge of the medical, legal, ethical-moral, religious and psycho-social aspects as required for the preparation session, is also recommended, as provided in Chapter 2 to 5, as these aspects are also referred to in the entire treatment process during counselling.
- * The contents of this entire thesis are thus recommended as a resource for the knowledge which all team members working with couples undergoing artificial fertilization with donor gametes should acquire, and which must be a prerequisite for the medical social worker to be able to perform the preparation session, as well as to provide long-term counselling services throughout the entire treatment process.
- * Gynaecologists in private practice should be educated by means of seminars and literature, on the importance of a thorough holistic preparation of all couples planning to undergo artificial fertilization with donor gametes, as well as the importance of the long-term counselling of these couples and should be encouraged and urged to refer these couples to a medical social worker in private practice specializing in this field. The use of other team members where necessary, should also be encouraged, so as to strive for a holistic team approach.
- * Infertility clinics should have a medical social worker as part of their inter-disciplinary team and should strive for a holistic approach. The task of the medical social worker should specifically be the implementation of the preparation session for couples planning to undergo artificial fertilization with donor gametes on a routine basis and long-term counselling services for all these couples throughout the entire treatment process.

- * The medical social work guideline for the holistic preparation and counselling of couples undergoing artificial fertilization with donor gametes, as provided in Chapter 8, is recommended to be implemented by social workers specializing in this field.
- * Research is recommended on the effectiveness of long-term psycho-social counselling of these couples throughout the entire treatment process.
- * Research is recommended on the need amongst donors for long-term counselling services.

9.10 CLOSING STATEMENT

Artificial fertilization with donor gametes is an alternative available for infertile couples to experience a pregnancy and give birth to a child, who will at least be fifty percent blood related, other than adoption. It is an expensive and mostly a private health service which these couples, who are so desperate to have a child, are willing to pay for. They should be provided with the opportunity of utilizing quality services and should be provided with a holistic inter-disciplinary team approach and treatment plan. These couples requesting artificial fertilization with donor gametes should be thoroughly and holistically prepared for this form of treatment as a standard, compulsory procedure. It is essential that these couples undergo a holistic preparation session for artificial fertilization with donor gametes, so as to help them gain knowledge and be more realistic about this form of treatment. The contents of such a holistic preparation session, as proposed in this study, should include a thorough discussion of the medical, legal, ethical-moral, religious and psycho-social aspects of artificial fertilization with donor gametes and should be implemented over a half-day session with both husband and wife present. This will enable them to gain sufficient information to enable them to make an informed decision. This decision should be a joint-decision and should be made over a period of at least 3 months. Only then should treatment commence. These couples should be followed-up on a regular basis and receive long-term counselling services throughout the entire treatment process, until their baby is born and thereafter as an "artificial

family." These couples are entitled to a family and should be granted the opportunity of becoming one. A more open and positive attitude is necessary for these families to live a normal family life and they should be provided with quality professional services, as they have waited, planned and wanted this child and prepared for parenthood for so long, that they deserve their special child. Improved, quality-efficient, holistic inter-disciplinary services are therefore essential for all these couples.

BIBLIOGRAPHY

- Abel, J. 1984. Artificial reproduction: Unrestrictive guidelines for UK. *Nature*. Vol. 309, 21 June: 662-663.
- Abramson, M. & Black, R.B. 1985. Extending the boundaries of life: Implications for practice. *Health & Social Work*, 10(3):165-173.
- Ackman, C.F.D. & Rioux, J.E. 1980. Artificial insemination and the genetic defect crisis: a review of quality control and crisis management. In David, G. & Price, W.S. (Eds.) *Human artificial insemination and semen preservation*. New York: Plenum Press: 447-451.
- Aitken, R.J. 1986. Use of sperm-ova penetration tests to evaluate the infertile couple. In Santen, R.J. & Swerdloff, R.S. (Eds.) *Male reproductive dysfunction*. New York: Marcel Dekker, Inc.: 267-294.
- Albanese, F. 1980. Artificial insemination: Is there a movement towards a European legislation? In David, G. & Price, W.S. (Eds.) *Human Artificial Insemination and semen preservation*. New York: Plenum Press: 479-483.
- Alexandre, C. 1980. Difficulties encountered by infertile couples facing AID. In David, G. & Price, W.S. (Eds.) *Human artificial insemination and semen preservation*. New York: Plenum Press: 431-434.
- Alkani, M.; Adler, A.; Reing, A.M.; Malter, H.E. & Cohen, J. 1992. Subzonal sperm insertion and the frequency of gamete fusion. *Journal of Assisted Reproduction & Genetics*. Vol. 9(2), April: 97-101.
- Allen, D.G.; Alperstein, A., & Tsalacopoulos, G. 1985. Artificial insemination by donor at Groote Schuur Hospital. *S.A. Medical Journal*. Vol. 67, 23 February: 284-287.
- Amelar, R.D.; Dubin, L.; Gordon, J. & Tendler, M.D. 1977. Male infertility practice and Orthodox Jewish Law. *Urology*. Vol. 10(2), August: 177-181.
- Amuzu, B.; Laxova, R. & Shapiro, S.S. 1990. Pregnancy outcome, health of children and family adjustment after donor insemination. *Obstetrics and Gynecology*. Vol. 75(6), June: 899-905.
- Andrews, L.B. 1987. Ethical and legal aspects of in-vitro fertilization and artificial insemination by donor. *Urologic Clinics of North America*. Vol. 14(3), August: 633-642.
- Annas, G.J. & Elias, S. 1989. The treatment of infertility: Legal and ethical concerns. *Clinical Obstetrics and Gynecology*. Vol. 32(3), September: 614-621.
- Annas, G.J. 1981. Fathers anonymous: Beyond the best interests of the sperm donor. *Child Welfare*. Vol. 60(3), March: 161-175.
- Arkava, M.L. & Lane, T.A. 1983. *Beginning social work research*. Boston: Allyn & Bacon Inc.
- Artificial Insemination.** 1985. One day seminar, CSIR Conference Centre, 27 May, Pretoria.

Artificial Methods of reproduction. 1988. Seminar held at the NG Church, Garsfontein, 26 January, Pretoria.

Asch, R.H.; Ellsworth, L.R.; Balmaceda, J.P. & Wong, P.C. 1984. Pregnancy after translaparoscopic gamete intrafallopian transfer (Letter). *The Lancet*. Vol. 2(8410): 1034-1035.

Asch, R.H.; Balmaceda, J.P.; Ellsworth, L.R. & Wong, P.C. 1986. Preliminary experiences with gamete intrafallopian transfer (GIFT). *Fertility and Sterility*. Vol. 45(3), March: 366-371.

Ashwood-Smith, M.J. & Simons, R. 1987. The freezing of early human embryos and blastocysts. In Feichtinger, W. & Kemeter, P. (Eds.) *Future aspects in human in vitro fertilization*. Berlin: Springer-Verlag: 97-100.

Babbie, E. 1992. *The practice of social research*, 6th Edition. Belmont, California: Wadsworth Publishing Co.

Bailey, G. 1982. Sexual dysfunction in the male patient with chronic renal failure. In Bennett, A.H. (Ed.) *Management of male impotence*. Baltimore: Williams & Wilkins: 173-180.

Bailey, K.D. 1987. *Methods of social research*, 3rd Edition. New York: The Free Press.

Bain, J.; Schill, W.B. & Schwarzstein, L. (Eds.) 1982. *Treatment of male infertility*. Berlin: Springer-Verlag.

Baker, H.W.G.; Burger, H.G.; De Kretser, D.M. & Hudson, B. 1986. Relative incidence of etiological disorders in male infertility. In Santen, R.J. & Swerdloff, R.S. (Eds.) *Male reproductive dysfunction*. New York: Marcel Dekker, Inc.: 341-372.

Balasz, J.; Pumarola, T.; Jové, I.C.; Coll, O. & Vanrell, J.A. 1991. Prevalence of human immunodeficiency virus in an infertile population. *Fertility and Sterility*. Vol. 56(6), December: 1025-1027.

Bandhauer, K. 1982b. Impotence. In Bandhauer, K. & Frick, J. (Eds.) *Disturbances in male fertility*. Berlin: Springer-Verlag: 401-411.

Bandhauer, K. 1982a. Male fertility disorders - History and clinical examination. In Bandhauer, K. & Frick, J. (Eds.) *Disturbances in Male fertility*. Berlin: Springer-Verlag, 195-201.

Bandhauer, K. & Frick, J. (Eds.) 1982. *Disturbances in male fertility*. Berlin: Springer-Verlag.

Barkay, J. & Zuckerman, H. 1980. AID and sperm bank development in Israel. In David, G. & Price, W.S. (Eds.) *Human Artificial Insemination and semen preservation*. New York: Plenum Press: 45-50.

Barkay, J. & Zuckerman, H. 1982. Cryopreservation and Insemination. In Bain, J.; Schill, W.B. & Schwarzstein, L. *Treatment of Male Infertility*. Berlin: Springer-Verlag: 263-282.

Barker, G.H. 1980. *Infertiliteit*. Pretoria: Femina.

- Barker, R.L. 1991. *The Social Work Dictionary*, 2nd Edition. U.S.A.: NASW Press.
- Barlow, P.; Van der Zwalmen, P.; Delvigne, A.; Van Hoeck, J.; Schoysman, R. & Leroy, F. 1992. Assistance in human oocyte fertilization using micromanipulation. *Revue Medicale De Bruxelles*. Vol. 13(1-2), January/February: 13-19.
- Barratt, C.L.R.; Chauhan, M. & Cooke, I.D. 1990. Donor insemination - a look to the future. *Fertility and Sterility*. Vol. 54(3), September: 375-385.
- Barratt, C.L.R.; Chauhan, M.; Cooke, S. & Cooke, I.D. 1990. Donor rejection. *Fertility and Sterility*. Vol. 54(1), July: 181-182.
- Bartlett, J.A. 1991. Psychiatric issues in non-anonymous oocyte donation. Motivations and expectations of women donors and recipients. *Psychosomatics*. Vol. 32(4), Fall:433-437.
- Barwin, B.N. 1986. Artificial Insemination. In Paulson, J.D.; Negro-Vilar, A.; Lucena, E. & Martini, L. (Eds.) *Andrology: Male fertility and sterility*. Orlando: Academic Press, Inc.: 461-474.
- Beaurepaire, J.; Jones, M.; Thiering, P.; Saunders, D. & Tennant, C. 1994. Psychosocial adjustment to infertility and its treatment: male and female responses at different stages of IVF/ET treatment. *Journal of Psychosomatic Research*. Vol. 38(3), April: 229-240.
- Beck, W.W. 1983. Artificial Insemination and semen preservation. In Lipshultz, L.I. & Howards, S.S. (Eds.) *Infertility in the male*. New York: Churchill-Livingstone: 381-391.
- Behrman, S.J. 1979. Artificial insemination. *Clinical Obstetrics and Gynecology*. Vol. 22(1), March: 245-253.
- Behrman, S.J.; Kistner, R.W. & Patton, G.W. (Eds.) 1988. *Progress in infertility*, 3rd Edition. Boston: Little, Brown & Co.
- Beier, H.M. & Lindner, H.R. (Eds.) 1983. *Fertilization of the human egg in vitro*. Berlin: Springer-Verlag.
- Bell, J.S. 1983. Psychological aspects. In Hargreave, T.B. (Ed.) *Male Infertility*. Berlin: Springer-Verlag: 46-55.
- Belsey, M.A. 1976. The epidemiology of infertility: A review with particular reference to sub-Saharan Africa. *Bulletin: World Health Organization (WHO)*. Vol. 54: 319.
- Belsey, M.A.; Eliasson, R.; Gallegos, A.J.; Moghissi, K.S. & Prasad, M.B.N. 1980. *Laboratory manual for the examination of human semen and semen-cervical mucus interactions*. Singapore: Press Concern.
- Bennett, A.H. (Ed.) 1982. *Management of male impotence*. Baltimore: Williams & Wilkins.
- Bennett, A.H. 1982. Organic causes of impotence: Surgical. In Bennett, A.H. (Ed.) *Management of male impotence*. Baltimore: Williams & Wilkins: 135-142.

- Benson, G.S. & McConnell, J.A. 1983. *Erection, emission and ejaculation: Physiological mechanisms*. In Lipshultz, L.I. & Howards, S.S. (Eds.) *Infertility in the male*. New York: Churchill Livingstone: 165-186.
- Berger, D.M. 1974. *Psychological assessment of the infertile couple*. *Canadian Family Physician*. Vol. 20: 89-90.
- Berger, D.M. 1980. *Infertility: A psychiatrist's perspective*. *Canadian Journal of Psychiatry*. Vol. 25(7): 553-559.
- Berger, D.M. 1982. *Psychological aspects of donor insemination*. *International Journal of Psychiatry in Medicine*. Vol. 12(1): 49-57.
- Berger, D.M.; Eisen, A.; Shuber, J. & Doody, K.F. 1986. *Psychological patterns in donor insemination couples*. *Canadian Journal of Psychiatry*. Vol. 31(9), December: 818-823.
- Berk, A. & Shapiro, J.L. 1984. *Some implications of infertility on marital therapy*. *Family Therapy*. Vol. 11(1): 37-47.
- Bernstein, J.; Mattox, J.H. & Kellner, R. 1988. *Psychological status of previously infertile couples after a successful pregnancy*. *Journal of Obstetric, Gynecologic & Neonatal Nursing*. November/December: 404-408.
- Berry, W.R.; Gottesfeld, R.L.; Alter, H.J. & Vierling, J.M. 1987. *Transmission of Hepatitis B virus by artificial insemination*. *Journal of the American Medical Association (JAMA)*. Vol. 257(8), February: 1079-1080.
- Betz, G. 1983. *Evaluation of the female*. In Lipshultz, L.I. & Howards, S.S. (Eds.) *Infertility in the male*. London: Churchill Livingstone: 315-342.
- Black, J.A. & Champion, D.J. 1983. *Methods and issues in social research*. New York: Wiley.
- Blanchet, K.D. 1988. *AIDS : A health care management response*. Maryland: Aspen Publishers.
- Blasco, L. 1981. *Clinical evaluation of sperm transport through the cervical canal*. In Cortés-Prieto, J.; Camos da Paz, A. & Neves-e-Castro, M. (Eds.) *Research on fertility and sterility*. Lancaster: MTP Press Ltd.: 245-267.
- Blaser, A.; Maloigne-Katz & Gigon, U. 1988. *Effect of artificial insemination with donor semen on the psyche of the husband*. *Psychotherapy and Psychosomatics*. Vol. 49: 17-21.
- Bloom, M. 1986. *The experience of research*. New York: MacMillan Publishing Co.
- Bloom, M. & Fischer, J. 1982. *Evaluating practice: Guidelines for the accountable professional*. Englewood Cliffs, New Jersey: Prentice-Hall, Inc.

- Bollen, N.; Camus, M.; Staessen, C.; Tournaye, H.; Devroey, P. & Van Steirteghem, A.C. 1991. The incidence of multiple pregnancy after in vitro fertilization and embryo transfer, gamete or zygote intrafallopian transfer. *Fertility and Sterility*. Vol. 55(2), February: 314-318.
- Bongers, M.Y.; Bernardus, R.E.; Schoemaker, J. & Vermeiden, J.W.P. 1991. Peritoneal oocyte and sperm transfer: a prospective pilot study. *Fertility and Sterility*. Vol. 56(1), July: 147-148.
- Bordson, B.L. & Leonardo, V.S. 1991. The appropriate upper age limit for semen donors: a review of the genetic effects of paternal age. *Fertility and Sterility*. Vol. 56(3), September: 397-401.
- Brahams, D. 1983. In-vitro fertilization and related research. Why Parliament must legislate. *The Lancet*. September 24: 726-729.
- Brand, H.J. 1987. Complexity of motivation for artificial insemination by donor. *Psychological reports*. Vol. 60: 951-955.
- Brand, H. & Saayman, E. 1986. *Standpunte rondom kunsmatige skenkerinseminasie*. Stellenbosch: Universiteit-Uitgewers en boekhandelaars.
- Braude, P.; Johnson, M.H. & Aitken, R.J. 1990. Human Fertilization and Embryology Bill goes to report stage. *British Medical Journal*. Vol. 300, 2 June:1410-1412.
- Braverman, A.M. & English, M.E. 1992. Creating brave new families with advanced reproductive technologies. *Naacogs Clinical Issues in Perinatal and Womens Health Nursing*. Vol. 3(2): 353-363.
- Bray, M.A.; Soltes, B.; Clarke, L.; Minkoff, H.; Sierra, M.P. & Reyes, F.I. 1991. Human immunodeficiency virus - 1 infection in an infertile population. *Fertility and Sterility*. Vol 56(1), July: 16-19.
- Brewaeys, A.; Ponjaert-Kristoffersen, I.; Van Steirteghem, A.C. & Devroey, P. 1993. Children from anonymous donors: an inquiry into homosexual and heterosexual parents' attitudes. *Journal of Psychosomatic Obstetrics and Gynaecology*. Vol. 14, Supplement: 23-35.
- Bromwich, P.; Kilpatrick, M. & Newton, J.R. 1978. Artificial insemination with frozen stored donor semen. *British Journal of Obstetrics and Gynaecology*. Vol. 85(9), September: 641-644.
- Brown, A.D.G. 1984. Psychosexual problems in infertility. In Harrison, R.F.; Bonnar, J. & Thompson, J.B.W. (Eds.) *Fertility and Sterility*. Boston: MTP Press Ltd.: 377-384.
- Brown, J.B.; Pepperell, R.J. & Evans, J.H. 1980. Disorders of ovulation. In Pepperell, R.J.; Hudson, B. & Wood, C. (Eds.) *The Infertile couple*. Edinburgh: Churchill Livingstone: 7-42.
- Buster, J.E. 1985. Embryo donation by uterine flushing and embryo transfer. *Clinics in Obstetrics and Gynaecology*. Vol. 12(4), December: 815-824.

- Buster, J.E.; Bustillo, M. & Thorneycroft, I.A. 1983a. Non-surgical transfer of an in vivo fertilized donated ovum to an infertility patient. *Lancet*. Vol. i: 816.
- Buster, J.E.; Bustillo, M. & Thorneycroft, I.A. 1983b. Non-surgical transfer of in vivo fertilized donated ova to five infertile women: report of two pregnancies. *Lancet*. Vol. i: 223.
- Bustillo, M. & Buster, J.E. 1987. Nonsurgical ovum transfer: the Harbor-UCLA experience. In Feichtinger, W. & Kemeter, P. (Eds.) *Future aspects in human in vitro fertilization*. Berlin: Springer-Verlag: 122-124.
- Busuttil, A.; Orr, S. & Hargreave, T.B. 1983. Histopathology. In Hargreave, T.B. (Ed.) *Male Infertility*. Berlin: Springer-Verlag: 112-143.
- Cameron, N.M. de S. (Ed.). 1987. *Embryos and Ethics: The Warnock Report in debate*. Edinburgh: Rutherford House Books.
- Campana, A.; Gigon, U.; Maire, M.; Litschgi, P.F.; Tauber, P.F. & Balerna, M. 1982. Results of artificial insemination by donors. In Hafez, E.S.E. & Semm, K. (Eds.) *Instrumental insemination*. The Hague: Martinus Nijhoff Publishers: 175-178.
- Campana, A.; Gigon, U.; Maire, F.; Szalmaj, G. & Wyss, H. 1980. Present status of Sperm Banks in Switzerland. In David, G. & Price, W.S. (Eds.) *Human Artificial Insemination and Semen Preservation*. New York: Plenum Press: 35-40.
- Carbonatto, C. 1991. *Infertility and donor infertility treatment*. Workshop presented for the Catholic Bishops Conference, 2 February, Warmbaths.
- Carbonatto, C.L. 1995. *New reproductive technology with donor gametes: a social work in health care perspective*. Paper presented at the "First international conference on social work in health and mental health care". The Hebrew University of Jerusalem, January, 22-27, Jerusalem, Israel: 53.
- Carr, E.K.; Friedman, T.; Lannon, B. & Sharp, P.C. 1990. The study of psychological factors in couples receiving artificial insemination by donor: a discussion of methodological difficulties. *Journal of Advanced Nursing*. Vol. 15(8), August: 906-910.
- Carter, E.A. & McColdrick, M. 1989. *The family life cycle: A framework for family therapy*. New York: Gardiner Press.
- Centola, G.M.; Mattox, J.H. & Raubertas, R.F. 1990. Pregnancy rates after double versus single insemination with frozen donor semen. *Fertility and Sterility*. Vol. 54(6), December: 1089-1092.
- Cha, K.Y.; Koo, J.J.; Ko, J.J.; Choi, D.H.; Han, S.Y. & Yoon, T.K. 1991. Pregnancy after in vitro fertilization of human follicular oocytes collected from nonstimulated cycles, their culture in vitro and their transfer in a donor oocyte program. *Fertility and Sterility*. Vol. 55(1), January: 109-113.

Chacho, K.J.; Hage, C.W. & Shulman, S. 1991. The relationship between female sexual practices and the development of antisperm antibodies. *Fertility and Sterility*. Vol. 56(3), September: 461-464.

Chalmers, G.L. 1987. The Warnock Report: A view from the other end. In Cameron, N.M. de S. (Eds.) *Embryos and Ethics: The Warnock Report in debate*. Edinburgh: Rutherford House Books: 108-119.

Chan, S.L.; Cunningham, G.R. & Lipshultz, L.I. 1982. Testicular and post-testicular causes of male infertility. In De Vere White, R. (Ed.) *Aspects of male infertility*. Baltimore: Williams & Wilkins: 116-152.

Chang, S.Y.; Soong, Y.K.; Chang, M.Y.; Lin, P.W.; Guu, H.F. & Wang, M.L. 1991. A clinical pregnancy after a simple method of zona cutting, cryopreservation and zygote intrafallopian transfer. *Fertility and Sterility*. Vol. 55(2), February: 420-422.

Children's Status Act, 1987. (Act No. 82 of 1987). Government Gazette. Vol. 268(10974), 14 October: Pretoria: Government Printer.

Christiaens, M. 1988. Artificial insemination by donor and the view of man. *European Journal of Obstetrics & Gynecology & Reproductive Biology*. Vol. 28(4): 347-352.

Christie, G.L. 1980. The psychological and social management of the infertile couple. In Pepperell, R.J.; Hudson, B. & Wood, C. (Eds.) *The infertile couple*. Edinburgh: Churchill Livingstone: 229-247.

Clamar, A. 1980. Psychological implications of donor insemination. *American Journal of Psychoanalysis*. Vol. 40(2): 173-177.

Clark, R.V. & Sherins, R.J. 1986. Use of semen analysis in the evaluation of the infertile couple. In Santen, R.J. & Swerdloff, R.S. (Eds.) *Male reproductive dysfunction*. New York: Marcel Dekker, Inc.: 253-266.

Clayton, C.E. & Kovacs, G.T. 1980. A.I.D. - A pretreatment social assesment. *The Australian and New Zealand Journal of Obstetrics and Gynaecology*. Vol. 20: 208-210.

Clayton, C.E. & Kovacs, G.T. 1982. Aid Offspring - initial follow-up study of 50 couples. *The Medical Journal of Australia*. Vol. 1(8), April 17:338-339.

Cohen, J.; Alikani, M.; Trowbridge, J. & Rosenwaks, Z. 1992. Implantation enhancement by selective assisted hatching using zona drilling of human embryos with poor prognosis. *Human Reproduction*. Vol. 7(5), May: 685-691.

Cohen, L.H. 1995. Embryology, anatomy, physiology and tumour pathology. In Pervan, V.; Cohen, L.H. & Jaftha, T. (Eds.) *Oncology for health-care professionals*. Juta & Co. Ltd.: Kenwyn: 17-157.

- Collins, J.P. 1982. Retrograde ejaculation. In Bain, J.; Schill, W.B. & Schwarzstein, L. (Eds.) **Treatment of male infertility**. Berlin: Springer-Verlag: 177-189.
- Collins, K. 1990. Social work research. In McKendrick (Ed.) **Introduction to social work in South Africa**. Pretoria: Haum Tersiary.
- Comhaire, F.H. 1986a. Evaluation and treatment of varicocele. In Santen, R.J. & Swerdloff, R.S. (Eds.) **Male reproductive dysfunction**. New York: Marcel Dekker, Inc.: 387-406.
- Comhaire, F.H. 1986b. Varicocele and male infertility. In Paulson, J.D.; Negro-Vilar, A.; Lucena, E. & Martini, L. (Eds.) **Andrology : Male Fertility and sterility**. Orlando: Academic Press, Inc.: 253-270.
- Conway, P. & Valentine, D. 1988. Reproductive losses and grieving. In Valentine, D. (Ed.) **Infertility and adoption: A guide for social work practice**. New York: Haworth Press: 43-64.
- Cook, R. 1993. The relationship between sex-role and emotional functioning in patients undergoing assisted conception. **Journal of Psychosomatic Obstetrics & Gynaecology**. Vol. 14(1), March: 31-40.
- Corson, S.L.; Batzer, F.R. & Baylson, M.M. 1983. Donor insemination. **Obstetrics and Gynaecology Annual**. Vol. 12: 283-309.
- Cortés-Prieto, J.; Campos Da Paz, A. & Neves-e-Castro, M. (Eds.) 1981. **Research on fertility and sterility**. Lancaster: MTP Press Ltd.
- Coulam, C.B.; Moore, S.B. & O'Fallon, W. 1988. Investigating unexplained infertility. **American Journal of Obstetrics and Gynecology**. Vol. 158(6), Part 1, June: 1374-1381.
- Council for Science and Society. 1984. **Human Procreation - Ethical aspects of the new techniques**. Oxford: Oxford University Press.
- Council of Europe. 1980. Draft recommendation on artificial insemination of human beings and explanatory report. In David, G. & Price, W.S. (Eds.) **Human Artificial Insemination and semen preservation**. New York: Plenum Press: 615-623.
- Covington, S.N. 1988. Psychosocial evaluation of the infertile couple: Implications for Social Work Practice. In Valentine, D. (Ed.) **Infertility and adoption: A guide for social work practice**. New York: Haworth Press: 21-36.
- Cromie, W.J. 1982. Genital anomalies and their implications on potency. In Bennett, A.H. (Ed.) **Management of male impotence**. Baltimore: Williams & Wilkins: 143-161.
- Crosignani, P.G.; Ragni, G.; Finzi, G.C.L.; De Lauretis, L.; Olivares, M.D. & Perotti, L. 1991. Intraperitoneal insemination in the treatment of male and unexplained infertility. **Fertility and Sterility**. Vol. 55(2), February: 333-337.

- Curole, D.N.; Dickey, R.P.; Taylor, S.N.; Rye, P.H. & Olar, T.T. 1989. Pregnancies in cancelled gamete intrafallopian transfer cycles. *Fertility and Sterility*. Vol. 51(2), February: 363-364.
- Currie-Cohen, M.; Luttrell, L. & Shapiro, S. 1979. Current practice of artificial insemination by donar in the United States. *New England Journal of Medicine*. Vol. 300(11): 585-590.
- Cusine, D.J. 1980. Legal aspects of AID. In David, G. & Price, W.S. (Eds.) *Human artificial insemination and semen preservation*. New York: Flenum Press: 485-489.
- Czyba, J.C. & Chevret, M. 1979. Psychological reactions of couples for artificial fertilization with donor sperm. *International Journal of Fertility*. Vol. 24(4): 240-245.
- D'Andrea, K.G. 1984. The role of the nurse practitioner in artificial insemination. *Journal of Obstetric, Gynecologic and Neonatal Nursing (J.O.G.N.)*. Vol. 13(2), March/April: 75-78.
- Daniels, K.R. 1988. Artificial insemination using donor semen and the issue of secrecy: the views of donors and recipient couples. *Social Science & Medicine*. Vol. 27(4): 377-383.
- Daniels, K.R. 1994. Adoption and donor insemination: factors influencing couples' choices. *Child Welfare*. Vol. 73(1), January/February: 5-14.
- David, A. & Avidan, D. 1976. Afrificial insemination donor: clinical and psychologic aspects. *Fertility and Sterility*. Vol. 27(5), May: 528-532.
- David, G. & Price, W.S. (Eds.) 1980. *Human Artificial Insemination and Semen Preservation*. New York: Plenum Press.
- Davis, D.C. 1987. A conceptual framework for infertility. *Journal of Obstetric, Gynecologic and Neonatal nursing*. Vol. 16(1): 30-35.
- Davis, A.J. & Aroskar, M.A. 1983. *Ethical Dilemmas and Nursing Practice*, 2nd Edition. U.S.A.: Appleton Century-Crofts.
- De Cherney, A.H. (Ed.) 1986. *Reproductive Failure*. New York: Churchill Livingstone.
- De Kretser, D.M.; Temple-Smith, P.D. & Kerr, J.B. 1982. Anatomical and functional aspects of the male reproductive organs. In Bandhauer, K. & Frick, J. (Eds.) *Disturbances in male fertility*. Berlin: Springer-Verlag: 1-131.
- De La Rey, R.P. 1995. Interview with research psychologist, Department of Psychology, University of Pretoria: November 6, Pretoria.
- D'Elicio, G.; Campana, A. & Mornaghini, L. 1980. Psycho-dynamic discussions with couples requesting AID. In David, G. & Price, W.S. (Eds.) *Human artificial insemination and semen preservation*. New York: Plenum Press: 407-412.

- Demyttenaere, K.; Nijs, P.; Steeno, O.; Koninckx, P. & Evers-Kiebooms, G. 1988. Anxiety and conception rates in donor insemination. *Journal of Psychosomatic Obstetrics and Gynaecology*. Vol. 8: 175-181.
- De Vere White, R. (Ed.) 1982. *Aspects of male infertility*. Baltimore: Williams & Wilkins.
- De Vere White, R. & Nagler, H.M. 1982. Endocrinologic causes of male infertility. In De Vere White, R. (Ed.) *Aspects of male infertility*. Baltimore: Williams & Wilkins: 103-115.
- De Wert, D. 1986. Spermadonorschap en anonimiteit. *Nederlands Tydschrift voor Geneeskunde*. Vol. 30(1): 38.
- Devroey, P.; Braeckmans, P.; Smits, J.; Van Waesberghe, L.; Wisanto, A. & Van Steirteghem, A.C. 1986. Pregnancy after translaparoscopic zygote intra-fallopian transfer in a patient with sperm antibodies. *The Lancet*. Vol. i: 329.
- Devroey, P.; Braeckmans, M.; Camus, I.; Khan, J.; Smits, C.; Staessens, E.; Van den Abbeel, L.; Van Waesberghe, A.; Wisanto, A. & Van Steirteghem, A.C. 1987. Pregnancies after replacement of fresh and frozen-thawed embryos in a donation program. In Feichtinger, W. & Kemeter, P. (Eds.) *Future aspects in human in vitro fertilization*. Berlin: Springer-Verlag: 133-137.
- Devroey, P.; Staessen, C.; Camus, M.; De Grauwe, E.; Wisanto, A. & Van Steirteghem, A.C. 1989. Zygote intrafallopian transfer as a successful treatment for unexplained infertility. *Fertility and Sterility*. Vol. 52(2), August: 246-249.
- Dlamini, N. 1982. The psycho-social model. *Social Work/Maatskaplike Werk*. Vol. 18(1), March: 29-32.
- Dodson, W.C. & Haney, A.F. 1991. Controlled Ovarian hyperstimulation and intrauterine insemination for treatment of infertility. *Fertility and Sterility*. Vol. 55(3), March: 457-467.
- Donald, I. 1987. Problems raised by artificial human reproduction. In Cameron, N.M. de S. (Ed.) *Embryos and Ethics: The Warnock Report in debate*. Edinburgh: Rutherford House Books: 74-81.
- Dondero, F. 1982. The role of immunology in infertility. In De Vere White, R. (Ed.) *Aspects of male infertility*. Baltimore: Williams & Wilkins: 153-173.
- Dorland's Medical Dictionary*. 1988. 27th Edition. Philadelphia: W.B. Saunders Co.
- Du Doit, D. 1991. Again: When does life begin? In Van Niekerk, A. (Ed.) *The status of prenatal life*. Cape Town: Lux Verbi: 19-33.
- Du Plessis, J.M.J. 1994. *Die benutting van die enkelstelselontwerp in die maatskaplikewerk-praktyk*. Ongepubliseerde MA (SocSci) Verhandeling. Potchefstroom: Potchefstroomse Universiteit vir Christelike Hoër Onderwys.

- Du Toit, D. 1992. **Interview with Head Spermatologist, Centre for Fertility Studies.** Department of Urology, Faculty of Medicine, University of Pretoria, 23 October, Pretoria.
- Du Toit, D.; Bornman, M.S.; Van der Merwe, M.P.; Du Plessis, D.J. & Oosthuizen, J.M.C. 1993. Differential sperm motility scoring and sperm ATP concentrations. **Archives of Andrology.** Vol. 30: 69-71.
- Edelmann, R.J.; Connolly, K.J. & Bartlett, H. 1994. Coping strategies and psychological adjustment of couples presenting for IVF. **Journal of Psychosomatic Research.** Vol. 38(4), May: 355-364.
- Edvinsson, A.; Forssman, L.; Milsom, I. & Nordfors, G. 1990. Factors in the infertile couple influencing the success of artificial insemination with donor semen. **Fertility and Sterility.** Vol. 53(1), January: 81-87.
- Edwards, R.G. 1980. **Conception in the human female.** New York: Academic Press.
- Elias, S. & Annas, G.J. 1986. Social policy considerations in noncoital reproduction. **Journal of the American Medical Association (JAMA).** Vol. 255(1): 62-69.
- Elstein, M. 1975. Effect of infertility on psychosexual function. **British Medical Journal.** Vol. 3: 296-299.
- Engelhardt, H.T. & Wildes, K.W. 1991. The artificial donation of human gametes. **Baillière's Clinical Obstetrics and Gynaecology.** Vol. 5(3), September: 637-657.
- Englert, Y.; Delvigne, A.; Vekemans, M.; Lejeune, B.; Henlisz, A.; De Maertelaer, G. & Leroy, F. 1989. Is fresh or frozen semen to be used in in vitro fertilization with donor sperm? **Fertility and Sterility.** Vol. 51(4), April: 661-664.
- Englert, Y.; Van den Bergh, M.; Rodesch, C., Van der Vorst, P.; Berberogluligil, P.; Laruelle, C.; Biramane, J.; Gervy, C. & Schwerts, J. 1991. Current program of in vitro fertilization at the Erasmus Hospital: initial results and original ethical aspects. **Revue Medicale De Bruxelles.** Vol. 12(8), October: 305-314.
- Feichtinger, W.; Benkö, I. & Kemeter, P. 1987. Freezing human oocytes using rapid techniques. In Feichtinger, W. & Kemeter, P. (Eds.) **Future aspects in human in vitro fertilization.** Berlin: Springer-Verlag: 101-110.
- Feichtinger, W. & Kemeter, P. (Eds.) 1987. **Future aspects in Human In vitro Fertilization.** Berlin: Springer-Verlag.
- Feichtinger, W.; Strohmer, H. & Radner, K.M. 1992. Erbium (YAG) laser for micro-manipulator of oocytes and spermatozoa. **The Lancet.** Vol. 340(8811), 11 July: 115-116.
- Fenster, H. & McLoughlin, M. 1982. Varicocele: Its role in male infertility. In Bain, J.; Schill, W.B. & Schwarzstein, L. (Eds.) **Treatment of male infertility.** Berlin: Springer-Verlag: 209-220.

- Filicori, M.; Flamigni, C.; Meriggiola, M.C.; Cognigni, G.; Valdiserri, A.; Ferrari, P. & Campaniello, E. 1991. Ovulation induction with pulsatile gonadotropin - releasing hormone: technical modalities and clinical perspectives. *Fertility and Sterility*. Vol. 56(1), July: 1-11.
- Finegold, W.J. 1976. *Artificial insemination*. Springfield, Illinois: Charles C. Thomas.
- Fleming, J. & Burry, K. 1988. Coping with infertility. In Valentine, D. (Ed.) *Infertility and adoption: A guide for social work practice*. New York: Haworth Press: 37-41.
- Fogel, G.I. & Woods, N.F. 1981. *Health care of women*. London: C. V. Mosley Co.
- Friedman, S. 1977. Artificial donor insemination with frozen human semen. *Fertility and Sterility*. Vol. 28(11), November: 1230-1233.
- Friedman, A.J.; Juneau-Norcross, M.; Sedensky, B.; Andrews, N.; Dorfman, J. & Cramer, D.W. 1991. Life table analysis of intrauterine insemination pregnancy rates for couples with cervical factor, male factor, and idiopathic infertility. *Fertility and Sterility*. Vol. 55(5), May: 1005-1007.
- Frydman, R.; Letur-Konirsch, H.; Du Ziegler, D.; Bydlowski, M.; Raoul-Duval, A. & Selva, J. 1990. A protocol for satisfying the ethical issues raised by oocyte donation: the free, anonymous, and fertile donors. *Fertility and Sterility*. Vol. 53(4), April: 666-672.
- Funnel, V.; Levin, T. & Hochstadter, S. 1990. A systems approach to working individuals, families and teams: A training course for social workers in Provincial Hospitals settings. *Maatskaplike Werk/Social Work*. Vol. 26(4), October: 367-371.
- Garner, C.H. 1985. Pregnancy after infertility. *Journal of Obstetric, Gynecologic and Neonatal Nursing*. (Supplement), November/December: 58S-62S.
- Genetic Manipulation**. 1991. Bio-ethics Conference, Unit for Bio-ethics, University of Stellenbosch, 27 May, Stellenbosch.
- Glezerman, M. 1982a. Etiology of fertility disturbances in man. In Bandhauer, K. & Frick, J. (Eds.) *Disturbances in male fertility*. Berlin: Springer-Verlag: 171-193.
- Glezerman, M. 1982b. Semen Analysis. In Bandhauer, K. & Frick, J. (Eds.) *Disturbances in male fertility*. Berlin: Springer-Verlag: 203-213.
- Glezerman, M. 1982c. Artificial Insemination and semen preservation. In Bandhauer, K. & Frick, J. (Eds.) *Disturbances in Male Fertility*. Berlin: Springer-Verlag: 329-346.
- Glezerman, M. 1982d. Artificial Homologous Insemination. In Bain, J., Schill, W.B. & Schwarzstein, L. (Eds.) *Treatment of Male Infertility*. Berlin: Springer-Verlag: 295-312.

- Goebel, P. & Lübke, F. 1987. Katamnestiche Untersuchung an 96 Paaren mit heterologer Insemination. *Geburtshilfe und Frauenheilkunde*. Band 47(9), September: 636-640.
- Golombok, S.; Cook, R.; Bish, A. & Murray, C. 1993. Quality of parenting in families created by the new reproductive technologies: a brief report of the preliminary findings. *Journal of Psychosomatic Obstetrics & Gynaecology*. Vol. 14, Supplement: 17-22.
- Good News Bible. 1976. South Africa: Bible Society of South Africa.
- Graf, V.U. & Glander, H.J. 1980. Die artefizielle donogene Insemination (AID) Unter psychologischem Aspekt. *Zentralblatt für Gynäkologie*. Band. 102(14): 774-778.
- Greenfeld, D.; Diamond, M.P.; Breslin, R.L. & De Cherney, A. 1986. Infertility and the new reproductive technology: A role for social work. *Social Work in health care*. Vol. 12(2), Winter: 71-81.
- Grinnell, R.M. & Williams, M. 1990. *Research in social work: A primer*. Itasca, Illinois: F.E. Peacock Publishers, Inc.
- Grobstein, C. & Flower, M. 1985. Current ethical issues in IVF. *Clinics in Obstetrics and Gynaecology*. Vol. 12(4), December: 877-891.
- Haas, G.G. 1986. Evaluation of sperm antibodies and autoimmunity in the infertile male. In Santen, R.J. & Swerdloff, R.S. (Eds.) *Male reproductive dysfunction*. New York: Marcel Dekker, Inc.: 439-456.
- Hafez, E.S.E. 1982. Ethical implications of AID. In Hafez, E.S.E. & Semm, K. (Eds.) *Instrumental insemination*. The Hague: Martinus Nijhoff Publishers: 207-214.
- Hafez, E.S.E. & Semm, K. (Eds.) 1982. *Instrumental insemination*. The Hague: Martinus Nijhoff Publishers.
- Haines, C.J. & O'Shea, R.T. 1991. The effect of unilateral versus bilateral tubal cannulation and the number of oocytes transferred on the outcome of gamete intrafallopian transfer. *Fertility and Sterility*. Vol. 55(2), February: 423-425.
- Halman, L.J.; Abbey, A. & Andrews, F.M. 1993. Why are couples satisfied with infertility treatment? *Fertility and Sterility*. Vol. 59(5), May: 1046-1054.
- Hampson, J.L. 1986. Evaluation and treatment of psychogenic male erectile dysfunctions. In Santen, R.J. & Swerdloff, R.S. (Eds.) *Male reproductive dysfunction*. New York: Marcel Dekker, Inc.: 521-543.
- Handelsman, D.J.; Dunn, S.M.; Conway, A.J.; Boylan, L.M. & Jansen, R.P.S. 1985. Psychological and attitudinal profiles in donors for artificial insemination. *Fertility and Sterility*. Vol. 43(1), January: 95-101.
- Hanscombe, G. 1983. The right to lesbian parenthood. *Journal of medical ethics*. Vol. 9: 133-135.
- Hargreave, T.B. (Ed.) 1983. *Male Infertility*. Berlin: Springer-Verlag.

- Hargreave, T.B. 1983. History and evaluation. In Hargreave, T.B. (Ed.) **Male Infertility**. Berlin: Springer-Verlag: 9-45.
- Hargreave, T.B. & Nillson, S. 1983. Seminology. In Hargreave, T.B. (Ed.) **Male Infertility**. Berlin: Springer-Verlag: 56-74.
- Hargreave, T.B.; Pryor, J.P.; Jequier, A.M. & Crich, J.P. 1983. Erectile and ejaculatory problems in infertility. In Hargreave, T.B. (Ed.) **Male Infertility**. Berlin: Springer-Verlag: 246-260.
- Harris, J. 1992. **Wonderwoman and Superman. The ethics of human biotechnology**. Oxford: Oxford University Press.
- Harrison, R.F. 1986. Sperm-cervical mucus interworkings. In Paulson, J.D.; Negro-Vilar, A.; Lucena, E. & Martini, L. (Ed.) **Andrology, Male fertility and sterility**. Orlando: Academic Press Inc.: 427-449.
- Harrison, R.F.; Bonnar, J. & Thompson, W. (Eds.) 1984. **Fertility and Sterility**. Lancaster: MTP Press Limited.
- Harrison, R.F.; O'Moore, A.M.; O'Moore, R.R. & Robb, D. 1984. Stress in infertile couples. In Harrison, R.F.; Bonnar, J. & Thompson, W. (Eds.) **Fertility and Sterility**. Lancaster: MTP Press Limited: 369-376.
- Hendry, W.F. 1983. Treatment of antisperm antibodies. In Hargreave, T.B. (Ed.) **Male Infertility**. Berlin: Springer-Verlag: 280-296.
- Heppner, P.P.; Kivlighan, D.M. & Wampold, B.E. 1992. **Research design in counselling**. Pacific Grove, California: Brooks/Cole Publishing Co.
- Hermanns, U. & Hafez, E.S.E. 1982. Selection and assessment of donor and recipient for AID. In Hafez, E.S.E. & Semm, K. (Eds.) **Instrumental insemination**. The Hague: Martinus Nijhoff Publishers: 101-115.
- Herrmann, H. 1989. Therapy of sterility from the viewpoint of females. **Geburtshilfe Und Frauenheilkunde**. Vol. 49(3), March: 243-247.
- Herrmann, H.; Wild, G.; Schumacher, T.; Unterberg, H. & Keller, E. 1984. Psychosoziale Situation von Ehepaaren vor der artifiziellen Insemination mit Donorsamen. **Geburtshilfe und Frauenheilkunde**, Band 44(11), November: 719-723.
- Heyns, J.A. 1986. **Teologiese Etiek**. Pretoria: NG Kerkboekhandel.
- Heywood, A. 1991. Immaculate Conception? **Nursing Times**. Vol. 87(22), May 29 - June 4: 62-63.
- Hjort, T. 1983. Auto-immunity to sperm. In Hargreave, T.B. (Ed.) **Male Infertility**. Berlin: Springer-Verlag: 160-187.
- Hofmeyr, L. 1994. **Maatskaplike Werk Navorsing**. SUN 820, Pretoria: Universiteit van Pretoria, Departement Maatskaplike Werk.

- Hudson, B.; Baker, H.W.G. & De Kretser, D.M. 1980. The abnormal semen sample. In Pepperell, R.J.; Hudson, B. & Wood, C. (Eds.) *The infertile couple*. Edinburgh: Churchill Livingstone: 70-111.
- Hudson, B.; Pepperell, R.J. & Wood, C. 1980. The problem of infertility. In Pepperell, R.J.; Hudson, B. & Wood, C. (Eds.) *The infertile couple*. Edinburgh: Churchill Livingstone: 1-6.
- Huerre, P. 1980. Psychological aspects of semen donation. In David, G. & Price, W.S. (Eds.) *Human Artificial insemination and semen preservation*. New York: Plenum Press: 461-465.
- Hulka, J.F. 1981. Donor insemination: Guidelines for uncharted territory. *Fertility and Sterility*. Vol. 35(5): 500-501.
- Hulme, V.A.; Van der Merwe, J.P. & Kruger, T.F. 1990. Gamete intrafallopian transfer as treatment for infertility associated with endometriosis. *Fertility and Sterility*. Vol. 53(6), June: 1095-1096.
- Human Tissue Act, 1983.** (Act No. 65 of 1983). Government Gazette, Vol. 216(8734), 1 June. Pretoria: Government Printer.
- Hummel, W.P. & Talbert, L.M. 1989. Current Management of a donor insemination program. *Fertility and Sterility*. Vol. 51(6), June: 919-930.
- Humphrey, M. & Humphrey, H. 1986. A fresh look at genealogical bewilderment. *British Journal of Medical Psychology*. Vol. 59: 133-140.
- Humphrey, M. & Humphrey, H. 1987. Marital relationships in couples seeking donor insemination. *Journal of Biosocial Science*. Vol. 19(2), April 209-219.
- Hurley, V.A.; Osborn, J.C.; Leoni, M.A. & Leeton, J. 1991. Ultra-sound-guided embryo transfer: a controlled trial. *Fertility and Sterility*. Vol. 55(3), March: 559-562.
- Huysamen, G.K. 1993. *Metodologie vir die sosiale en gedragwetenskappe*. Halfweghuis: Southern Boekuitgewers.
- Insights into infertility.** 1986. A Resolve/Sereno Symposium for infertile people and health professionals. Washington University, 1 November, St. Louis, Missouri, U.S.A.
- Jacobson, A. & Galen, D.I. 1990. A successful term pregnancy in a 49-year-old woman using donated oocytes. *Fertility and Sterility*. Vol. 54(3), September: 546-547.
- Jaffe, S.B. & Jewelewicz, R. 1991. The basic infertility investigation. *Fertility and Sterility*. Vol. 56(4), October: 599-613.
- Jansen, R.P.S.; Anderson, J.C. & Sutherland, P.D. 1988. Nonoperative embryo transfer to the fallopian tube. *New England Journal of Medicine*. Vol. 319(5), August: 288-291.
- Jarowenko, M.V. & Bennett, A.H. 1982. Pharmacology of impotence - sexual dysfunction. In Bennett, A.H. (Ed.) *Management of male impotence*. Baltimore: Williams & Wilkins: 162-172.

- Jequier, A.M. 1986. **Infertility in the male**. Edinburgh: Churchill Livingstone.
- Jevtich, M.J. 1983. Vascular noninvasive diagnostic techniques. In Krane, R.J.; Siroky, M.B. & Goldstein, I. (Eds.) **Male sexual dysfunction**. Boston: Little, Brown & Co.: 139-164.
- Jones, W.R. 1980. Immunological factors in infertility. In Pepperell, R.J.; Hudson, B. & Wood, C. (Eds.) **The Infertile couple**. Edinburgh: Churchill Livingstone: 126-146.
- Jones, H.W. 1986. Ethical issues in in vitro fertilization. In Jones, H.W.; Jones, G.S.; Hodgen, G.D. & Rosenwaks, Z. (Eds.) **In vitro fertilization - Norfolk**. Baltimore: Williams & Wilkins: 295-301.
- Jones, W.R. 1984. Artificial insemination by donor. **The Medical Journal of Australia**. Vol. 141(5), September: 317.
- Jones, G.S. & Jones, H.W. 1982. **Gynecology**, 3rd Edition. Baltimore: Williams & Wilkins.
- Jones, H.W.; Jones, G.S.; Hodgen, G.D. & Rosenwaks, Z. (Eds.) 1986. **In vitro fertilization - Norfolk**. Baltimore: Williams & Wilkins.
- Jones, H.W. & Rock, J.A. 1980. Other factors associated with infertility: endometriosis externa, fibromyomata uteri. In Pepperell, R.J.; Hudson, B. & Wood, C. (Eds.) **The infertile couple**. Edinburgh: Churchill Livingstone: 147-163.
- Karacan, I. & Moore, C.A. 1986. Objective methods of differentiation between organic and psychogenic impotence. In Santen, R.J. & Swerdloff, R.S. (Eds.) **Male reproductive dysfunction**. New York: Marcel Dekker, Inc.: 545-562.
- Karacan, I. & Moore, C.A. 1982. Psychodynamics of erectile failure. In Bennett, A.H. (Ed.) **Management of male impotence**. Baltimore: Williams & Wilkins: 46-51.
- Karlström, P.O.; Bakos, O.; Palmstierna, M.; Bergh, T. & Lundkvist, O. 1991. Direct intraperitoneal insemination - Clinical results and comparison between two methods of sperm penetration. **Fertility and Sterility**. Vol. 56(5), November: 939-945.
- Kedia, K.R. 1982. Ejaculation and emission: normal physiology, dysfunction and therapy. In Krane, R.J.; Siroky, M.B. & Goldstein, I. (Eds.) **Male sexual dysfunction**. Boston: Little, Brown & Co.: 37-53.
- Keller, D.W.; Strickler, R.C. & Warren, J.C. 1984. **Clinical Infertility**. Norwalk, Connecticut: Appelton-Century-Crofts.
- Kemeter, P.; Feichtinger, W. & Bernat, E. 1987. The willingness of infertile women to donate eggs. In Feichtinger, W. & Kemeter, P. (Eds.) **Future aspects in Human In Vitro Fertilization**. Berlin: Springer-Verlag: 145-153.

- Kirby, C.A.; Flaherty, S.P.; Godfrey, B.M.; Warnes, G.M. & Matthews, C.D. 1991. A prospective trial of intrauterine insemination of motile spermatozoa versus timed intercourse. *Fertility and Sterility*. Vol. 56(1), July: 102-107.
- Kirkland, A.; Power, M.; Burton, G.; Baber, R; Studd, J. & Abdalla, H. 1992. Comparison of attitudes of donors and recipients to oocyte donation. *Human Reproduction*. Vol. 7(3), March: 355-357.
- Klock, S.C.; Jacob, M.C. & Maier, D. 1994. A prospective study of donor insemination recipients: secrecy, privacy and disclosure. *Fertility & Sterility*. Vol. 62(3), September: 477-484.
- Klock, S.C. & Maier, D. 1991. Psychological factors related to donor insemination. *Fertility and Sterility*. Vol.56(3), September: 489-495.
- Kloosterman, G.J. 1980. Donorinseminatie. *Nederlands tijdschrift voor Geneeskunde*. Vol. 124(16): 603-605.
- Kockott, G. 1982. Sexual dysfunction in the male. In Bain, J.; Sehill, W.B. & Schwarzstein, L. (Eds.) *Treatment of male infertility*. Berlin: Springer-Verlag: 191-208.
- Kok, P.C. 1952. *Diagnostiek en therapie van het steriele huwelijk*. Leiden: H.E. Stenfert Kroese N.V.
- Kovacs, G.; Baker, G.; Burger, H.; De Kretser, D.; Lording, D. & Lee, J. 1988. Artificial insemination with cryopreserved donor semen: a decade of experience. *British Journal of Obstetrics and Gynaecology*. Vol. 95(4), April: 354-360.
- Kovacs, G.T.; Downing, B.J.; Krins, A.J. & Freeman, L. 1991. Triplets or sequential siblings? A case report of three children born after one episode of in vitro fertilization. *Fertility and Sterility*. Vol. 56(5), November: 987-988.
- Kovacs, G.T.; Morgan, G.C.; Rawson, G. & Wood, C. 1986. Community attitudes to artificial insemination by donor. *Australian Family Physician*. Vol. 15(1), January: 50-51.
- Kovacs, G.T. Mushin, D.; Kane, H. & Baker, H.W. 1993. A controlled study of the psycho-social development of children conceived following insemination with donor semen. *Human reproduction*. Vol. 8(5), May: 788-790.
- Krabill, W.S. 1988. Medical Ethics: Facing difficult questions. In Rogers, J. (Ed.) *Medical Ethics, Human Choices*. Pennsylvania: Herald Press.
- Krane, R.J. & Siroky, M.B. 1982. The neurophysiology of fertility and infertility. In De Vere White, R. (Ed.) *Aspects of male infertility*. Baltimore: Williams & Wilkins: 61-69.
- Krane, R.J.; Siroky, M.B. & Goldstein, I. (Eds.) 1983. *Male sexual dysfunction*. Boston: Little, Brown & Co.
- Kremer, J. 1982. *Onderzoek en behandeling van vruchtbaarheidsstoornissen, Kunsmatige inseminatie en adoptie*. Groningen.

- Kremer, J.; Frijling, B.W. & Nass, J.L.M. 1984. Psychosocial aspects of parenthood by artificial insemination donor. *The Lancet*. Vol. i, March 17: 628.
- Kroeks, M.V.A.M. & Kremer, J. 1980. The role of cervical factors in infertility. In Pepperell, R.J., Hudson B. & Wood, C. (Eds.) *The Infertile Couple*. Edinburgh: Churchill Livingstone: 112-125.
- Kruger, H. 1995. *Interview with an Obstetrician and Gynaecologist in private practice*, Femina Clinic, 9 June, Pretoria.
- Kruger, T.F. 1991. *Interview with head of the Reproductive Biology Unit*, Stellenbosch University, Tygerberg Hospital, 28 May, Cape Town.
- Laffont, I. & Edelmann, R.J. 1994. Psychological aspects of in vitro fertilization: a gender comparison. *Journal of Psychosomatic Obstetrics and Gynaecology*. Vol. 15(2), June: 85-92.
- Lamprecht, D. 1993. S.A. baba gebore na jongste bevrugting-metode. *Beeld*, Woensdag, 24 Februarie: 2.
- Landau, R. 1995. *Assisted conception with donors and the best interests of the child*. Paper presented at the "First International conference on social work in health and mental health care". The Hebrew University of Jerusalem, January 22-27, Jerusalem, Israel: 183.
- Lassalle, B.; Courtot, A.M. & Testart, J. 1987. Fertilization by microinjection of human sperm in hamster and human oocytes. In Feichtinger, W. & Kremeter, P. (Eds.) *Future aspects in human in vitro fertilization*. Berlin: Springer-Verlag: 111-118.
- Laufer, N.; Navot, D.; Rabinowitz, R.; Lewin, A.; Birkenfeld, A.; Mangalioth, E.J. & Schenker, J. 1987. Pregnancies in the absence of ovaries - parameters affecting outcome. In Feichtinger, W. & Kemeter, P. (Eds.) *Future aspects in human in vitro fertilization*. Berlin: Springer-Verlag: 138-144.
- Laurence, C. 1985. *AID*. Seminar presented for the MENZA Society, Boulevard Hotel, 20 September, Pretoria.
- Laurence, C. 1987. *Infertility and AID*. Seminar presented for the Department of Social Work, Kalafong Hospital, Atteridgeville, 27 August, Pretoria.
- Laurence, C. 1989. *The psycho-social effects of infertility on a couple: a medical social work perspective*. Unpublished MA(SW) Medical Social Work dissertation. Pretoria: University of Pretoria.
- Laurence-Carbonatto, C. & Du Preez, M.S.E. 1990. The roles and tasks of the medical social worker regarding the infertile couple. *Social Work/Maatskaplike Werk*, 26(4): 316-323.
- Laurence-Carbonatto, C. 1991. *The psycho-social effects of infertility on a couple: a medical social work perspective*. Paper S20 presented at the International Reproductive Biology Work seminar. University of Pretoria, Faculty of Medicine, November 28-29, Pretoria: 7.

- Lebech, P.E. 1980. Present status of AID and sperm banks in Denmark. In David, G. & Price, W.S. (Eds.) **Human Artificial Insemination and semen preservation**, New York: Plenum Press: 41-44.
- Ledward, R.S.; Symonds, E.M. & Eynon, S. 1982. Social and environmental factors as criteria for success in artificial insemination by donor (AID). **Journal of Biosocial Science**. Vol. 14(3), July: 263-275.
- Leedy, P.D. 1993. **Practical research: Planning and design**. 5th Edition. New York: MacMillan Publishing Co.
- Leeton, J. 1988. The use of donor sperm in the management of male infertility in Australia. **The Australian & New Zealand Journal of Obstetrics and Gynaecology**. Vol. 28(4), November: 324-326.
- Leeton, J.; King, C. & Harman, J. 1988. Sister-sister in vitro fertilization surrogate pregnancy with donor sperm: the case for surrogate gestational pregnancy. **Journal of In vitro Fertilization and Embryo Transfer**. Vol. 5(5), October: 245-248.
- Lejeune, J. 1984. Genetic engineering: Test tube babies are babies. In **Test tube babies - a Christian view** (Ed.) Papers from the conference on IVF and the quality of life. London: Royal Society of Medicine: 35-44.
- Leridon, H. 1980. Public opinion on AID and sterility. In David, G. & Price, W.S. (Eds.) **Human artificial insemination and semen preservation**. New York: Plenum Press: 513-520.
- Leto, S. & Paulson, J.D. 1982. Insemination with cryopreserved semen. In Hafez, E.S.E. & Semm, K. (Eds.) **Instrumental insemination**. The Hague: Martinus Nijhoff Publishers: 177-187.
- Leto, S. & Paulson, J.D. 1986a. Immunoinfertility. In Paulson, J.D.; Negro-Vilar, A.; Lucena, E. & Martini, L. (Eds.) **Andrology: Male fertility and sterility**. Orlando: Academic Press, Inc.: 415-426.
- Leto, S. & Paulson, J.D. 1986b. Cervical mucus in immunoinfertility. In Paulson, J.D.; Negro-Vilar, A.; Lucena, E. & Martini, L. (Eds.) **Andrology: Male fertility and sterility**. Orlando: Academic Press Inc.: 451-457.
- Lipshultz, L.I.; Cunningham, G.R. & Howards, S.S. 1983. Differential diagnosis of male infertility. In Lipshultz, L.I. & Howards, S.S. (Eds.) **Infertility in the male**. New York: Churchill Livingstone: 249-263.
- Lipshultz, L.I. & Howards, S.S. (Eds.) 1983. **Infertility in the male**. New York: Churchill Livingstone.
- Lipshultz, L.I. & Howards, S.S. 1983. Evaluation of the subfertile man. In Lipshultz, L.I. & Howards, S.S. (Eds.) **Infertility in the male**. New York: Churchill Livingstone: 187-216.
- Loewenberg, F. & Dolgoff, R. 1988. **Ethical decisions for Social Work Practice**, 3rd Edition. Itasca, Illinois: F.E. Peacock Publishers Inc.

- Lopata, A.; Brown, J.B.; Leeton, J.F.; McTalbot, J. & Wood, C. 1978. In vitro fertilization of preovulatory oocytes and embryo transfer in infertile patients treated with clomiphene and human chorionic gonadotropin. *Fertility and Sterility*. Vol. 30(1), July: 27-35.
- Lopata, A.; Johnston, W.I.H.; Leeton, J. & McBain, J.C. 1980. Use of in vitro fertilization in the infertile couple. In Pepperell, R.J., Hudson, B. & Wood, C. (Eds.) *The Infertile Couple*. Edinburgh: Churchill Livingstone: 209-228.
- Louw, D.J. 1985. *Kunsmatige skenkersaadinseminasie (KIS) as teologiese vraagstuk binne die hedendaagse voortplantingstechnologie. Referaat gelewer op die Eendag Seminaar oor Kunsmatige Bevrugting, W.N.N.R. Konferensiesentrum, 27 Mei, Pretoria.*
- Lourens, J. 1996. *Reproductive Biologist, Drs. Du Buisson & Partners, Pathology Laboratory and Sperm Bank, 24 January, Pretoria*
- Ludwig, G. & Frick, J. 1987. *Spermatology*. Berlin: Springer-Verlag.
- Lunenfeld, B. & Glezerman, M. 1982. Endocrine evaluation of male fertility disorders. In Bandhauer, K. & Frick, J. (Eds.) *Disturbances in male fertility*. Berlin: Springer-Verlag: 233-241.
- Lütjen, P.J.; Healy, D.L.; Chan, C.; Findlay, J.K.; Kola, I. & Trounson, A.O. 1987. Oocyte and embryo donation in women with absent ovarian function. In Feichtinger, W. & Kemeter, P. (Eds.) *Future aspects in human in vitro fertilization*. Berlin: Springer-Verlag: 125-132.
- Lütjen, P.J.; Leeton, J.F. & Findlay, J.K. 1985. Oocyte and embryo donation in IVF programmes. *Clinics in Obstetrics and Gynaecology*. Vol. 12(4), December: 799-813.
- Lütjen, P.J.; Trounson, A.; Leeton, J.; Findlay, J.; Wood, C. & Renoux, P. 1984. The establishment and maintenance of pregnancy using in vitro fertilization and embryo donation in a patient with primary ovarian failure. *Nature*. Vol. 307(12), January: 174-175.
- Macnaughton, C. 1981. Aiding and abetting. *Nursing Mirror*, January 22: 30-31.
- Macnaughton, M.C. 1982. Artificial insemination by donor. *Scottish Medical Journal*. Vol. 27(2), April: 109-110.
- Macourt, D.C. & Jones, G.R. 1977. Artificial insemination with donor semen. *The Medical Journal of Australia*. Vol. 1(19), May 7: 693-695.
- Mahlstedt, P.P. 1994. Psychological issues of infertility and assisted reproductive technology. *Urologic Clinics of North America*. Vol. 21(3), August: 557-567.
- Mahlstedt, P.P. & Greenfeld, D.A., 1989. Assisted reproductive technology with donor gametes: the need for patient preparation. *Fertility and Sterility*. Vol. 52(6), December: 908-914.

- Mahlstedt, P.P. & Johnson, P.T. 1988. Support to persons experiencing infertility : Family and friends can help. In Valentine, D. (Ed.) *Infertility and adoption: A guide for social work practice*. New York: The Haworth Press: 65-71.
- Mahlstedt, P.P. & Probasco, K.A. 1991. Sperm donors: their attitudes toward providing medical and psychosocial information for recipient couples and donor offspring. *Fertility and Sterility*. Vol. 56(4), October: 747-753.
- Mai, F.M.; Munday, R.N. & Rump, E.E. 1972. Psychiatric interview comparisons between infertile and fertile couples. *Psychosomatic Medicine*. Vol. 34(5): 431-440.
- Makler, A. 1986. Evaluation and treatment of the infertile male. In De Cherney, A.H. (Ed.) *Reproductive failure*. New York: Churchill Livingstone: 51-71.
- Makler, A. 1988. Modern Methods in semen analysis evaluation. In Behrman, S.J.; Kistner, R.W. & Patton, G.W. (Eds.) *Progress in infertility*, 3rd Edition. Boston: Little, Brown & Co.: 633-657.
- Makler-Lapidoth, Y.; Sharlin, S. & Itzkovitz-Eldor, J. 1995. The implications of infertility treatment on couples' sexual satisfaction. Paper presented at the "First International conference on social work in health and mental health care". The Hebrew University of Jerusalem, January 22-27, Jerusalem, Israel: 201.
- Manuel, C.; Chevret, M. & Czyba, J.C. 1980. Handling of secrecy by AID couples. In David, G. & Price, W.S. (Eds.) *Human artificial insemination and semen preservation*. New York: Plenum Press: 419-430.
- Manuel, C. & Czyba, J.C. 1980. Follow-up study on children born through AID. In David, G. & Price, W.S. (Eds.) *Human artificial insemination and semen preservation*. New York: Plenum Press: 467-473.
- Marconi, G.; Auge, L.; Oses, R.; Quintana, R.; Raffo, F. & Young, E. 1989. Does sexual intercourse improve pregnancy rates in gamete intrafallopian transfer? *Fertility and Sterility*. Vol. 51(2), February: 357-359.
- Marina, S. 1980. The First Sperm Bank in Spain: Organization and first year results. In David, G. & Price, W.S. (Eds.) *Human artificial insemination and semen preservation*. New York: Plenum Press: 57-60.
- Marlow, C. 1993. *Research methods for generalist social work*. Pacific Grove, California: Brooks/Cole Publishing Company.
- Marrs, R.P. 1986. Evaluation of the infertile female. In De Cherney, A.H. (Ed.) *Reproductive failure*. New York: Churchill Livingstone: 44-49.
- Mascola, L. 1987. Semen donors as the source of sexually transmitted diseases in artificially inseminated women: The saga unfolds. *Journal of the American Medical Association (Jama)*. Vol. 257(8), February: 1093-1094.

- Masters, W.H. 1987. **Interview with Head of the Masters and Johnson Institute**, 13 and 16 April, St. Louis, Missouri, U.S.A.
- Masters, W.H. & Johnson, V.E. 1966. **Sexual Response**. Boston: Little, Brown & Co.
- Masters, W.H. & Johnson, V.E. 1970. Highlights of Masters and Johnson's therapy techniques. **Medical Aspects of Human sexuality**, July: 36-37.
- Masters, W.H. & Johnson, V.E. 1976. Principles of the new sex therapy. **American Journal of Psychiatry**. Vol. 133: 548-550.
- Matot, J.P. & Gustin, M.L. 1990. Filiation and secrecy in artificial insemination with donor. **Human Reproduction**. Vol. 5(5): 632-633.
- Matthews, C.D. 1980. Artificial insemination - donor and husband. In Pepperell, R.J.; Hudson, B. & Wood, C. (Eds.) **The infertile couple**. Edinburgh: Churchill Livingstone: 182-208.
- Matthews, C.D. & Traub, A.I. 1984. Artificial Insemination. In Harrison, R.F.; Bonnar, J. & Thompson, J.W.B. (Eds.) **Fertility and Sterility**. Boston: MTP Press Ltd.: 453-455.
- Maxwell, J.A. (Ed.) 1976. **Reader's Digest Family Health guide and medical encyclopedia**. New York: The Readers Digest Assos. Inc.
- Mazzola, P. & Stangel, J.J. 1984. Artificial insemination performed by husband. **Fertility and Sterility**. Vol. 41(4), April: 654.
- McBain, J.C. & Pepperell, R.J. 1980. Unexplained infertility. In Pepperell, R.J.; Hudson, B. & Wood, C. (Eds.) **The infertile couple**. Edinburgh: Churchill Livingstone: 164-181.
- McCormack, M.K.; Leiblum, S. & Lazzarini, A. 1983. Attitudes regarding utilization of artificial insemination by donor in Huntington Disease. **American Journal of Medical Genetics**. Vol. 14: 5-13.
- McEwan, K.L.; Costello, C.G. & Taylor, P.J. 1987. Adjustment to infertility. **Journal of abnormal psychology**. Vol. 96(2): 108-116.
- McKendrick, B.W. (Ed.) 1990. **Introduction to Social Work in South Africa**. Pretoria: HAUM Tertiary.
- Meijer, A.M. & Hamerlynck, J.V.T.H. 1980. De behandelingsresultaten van donorinseminatie. **Nederlands Tijdschrift voor Geneeskunde**. Jaargang 124(16), April: 587-591.
- Meijer, A.M.; Hamerlynck, J.V.T.H. & Schagen, S. 1980. Psychosociale aspecten van de donorinseminatie. **Nederlands Tijdschrift voor Geneeskunde**. Jaargang 124(16): 592-599.
- Menchini-Fabris, G.F.; Voliani, S.; Canale, D. & Olivieri, L. 1986. Sperm analysis in the infertile male. In Paulson, J.D.; Negro-Vilar, A.; Lucena, E. & Martini, L. (Eds.) **Andrology: Male fertility and sterility**. Orlando: Academic Press, Inc.: 341-357.

- Menning, B.E. 1982. The psychosocial impact of infertility. *Nursing Clinics of North America*. Vol. 17(1), March: 155-163.
- Menning, B.E. 1980. The emotional needs of infertile couples. *Fertility and Sterility*. Vol. 34(4), October: 313-319.
- Met in-vitro bevrugting is daar nog altyd hoop vir kinderlose egpare. 1991. *Record*, 3 May: 14.
- Metka, M.; Haromy, T.; Huber, J. & Schurz, B. 1987. Artificial insemination using a micromanipulator. In Feichtinger, W. & Kemeter, P. (Eds.) *Future aspects in human in vitro fertilization*. Berlin: Springer-Verlag: 119-121.
- Michelow, M.C.; Bernstein, J.; Jacobson, M.J.; McLoughlin, J.L.; Rubenstein, D.; Hacking, A.I.; Preddy, S. & Van der Wat, I.J. 1988. Mother - Daughter in vitro fertilization: Triplet surrogate pregnancy. *Journal of in Vitro Fertilization and Embryo Transfer*. Vol. 5(1): 31-33.
- Milsom, I. & Bergman, P. 1982. A study of parental attitudes after donor insemination (AID). *Acta Obstetrica et Gynaecologica Scandinavica*. Vol. 61 (1-6): 125-128.
- Mochimaru, F.; Sato, H.; Kobayashi, T. & Iizuka, R. 1980. Physical and mental development of children born through AID. In David, G. & Price, W.S. (Eds.) *Human artificial insemination and semen preservation*. New York: Plenum Press: 277-282.
- Moghissi, K.S. 1979. Basic work-up and evaluation of infertile couples. *Clinical Obstetrics and Gynecology*. Vol. 22(1), March: 11-25.
- Moghissi, K.S. 1990. Reflections on the new guidelines for the use of semen donor insemination. *Fertility and Sterility*. Vol. 53(3), March: 399-400.
- Montague, D.K. 1982. The evaluation of the impotent male. In Bennett, A.H. (Ed.) *Management of male impotence*. Baltimore: Williams & Wilkins: 52-61.
- Montgomery, J. 1991. Rights, restraints and pragmatism: The human fertilization and embryo Act, 1990. *Modern Law Review*: 524-534.
- Morshedi, M.; Oehninger, S.; Veeck, L.L.; Ertunc, H.; Bocca, S. & Acosta, A.A. 1990. Cryopreserved/thawed semen for in vitro fertilization results from fertile donors and infertile patients. *Fertility and Sterility*. Vol. 54(6), December: 1093-1099.
- Mosher, W.D. & Pratt, W.F. 1991. Fecundity and infertility in the United States: Incidence and trends. *Fertility and Sterility*. Vol. 56(2), August: 192-193.
- Mouton, J. & Marais, H.C. 1989. *Metodologie van die geesteswetenskap: Basiese begrippe*, 3de Uitgawe, Pretoria: R.G.N.
- Mumford, D.M. & Warner, M.R. 1983. Male infertility and immunity. In Lipshultz, L.I. & Howards, S.S. (Eds.) *Infertility in the male*. New York: Churchill Livingstone: 265-282.

- Nachtigall, R.D. 1993. Secrecy: an unresolved issue in the practice of donor insemination. *American Journal of Obstetrics and Gynecology*. Vol. 168(6), June: 1846-1851.
- Needleman, S. K. 1987. Infertility and In-vitro fertilization: The social worker's role. *Health and Social Work*. Vol. 12(2), Spring: 135-143.
- Nelson, J.B. 1984. *Human Medicine: Ethical perspectives on today's medical issues*. Minneapolis: Augsburg Publishers.
- Netto, N.R. 1983. Varicocele. In De Vere White, R. (Ed.) *Aspects of male infertility*. Baltimore: Williams & Wilkins: 70-88.
- Neuman, W.L. 1994. *Social research methods: Qualitative and quantitative approaches*, 2nd Edition. Boston: Allyn & Bacon.
- New Dictionary of Social Work*. 1995. Terminology Committee for Social Work, Cape Town: C.T.P. Book Printers (Pty.) Ltd.
- New Reproductive technology, 1990. *Theological Winter School on medical-legal-ethics*. St. Vianney Seminary, Waterkloof, 26 June, Pretoria.
- Ng, S.C.; Bongso, A. & Ratnam, S.S. 1991. Microinjection of human oocytes: a technique for severe oligoasthenoteratozoospermia. *Fertility and Sterility*. Vol. 56(6), December: 1117-1123.
- Ng, S.C.; Sathananthan, A.H.; Bongso, T.A.; Ratnam, S.S.; Tok, V.C. & Ho, J.K. 1990. Subzonal transfer of multiple sperm (MIST) into early human embryos. *Molecular Reproduction and Development*. Vol. 26(3), July: 253-260.
- Nijs, P.; Steeno, O. & Steppe, A. 1980. Evaluation of AID donors: Medical and psychological aspects. A preliminary report. In David, G. & Price, W.S. (Eds.) *Human artificial insemination and Semen Preservation*. New York: Plenum Press: 453-459.
- Nilsson, S. 1983. Varicocele. In Hargreave, T.B. (Ed.) *Male infertility*. Berlin: Springer-Verlag: 199-211.
- Odem, R.R.; Durso, N.M.; Long, C.A.; Pineda, J.A.; Strickler, R.C. & Gast, M.J. 1991. Therapeutic donor insemination: a prospective randomized study of scheduling methods. *Fertility and Sterility*. Vol. 55(5), May: 976-982.
- Olshansky, E.F. & Sammons, L.N. 1985. Artificial insemination: an overview. *Journal of Obstetric, Gynecologic and Neonatal Nursing*. Vol. 14(6), Supplement: 49S-53S.
- Oskarsson, T.; Dimitry, E.S.; Mills, M.S.; Hunt, J. & Winston, R.M.L. 1991. Attitudes towards gamete donation amongst couples undergoing in-vitro fertilization. *British Journal of Obstetrics and Gynaecology*. Vol. 98(4), April: 351-356.
- Owens, D.J.; Edelmann, R.E. & Humphrey, M.E. 1993. Male infertility and donor insemination: couples' decisions, reactions and counselling needs. *Human Reproduction*. Vol. 8(6), June: 880-885.

- Patton, P.E.; Hickok, L.R.; & Wolf, D.P. 1991. Successful hysteroscopic cannulation and tubal transfer of cryopreserved embryos. *Fertility and Sterility*. Vol. 55(3), March: 640-641.
- Paulson, J.D.; Negro-Vilar, A.; Lucena, E. & Martini, L. (Eds.) 1986. *Andrology: Male fertility and sterility*. Orlando: Academic Press, Inc.
- Pedersen, B.; Nielsen, A.F. & Lauritsen, J.G. 1994. Psychosocial aspects of donor insemination. Sperm donors - their motivations and attitudes to artificial insemination. *Acta Obstetrica et Gynecologica Scandinavica*. Vol. 73(9), October: 701-705.
- Peinado, J.A. & Russell, S.E. 1990. The Spanish Law governing assisted reproduction techniques: a summary. *Human Reproduction*. Vol. 5(5): 634-636.
- Penzias, A.S.; Alper, M.M.; Oskowitz, S.P.; Berger, M.J. & Thompson, I.E. 1991. Gamete intrafallopian transfer: assessment of the optimal number of oocytes to transfer. *Fertility and Sterility*. Vol. 55(2), February: 311-313.
- Pepperell, R.J.; Hudson, B. & Wood, C. (Eds.) 1980. *The Infertile couple*. Edinburgh: Churchill Livingstone.
- Pepperell, R.J. & McBain, J.C. 1985. Unexplained infertility: a review. *British Journal of Obstetrics and Gynaecology*. Vol. 92, June: 569-580.
- Pervan, V.; Cohen, L.H. & Jaftha, T. (Eds.) 1995. *Oncology for health-care professionals*. Juta & Co. Ltd.: Kenwyn.
- Peterson, E.P.; Alexander, N.J. & Moghissi, K.S. 1988. AID and AIDS - too close for comfort. *Fertility and Sterility*. Vol. 49(2), February: 209-210.
- Pettee, D. & Weckstein, L.N. 1993. A survey of parental attitudes toward oocyte donation. *Human Reproduction*. Vol. 8(11), November: 1963-1965.
- Platt, J.J.; Ficher, I. & Silver, M.J. 1973. Infertile couples: Personality traits and self-ideal concept discrepancies. *Fertility and Sterility*. Vol. 24(12), December: 972-976.
- Pogach, L.M. & Vaitukaitis, J.L. 1983. Endocrine disorders associated with erectile dysfunction. In Krane, R.J.; Siroky, M.B. & Goldstein, I. (Eds.) *Male sexual dysfunction*. Boston: Little, Brown & Co.: 63-76.
- Poland, M.L.; Pieper, M.J. & Moghissi, K.S. 1981. Impact of the stress of AID on the Menstrual Cycle. *International Journal of Fertility*. Vol. 26(1): 68-70.
- Pool, T.B.; Ellsworth, L.R.; Garza, J.R.; Martin, J.E.; Miller, S.S. & Atiee, S.H. 1990. Zygote intrafallopian transfer as a treatment for nontubal infertility: a 2-year study. *Fertility and Sterility*. Vol. 54(3), September: 482-489.
- Pool, T.B.; Martin, J.E.; Ellsworth, L.R.; Perez, J.B. & Atiee, S.H.

1990. Zygote intrafallopian transfer with "donor rescue": a new option for severe male factor infertility. *Fertility and Sterility*. Vol. 54(1), July: 166-168.

Porter, N.L. & Christopher, F.S. 1984. Infertility: Towards an awareness of a need among family life practitioners. *Family Relations*. Vol. 33, April: 309-315.

Possati, G.; Seracchioli, R.; Melega, C.; Pareschi, A.; Maccolini, A. & Flamigni, C. 1991. Gamete intrafallopian transfer by hysteroscopy as an alternative treatment for infertility. *Fertility and Sterility*. Vol. 56(3), September: 496-499.

Pouly, J.L.; Janny, L.; Canis, M.; Vye, P. & Boyer, C. 1989. Gamete intrafallopian transfer: benefits of programmed stimulation. *Fertility and Sterility*. Vol. 52(6), December: 1012-1017.

Power, M.; Baber, R.; Abdalla, H.; Kirkland, A.; Leonard, T. & Studd, J.W.W. 1990. A comparison of the attitudes of volunteer donors and infertile patient donors on an ovum donation programme. *Human Reproduction*. Vol. 5: 352-355.

Poyen, B.; Penochet, J.C.; Mattei, A. & Choux, M. 1980. Is there a right to AID? In David, G. & Price, W.S. (Eds.) *Human artificial insemination and semen preservation*. New York: Plenum Press: 413-417.

Pratt, D.E.; Bieber, E.; Barnes, R.; Shangold, G.; Vignovic, E. & Schreiber, J. 1991. Transvaginal intratubal insemination by tactile sensation: a preliminary report. *Fertility and Sterility*. Vol. 56(5), November: 984-986.

Prattke, T.W. & Gass-Sternas, K.A. 1993. Appraisal, coping and emotional health of infertile couples undergoing donor artificial insemination. *Journal of Obstetric, Gynecology and Neonatal Nursing*. Vol. 22(6), November/December: 516-527.

Pretorius, R. 1991. *Surrogate Motherhood: The legal issues*. Unpublished LLD Thesis. Pretoria: University of South Africa.

Pryor, J.P. 1982. Evaluation of the infertile patient. In De Vere White, R. (Ed.) *Aspects of male infertility*. Baltimore: Williams & Wilkins: 186-200.

Purdie, A.; Peek, J.C.; Adair, V.; Graham, F. & Fisher, R. 1994. Attitudes of parents of young children to sperm donation - implications for donor recruitment. *Human Reproduction*. Vol. 9(7), July: 1355-1358.

Purdie, A.; Peek, J.C.; Irwin, R.; Ellis J.; Graham, F.M. & Fisher, P.R. 1992. Identifiable semen donors - attitudes of donor and recipient couples. *New Zealand Medical Journal*. Vol. 105(927), February, 12: 27-28.

Randall, J.M. & Templeton, A. 1991. Cervical mucus score and in vitro sperm mucus interaction in spontaneous and clomiphene citrate cycles. *Fertility and Sterility*. Vol. 56(3), September: 465-468.

- Rantala, M.L. & Koskimies, A.I. 1988. Sexual behaviour of infertile couples. *International Journal of Fertility*. Vol. 33(1), January/February: 26-30.
- Raoul-Duval, A.; Bertrand-Servais, M.; Letur-Konirsch, H. & Frydman, R. 1994. Psychological follow-up of children born after in vitro fertilization. *Human Reproduction*. Vol. 9(6), June: 1097-1101.
- Reading, A.E. 1990. Donor insemination program management. *Fertility and Sterility*. Vol. 53(2), February: 382.
- Reading, A.E.; Chang, L.C. & Kerin, J.F. 1989. Attitudes and anxiety levels in women conceiving through in vitro fertilization and gamete intrafallopian transfer. *Fertility and Sterility*. Vol. 52(1), July: 95-99.
- Regnier, F. & Rouzioux, J.M. 1983. Contemporary aspects of medical ethics in France. *Journal of Medical Ethics*. Vol. 9: 170-174.
- Regulations regarding the artificial insemination of persons and related matters R.1182. 1986. Government Gazette. Vol. 252(10283), 20 June, Pretoria: Government Printer.
- Regulations regarding the artificial fertilization of persons and related matters. 1991. Government Gazette No. 13228. Notice 433 of 1991. 17 May, Pretoria: Government Printer.
- Reid, W.J. & Smith, A.D. 1981. *Research in Social Work*. New York: Columbia University Press.
- Reidel, H.H. 1986. Andrological indications for in vitro fertilization. In Paulson, J.D.; Negro-Vilar, A.; Lucena, E. & Martini, L. (Eds.) *Andrology: Male fertility and sterility*. Orlando: Academic Press, Inc.: 575-598.
- Reidy, M. (Ed.) 1982. *Ethical issues in reproductive medicine*. Dublin: Gill & MacMillan.
- Reidy, M. 1982. Ethical issues in reproductive medicine: From the perspective of moral theology. In Reidy, M. (Ed.) *Ethical issues in reproductive medicine*. Dublin: Gill & MacMillan: 118-145.
- Reilly, R. 1982. Evaluation of the female partner. In De Vere White, R. (Ed.) *Aspects of male infertility*. Baltimore: Williams & Wilkins: 201-209.
- Renshaw, D.C. 1983. Recognition and treatment of sexual disorders. *Pennsylvania Medicine*. Vol. 86(12), December: 64-67.
- Renshaw, D.C. 1983. Sexuality and depression. *Journal of psychiatric treatment and evaluation*. Vol. 5: 451-455.
- Rioux, J.E. & Ackman, C.D.F. 1980. Artificial insemination and sperm banks: The Canadian experience. In David, G. & Price, W.S. (Eds.) *Human artificial insemination and semen preservation*. New York: Plenum Press: 31-34.

- Ritter, G.A. 1992. **Maatskaplike werk supervisie met spesifieke verwysing na die toepassing van die personeelfunksie in Provinsiale hospitale.** Ongepubliseerde MA(MW) Verhandeling, Stellenbosch: Universiteit van Stellenbosch.
- Robertson, J.A. 1989. **Ethical and Legal issues in human egg donation.** *Fertility and Sterility*. Vol. 52(3), September: 353-363.
- Rogers, J. (Ed.) 1988. **Medical ethics, human choices.** Pennsylvania: Herald Press.
- Rojo-Moreno, J; Valdemoro-Garcia, C.; Garcia-Merita, M.L. & Tortajada-Martinez, M.G. 1994. **Personality characteristics analysis in couples undergoing artificial insemination.** *Human Reproduction*. Vol. 9(1), January: 172-175.
- Romano, M.D. 1982. **Sex and the ileostomy/colostomy patient.** In Bennett, A.H. (Ed.) **Management of male impotence.** Baltimore: Williams & Wilkens: 192-197.
- Rosenfeld, D.L. & Mitchell, E. 1979. **Treating the emotional aspects of infertility: Counselling services in an infertility clinic.** *American Journal of Obstetrics and Gynecology*. Vol. 135(2), September: 177-180.
- Rosenkvist, H. 1981. **Donor insemination.** *Danish Medical Bulletin*. Vol. 28(4), September: 133-147.
- Rosenwaks, Z. 1986. **Donor eggs.** In Jones, H.W.; Jones, G.S.; Hodgen, G.D. & Rosenwaks, Z. (Eds.) **In vitro fertilization - Norfolk.** Baltimore: Williams & Wilkins: 270-276.
- Rosner, F. 1978. **Sperm procurement and analysis in Jewish Law.** *American Journal of Obstetrics and Gynecology*. Vol. 130(6), March, 15: 627-629.
- Roy, D.J. 1980. **AID: An overview of ethical issues.** In David, G. & Price, W.S. (Eds.) **Human artificial insemination and semen preservation.** New York: Plenum Press: 499-512.
- Royse, D. 1991. **Research methods in social work.** Chicago: Nelson-Hall Publishers.
- Rutledge, A.L. 1979. **Psychomarlital evaluation and treatment of the infertile couple.** *Clinical Obstetrics and Gynaecology*. Vol. 22(1), March: 255-267.
- Sabatelli, R.M.; Meth, R.L. & Gavazzi, S.M. 1988. **Factors mediating the adjustment to involuntary childlessness.** *Family relations*. Vol. 37:338-343.
- Sanger, W.G.; Schwartz, M.B. & Housel, G. 1979. **The use of frozen-thawed semen for therapeutic insemination (donor).** *International Journal of Fertility*. Vol. 24(4): 267-269.
- Santen, R.J. & Swerdloff, R.S. (Eds.) 1986. **Male reproductive dysfunction.** New York: Marcel Dekker, Inc.

- Sarrel, P.M. 1986. Human sexuality and infertility. In De Cherney, A.H. (Eds.) *Reproductive failure*. New York: Churchill Livingstone: 73-86.
- Sarrel, P.M. & De Cherney, A.H. 1985. Psychotherapeutic intervention for treatment of couples with secondary infertility. *Fertility and Sterility*. Vol. 43(6), June: 897-900.
- Sauer, M.V.; Gorrill, M.J.; Zeffer, K.B. & Bustillo, M. 1989. Attitudinal survey of sperm donors to an artificial insemination clinic. *The Journal of Reproductive Medicine*. Vol. 34(5), May: 362-364.
- Sauer, M.V.; Kaufman, F.R.; Paulson, R.J. & Lobo, R.A. 1991. Pregnancy after oocyte donation to a woman with ovarian failure and classical galactosemia. *Fertility and Sterility*. Vol. 55(6), June: 1197-1199.
- Sauer, M.V.; Rodi, I.A.; Scrooc, M.; Bustillo, M. & Buster, J.E. 1988. Survey of attitudes regarding the use of siblings for gamete donation. *Fertility and Sterility*. Vol. 49(4), April: 721-722.
- Saypol, D.C.; Lipshultz, L.I. & Howards, S.S. 1983. Varicocele. In Lipshultz, L.I. & Howards, S.S. (Eds.) *Infertility in the male*. New York: Churchill Livingstone: 299-313.
- Schellen, A.M.C.M. 1957. *Artificial insemination in the human*. Amsterdam: Elsevier.
- Schenker, J.G. 1987. Religious aspects of gamete donation in in vitro fertilization and embryo transfer programs. In Feichtinger, W. & Kemeter, P. (Eds.) *Future aspects of human in vitro fertilization*. Berlin: Springer-Verlag: 154-159.
- Schill, W.B. 1986. Diagnosis and treatment of ejaculatory sterility. In Paulson, J.D.; Negro-Vilar, A.; Lucena, E. & Martini, L. (Eds.) *Andrology: Male fertility and sterility*. Orlando: Academic Press, Inc.: 599-617.
- Scholtes, M.C.W.; Roozenburg, B.J.; Alberda, A.T. & Zeilmaker, G.H. 1990. Transcervical intrafallopian transfer of zygotes. *Fertility and Sterility*. Vol. 54(2), August: 283-286.
- Schover, L.R.; Collins, R.L. & Richard, S. 1992. Psychological aspects of donor insemination: evaluation and follow-up of recipient couples. *Fertility and Sterility*. Vol. 57(3), March: 583-590.
- Schover, L.R.; Greenhalgh, L.F.; Richards, S.I. & Collins, R.L. 1994. Psychological screening and the success of donor insemination. *Human Reproduction*. Vol. 9(1), January: 176-178.
- Schoysman, R. & Schoysman-Deboeck, A. 1980. Present status of Donor Insemination in Belgium. In David, G. & Price, W.S. (Eds.) *Human artificial insemination and semen preservation*. New York: Plenum Press: 27-30.

- Schoysman-Deboeck, A.; Van Roosendaal, E. & Schoysman, R. 1988. Artificial Insemination: AID. In Behrman, S.J.; Kistner, R.W. & Patton, G.W. (Eds.) **Progress in infertility**. 3rd Edition. Boston: Little, Brown & Co: 713-733.
- Schroeder-Jenkins, M. & Rothmann, S.A. 1989. Causes of donor rejection in a sperm banking program. **Fertility and Sterility**. Vol. 51(5), May: 903-906.
- Scott, J. 1985. Technical History of IVF. In **Test-tube babies - a Christian view**. (Ed.) Papers from the Conference: IVF and the Quality of life - Royal Society of Medicine, London, 23 May. London: Becket Publications: 15-24.
- Scott, R. 1985. Legal issues in IVF. **Clinics in Obstetrics and Gynecology**. Vol. 12(4):893-910.
- Seibel, M.M. & Taymor, M.L. 1982. Emotional aspects of infertility. **Fertility and Sterility**. Vol. 37(2), February: 137-145.
- Seikowski, K. & Glander, H.J. 1990. Entwicklung von Partnerschaft und kind nach erfolgreicher therapeutischer donogener Insemination (TDI). **Zentralblatt für Gynäkologie**. Vol. 112(13): 811-816.
- Seikowski, V.K. & Glander, H.J. 1989. Partnerschaftssituation bei der Vorbereitung einer therapeutischen donogenen Insemination. **Zentralblatt für Gynäkologie**. Vol. 111(1):43-46.
- Semenov, G.; Mises, R. & Bissery, J. 1980. Attempt at follow-up of children born through AID. In David, G. & Price, W.S. (Eds.) **Human artificial insemination and semen preservation**. New York: Plenum Press: 475-477.
- Seventer, C.B. van O. 1988. **In Vitro bevrugting, surrogaat moederskap**. Referaat gelewer by 'n seminar te NG Kerk, Garsfontein, 26 Januarie, Pretoria.
- Sevenster, C.B. van O. 1989. **Onderhoud met Hoof van Infertiliteits-kliniek**. 23 Januarie, H.F. Verwoerd Hospitaal: Pretoria.
- Sevenster, C.B. van O. 1992. **Onderhoud met privaatpraktiserende Verloskundige en Ginekoloog**. 6 Mei, Unitas Hospitaal: Pretoria.
- Sevenster, C.B. van O. 1993. **Interview with Obstetrician and Gynaecologist in private practice**. 24 February, Unitas Hospital: Pretoria.
- Sevenster, C.B. van O. 1996. **Interview with Obstetrician and Gynaecologist in private practice**. 24 January, University of Pretoria: Pretoria.
- Shapiro, C.H. 1982. The impact of infertility on the marital relationship. **Social Casework**. Vol. 63, September: 389-393.
- Shapiro, S.S. 1991. Can timing improve therapeutic donor insemination fecundability? **Fertility and Sterility**. Vol. 55(5), May: 869-871.

- Sharlin, S.A. 1995. **Women's perception of in vitro fertilization outcome and implication for intervention.** Paper presented at the "First International conference on social work in health and mental health care. The Hebrew University of Jerusalem, January 22-27, Jerusalem, Israel: 301.
- Sharma, V.; Pampiglione, J.S.; Mason, B.A.; Campbell, S. & Riddle, A. 1991. Experience with peritoneal oocyte and sperm transfer as an outpatient-based treatment for infertility. **Fertility and Sterility.** Vol. 55(3), March: 579-582.
- Shenfield, F. 1994. Filiation is assisted reproduction: potential conflicts and legal implications. **Human Reproduction.** Vol. 9(7), July: 1348-1354.
- Sher, R. 1989. **AIDS.** Paper presented at the AIDS Symposium, SAMRI & NCA, University of South Africa, Pretoria, 17 August.
- Shoham, Z.; Zosmer, A. & Insler, V. 1991. Early miscarriage and fetal malformations after induction of ovulation (by clomiphene citrate and/or human menotropins), in vitro fertilization and gamete intrafallopian transfer. **Fertility and Sterility.** Vol. 55(1), January: 1-11.
- Shuber, J. & Bain, J. 1982. In vitro fertilization: Future treatment for male infertility. In Bain, J.; Schill, W.B. & Schwarzstein, L. (Eds.) **Treatment of Male infertility.** Berlin: Springer-Verlag: 313-320.
- Shulman, S. 1986. Antibody factors in infertility with reference to diagnosis, significance and treatment. In Paulson, J.D.; Negro-Vilar, A.; Lucena, E. & Martini, L. (Eds.) **Andrology: Male fertility and sterility.** Orlando: Academic Press, Inc.: 399-413.
- Shuster, E. 1990. Seven embryos in search of legitimacy. **Fertility and Sterility.** Vol. 53(6), June; 975-977.
- Siegel, S. 1956. **Non parametric Statistics for the behavioral sciences.** New York: McGraw-Hill Book Co.
- Silva, P.D.; Meisch, J. & Schauburger, C.W. 1989. Intrauterine insemination of cryopreserved donor semen. **Fertility and Sterility.** Vol. 52(2), August: 243-245.
- Singer, P. & Wells, D. 1984. **The Reproduction Revolution.** Oxford: Oxford University Press.
- Sloman, S. 1985. Surrogacy arrangements Act, 1985. **New Law Journal:** 978-980.
- Slovenko, R. 1986. Sperm donation. **Medicine and Law.** Vol. 5: 173-177.
- Smith, P.M. 1985. Ovulation induction. **Journal of Gynaecological and Neonatal Nursing (JOGNN).** November/December: 37-43.
- Snowden, R. & Mitchell, G.D. 1981. **The artificial family: a consideration of artificial insemination by donor.** London: George Allen & Unwin.

- Snowden, R.; Mitchell, G.D. & Snowden, E.M. 1983. **Artificial reproduction: A social investigation.** Boston: George Allen & Unwin.
- Sokoloff, B.Z. 1987. Alternative methods of reproduction - Effects on the child. **Clinical Pediatrics.** Vol. 26(1), January: 11-16.
- Somfai, B. & Lynch, A. 1982. Artificial insemination, Judeo-Christian evaluation and philosophical implications. In Hafez, E.S.E. & Semm, K. (Eds.) **Instrumental insemination.** The Hague: Martinus Nijhoff Publishers: 215-223.
- South African Law Commission. 1992. **Project 65: Surrogate Motherhood Report.** Pretoria: Government Printers.
- Soutoul, J.H.; Body, G.; Pierre, F. & Kone, M. 1989. Risks of medical complications inherent in technics of assisted procreation. **Journal De Gyneologie, Obstetrique Et Biologie De La Reproduction.** Vol. 18(7): 919-929.
- Spann, W. 1983. The legal situation in the Federal Republic of Germany regarding in vitro fertilization of the human egg. In Beier, H.M. & Lindner, H.R. (Eds.) **Fertilization of the human egg in vitro.** Berlin: Springer-Verlag: 415-420.
- Speirs, A.L. 1988. The changing face of infertility. **American Journal of Obstetrics and Gynecology.** Vol. 158(6), Part 1, June: 1390-1394.
- Stanton, F. & Golombok, S. 1993. Maternal-fetal attachment during pregnancy following in vitro fertilization. **Journal of psychosomatic Obstetrics and Gynaecology.** Vol. 14(2), June: 153-158.
- Stedman's Medical Dictionary.** 1982. 24th Edition. Baltimore: Williams & Wilins.
- Stedman's Medical Dictionary.** 1990. 25th Edition. Baltimore: Williams & Wilkins.
- Steptoe, P.C. & Edwards, R.G. 1978. Birth after the reimplantation of a human embryo. (Letter). **The Lancet.** Vol II(8085), August: 366.
- Steyn, A.F.; Van Wyk, D. & Le Roux, T. 1987. **Die gesin: Gister en Vandag.** Pretoria: Academica.
- Steyn, A.G.W.; Smit, C.F.; Du Toit, S.H.C. & Stasheim, C. 1994. **Modern statistics in Pretoria.** Pretoria: Van Schaik Publishers.
- Stone, S.C. 1980. Complications and pitfalls of artificial insemination. **Clinical Obstetrics and Gynecology.** Vol. 23(4), September: 667-681.
- Streem, S.B. 1982. The endocrinology of impotence. In Bennett, A.H. (Ed.) **Management of male impotence.** Baltimore: Williams & Wilkins: 26-45.
- Strickler, R.C. 1987. Interview with Head of the Infertility Unit at Jewish Hospital, Washington University Medical Centre, 21 January, St. Louis, Missouri, U.S.A.

- Strickler, R.C.; Christianson, C.; Crane, J.P.; Curato, A.; Knight, A.B. & Yank, V. 1985. Ultrasound guidance for human embryo transfer. **Fertility and Sterility**. Vol. 43(1), January: 54-61.
- Strohmer, H. & Feichtinger, W. 1992. Successful clinical application of laser for micromanipulation in an in vitro fertilization program. **Fertility and Sterility**. Vol. 58(1), July: 212-214.
- Strydom, H. 1986. Die enkelstelselontwerp in Maatskaplikewerknavorsing en maatskaplikewerk-psyktyk. **Social Work/Maatskaplike Werk**. Vol. 22(4), Oktober: 216-221.
- Strydom, H. 1989. Navorsing in Maatskaplike Werk. In Van Staden, S.M.; Hugo, E.A.K.; Van Rooyen, I.J.J. & Van Delft, W.F. (Eds.) **Maatskaplikewerk-opleiding oor sestig jaar**. Hillcrest: Owen-Burgess-uitgewers: 195-211.
- Strydom, H. 1991. Die benutting van eksperimentele navorsing in Maatskaplike Werk. **Social Work/Maatskaplike Werk**. Vol. 27(1), Maart: 28-35.
- Suggested Code of practice for artificial insemination by donor (AID) 1980. **S.A. Medical Journal**. Vol. 58(8), November: 781-783.
- Sunde, A.; Kahn, J. & Molne, K. 1988. Intrauterine Insemination. **Human Reproduction**. Vol. 3(1): 97-99.
- Swanepoel, A. 1996. Interview with statistician and senior lecturer in Department of Applied Statistics, Faculty of Economic and Management Sciences, University of Pretoria, 18 July, Pretoria.
- Swart, J.L. 1985. **Maatskaplike sorg aan infertiele egpare**. Ongepubliseerde MA(MW) Verhandeling. Johannesburg: Randse Afrikaanse Universiteit.
- Swerdloff, R.S. & DeKretser, D.M. 1983. Endocrine evaluation of the infertile male. In Lipshultz, L.I. & Howards, S.S. (Eds.) **Infertility in the male**. New York: Churchill Livingstone: 207-216.
- Tarlatzis, I.; Tarlatzis, B.C.; Diakogiannis, I.; Bontis, J.; Lagos, S.; Gavriilidou, D. & Mantalenakis, S. 1993. Psychological impacts of infertility on Greek couples. **Human Reproduction**. Vol. 8(3), March: 396-401.
- Tau, S.L. & Gerzov, A.J. 1991. Personality of semen donors and their social behaviour. **Czechoslovak Medicine**. Vol. 14(3): 173-183.
- Templeton, A.A. 1983. The female partner. In Hargreave, T.B. (Ed.) **Male Infertility**. Berlin: Springer-Verlag: 188-197.
- Templeton, A.A. 1991. Gamete donation and anonymity. **British Journal of Obstetrics and Gynaecology**. Vol. 98, April: 343-345.
- Templeton, A.A. & Triseliotis, J. 1983. AID and adoption. In Hargreave, T.B. (Ed.) **Male Infertility**. Berlin: Springer-Verlag: 309-320.

Testart, J.; Lassalle, B.; Belaisch-Allart, J.; Hazout, A.; Forman, R. & Frydman, R. 1987. Human embryo freezing in an in vitro fertilization and embryo transfer program. In Feichtinger, W. & Kemeter, P. (Eds.) **Future aspects in human in vitro fertilization**. Berlin: Springer-Verlag: 91-96.

Test-tube babies - a Christian view. (Ed.) 1985. Papers from the conference: IVF and the quality of life - Royal Society of Medicine, London, 23 May. London: Becket Publications.

The American Fertility Society. 1984. Minimal standards for programs of in vitro fertilization. **Fertility and Sterility**. Vol. 41(1), January: 13.

The American Fertility Society. 1988. Minimal standards for gamete intrafallopian transfer (GIFT). **Fertility and Sterility**. Vol. 50(1), July: 20.

The American Fertility Society. 1988. New Guidelines for the use of semen donor insemination (1986). In Behrman, S.J.; Kistner, R.W. & Patton, G.W. (Eds.) **Progress in infertility**. 3rd Edition. Boston: Little, Brown & Co.: 827-833.

The American Fertility Society. 1988. Revised new guidelines for the use of semen-donor insemination. **Fertility and Sterility**. Vol. 49: 211.

The American Fertility Society. 1990. New guidelines for the use of semen donor insemination (1990). **Fertility and sterility**. Vol. 53(3), Supplement 1, March: 1S-13S.

The American Fertility Society. 1990. Revised minimum standards for in vitro fertilization, gamete intrafallopian transfer, and related procedures. **Fertility and Sterility**. Vol. 53(2), February: 225-226.

The American Fertility Society. 1991. Revised guidelines for the use of semen donor insemination, (1991). **Fertility and Sterility**. Vol. 56(3), September: 396.

The Ethics Committee of the American Fertility Society. 1986. Ethical considerations of the new reproductive technologies: Ethics and the new reproductive technologies. **Fertility and Sterility**. Vol. 46(3), Supplement 1, September: 16S-31S.

The Holy Bible - New International version. 1984. New Brunswick, N.J.: International Bible Society.

The News Editor. 1984. Artificial fertilization made natural. **Nature**. Vol. 310, 26 July: 269.

The Shorter Oxford English Dictionary. Vol. 1 and 2. 1990. 6th Edition. Oxford: Clarendon Press.

The Warnock Committee 1984. The Warnock Committee. **British Medical Journal**. Vol. 289, 28 July: 238-239.

- Thompson, W. & Boyle, D.D. 1982. Counseling patients for artificial insemination and subsequent pregnancy. *Clinics in Obstetrics and Gynecology*. Vol. 9(1), April: 211-225.
- Tournaye, H.; Camus, M.; Bollen, N.; Wisanto, A.; Van Steirteghem, A.C. & Devroey, P. 1991. In vitro fertilization techniques with frozen-thawed sperm: a method for preserving the progenitive potential of Hodgkin patients. *Fertility and Sterility*. Vol. 55(2), February: 443-445.
- Traina, V. 1980. Artificial insemination and Semen Banks in Italy. In David, G. & Price, W.S. (Eds.) *Human Artificial Insemination and semen preservation*. New York: Plenum Press: 51-56.
- Tripodi, T. 1981. The logic of research design. In Grinnell, R.M. (Ed.) *Social work research and evaluation*. Itasca, Illinois: F.E. Peacock Publishers, Inc.
- Tripodi, T. 1983. *Evaluative research for social workers*. New Jersey: Prentice-Hall.
- Trounson, A. & Freemann, L. 1985. The use of embryo cryopreservation in human IVF programmes. *Clinics in Obstetrics and Gynaecology*. Vol. 12(4), December: 825-833.
- Trounson, A.; Leeton, J.; Besanko, M.; Wood, C. & Conti, A. 1983. Pregnancy established in an infertile patient after transfer of donated embryo fertilized in vitro. *British Medical Journal*. Vol. 286: 835-839.
- Trounson, A. & Mohr, L. 1983. Human pregnancy following cryopreservation, thawing and transfer of an eight-cell embryo. *Nature*. Vol. 305: 707-709.
- Turner, F.J. 1979. Psychosocial Therapy. In Turner, F.J. (Ed.) *Social Work Treatment: Interlocking theoretical approaches*. 2nd Edition. New York: Free Press: 69-90.
- Turner, F.J. (Ed.) 1979. *Social Work Treatment: Interlocking theoretical approaches*. 2nd Edition. New York: Free Press.
- TV1 News. 1991. GMSA Newsbroadcast on TV1, SABC on surrogate motherhood legislation, 7 September.
- TV1 News. 1992. Newsbroadcast on TV1, SABC on the success of micromanipulation in South Africa, 9 September.
- Valentine, D.P. 1986. Psychological impact of infertility: Identifying issues and needs. *Social Work in health care*. Vol. 11(4), Summer: 61-69.
- Valentine, D. (Ed.) 1988. *Infertility and adoption: A guide for social work practice*. New York: Haworth Press.
- Van der Merwe, J.V. 1988. Proefbuisbabas. Referaat gelewer by 'n Puniva Simposium, Universiteit van Pretoria, 26 April, Pretoria.
- Van der Sandt, M. 1995. Bevrugtingstegniek gee nuwe hoop. *Tukkiewa-ria*. Vol. 13(9), Oktober: 3

- Van Delft, W.F. 1983. **Kunsmatige inseminasie met skenkersaad (KIS) as alternatief vir kinderlose egpare in Suid-Afrika.** Ongepubliseerde D.Phil (Maatskaplike Werk) proefskirf, Pretoria: Universiteit van Suid-Afrika.
- Van Delft, W.F. 1986. **Hantering van die infertiliteits pasiënt en KIS.** Referaat gelewer te werkwinkel oor infertiliteit, AGS Kerk, Rietfontein, 10 Februarie, Pretoria.
- Van Hall, E.V. 1984. **The infertile couple and the gynaecologist: psychosocial and emotional aspects.** In Harrison, R.F.; Bonnar, J. & Thompson, W. (Eds.) **Fertility and Sterility.** Lancaster: M.T.P. Press Ltd.: 359-368.
- Van Niekerk, A. (Ed.) 1991. **The status of prenatal life.** Cape Town: Lux Verbi.
- Van Niekerk, A. 1991. **New possibilities, new problems: introductory remarks on the need for bioethics in our time.** In Van Niekerk, A. (Ed.) **The Status of prenatal life.** Cape Town: Lux Verbi: 9-18.
- Van Niekerk, I.J.M. 1980. **Basiese Mediese anatomie.** Durban: Butterworth.
- Van Staden, B.J. 1989. **An ecosystemic conceptual model of artificial donor reproduction.** Unpublished D.Phil (Psychology) thesis. Pretoria: University of South Africa.
- Van Staden, S.M.; Hugo, E.A.K.; Van Rooyen, I.J.J. & Van Delft, W.F. (Eds.) 1989. **Maatskaplikewerk - Opleiding oor sestig jaar.** Hillcrest: Owen Burgess-Uitgewers.
- Van Thiel, M.; Mantadakis, E.; Vekemans, M. & Gillot de Vries, F. 1990. **Etude, par entretiens et tests projectifs, du psychisme de patient(e)s ayant recours à l'insémination artificielle par donneur anonyme.** *Journal de Gynécologie Obstétrique et biologie de la reproduction.* Vol. 19(7): 823-828.
- Van Wyk, M. 1991. **Onvrugbare vrou kan embryo 'aanneem'.** *Beeld*, 4 Oktober: 10.
- Vazquez-Levin, M.; Kaplan, P.; Guzman, I.; Grunefeld, L.; Garrisi, G.J. & Navot, D. 1991. **The effect of female antisperm antibodies on in vitro fertilization, early embryonic development and pregnancy outcome.** *Fertility and Sterility.* Vol. 56(1), July: 84-87.
- Virag, R. 1982. **Arterial and venous hemodynamics in male impotence.** In Bennett, A.H. (Ed.) **Management of male impotence.** Baltimore: Williams & Wilkins: 108-126.
- Visser, A.P.; Haan, G.; Zalmstra, H. & Wouters, I. 1994. **Psychosocial aspects of in vitro fertilization.** *Journal of Psychosomatic Obstetrics and Gynaecology.* Vol. 15(1), March: 35-43.
- Wagenknecht, L.V. 1982. **Obstruction in the male reproductive tract.** In Bain, J.; Schill, W.B. & Schwarzstein, L. (Eds.) **Treatment of male infertility.** Berlin: Springer-Verlag: 221-248.

- Wagner, G. 1982. Organic causes of impotence: Medical. In Bennett, A.H. (Ed.) **Management of male impotence**. Baltimore: Williams & Wilkins: 127-134.
- Walker, H.E. 1982. Psychiatric aspects of infertility. In De Vere White, R. (Ed.) **Aspects of male infertility**. Baltimore: Williams & Wilkins: 250-260.
- Walker, A.; Gregson, S. & McLaughlin, E. 1987. Attitudes towards donor insemination - a post-Warnock survey. **Human Reproduction**. Vol. 2(8): 745-750.
- Walters, W.A.W. 1982. Cloning, Estrogenesis and hybrids: Things to come? In Walters, W.A.W. & Singer, P. (Eds.) **Test-tube babies**. Auckland: Melbourne - Oxford University Press: 110-118.
- Walters, W.A.W. & Singer, P. (Eds.) 1982. **Test-tube babies**. Auckland: Melbourne - Oxford University Press.
- Waltzer, H. 1982. Psychological and legal aspects of artificial insemination (AID): An overview. **American Journal of psychotherapy**. Vol. 36(1), January: 91-102.
- Warnock, M. 1991. Ethics Committees. **Baillière's Clinical Obstetrics and Gynaecology**. Vol. 5(3), September: 761-777.
- Weaver, S.M.; Clifford, E.; Gordon, A.G.; Hay, D.M. & Robinson, J. 1993. A follow-up study of successful IVF/GIFT couples: social-emotional well-being and adjustment to parenthood. **Journal of Psychosomatic Obstetrics and Gynaecology**. Vol. 14, Supplement: 5-16.
- Webster's Desk Dictionary of the English Language**. 1983. New York: Gramercy Books.
- Webster's Medical Dictionary**. 1986. Springfield, Massachusetts: Merriam-Webster Inc. Publishers.
- Webster's New Dictionary of Synonyms**. 1973. Springfield, Massachusetts: G & C Merriam Company, Publishers.
- Whelan, D. 1978. The law and artificial insemination with donor semen (AID). **The Medical Journal of Australia**. Vol. 1, January 14: 56-58.
- Whittingham, D.G. 1987. Human Oocyte and embryo freezing. In Feichtinger, W. & Kemeter, P. (Eds.) **Future aspects in human in vitro fertilization**. Berlin: Springer-Verlag: 58-63.
- Wiswedel, K. 1988. **Sperm cryopreservation and artificial insemination at Groote Schuur Hospital**. Unpublished M.Med (O et G) Dissertation. Cape Town: University of Cape Town.
- Wiswedel, K. 1991. **Interview with head of Infertility Clinic**. Groote Schuur Hospital, 28 May, Cape Town.
- Wolstenholme, G.E.W. & Fitzsimons, D.W. (Eds.) 1973. **Law and ethics of AID and embryo transfer**. CIBA Foundation Symposium Amsterdam: Associated Scientific Publishers.

- Wong, T.W. & Jones, T.M. 1983. Evaluation of testicular biopsy in male infertility studies. In Lipshultz, L.I. & Howards, S.S. (Eds.) **Infertility in the male**. New York: Churchill Livingstone: 217-248.
- Wood, E.C. & Singer, P. 1988. Whither surrogacy? **Medical Journal of Australia**. Vol. 149, October 17: 426-430.
- Wood, C. & Westmore, A. 1985. Postscript: The significance of the early human embryo - a broad perspective. **Clinics in Obstetrics and Gynaecology**. Vol. 12(4), December: 911-921.
- Wood, C. & Patterson, P.J. 1980. Tubal factors and infertility. In Pepperell, R.J.; Hudson, B. & Wood, C. (Eds.) **The Infertile Couple**. Edinburgh: Churchill Livingstone: 43-69.
- World Health Organization. 1987. **WHO laboratory manual for the examination of human semen and semen-cervical mucus interaction**. 2nd Edition. Cambridge: Cambridge University Press.
- Wright, J.; Duchesne, C.; Sabourin, S.; Bissonnette, F.; Benoit, J. & Girard, Y. 1991. Psychosocial distress and infertility: men and women respond differently. **Fertility and Sterility**. Vol. 55(1), January: 100-109.
- Wu, F. 1983. Endocrinology of male infertility and fertility. In Hargreave, T.B. (Ed.) **Male Infertility**. Berlin: Springer-Verlag: 87-111.
- Yalla, S.V. 1982. Sexual dysfunction in the paraplegic and quadriplegic. In Bennett, A.H. (Ed.) **Management of male impotence**. Baltimore: Williams & Wilkins: 181-191.
- Yovich, J.L.; Blackledge, D.G.; Richardson, P.A.; Matson, P.L.; Turner, S.R. & Draper, R. 1987. Pregnancies following pronuclear stage tubal transfer. **Fertility and Sterility**. Vol. 48(5), November: 851-857.
- Yovich, J.L.; Matson, P.L.; Blackledge, D.G.; Turner, S.R.; Richardson, P.A.; Yovich, J.M. & Edirisinghe, W.R. 1988. The treatment of nonspermic infertility by gamete intrafallopian transfer (GIFT). **British Journal of Obstetrics and Gynaecology**. Vol. 95(4), April: 361-366.
- Zempleni, A. 1976. La Chaîne du Secret. **Nouvelle Revue de Psychanalyse**. Vol. 14: 313-333.
- Zimmerman, S.L. 1982. Alternatives in human reproduction for involuntary childless couples. **Family Relations**. Vol. 31(2), April: 233-241.
- Ziporyn, T. 1986. Artificial human reproduction poses medical, social concerns. **Journal of the American Medical Association (JAMA)**. Vol. 255(1), January, 3: 13-15.

APPENDIX 1

Definitions of Medical terms



APPENDIX 1

DEFINITIONS OF MEDICAL TERMS

The medical terms used throughout this thesis are subsequently defined:

Abdomen/Abdominal cavity:

"The abdomen is the region of the body located below the chest and above the pelvis. The diaphragm, a muscular wall, divides the chest from the abdominal cavity. Inside this cavity are the following organs: the liver, stomach, spleen, kidneys, pancreas, large intestine, small intestine, urinary bladder, gall-bladder, appendix and some of the sex organs" (Maxwell, 1976:317).

Abdominal:

"Pertaining to the abdomen" (International Dictionary of Medicine and Biology, 1986:169).

Abdominal aortic:

"Pertaining to the abdomen and aorta" (International Dictionary of Medicine and Biology, 1986:169).

Abdominal perineal:

"Relating to the abdomen and the perineum; used especially of surgical procedures involving exploration of these regions, such as resection of the entire rectum" (International Dictionary of Medicine and Biology, 1986: 2).

Abnormality:

"The state or quality of being abnormal. An anomaly, deformity, malformation or dysfunction" (Stedman's Medical Dictionary, 1990:3).

Accessory:

"Aiding, contributing or associated in secondary ways" (Webster's Medical Dictionary, 1986:4).

Acquired abnormality:

"Distortion of any part or general disfigurement of the body acquired after birth" (Dorland's Medical Dictionary, 1988: 438).

Acrosome:

"An anterior prolongation of a spermatozoon that releases egg-penetrating enzymes" (Webster's Medical Dictionary, 1986:9).

Adenitis:

"Inflammation of a gland" (Stedman's Medical Dictionary, 1990:23).

Adhesions:

"The stable joining of parts to each other; a fibrous band or

structure by which parts usually adhere" (Dorland's Medical Dictionary, 1988:29).

Adrenal gland:

"Either of a pair of complex endocrine organs near the anterior medial border of the kidney, consisting of a mesodermal cortex that produces steroids like sex hormones and hormones concerned especially with metabolic functions" (Webster's Medical Dictionary, 1986:14).

Agenesis:

"Absence, failure of formation, or imperfect development of any part" (Stedman's Medical Dictionary, 1990:34).

Agglutination:

"The action of an agglutinant substance; clumping together in suspensions; or antigen-bearing cells, micro-organisms or particles in the presence of specific antibodies (agglutinins)" (Dorland's Medical Dictionary, 1988:38).

AIDS:

"Acquired immunodeficiency syndrome; a disease characterized by opportunistic infections (e.g. Pneumocystis carinii, pneumonia) and malignancies (e.g. Kaposi's sarcoma) in immuno-compromised persons caused by the HIV, transmitted by exchange of body fluids (e.g. semen, blood, saliva) or transfused blood products" (Stedman's Medical Dictionary, 1990:37).

Alkaptonuria:

"A rare recessive metabolic anomaly in man marked by the inability to complete the degradation of tyrosine and phenylalanine resulting in the presence of alkapton in the urine" (Webster's Medical Dictionary, 1986:21).

Amennorrhoea:

"Absence or abnormal stoppage of the menstruation:

- (1) Primary : Failure of menstruation to occur at puberty,
and
- (2) Secondary: cessation of menstruation after it has once
been established at puberty" (Dorland's
Medical Dictionary, 1988:57).

Ampulla:

"A saccular dilation of a canal or duct" (Stedman's Medical Dictionary, 1990:60).

Anaesthetic:

"A substance capable of producing loss of sensation or sensitivity

to pain" (Maxwell, 1988:332).

Androgen:

"Genetic term for an agent, usually a hormone (e.g. testosterone) that stimulates activity of the accessory male sex organs, encourages development of male sex characteristics, or prevents changes in the latter that follow castration" (Stedman's Medical Dictionary, 1990:71).

Andrological:

"Pertaining to andrology" (Stedman's Medical Dictionary, 1990:72).

Andrologist:

"A physician usually skilled in the study of medicine concerned with diseases peculiar to the male sex, particularly infertility and sexual dysfunction" (Stedman's Medical Dictionary, 1990:72).

Andrology:

"The branch of medicine concerned with diseases peculiar to the male sex, particularly infertility and sexual dysfunction" (Stedman's Medical Dictionary, 1990:72).

Anejaculation:

"Failure to ejaculate" (Dorland's Medical Dictionary, 1988: 59).

Angina:

"A severe constricting pain, usually referring to angina pectoris" (Stedman's Medical Dictionary, 1990:79).

Angina pectoris:

"Breast pang, heart stroke, severe constricting pain in the chest often radiating from the precordium to the left shoulder and down the arm, due to ischemia of the heart muscle usually caused by coronary disease" (Stedman's Medical Dictionary, 1990:79).

Anorchism:

"Congenital absence of the testes" (Stedman's Medical Dictionary, 1990:90).

Anorectics:

"Relating to characteristics of, or suffering from anorexia, especially anorexia nervosa" (Stedman's Medical Dictionary, 1990:90).

Anorexia nervosa:

"A psychological and endocrine disorder primarily of young women in their teens that is characterized especially by a pathological fear of weight gain leading to faulty eating patterns, malnutrition and usually excessive weightloss" (Webster's Medical Dictionary, 1986:37).

Anovulation:

"Absence of ovulation" (Dorland's Medical Dictionary, 1988: 94).

Antegrade ejaculation:

"Ejaculation moving forward" (Dorland's Medical Dictionary, 1988:95).

Anterior:

"Before, in relation to time or space; in human anatomy, denoting the front surface of the body, often indicating the position of one structure relative to another, i.e., situated near the front part of the body" (Stedman's Medical Dictionary, 1990:91).

Antibody:

"Any of the body immunoglobulins that are produced in response to specific antigens and that counteract their effects especially by neutralizing toxins, agglutinating bacteria or cells and precipitating soluble antigens" (Webster's Medical Dictionary, 1986:39).

Anticonvulsants:

"Preventing or arresting convulsions, an agent having such actions" (Stedman's Medical Dictionary, 1990:95).

Antidepressants:

"Counteracting depression, an agent used in treating depression" (Stedman's Medical Dictionary, 1990:95).

Antigen:

"A protein or carbohydrate substance (such as a toxin or enzyme) capable of stimulating an immune response" (Webster's Medical Dictionary, 1986:40).

Antiglobulin:

"An antibody that combines with and precipitates globulin" (Webster's Medical Dictionary, 1986:40).

Antihypertensives:

"Indicating a drug or mode of treatment that reduces the blood pressure of hypertensive individuals" (Stedman's Medical Dictionary, 1990:98).

Antisperm:

"Destroying or inactivating sperm" (Webster's Medical Dictionary, 1986:42).

Aortic-iliac:

"Relating to or joining the abdominal aorta and the iliac arteries" (Webster's Medical Dictionary, 1986:43).

Appendectomy:

"Appendectomy; surgical removal of the vermiform appendix" (Web-

ster's Medical Dictionary, 1986:45).

Appendix vermiformis:

"A wormlike intestinal diverticulum extending from the blind end of the cecum; it varies in length and ends in a blind extremity" (Stedman's Medical Dictionary, 1990: 110).

Arterial supply:

"Relating to an artery, being the bright red blood present in most arteries that has been oxygenated in lungs or gills" (Webster's Medical Dictionary, 1986:49).

Arteriosclerosis:

"A chronic disease characterized by abdominal thickening and hardening of the arterial walls with resulting loss of elasticity" (Webster's Medical Dictionary, 1986:49).

Artificial Insemination:

"The introduction of semen into the vagina other than by coitus; homologous insemination (AIH), artificial insemination with the husband's semen or heterologous insemination (AID), artificial insemination with semen from a donor who is not the woman's husband" (Stedman's Medical Dictionary, 1990:787).

Asherman's syndrome:

"Partial or complete obliteration of the endometrial cavity by scar tissue, usually resulting in a reduction of menstrual flow and infertility" (International Dictionary of Medicine and Biology, 1986:2785).

Aspermia:

"Lack of secretion or expulsion of semen following ejaculation" (Stedman's Medical Dictionary, 1990:143).

Aspiration:

"The removal of fluids or gases from a cavity by the application of suction" (Dorland's Medical Dictionary, 1988:156).

Assay:

"Analysis, test of purity, trial, to examine, to subject to analysis" (Stedman's Medical Dictionary, 1990:143).

Asthenozoospermia:

"Markedly diminished motility or failure of spermatozoa to move" (Dorland's Medical Dictionary, 1988:158).

Asthma:

"A condition of the lungs in which there is a widespread narrowing of airways, varying over short periods of time either spontaneously

or as a result of treatment, due in varying degrees to mucus; bronchial asthma" (Stedman's Medical Dictionary, 1990:144).

Atherosclerosis:

"An arteriosclerosis characterized by the deposition of fatty substances in the fibrosis of the inner layer of the arteries" (Webster's Medical Dictionary, 1986:55).

Atrophic:

"Denoting atrophy" (Stedman's Medical Dictionary, 1990:150).

Atrophy:

"A wasting of tissues, organs or the entire body, as from death and reabsorption of cells, diminished cellular proliferation, decreased cellular volume, pressure, ischemia, malnutrition, lessened function or hormonal change" (Stedman's Medical Dictionary, 1990:151).

Autoimmunity:

"A condition characterized by cell-mediated or humoral immunologic response to antigens of one's own body. This occasional departure from the usual recognition of self and nonself by the immune system contributes to a variety of diseases. Also called autoallergy" (International Dictionary of Medicine and Biology, 1986:287).

Autoimmunization:

"Any act or process by which autoimmunity is produced" (International Dictionary of Medicine and Biology, 1986: 287).

Autonomic nervous system:

"The portion of the nervous system concerned with regulation of the activity of cardiac muscle, smooth muscle and secretory glands, usually restricted to the two visceral efferent peripheral components, the pars sympathica systematis nervosi autonomici (thoracolumbar part or sympathetic nervous system) and the pars parasympathica systematis nervosi autonomici (sacrosacral part or parasympathetic nervous system)" (Dorland's Medical Dictionary, 1988:1652).

Autonomic neuropathy:

"Polyneuropathy, principally or wholly involving autonomic nerves" (International Dictionary of Medicine and Biology, 1986:1923).

Azoospermia:

"Absence of spermatozoa in the semen, or failure of formation of spermatozoa" (Dorland's Medical Dictionary, 1988:177).

Bacteria:

"A microscopic organism called a microbe or a germ such as toxins, staphylococcus and streptococcus" (Maxwell, 1976:346).

Bartholin Duct:

"Either of two racemose glands lying one to each side of the lower part of the vagina and secreting a lubricating mucus" (Webster's Medical Dictionary, 1986:66).

Basal temperature:

"The temperature of the body under conditions of absolute rest. Abbreviated BBT" (Dorland's Medical Dictionary, 1988:1669).

Benign:

"Relatively mild; likely to have a favorable outcome; said of an illness. Not malignant, not having the potential for metastasis said of a neoplasm. Also benignant" (International Dictionary of Medicine and Biology, 1986:325).

Beta:

"Relating to one of two or more closely related chemical substances used somewhat arbitrarily to specify ordinal relationship or a particular form" (Webster's Medical Dictionary, 1986:71).

Bilateral:

"Having, affecting or pertaining to the two sides, especially the two symmetrical or opposite sides of an organ or the body" (International Dictionary of Medicine and Biology, 1986:332).

Bilharzia:

"A genus of digenetic trematodes, including the important blood flukes of man and domestic animal, characterized by elongate shape, by their unusual location in the smaller blood vessels of their host and by utilization of water snails as intermediate hosts (Schistosoma)" (Dorland's Medical Dictionary, 1988:1-491).

Biochemical:

"Involving chemical reactions in living organisms" (Webster's Medical Dictionary, 1986:74).

Biopsy:

"The removal and examination of tissue, cells or fluids from the living body" (Webster's Medical Dictionary, 1986:76).

Bladder:

"A membranous sac, such as one serving as receptacle for a secretion; often used alone to designate the urinary bladder" (Dorland's Medical Dictionary, 1988:212).

Blastocyst:

"An undifferentiated embryonic cell" (Webster's Medical Dictionary, 1986:79).

Blastomere:

"A cell produced during cleavage of an egg-called cleavage cell" (Webster's Medical Dictionary, 1986:79).

Blindness:

"Loss of the sense of sight; absolute, loss of visual perception of objects although visual acuity is normal" (Stedman's Medical Dictionary, 1990:194).

Blood pressure:

"The pressure of the blood on the walls of the arteries, dependant on the energy of the heart action, the elasticity of the walls of the arteries and the volume and viscosity of the blood. The maximum pressure occurs near the end of the stroke output of the left ventricle of the heart and is termed maximum or systolic pressure. The minimum pressure occurs late in ventricular diastole and is termed minimum or diastolic pressure. Mean blood pressure is the average of the blood pressure levels. Basic blood pressure is the pressure during quiet rest or basal conditions" (Dorland's Medical Dictionary, 1988:1353).

Bromocriptine:

"An agent which slows dopamine turnover, inhibits prolactin secretion and release of prolactin by thyrotropin - releasing hormone and retards tumor growth and hence is used in the treatment of hyperprolactinemia associated with various pituitary tumors" (Stedman's Medical Dictionary, 1990:212).

Bulbo:

"Combined form relating to a bulb on bulbus" (Stedman's Medical Dictionary, 1990:218).

Caesarean:

"Denoting a caesarean section" (Stedman's Medical Dictionary, 1990:281).

Cancer:

"A malignant tumor of potentially unlimited growth, that expands locally by invasion and systemically by metastasis. Also carcinoma, sarcoma, neoplasm, tumor" (Webster's Medical Dictionary, 1986:95).

Candida albicans:

"Thrush fungus; a species of yeast-like fungi which is ordinarily a part of man's normal gastrointestinal flora, but which becomes pathogenic when there is a disturbance in the balance of flora" (Stedman's Medical Dictionary, 1990:237).

Cannula:

"A tube which can be inserted into a cavity, usually by means of a trocar filling its lumen; after insertion of the cannula, the trocar is withdrawn and the cannula remains as a channel for the transport of fluid" (Stedman's Medical Dictionary, 1990:238).

Cannulation:

"Insertion of a cannula" (Stedman's Medical Dictionary, 1990:238).

Castrate:

"To deprive of generative power (male or female). To remove the testicles or the ovaries" (Stedman's Medical Dictionary, 1990:256).

Catheter:

"A thin flexible tube designed to be introduced into a body passage or cavity in order to withdraw or inject some substance" (Maxwell, 1976:376).

Cauda Epididymis:

"Tail of the epididymis, globus minor; the inferior part of the epididymis that leads into the ductus deferens; part of the reservoir of spermatozoa" (Stedman's Medical Dictionary, 1990:260).

Cell:

"The smallest unit of a living structure capable of independent existence, composed of a membrane-enclosed mass of protoplasm and containing a nucleus or nucleoid. Cells are highly variable and specialized in both structure and function, though all must at some stage replicate proteins and nucleic acids, utilize energy and reproduce themselves" (Stedman's Medical Dictionary, 1990:265).

Central nervous system:

"That portion of the nervous system consisting of the brain and spinal cord (pars centralis systematis nervosi and systema nervosium centrale)" (Dorland's Medical Dictionary, 1988:1652).

Cervical canal:

"A fusiform canal extending from the isthmus of the uterus to the opening of the uterus into the vagina" (Stedman's Medical Dictionary, 1990:235).

Cervical factors:

"Pertaining to or occurring in the neck of the uterus" (Dorland's Medical Dictionary, 1988:307).

Cervical os:

"The neck and opening or mouth of the cervix" (Dorland's Medical Dictionary, 1988:1193)

Cervicitis:

"Inflammation of the cervix" (Dorland's Medical Dictionary, 1988:307).

Cervix:

"The front portion or neck of the uterus" (Dorland's Medical Dictionary, 1988:308).

Chemotherapy:

"Treatment of disease by means of chemical substances or drugs; usually used in reference to neoplastic disease" (Stedman's Medical Dictionary, 1990:287).

Chlamydia trachomatis:

"Intracellular parasites which cause or are associated with various diseases of the genitourinary tract" (Webster's Medical Dictionary, 1986:115).

Chorion:

"In human embryology; the cellular outermost extra-embryonic membrane" (Dorland's Medical Dictionary, 1988:328).

Chromosomal:

"Pertaining to chromosomes" (Stedman's Medical Dictionary, 1990:304).

Chromosome:

"One of the bodies (46 in man) in the cell nucleus that is the bearer of genes, has the form of a delicate chromatin filament" (Stedman's Medical Dictionary, 1990:304).

Ciliary:

"Relating to any cilia or hairlike processes" (Stedman's Medical Dictionary, 1990:307).

Circumcision:

"To cut around; operation to remove part of or all the prepuce (foreskin)" (Stedman's Medical Dictionary, 1990:310).

Cleavage:

"The series of synchronized mitotic cell divisions of the fertilized egg that results in the formation of the blastomeres and changes in the single-celled zygote into a multicellular embryo" (Webster's Medical Dictionary, 1986:127).

Clomiphene citrate:

"A synthetic drug used in the form of its citrate to induce ovulation" (Webster's Medical Dictionary, 1986:127).

Coagulation:

"The process of clot formation; an alteration of a dissolved solid

which causes the separation of the system into a liquid phase and an insoluble mass called a clot or curd" (Dorland's Medical Dictionary, 1988:349).

Coitus:

"The act of sexual union or sexual intercourse, also known as copulation" (Maxwell, 1976:387).

Colectomy:

"Excision of a portion of the colon (partial) or of the whole colon (whole/total)" (Dorland's Medical Dictionary, 1988:356).

Colostomy:

"The surgical creation of an opening between the colon and the surface of the body; also used to refer to the opening or stoma, so created" (Dorland's Medical Dictionary, 1988:361).

Colour:

"The state of being coloured, (such as colour of semen)" (Dorland's Medical Dictionary, 1988:360).

Colour blindness:

"Misleading term for anomalous or deficient colour vision; complete colour blindness is the absence of one of the primary cone pigments of the retina" (Stedman's Medical Dictionary, 1990:194).

Concentration:

"The ratio of mass or volume of a solute to the mass of the solution or solvent" (Dorland's Medical Dictionary, 1988:369).

Congenital:

"Existing at birth, referring to certain mental or physical traits, anomalies, malformations, diseases etc., which may be either hereditary or due to an influence occurring during gestation up to the moment of birth" (Stedman's Medical Dictionary, 1990:342).

Cornu:

"A hornlike excrescence or projection; used in anatomical nomenclature to designate a structure resembling a horn in shape, especially in section" (Dorland's Medical Dictionary, 1988: 382).

Corona glandis:

"The rounded proximal border of the glans penis separated from the corpora cavernosa penis by the neck of the penis" (Dorland's Medical Dictionary, 1988:383).

Coronary:

"Coronary refers to the heart arteries that supply the heart muscle with blood" (Maxwell, 1976:394).

Corpora cavernosa:

"Cavernous body of penis, one of two parallel columns of erectile tissue forming the dorsal part of the body of the penis, they are separated posteriorly" (Stedman's Medical Dictionary, 1990:355).

Corpora spongiosum:

"The longitudinal column of erectile tissue of the penis that contains the urethra and is ventral to the two corpora cavernosa" (Webster's Medical Dictionary, 1986:146).

Corpus:

"A discrete mass of material; as of specialized tissue used in anatomical nomenclature to designate the entire organism and applied also to the main portion of an anatomical part, structure or organ" (Dorland's Medical Dictionary, 1988:384).

Corpus luteum:

"Yellow body; the yellow endocrine body, 1 to 1,5 cm in diameter, formed in the ovary at the site of a ruptured ovarian follicle immediately after ovulation; although the corpus luteum secretes an estrogenic hormone, it elaborates a second hormone known as progesterone, which is much more characteristic of it" (Stedman's Medical Dictionary, 1990:355).

Corpus uteri:

"That part of the uterus above the isthmus and below the orifices of the uterine tubes" (Dorland's Medical Dictionary, 1988:385).

Cowpers gland/cyst:

"A retention cyst of a bulbo-urethral gland" (Stedman's Medical Dictionary, 1990:388).

Cryoprotectant:

"Serving to protect against the deleterious effects of subjection to freezing temperatures" (Webster's Medical Dictionary, 1986:154).

Cryptorchidism:

"Testis which has failed to descend into the scrotum" (Dorland's Medical Dictionary, 1988:1699).

Culture medium:

"The act or process of growing living material in prepared nutrient media" (Webster's Medical Dictionary, 1986:156).

Cyclic:

"Pertaining to or characteristic of a cycle; occurring periodically denoting the course of the symptoms in certain diseases or disorders" (Stedman's Medical Dictionary, 1990:385).

Cyst:

"A sac containing gas, fluid or a semi-solid substance, which may develop in any part of the body" (Maxwell, 1976:397).

Cystic Fibrosis:

"Fibrocystic disease of the pancreas; a congenital metabolic disorder, inherited as a recessive trait in which secretions of exocrine glands are abnormal; excessively viscid mucus causes obstruction of passageways (including pancreatic ducts, intestines and bronchi) symptoms usually appear in childhood and include malabsorption and foul bulky stools, chronic bronchitis with cough, recurrent pneumonia, emphysema and clubbing fingers" (Stedman's Medical Dictionary, 1990:583).

Cysto:

"Combining forms relating to the bladder, cystic duct, cyst" (Dorland's Medical Dictionary, 1988:391).

Cystoscopy:

"Direct visual examination of the urinary tract with a cystoscope" (Dorland's Medical Dictionary, 1988:425).

Cystoprostatectomy:

"Surgical removal of the urinary bladder and the prostate" (International Dictionary of Medicine and Biology, 1986:715).

Cytology:

"Cellular biology; cytobiology; the study of the anatomy, physiology, pathology and chemistry of the cell" (Stedman's Medical Dictionary, 1990:394).

Cytomegalovirus (CMV):

"Visceral disease virus; a group of herpesviruses infecting man and other animals, many of the viruses having special affinity for salivary glands, causing enlargement of cells of various organs and development of characteristic inclusions in the cytoplasm or nucleus" (Stedman's Medical Dictionary, 1990:394).

Cytopathology:

"The branch of medicine concerned with the study of disease changes within individual cells or cell types" (Stedman's Medical Dictionary, 1990:395).

Cytoplasma:

"Cysto-combining forms relating to the bladder, cystic duct, a cyst" (Stedman's Medical Dictionary, 1990:391).

Deafness:

"Loss of the ability to hear, due to congenital or acquired cause" (Stedman's Medical Dictionary, 1990:400).

Deformity:

"Distortion of any part or general disfigurement of the body; malformation" (Dorland's Medical Dictionary, 1988:438).

Degeneration:

"A retrogressive pathologic change in cells or tissue, in consequence of which the functions may be impaired or destroyed, at some stages, the degenerative process is reversible" (Stedman's Medical Dictionary, 1990:406).

Delivery:

"Passage of the foetus and the placenta from the genital canal into the external world" (Stedman's Medical Dictionary, 1990:523).

Density:

"The compactness of a substance, the ratio of mass to volume usually expressed as g/ml" (Stedman's Medical Dictionary, 1990:412).

Depolymerization:

"To decompose into relatively simple compounds, to undergo decomposition into simpler compounds" (Webster's Medical Dictionary, 1986:172).

Development:

"The act or process of natural progression from a previous, lower or embryonic stage to a later, more complex adult stage" (Stedman's Medical Dictionary, 1990:424).

Diabetes Mellitus:

"A familial constitutional disorder of carbohydrate metabolism, characterized by inadequate secretion or utilization of insulin, by excessive urine production, by excessive amounts of sugar in the blood and urine, and by thirst, hunger and loss of weight" (Webster's Medical Dictionary, 1986:177).

Diabetic neuropathy:

"A general term denoting functional disturbances and or pathological changes in the peripheral nervous system. The etiology may be known e.g. diabetes" (Dorland's Medical Dictionary, 1988:1131).

Diaphragma:

"A partition wall; a thin partition separating adjacent regions" (Stedman's Medical Dictionary, 1990:429).

Dimethylsulfoxide (DMSO):

"A compound, $(CH_3)_2SO$, obtained as a by-product in wood-pulp manufacture and used as a solvent and in experimental medicine" (Webster's Medical Dictionary, 1986:183).

Diphallia:

"Double or bifid penis; a rare congenital anomaly in which the penises may be symmetrical or placed one above the other, often associated with urogenital or other anomalies" (Stedman's Medical Dictionary, 1990:440).

Discharge:

"The act of relieving of something; something that is emitted or evacuated" (Webster's Medical Dictionary, 1986:185).

Dominant:

"Exerting forcefulness or having dominance, being the one of a pair of bodily structures that is more effective or predominant in action; relating to genetic dominance" (Webster's Medical Dictionary, 1986:189).

Donor:

"An individual that supplies living tissue to be used in another body" (Dorland's Medical Dictionary, 1988:505).

Doppler ultrasonography/echography:

"Measurement and a visual record made of the shift of frequency of a continuous ultrasonic wave proportional to the blood flow velocity in underlying vessels; used in diagnosis of varicocele or vascular diseases" (Dorland's Medical Dictionary, 1988:1785).

Dorsal recumbent:

"To lie back; posterior recline" (Stedman's Medical Dictionary, 1990:1331).

Dorsal vein:

"A vessel through which blood passes from various organs or parts back to the heart" (Dorland's Medical Dictionary, 1988:1811).

Douche:

"A current of water, directed against a surface or projected into a cavity, e.g. vagina" (Stedman's Medical Dictionary, 1990:465).

Duct:

"A tubular structure giving exit to the secretion of a gland or conducting any fluid" (Stedman's Medical Dictionary, 1990:469).

Ductal:

"Relating to a duct" (Stedman's Medical Dictionary, 1990:470).

Ductus deferens:

"The excretory duct of the testis which unites with the excretory duct of the seminal vesicle to form the ejaculatory duct or vas deferens" (Dorland's Medical Dictionary, 1988:512).

Dysfunction:

"Difficult or abnormal function" (Stedman's Medical Dictionary, 1990:476).

Dyslexia:

"Incomplete alexia; a level of reading ability markedly below that expected on the basis of the individual's level of over-all intelligence or ability in skills" (Stedman's Medical Dictionary, 1990:477).

Dysuria:

"Difficulty or pain in urination" (Stedman's Medical Dictionary, 1990:482).

Echography:

"Ultrasonography, the use of ultrasound as a diagnostic aid. Ultrasound waves are directed at tissues and a record is made of the waves reflected back through the tissues, which indicate interfaces of different acoustic densities and thus differentiate between solid and cystic structures" (Dorland's Medical Dictionary, 1988:526).

Ectopic pregnancy:

"Out of place; a pregnancy occurring elsewhere than in the cavity of the uterus" (Stedman's Medical Dictionary, 1990:488).

Ectopic uterocele:

"**Ectopic:** Said of an organ not in its proper position" (Stedman's Medical Dictionary, 1990:488). "**Uterocele:** Denoting relationship to the uterus and a cavity" (Dorland's Medical Dictionary, 1988:289).

Eczema:

"Generic term for acute or chronic inflammatory condition of the skin, often accompanied by sensations of itching and burning" (Stedman's Medical Dictionary, 1990:488).

Efferent:

"Conducting outward from a part or organ" (Webster's Medical Dictionary, 1986:200).

Ejaculation:

"A sudden act of expulsion of the semen" (Dorland's Medical Dictionary, 1988:533).

Ejaculatory duct:

"A tubular structure giving exit to the secretion of a gland or

conducting fluid such as during ejaculation" (Stedman's Medical Dictionary, 1990:469).

Embryo:

"The developing organism from conception until approximately the end of the second month, developmental stages from this time to birth are commonly designated as fetal" (Stedman's Medical Dictionary, 1990:501).

Emission:

"An involuntary discharge of semen" (Dorland's Medical Dictionary, 1988:546).

Endocervical:

"Intracervical; within any cervix, specifically within the cervix uteri" (Stedman's Medical Dictionary, 1990:510).

Endocrine system:

"The system of glands and other structures that elaborate internal secretions (hormones), which are released directly into the circulatory system and which influence metabolism and other body processes. Organs having endocrine function include the hypothalamus, pituitary, thyroid, parathyroid, and adrenal glands, the gonads, the pancreas, the paraganglia and perhaps the pineal body, the gut and the lung also secrete substances that have hormonal functions" (Dorland's Medical Dictionary, 1988:1652).

Endometrial:

"Relating to or composed of endometrium" (Stedman's Medical Dictionary, 1990:511).

Endometrial biopsy:

"The removal and examination of tissue belonging to the endometrium" (Webster's Medical Dictionary, 1986:211).

Endometrial cavity:

"Relating to the endometrium and a hollow space" (Stedman's Medical Dictionary, 1990:262 and 511).

Endometriomas:

"Circumscribed mass of ectopic endometrial tissue in endometriosis" (Stedman's Medical Dictionary, 1990:511).

Endometriosis:

"A condition in women which occurs when cells like those lining the uterus grow on the surfaces of the organs inside the pelvis. Cysts may form from the blood produced by these patches of tissue" (Maxwell, 1976:419).

Endometrium:

"The mucus membrane lining of the uterus" (Webster's Medical Dictionary, 1986:211).

Enzymes:

"Organic catalyst; a protein secreted by cells that act as a catalyst to induce chemical changes in other substances, itself remaining apparently unchanged by the process" (Stedman's Medical Dictionary, 1990:519).

Epididymis:

"The elongated cordlike structure along the posterior border of the testis, whose elongated coiled duct provides for storage, transit and maturation of spermatozoa and is continuous with the ductus deferens. It consists of a head, body and tail" (Dorland's Medical Dictionary, 1988:567).

Epilepsy:

"Falling sickness; convulsive state, seizure, fit; a chronic disorder characterized by paroxysmal brain dysfunction due to excessive neuronal discharge and usually associated with some alteration of consciousness. The clinical manifestations of the attack may vary from complex abnormalities of behavior including generalized or focal convulsions, to momentary spells of impaired consciousness" (Stedman's Medical Dictionary, 1990:523).

Epispadias:

"A malformation in which the urethra opens on the dorsum of the penis, frequently associated with extrophy of the bladder" (Stedman's Medical Dictionary, 1990:526).

Erectile:

"Capable of becoming erectile, tumescent or turgid" (International Dictionary of Medicine and Biology, 1986:985).

Erection:

"The rigid, swollen state of the penis when filled with blood" (Maxwell, 1976:421).

Estradiol:

"Estrogenic hormone; the most potent naturally occurring estrogen in mammals, formed by the ovary, placenta, testis, and possibly the adrenal cortex; therapeutic indication for estradiol and those typical of an estrogen" (Stedman's Medical Dictionary, 1990:539).

Estrogen:

"Generic term for any substance, natural or synthetic that exerts

biological effects characteristic of estrogenic hormones such as estradiol. Estrogens are formed by the ovary, placenta, testes and possibly the adrenal cortex, as well as by certain plants; stimulate secondary sexual characteristics and exert systemic effects, such as growth and maturation of long bones and are used therapeutically in any disorder attributes to deficiency or amenable to estrogen therapy" (Stedman's Medical Dictionary, 1990:539).

Excretory duct:

"The duct that drains the seminal vesicle and unites with the ductus deferens to form the ejaculatory duct" (Dorland's Medical Dictionary, 1988:512).

Exogenous:

"Originating or produced outside of the organism" (Stedman's Medical Dictionary, 1990:549).

Exstrophy:

"Congenital eversion of a hollow organ" (Stedman's Medical Dictionary, 1990:551).

External cervical os/ostium uteri:

"The external opening of the cervix of the uterus into the vagina called orificium externum uteri and external orifice of uterus" (Dorland's Medical Dictionary, 1988:1202).

External genitalia:

"The vulva in the female and the penis and scrotum in the male" (Stedman's Medical Dictionary, 1990:641).

Fallopian tubes:

"Two tubes, which connect the uterus to an ovary situated on either side of the abdomen" (Maxwell, 1976:427).

Fecundity:

"Pronounced fertility; capability of repeated fertilization" (Stedman's Medical Dictionary, 1990:570).

Fetus:

"The product of conception from the end of the eighth week to the moment of birth" (Stedman's Medical Dictionary, 1990:573).

Fibroid:

"Having a fibrous structure; resembling of fibroma" (Dorland's Medical Dictionary, 1988:628).

Fibrosis:

"The formation of fibrous tissue or fibrous degeneration" (Dorland's Medical Dictionary, 1988:630).

Fimbrae:

"A bordering fringe at the entrance of the Fallopian tubes" (Webster's Medical Dictionary, 1986:243).

Flaccid:

"Weak, lax, soft" (Dorland's Medical Dictionary, 1988:637).

Flourosocopy:

"A device used for examining deep structures by means of roentgen rays; it consists of a screen (flourescent screen) covered with crystal of calcium tungstate on which are projected the shadows of X-rays passing through the body placed between the screen and the source of irradiation" (Dorland's Medical Dictionary, 1988:643).

Follicular:

"Pertaining to a follicle" (Dorland's Medical Dictionary, 1988:647).

Follicle:

"A sac or pouch-like depression or cavity" (Dorland's Medical Dictionary, 1988:640).

Follicle stimulating hormone (FSH):

"A hormone from an anterior lobe of the pituitary gland that stimulates the growth of the ovum-containing follicles in the ovary and that activates sperm-forming cells" (Webster's Medical Dictionary, 1986:248).

Fructose:

"Fruit sugar, one of three forms of sugar" (Webster's Medical Dictionary, 1986:254).

Forceps delivery:

"Assisted birth of the child by an instrument designed to grasp the child" (Stedman's Medical Dictionary, 1990:409).

Foreskin:

"The prepuce (preputum penis)" (Dorland's Medical Dictionary, 1988:652).

Fornix:

"An arch-shaped structure, often the arch-shaped roof of an anatomical structure" (Stedman's Medical Dictionary, 1990:611).

Fornix vaginae:

"Uteri; the recess at the vault of the vagina; it is divided into a pars anterior, pars posterior, pars lateralis, with respect to its relation to the cervix of the uterus" (Stedman's Medical Dictionary, 1990:612).

Fundus:

"The base/bottom of lowest part of an organ, often opposite the main opening to or from a hollow organ" (International Dictionary of Medicine and Biology, 1986:1161).

Fusiform:

"Tapering toward each end, bacteria" (Webster's Medical Dictionary, 1986:256).

Gamete:

"A reproductive cell (ovum or spermatozoon) whose union is necessary in sexual reproduction to initiate the development of a new individual" (Dorland's Medical Dictionary, 1988:674).

Gelatin:

"A soluble protein obtained by boiling collagen with water during which process the collagen is partly degraded" (International Dictionary of Medicine and Biology, 1986:1188).

Genetic:

"Referring to or pertaining to anything controlled or defined by genes" (International Dictionary of Medicine and Biology, 1986:1191).

Germ cell:

"Sex cells" (Stedman's Medical Dictionary, 1990:272).

Genital tract:

"Genital duct, the genital passages of the urogenital apparatus" (Stedman's Medical Dictionary, 1990:1617).

Genitalia:

"The various external and internal organs concerned with reproduction" (Dorland's Medical Dictionary, 1988:686).

Gestation:

"The carrying of young in the uterus from conception to delivery" (Webster's Medical Dictionary, 1986:264).

Glans:

"An acorn-shaped, rounded body or mass of tissue specifically the glans penis and glans clitoridis" (International Dictionary of Medicine and Biology, 1986:1208).

Glans clitoridis:

"The small, rounded free end of the body of the clitoris, composed of erectile tissue and covered by a highly sensitive epithelium. Overhanging it superiorly is the prepuce and inferiorly the frenulum is attached to it. It is homologous to the glans penis in the male" (International Dictionary of Medicine and Biology, 1986:1209).

Glans penis:

"The conical expansion of the corpus spongiosum at the distal extremity of the penis. Its proximal end, or base, forms the corona glandis projecting over the distal ends of the corpora cavernosa, which are attached in its proximal concavity. The spongy urethra pierces it and opens on its distal end. The thin skin of the penis attaches around its neck and extends over it as a double fold forming the prepuce. Also called head of penis" (International Dictionary of Medicine and Biology, 1986:1209).

Glaucoma:

"A disease of the eye characterized by increased intra-ocular pressure, excavating and atrophy of the optic nerve; produces defects in the field of vision" (Stedman's Medical Dictionary, 1990:651).

Globospermia:

"Refers to only round-headed spermatozoa" (Ludwig & Frick, 1987:2).

Glycerol:

"A sweet oily fluid obtained by the saponification of fats and fixed oils; used as a solvent; by injection or in the form of suppository for constipation" (Stedman's Medical Dictionary, 1990:658).

Gonadotropins:

"Gonadotropic hormone; a hormone capable of promoting gonadal growth and function; such effects as exerted by a single hormone are usually limited to discrete functions or historical components of a gonad, such as stimulation of follicular growth or of androgen formation; most exert their effects on both sexes although the effect of a given gonadotropin will be very different in males and in females" (Stedman's Medical Dictionary, 1990:663).

Gonadotropin releasing hormone (GnRH):

"A hormone that has an influence on the gonads; follicle stimulating and luteinizing hormone for the treatment of male and female infertility" (Dorland's Medical Dictionary, 1988:776).

Gonorrhoea:

"Contagious inflammation of the genital mucus membrane caused by the gonococcus or clap" (Webster's Medical Dictionary, 1986:272).

Graduated:

"Marked by lines or in other ways to denote capacity, degrees, percentages, etc." (Stedman's Medical Dictionary, 1990:666).

Gynaecological:

"Pertaining to gynaecology" (Dorland's Medical Dictionary, 1988:724).

Gynaecologist:

"A person skilled in gynaecology" (Dorland's Medical Dictionary, 1988:724).

Gynaecology:

"The branch of medicine concerned with the treatment of female diseases, particularly those of the reproductive system" (Maxwell, 1976:441).

Hemodialysis:

"Dialysis of soluble substances and water from the blood by diffusion through a semipermeable membrane; separation of cellular elements and colloids from soluble substances is achieved by pore size in the membrane and rates of diffusion" (Stedman's Medical Dictionary, 1990:697).

Hemophilia:

"A sex linked hereditary blood defect almost exclusively of males characterized by delayed clotting of the blood and consequent difficulty in controlling hemorrhage even after minor injuries" (Webster's Medical Dictionary, 1986:289).

Hemophyillis:

"A genus of aerobic, nonmotile bacteria" (Stedman's Medical Dictionary, 1990:679).

Hemospermia:

"The presence of blood in the seminal fluid" (Stedman's Medical Dictionary, 1990:702).

Hypatitis A:

"Inflammation of the liver; an acute usually benign hepatitis caused by an RNA virus that does not persist in the blood serum and is transmitted especially in food and water contaminated with infected fecal matter" (Webster's Medical Dictionary, 1986:334).

Hepatitis B:

"Inflammation of the liver; serum hepatitis; fatal hepatitis caused by a double standard DNA virus that tends to persist in the blood serum and is transmitted especially by contact with contaminated blood" (Webster's Medical Dictionary, 1986:650).

Herniography:

"Radiographic examination of a hernia following an injection of a contrast medium into the hernial sac" (Stedman's Medical Dictionary, 1990:709).

Herniotomy:

"Celotomy; surgical division of the constriction or strangulation of a hernia; often called herniorrhaphy" (Stedman's Medical Dictionary, 1990:709).

Herpes simplex:

"A variety of infections caused by herpes virus type 1 and 2. Type 1 infections are marked by the eruption of one or more groups of vesicles on the vermilion border of the lips or at the external nares; type 2 by such lesions on the genitalia. Both types commonly are recrudescant and reappear during other febrile illnesses or even physiologic states such as menstruation" (Stedman's Medical Dictionary, 1990:709).

Heterologous AID:

"Heterologous insemination (AID), artificial insemination with semen from a donor who is not the woman's husband" (Stedman's Medical Dictionary, 1990:787).

Hirsutism:

"The growth of hair in women in the male sexual pattern, either in part or wholly. Also called trichosis hirsuties" (International Dictionary of Medicine and Biology, 1986:1324).

HIV:

"Human immunodeficiency virus; it is the etiologic agent of acquired immunodeficiency syndrome (AIDS)" (Stedman's Medical Dictionary, 1990:1720).

Homologous AIH:

"Homologous insemination (AIH), artificial insemination with the husband's semen" (Stedman's Medical Dictionary, 1990:787).

Hormone:

"A chemical substance, formed in one organ or part of the body and carried in the blood to another organ or part. Depending on the specificity of their effects, hormones can alter the functional activity and sometimes the structure of just one organ or of various numbers of them" (Stedman's Medical Dictionary, 1990:724).

Human chorionic gonadotropin (HCG):

"Anterior pituitary-like hormone, chorionic gonadotropic hormone, choriogonadotropin, a glucoprotein with a carbohydrate fraction composed of galactose and hexosamine, extracted from the urine of pregnant women and produced by the placental trophoblastic cells, its most important role appears to be stimulation, during the first

trimester of ovarian secretion of the estrogen and progesterone, required for the integrity of conceptus. It appears to play no significant role in the last two trimesters of pregnancy, as the estrogen and progesterone are then formed by the placenta" (Stedman's Medical Dictionary, 1990:663).

Human menopausal gonadotropin (HMG):

"A pituitary hormone obtained from the urine of menopausal women (urogonadotropin); biological activity is similar to that of follicle stimulating hormone, but also weakly mimics the effects of luteinizing hormone; used in conjunction with human chorionic gonadotropin to induce ovulation" (Stedman's Medical Dictionary, 1990:663).

Huntington's chorea:

"A relatively common autosomal dominant disease characterized by chronic progressive chorea and mental deterioration terminating in dementia; the age of onset is variable but usually occurs in the fourth decade of life. Death follows within 15 years" (Dorland's Medical Dictionary, 1988:327).

Hydrocelectomy:

"Surgical removal of a hydrocele" (Webster's Medical Dictionary, 1986:308).

Hyperprolactinemia:

"Elevated levels of prolactin in the blood, which is a normal physiological reaction during lactation, but pathological otherwise; prolactin may also be elevated in cases of certain pituitary tumors and amenorrhea is often present" (Stedman's Medical Dictionary, 1990:745).

Hyperspermia:

"Refers to too much semen (more than 6 ml per specimen)" (Ludwig & Frick, 1987:2).

Hyperthyroidism:

"An abnormality of the thyroid gland in which secretion of thyroid hormone is usually increased and is no longer under regulatory control of hypothalamic-pituitary centers; characterized by a hypermetabolic state, usually weight loss, tremulousness, elevated plasma levels which may progress to severe weakness and wasting" (Stedman's Medical Dictionary, 1990:746).

Hypogonadism:

"Inadequate gonadal function as manifested by deficiencies in

gametogenesis and/or the secretion of gonadal hormones; results in atrophy of deficient development of secondary sexual characteristics and when occurring in prepubertal males, in altered body habitus characterized by a short trunk and long limbs" (Stedman's Medical Dictionary, 1990:750).

Hypogonadotropic:

"Indicating inadequate secretion of gonadotropins and the consequences thereof" (Stedman's Medical Dictionary, 1990:751).

Hypopituitarism:

"Deficient secretion of anterior pituitary hormones. Hypopituitarism may result from postpartum necrosis of the pituitary gland as in the Sheehan syndrome, to tumors, to surgical hypophysectomy or sudden infarction of the gland (pituitary apoplexy). It is associated with varying degrees of stunted growth and with gonadal, thyroidal, and adrenocortical deficiency. Also called anterior pituitary insufficiency, hypophysial dystrophy, hypohypophysism, pituitary insufficiency, subpituitarism" (International Dictionary of Medicine and Biology, 1986:1384).

Hypophysis:

"An unpaired, ovoid body that lies below the hypothalamus in the pituitary fossa of the sella turcica; the pituitary gland" (International Dictionary of Medicine and Biology, 1986:1384).

Hypospadias:

"A developmental anomaly characterized by a defect on the ventrum of the penis so that the urethral canal is open for a variable distance on the undersurface of the penis" (Stedman's Medical Dictionary, 1990:753).

Hypospermia:

"A diminishing of male germ cell production due to testicular disease" (International Dictionary of Medicine and Biology, 1986:1386).

Hypothalamus:

"The portion of the diencephalon which forms the floor and part of the lateral wall of the third ventricle. Anatomically it includes the optic chiasm, mammillary bodies, tuber cinereum, infundibulum and hypophysis, but for physiological purposes the hypophysis is considered a distinct structure. The hypothalamic nuclei comprise that part of the corticodiencephalic mechanisms which activates, controls, and integrates the peripheral autonomic mechanisms,

endocrine activity and many somatic functions e.g., a general regulation of water balance, body temperature, sleep, food intake and the development of secondary sex characteristics. The hypothalamus secretes vasopressin and oxytocin, which are stored in the pituitary, as well as many releasing factors, by means of which it exerts control over functions of the adenohypophysis portion of the pituitary gland" (Dorland's Medical Dictionary, 1988:643).

Hypothyroidism:

"Diminished production of thyroid hormone, leading to clinical manifestations of thyroid insufficiency including low metabolic rate, tendency to weight gain, somnolence" (Stedman's Medical Dictionary, 1990:755).

Hysterosalpingography/-gram:

"Examination of the uterus and Fallopian tubes by roentgenography (X-rays), after injection of an opaque medium" (Webster's Medical Dictionary, 1986:321).

Hysteroscopy:

"Uteroscopy; visual instrumental inspection of the uterine cavity" (Stedman's Medical Dictionary, 1990:757).

Idiopathic:

"Of unknown causation" (Dorland's Medical Dictionary, 1988:815).

Ileostomy:

"Establishment of a fistula through which the ileum discharges directly to the outside of the body" (Stedman's Medical Dictionary, 1990:763).

Imperforate hymen:

"A membrane fold which completely closes the entrance of the vaginal passage" (Dorland's Medical Dictionary, 1988:789).

Impotence:

"An abnormal physical or psychological state of a male characterized by the inability to copulate because of failure to have or maintain an erection" (Webster's Medical Dictionary, 1986:329).

Immune system:

"A complex system of cellular and molecular components having the primary function of distinguishing self from not self and defense against foreign organisms or substances; the primary cellular components are lymphocytes and macrophages and the primary molecular components are antibodies and lymphokines, granulocytes and the complement system are also involved in immune responses although they

are not always considered as part of the immune system per se" (Dorland's Medical Dictionary, 1988:1656).

Immunodeficiency:

"Lacking in some essential function of the immune system" (Stedman's Medical Dictionary, 1990:767).

Immunofluorescence:

"Labelling of antibodies by fluorescein to identify bacterial, viral or other antigenic material specific for the labelled antibody; the specific binding of antibody can be determined microscopically through the production of a characteristic visible light by the application of ultraviolet rays to the preparation" (Stedman's Medical Dictionary, 1990:767).

Immunoglobulin:

"A family of proteins having antibody activity" (International Dictionary of Medicine and Biology, 1986:1408).

Immunological:

"The branch of medical science concerned with the response of the organism to antigenic challenge; the use of antigen-antibody reactions in laboratory tests" (Dorland's Medical Dictionary, 1988:823).

Immunosuppressives:

"Immunodepressant; immunodepressor; an agent that induces immunosuppression" (Stedman's Medical Dictionary, 1990:768).

Incubation:

"The maintenance of microbiologic cultures or preparations of biologic or chemical material at a fixed temperature for a prescribed period of time" (International Dictionary of Medicine and Biology, 1986:1423).

Incubator:

"An apparatus for maintaining a premature infant or a constant and suitable temperature for the development of eggs or living cells" (Dorland's Medical Dictionary, 1988:829).

Induction:

"In embryology, the influence exerted by an organizer or evocator on the differentiation of adjacent cells or on the development of an embryonic structure" (Stedman's Medical Dictionary, 1990:778).

Inflammatory:

"Pertaining to, characterized by; resulting from or becoming affected by inflammation" (Stedman's Medical Dictionary, 1990:782).

Insemination:

"The deposit of seminal fluid within the vagina or cervix" (Dorland's Medical Dictionary, 1988:841).

Insufflate:

"To blow into; to blow a powder, aerosol or vapor into a body cavity or into an airway" (Stedman's Medical Dictionary, 1990:789).

Intersexuality:

"Any combination of male and female genetic, chromosomal, morphologic, hormonal, gonadal and behavioral characteristics within the same individual; sexual ambiguity due to any cause" (International Dictionary of Medicine and Biology, 1986:1458).

Intestine/Intestinum:

"Intestine, gut, bowel, the digestive tube passing from the stomach to the anus. It is divided primarily into the intestine tenue (small intestine) and the intestine crassum (large intestine)" (Stedman's Medical Dictionary, 1990:794).

Intra-uterine:

"Within the uterus" (Stedman's Medical Dictionary, 1990:796).

In-utero:

"Within the womb" (Stedman's Medical Dictionary, 1990:798).

In-vitro:

"In an artificial environment, referring to a process or reaction occurring therein, as in a test tube or culture media" (Stedman's Medical Dictionary, 1990:798).

In-vitro fertilization:

"Fertilization of the ovum within a glass, observable in a test-tube or in an artificial environment" (Dorland's Medical Dictionary, 1988:825).

In-vivo:

"In the living body, referring to a process or reaction occurring therein" (Stedman's Medical Dictionary, 1990:798).

Involuntary nervous system:

"Autonomic nervous system" (Dorland's Medical Dictionary, 1988:1650).

Ionize:

"To separate into ions, to dissociate atoms or molecules into electrically charged atoms or radicals" (Stedman's Medical Dictionary, 1990:800).

Irradiation:

"Exposure to the action of electro-magnetic-radiation. (e.g. heat,

light, radium)" (Stadman's Medical Dictionary, 1990:803).

Isthmus:

"A contracted anatomical part or passage connecting two larger structures or cavities; the lower portion of the uterine corpus" (Webster's Medical Dictionary, 1986:357).

Iso-immunization:

"Development of a significant titer of specific antibody as a result of antigen stimulation with material contained on or in the red blood cells of another individual of the same species" (Stedman's Medical Dictionary, 1990:806).

Klinefelter's syndrome:

"A congenital disorder in which a male person has an extra X chromosome in each cell. The testes fail to develop and secondary male characteristics such as body hair are lacking" (Maxwell, 1976:470).

Laparoscopy:

"Examination of the interior of the abdomen by means of a laparoscope" (Dorland's Medical Dictionary, 1988:896).

Lavage:

"The washing out of a hollow cavity or organ by copious injections and rejections of fluid" (Stedman's Medical Dictionary, 1990:843).

Leprosy:

"A chronic mycobacterial disease that is sometimes infectious. It primarily affects the peripheral nervous system and secondarily involves the skin and certain other tissues" (International Dictionary of Medicine and Biology, 1986:1562).

Leydig cells:

"Cells between the seminiferous tubules of the testis which secrete testosterone" (Stedman's Medical Dictionary, 1990:268).

Leukemia:

"Leukocytic sarcoma; progressive proliferation of abnormal leucocytes found in hemopoietic tissues, other organs and usually in the blood in increased numbers. Leukemia is classified by the dominant cell type, and by duration from onset to death" (Stedman's Medical Dictionary, 1990:858).

Leukocyte:

"White blood cell" (Stedman's Medical Dictionary, 1990:859).

Liquefaction:

"The conversion of a material into a liquid form" (Dorland's Medical

Dictionary, 1988:946).

Lumbar disc:

"Lumbur; relating to the loins, or part of the back and sides between the ribs and the pelvis" (Stedman's Medical Dictionary, 1990:896).

Luteal Phase:

"Phase of menstrual cycle; involving the corpus luteum" (Webster's Medical Dictionary, 1986:397).

Luteinizing hormone (LH):

"Interstitial cell-stimulating hormone; a glycoprotein hormone that stimulates the final ripening of the follicles and the secretion of progesterone by them, their rupture to release the egg and the conversion of the ruptured follicle into the corpus luteum" (Stedman's Medical Dictionary, 1990:899).

Lymph:

"A clear, transparent sometimes faintly yellow and slightly opalescent fluid that is collected from the tissues throughout the body, flows in the lymphatic vessels (through the lymph nodes) and is eventually added to the venous blood circulation, consists of a clear liquid portion, varying numbers of white blood cells and a few red blood cells" (Stedman's Medical Dictionary, 1990:899).

Lymph gland/node:

"Any rounded masses of lymphoid tissue surrounded by a capsule of connective tissue that occur in association with the lymphatic vessels and that consist of a reticulum of connective fibres, in the meshes of which are contained numerous small round cells which have large round deeply stained nuclei and which when carried off by the flow of lymph through the node, become lymphocytes" (Webster's Medical Dictionary, 1986:399).

Lymphadectomy:

"Surgical removal of a lymph node" (Webster's Medical Dictionary, 1986:398).

Macroscopic:

"Visible with the unaided eye or without a microscope" (Dorland's Medical Dictionary, 1988:970).

Malaria:

"An acute or chronic disease caused by the presence of sporozoan parasites of the genus plasmodium in the red blood cells, transmitted from infected man to uninfected man by the bite of anopholine

mosquitoes and characterized by periodic attacks of chills and fever that coincide with mass destruction of blood cells and the release of toxic substances by the parasite at the end of the reproductive cycle" (Webster's Medical Dictionary, 1986:405).

Malformation:

"A morphologic defect resulting from an intrinsically abnormal developmental process" (Dorland's Medical Dictionary, 1988:975).

Malignant:

"Resistant to treatment; occurring in severe forms and frequently fatal; tending to become worse and lead to an ingravescient course and destructive growth and metastasis" (Stedman's Medical Dictionary, 1990:916).

Masses:

"A lump or body made up of cohering particles; a unified lump or mass of material" (Dorland's Medical Dictionary, 1988:984).

Masturbation:

"Self-stimulation of the genitals resulting in orgasm or ejaculation" (Webster's Medical Dictionary, 1986:413).

Menopause:

"Permanent cessation of the menses; termination of the menstrual life" (Stedman's Medical Dictionary, 1990:945).

Menstrual cycle:

"The period of regularly recurring physiologic changes in the endometrium, occurring during the reproductive period of females, culminating in the partial shedding of the endometrium and some bleeding of the vagina" (Dorland's Medical Dictionary, 1988:416).

Menstruation:

"The cyclic physiologic discharge through the vagina of blood and mucosal tissues from the non-pregnant uterus. It is under hormonal control and normally recurs at approximately four-week intervals, in the absence of pregnancy during the reproductive period (puberty to menopause) of the female" (Dorland's Medical Dictionary, 1988:1006).

Mental retardation:

"Amentia; mental deficiency; subaverage general intellectual functioning that originates during the developmental period and is associated with impairment in adaptive behavior" (Stedman's Medical Dictionary, 1990:1349).

Metabolism:

"The sum-total of all the complex processes by which the body

converts raw material (food, water, oxygen) into living tissue, energy and waste" (Maxwell, 1976:487).

Microagglutination:

"Smallness, minute; the process by which suspended bacteria, cells, or other particles of similar size are caused to adhere and form into clumps, similar to precipitation, but the particles are larger and are in suspension rather than being in solution" (Stedman's Medical Dictionary, 1990:35).

Micromanipulation:

"Dissection, teasing and stimulation under the microscope of minute structures e.g., tissue cells, ovum, spermatozoa" (Stedman's Medical Dictionary, 1990:967).

Microphallus:

"Micropenis" (International Dictionary of Medicine and Biology, 1986:1774).

Microscopic:

"Of extremely small size, visible only by the aid of a microscope" (Dorland's Medical Dictionary, 1988:1036).

Mobility:

"Capability of movement or flowing freely, rate of movement in a specific microscopic field" (Dorland's Medical Dictionary, 1988:1045).

Morphology:

"The forms and structures of organisms, an organ or part" (Dorland's Medical Dictionary, 1988:1055).

Motility:

"The ability to move spontaneously" (Dorland's Medical Dictionary, 1988:1056).

Mucus:

"The free slime of the mucus membrane composed of secretion of the glands" (Dorland's Medical Dictionary, 1988:1060).

Mucus membrane:

"Inner surface-line of hollow organs of the body" (Dorland's Medical Dictionary, 1988:1060).

Multiple sclerosis:

"A disease of the nervous system that usually begins in early adulthood" (Maxwell, 1976:491).

Mumps:

"An acute, contagious disease caused by a virus, with a swelling of

the face, neck and saliva-secreting glands below each ear" (Maxwell, 1976:491).

Mumps orchitis:

"Infection with mumps virus at puberty and in post-pubertal period leading to progressive degenerative changes resulting in permanent damage to the seminiferous tubules of the testis in the male" (Busuttill, Orr & Hargreave, 1983:136).

Muscular dystrophy:

"A hereditary disease characterized by progressive wasting of the muscles" (Webster's Medical Dictionary, 1986:456).

Myoma:

"Tumor or smooth muscle tissue, such as that in the wall of the uterus. A myoma can be non-cancerous or cancerous" (Maxwell, 1976:492).

Myomectomy:

"Surgical removal of a myoma" (Dorland's Medical Dictionary, 1988:1091).

Necrospermia:

"A condition in which there are dead or immobile spermatozoa in the semen" (Stedman's Medical Dictionary, 1990:1027).

Nervous system:

"The entire nerve apparatus composed of a central part, the brain, the spinal cord, and a peripheral part, the cranial and spinal nerves, autonomic ganglia and plexuses" (Stedman's Medical Dictionary, 1990:1548).

Neural:

"Nerve; neuron. Relating to any structure composed of nerve cells or their processes or that on further development will evolve into nerve cells; referring to the dorsal side of the vertebral bodies on their precursors, where the spinal cord is located" (Stedman's Medical Dictionary, 1990:1042).

Neurodermatitis:

"A skin disorder of psychosomatic genesis or in which psychological factors play an important part, as when rubbing and scratching induce circumscribed patches of thickened skin" (International Dictionary of Medicine and Biology, 1986:1918).

Neurogenic:

"Originating in the nervous system" (Dorland's Medical Dictionary, 1988:1129).

Neurological:

"Diseases of the nervous system, including the brain and spinal cord" (Maxwell, 1976:134).

Neuromuscular:

"Denoting, pertaining to or affecting the lower motor neurons and muscles" (International Dictionary of Medicine and Biology, 1986:1921).

Neuromuscular system:

"The muscles of the body collectively and the nerves supplying them" (Stedman's Medical Dictionary, 1990:1547).

Neuropathy:

"Any disorder affecting any segment of the nervous system; involving the cranial or spinal nerves" (Stedman's Medical Dictionary, 1990:1048).

Neutrophil:

"A granular leukocyte or neutrophilic leukocytes (white blood cells)" (Dorland's Medical Dictionary, 1988:1134).

Noonan's Syndrome:

"Male Turner Syndrome; characterized by congenital heart disease, especially pulmonary stenosis, pigeon breast, webbing of the neck and other less regular minor features. Autosomal dominant inheritance" (Stedman's Medical Dictionary, 1990:1533).

Obstruction:

"Blockage or clogging" (Stedman's Medical Dictionary, 1990:1077).

Occlusive therapy:

"Serving to close, denoting a bandage or dressing that closes a wound and excludes it from the air" (Stedman's Medical Dictionary, 1990:1078).

Odour:

"A medium that permits its identification by the sense of smell" (Dorland's Medical Dictionary, 1988:1167).

Oligomenorrhoea:

"Markedly diminished menstrual flow" (Dorland's Medical Dictionary, 1988:1173).

Oligozoospermia:

"Markedly diminished presence of sperm in the semen" (Dorland's Medical Dictionary, 1988:1173).

Oocyte:

"A developing egg cell" (Dorland's Medical Dictionary, 1988:1177).

Oophorectomy:

"Ovariectomy; removal of an ovary" (Webster's Medical Dictionary, 1986:504).

Orchiectomy:

"Removal of one or both testes; orchidectomy, orcheotomy, testectomy" (Stedman's Medical Dictionary, 1990:1096).

Orchiometer:

"Orchidometer; a caliper device used to measure the size of testes; a set of sized models of testes for comparison of testicular development" (Stedman's Medical Dictionary, 1990:1096).

Orchiopexy:

"Orchiorrhaphy; orchidorrhaphy; cryptorchidopexy; surgical treatment of an undescended testicle by freeing it and implanting it into the scrotum" (Stedman's Medical Dictionary, 1990:1097).

Orchitis:

"Inflammation of the testis" (Stedman's Medical Dictionary, 1990:1097).

Organ:

"Any part of the body exercising a specific function, as of secretion, digestion, respiration, etc." (Stedman's Medical Dictionary, 1990:1097).

Organic:

"Of bodily organs" (Maxwell, 1976:501).

Orgasm:

"Climax; the acme of the sexual act" (Stedman's Medical Dictionary, 1990:1099).

Orifice:

"Any opening or aperture" (Stedman's Medical Dictionary, 1990:1099).

Os:

"Opening or mouth; any orifice of the body" (Dorland's Medical Dictionary, 1988:1193).

Ostium uteri:

"The external opening of the cervix of the uterus into the vagina called orificium externum uteri and external orifice of uterus" (Dorland's Medical Dictionary, 1988:1202).

Ostium vaginae:

"The external orifice of the vagina, situated just posterior to the external orifice of the urethral orifice, also called orificium vaginae" (Dorland's Medical Dictionary, 1988:1202).

Ovarian factors:

"Pertaining to or occurring in the ovaries" (Dorland's Medical Dictionary, 1988:1204).

Ovarian follicles:

"Pouch-like cavities in the ovaries, each comprising of an immature ovum and the specialized epithelial cells (follicle cells) that surround it" (Dorland's Medical Dictionary, 1988:647).

Ovarian cycle:

"The normal sex cycle which includes development of an ovarian follicle, rupture of the follicle with discharge of the ovum and formation and regression of a corpus luteum" (Stedman's Medical Dictionary 1990:384).

Ovarian stimulation:

"The act or process of stimulating the ovaries" (Dorland's Medical Dictionary, 1988:1204).

Ovary:

"The female gonad, one of two sexual glands in which the ova are formed" (Dorland's Medical Dictionary, 1988:1204).

Oviduct:

"Tuba uterina; combining form denoting egg, leading to" (Stedman's Medical Dictionary, 1990:1115).

Ovulation:

"The discharge of a secondary oocyte from a vesicular follicle of the ovary" (Dorland's Medical Dictionary, 1988:1205).

Ovulation induction:

"The act or process of inducing or causing ovulation to occur" (Dorland's Medical Dictionary, 1988:832).

Ovum/Ova:

"The female reproductive cell or cells" (Dorland's Medical Dictionary, 1988:1205).

Pampiniform plexus:

"Denoting a wormlike structure; a network of interjoining of nerves and blood vessels or of lymphatic vessels" (Stedman's Medical Dictionary, 1990:1125).

Pancreas:

"Salivary gland of the abdomen; an elongated lobulated gland, devoid of capsule, extending from the concavity of the duodenum to the spleen; it consists of a fattened head (caput) within the duodenal concavity, an elongated three-sided body (corpus), extending

transversely across the abdomen and a tail (cauda), in contact with the spleen. The gland secretes from the pars exocrina, pancreatic juice which is discharged into the intestine and from the pars endocrina the internal secretions, insulin and glucagon" (Stedman's Medical Dictionary, 1990:1125).

Pap smear:

"Smear of vaginal or cervical cells obtained for cytological study (Papanicolaou Smear)" (Stedman's Medical Dictionary, 1990:1429).

Paraplegia:

"Paralysis of both lower extremities and generally, the lower trunk" (Stedman's Medical Dictionary, 1990:1137).

Parasympathetic control:

"Pertaining to a division of the autonomic nervous system" (Stedman's Medical Dictionary, 1990:1138).

Parasympathetic Nervous System:

"Pertaining to that division of the autonomic nervous system made up of the ocular, bulbar and sacral divisions; craniosacral outflow" (Dorland's Medical Dictionary, 1988:1230).

Parkinson's disease:

"Parkinsonism; shaking or trembling palsy; a neurological syndrome usually resulting from deficiency of the neuro-transmitter dopamine as the consequence of degenerative vascular or inflammatory changes in the basal ganglia; characterized by rhythmical muscular tremors, rigidity of movement, festination and droopy posture" (Stedman's Medical Dictionary, 1990:1141).

Pathological:

"Pertaining to pathology" (Stedman's Medical Dictionary, 1990:1150).

Pathology:

"The medical science and speciality practice concerned with all the aspects of disease, but with special reference to the essential nature, causes and development of abnormal conditions, as well as the structural and functional changes that result from the disease processes" (Stedman's Medical Dictionary, 1990:1150).

Patient:

"One who is suffering from any disease and is under treatment for it" (Stedman's Medical Dictionary, 1990:1151).

Penile:

"Relating to the penis" (Stedman's Medical Dictionary, 1990:1158).

Penis:

"The male organ of copulation and of urinary secretion, comprising of a root, body and extremity or glans penis" (Dorland's Medical Dictionary, 1988:1252).

Penoscrotal:

"Relating to both penis and scrotum" (Stedman's Medical Dictionary, 1990:1159).

Peripheral:

"Pertaining to or situated at or near the periphery, situated away from a center or central structure" (Dorland's Medical Dictionary, 1988:1262).

Peripheral Nervous system:

"That portion of the nervous system consisting of the nerves and ganglia outside the brain and spinal cord" (Dorland's Medical Dictionary, 1988:1656).

Peritoneal:

"Relating to the peritoneum" (Stedman's Medical Dictionary, 1990:1170).

Peritoneal cavity:

"Relating to peritoneum" (Stedman's Medical Dictionary, 1990:1170).

Peritoneum:

"The serous membrane lining the abdominopelvic walls (parietal peritoneum) and investing the viscera (visceral peritoneum). A strong colorless membrane with a smooth surface, it forms a double-layered sac that is closed in the male and continuous with the mucous membrane of the uterine tubes in the female" (Dorland's Medical Dictionary, 1988:1263).

Peyronies disease:

"Penile fibromatosis; of unknown cause in which there are plaques or strands of dense fibrous tissue surrounding the corpus cavernosum of the penis, causing deformity and painful secretion" (Stedman's Medical Dictionary, 1990:451).

Petri-dish:

"A dish containing a nutrient medium with micro-organisms to be cultured" (Dorland's Medical Dictionary, 1988:1307).

pH:

"The symbol relating to the hydrogenion (H^+) concentration or activity of a solution to that of a given standard solution. A pH level of 7 is neutral, above 7 the alkalinity increases and below 7 the

acidity increases" (Dorland's Medical Dictionary, 1988:1269).

Phenylketonuria (PKU):

"Folling's disease; an inherited metabolic disease in man characterized by inability to oxidize a metabolic product of phenylalanine and by severe mental deficiency" (Webster's Medical Dictionary, 1986:539).

Phimosis:

"Narrowness of the opening of the prepuce, preventing it from being drawn back over the glans" (Stedman's Medical Dictionary, 1990:1186).

Physical examination:

"An examination of the bodily functions and conditions of an individual" (Webster's Medical Dictionary, 1986:546).

Physiology:

"The science concerned with the normal vital processes of animal and vegetable organisms; especially as to how things normally function in the living organism, rather than to their anatomical structure, their biochemical composition or how they are affected by drugs or disease" (Stedman's Medical Dictionary, 1990:1198).

Pituitary gland:

"A small oval reddish gray very vascular endocrine organ, that is attached to the infundibulum of the brain and occupies the sella turcica that is present in all craniate vertebrates; it has several parts associated with various hormones which directly or indirectly affect most basic bodily functions and include substances exerting a controlling and regulating influence on other endocrine organs, controlling growth and development, or modifying the contraction of smooth muscle, renal function and reproduction" (Webster's Medical Dictionary, 1986:551).

Plexus:

"A network of anastomosing or interlacing blood vessels or nerves" (Webster's Medical Dictionary, 1986:555).

Polar:

"Having poles, said of certain nerve cells having one or more processes" (Stedman's Medical Dictionary, 1990:1231).

Polycystic:

"Having or involving more than one cyst - polycystic kidney disease" (Webster's Medical Dictionary, 1986:560).

Polyglandular failure:

"Pluriglandular; multiglandular; denoting several glands or their

secretions" (Stedman's Medical Dictionary, 1990:1223).

Polyp:

"A projecting mass of swollen and hypertrophied or tumorous membrane" (Webster's Medical Dictionary, 1986:562).

Post-coital:

"A test administered after coitus occurred" (Webster's Medical Dictionary, 1986:565).

Posterior:

"Situated behind, situated at or toward the hind end of the body" (Webster's Medical Dictionary, 1986:565).

Postpubertal:

"Subsequent to the period of puberty" (Stedman's Medical Dictionary, 1990:1246).

Pouch of Douglas:

"Excavatio rectouterina; rectovaginouterine pouch; Douglas' cul-de-sac; a pocket formed by the deflection of the peritoneum from the rectum to the uterus" (Stedman's Medical Dictionary, 1990:546).

Pre-ovulatory:

"Occurring or being in or typical of the period immediately preceding ovulation" (Webster's Medical Dictionary, 1986:572).

Pregnancy test:

"A physiological test to determine the existence of pregnancy in the individual" (Webster's Medical Dictionary, 1986:571).

Prepubertal:

"Immediately prior to the commencement of puberty" (Stedman's Medical Dictionary, 1990:1254).

Priapism:

"Persistent erection of the penis accompanied by pain and tenderness resulting from a pathologic condition rather than sexual desire" (Stedman's Medical Dictionary, 1990:1256).

Primary:

"The first or foremost, as a disease or symptoms to which others may be secondary or occur as complications. Relating to the first stage of growth or development" (Stedman's Medical Dictionary, 1990:1257).

Probe:

"A slender rod of flexible material with blunt bulbous tip used for exploring sinuses, fistulas, other cavities or wounds; a device used to detect or explore a substance" (Stedman's Medical Dictionary, 1990:1258).

Proctectomy:

"Surgical excision of the rectum" (Webster's Medical Dictionary, 1986:576).

Progesterone:

"Progestational or corpus luteum hormone; an anti-estrogenic steroid believed to be the active principle of the corpus luteum, isolated from the corpus luteum and placenta or synthetically prepared; used to correct abnormalities of the menstrual cycle" (Stedman's Medical Dictionary, 1990:1265).

Prolactin:

"A protein hormone of the anterior lobe of the pituitary gland that induces lactation and maintains the corpora lutea in a functioning state" (Webster's Medical Dictionary, 1986:577).

Pronuclear/Pronucleus:

"In embryology, the nuclear material of the head of the spermatozoon (male pronucleus) or of the ovum (female pronucleus) after the ovum has been penetrated by the spermatozoon; each pronucleus carries the haploid number of chromosomes so that the merging of the pronuclei in fertilization, re-establishes the diploid number of chromosomes characteristic of the species" (Stedman's Medical Dictionary, 1990:1268).

Propanedial:

"Malonic acid" (Stedman's Medical Dictionary, 1990:1268).

Prostatectomy:

"Surgical excision of the prostate gland" (Webster's Medical Dictionary, 1986:580).

Prostate gland:

"An auxiliary male gland that surrounds the urethra where it joins the bladder. Ducts from the prostate lead into the urethra, where fluid from the prostate mixes with sperm cells to form semen. This seminal fluid contributes to the liquefaction of coagulated semen" (Maxwell, 1976:523).

Prostatic:

"Relating to the prostate" (Stedman's Medical Dictionary, 1990:1271).

Prostatitis:

"Inflammation of the prostate gland" (Maxwell, 1976:524).

Psuedomonas:

"A genus comprising short rod-shaped bacteria, many of which produce greenish fluorescent water, soluble pigment" (Webster's Medical

Dictionary, 1986:584).

Psychoactive:

"Affecting the mind or behavior; drug" (Webster's Medical Dictionary, 1986:586).

Psychogenic:

"Of mental origin or cause; relating to emotional development" (Stedman's Medical Dictionary, 1990:1285).

Psychopathological:

"Science concerned with the pathology of the mind; mental and behavioral disorders; including psychiatry and abnormal psychology" (Stedman's Medical Dictionary, 1990:1286).

Psychosexual

"Pertaining to the mental or emotional aspects of sex" (Dorland's Medical Dictionary, 1988:1385).

Psychosomatic:

"Pertaining to the influence of the mind or higher functions of the brain (emotions, fears, desires) upon the functions of the body, especially in relation to bodily disorders or diseases" (Stedman's Medical Dictionary, 1990:1287).

Pueperal:

"Relating to or occurring during childbirth or the period immediately following" (Webster's Medical Dictionary, 1986:590).

Pueperal infection/disease:

"An abnormal condition that results from infection of the placental site following delivery or abortion and is characterized in mild form by fever of not over 100°F, but may progress to a localized endometritis or spread through the uterine wall and develop into peritonitis or pass into the blood stream and produce septicemia; pueperal fever" (Webster's Medical Dictionary, 1986:590).

Pyospermia:

"An accumulation of pus in semen; condition of semen" (Stedman's Medical Dictionary, 1990:1299).

Quadriplegic:

"Tetraplegia, paralysis of all four limbs" (Stedman's Medical Dictionary, 1990:1355).

Radiation therapy:

"The sending forth of light, short radio waves, ultraviolet or X-rays, or any other rays for treatment" (Stedman's Medical Dictionary, 1990:1307).

Radical:

"Thorough or extensive, relating to or directed to the extirpation of the root or cause of a morbid process e.g., radical operation" (Stedman's Medical Dictionary, 1990:1308).

Recipient:

"One who receives biological material from a donor" (Webster's Medical Dictionary, 1986:606).

Rectovaginal:

"Relating to the rectum and the vagina" (Stedman's Medical Dictionary, 1990:1331).

Rectum:

"The terminal portion of the digestive tube, extending from the sigmoid colon to the anal canal" (Stedman's Medical Dictionary, 1990:1331).

Red blood cells:

"Any of the hemoglobin-containing cells that carry oxygen to the tissues and are responsible for the red colour of vertebrate blood, also erythrocyte, red corpuscle" (Webster's Medical Dictionary, 1986:607).

Renal vein:

"They accompany the arteries of the same name and open at right angles into the vena cava at the level of the second lumbar vertebra. The left renal vein receives the left suprarenal vein and the left gonadal vein" (Stedman's Medical Dictionary, 1990:1703).

Resection:

"Removal of articular ends of one or both bones forming a joint; excision" (Stedman's Medical Dictionary, 1990:1345).

Retrograde:

"Moving backward, degenerating, reversing the normal order of growth and development" (Stedman's Medical Dictionary, 1990:1355).

Retrograde ejaculation:

"Ejaculation moving backward or against the usual direction of flow, into the bladder" (Dorland's Medical Dictionary, 1988:1457).

Retroperitoneal:

"External or posterior to the peritoneum" (Stedman's Medical Dictionary, 1990:1355).

Rh-factor:

"Sensitization in pregnancy" (Webster's Medical Dictionary, 1986:619).

Salpingectomy:

"Surgical excision of a Fallopian tube" (Webster's Medical Dictionary, 1986:632).

Schizophrenia:

"A common type of psychosis, characterized by a disorder in the thinking processes such as delusion and hallucination and extensive withdrawal of the individual's interest from other people and the outside world; and the investment of it in his own" (Stedman's Medical Dictionary, 1990:1390).

Scrotal:

"Relating to the scrotum" (Webster's Medical Dictionary, 1986:642).

Scrotum:

"The pouch which contains the testes and their accessory organs of the male" (Dorland's Medical Dictionary, 1988:1499).

Secondary:

"Not first in order of occurrence or development, occurring or being in the second stage" (Webster's Medical Dictionary, 1986:643).

Secretion:

"Production by a cell or an aggregation of cells of a physiologically useful substance and its introduction into the body by direct diffusion or by a duct" (Stedman's Medical Dictionary, 1990:1398).

Semen:

"The thick whitish secretion of the male reproductive organs, composed of spermatozoa in their nutrient plasma, secretions from the prostate, seminal vesicles and various other glands, epithelial cells and minor constituents" (Dorland's Medical Dictionary, 1988:1504).

Seminal:

"Relating to or consisting of semen" (Webster's Medical Dictionary, 1986:646).

Seminal duct:

"A tube or passage serving especially or exclusively as an efferent duct of the testis and in man being made up of the tubules of the epididymis, the vas deferens and the ejaculatory duct" (Webster's Medical Dictionary, 1986:646).

Seminal fluid:

"The part of the semen that is produced by various accessory glands; semen excepting the spermatozoa" (Webster's Medical Dictionary, 1986:646).

Seminal vesicle:

"Either of a paired, sacculated pouch attached to the posterior part of the urinary bladder. The duct of each joins the ductus deferens to form the ejaculatory duct" (Dorland's Medical Dictionary, 1988:1833).

Seminiferous tubules:

"Any of the coiled threadlike tubules that make up the bulk of the testis and are lined with a germinal epithelium from which the spermatozoa are produced" (Webster's Medical Dictionary, 1986:646).

Sepsis:

"The presence of various pus-forming and other pathogenic organisms or their toxins, in the blood or tissues; septicemia is a common type of sepsis" (Stedman's Medical Dictionary, 1990:1405).

Septic:

"Relating to or caused by sepsis" (Stedman's Medical Dictionary, 1990:1405).

Septum:

"A thin wall dividing two cavities or masses of softer tissue" (Stedman's Medical Dictionary, 1990:1405).

Seropositive:

"Having or being a positive serum reaction" (Webster's Medical Dictionary, 1986:649).

Sertoli cells:

"Any of the elongated striated cells in the seminiferous tubules of the testis to which the spermatids become attached and from which they apparently derive nourishment" (Webster's Medical Dictionary, 1986:649).

Serum:

"A clear watery fluid, especially that moistening the surface of serous membranes or exuded in inflammation of any of these membranes" (Stedman's Medical Dictionary, 1990:1409).

Sex hormones:

"A hormone (as from the gonads or adrenal cortex) that affects the growth or function of the reproductive organs or the development of secondary sex characteristics" (Webster's Medical Dictionary, 1986:650).

Sickle cell anemia:

"A chronic inherited anemia in which a large proportion or the majority of the red blood cells tend to sickle, which occurs

primarily in individuals of Negro ancestry and which results homozygosity for a semi-dominant gene" (Webster's Medical Dictionary, 1986:653).

Sigmoid:

"Curved like the letter C; relating to or being the sigmoid flexure of the intestine" (Webster's Medical Dictionary, 1986:654).

Smallpox:

"An acute contagious febrile disease caused by a poxvirus and characterized by skin eruption with pustules, sloughing and scar formation" (Webster's Medical Dictionary, 1986:658).

Specimen:

"An item or part typical of a group or whole; a portion or quantity of material for use in testing, examination or study" (Webster's Medical Dictionary, 1986:665).

Speculum:

"Any of various instruments for insertion into a body passage to facilitate visual inspection-vaginal" (Webster's Medical Dictionary, 1986:665).

Sperm/spermatozoon/spermatozoa:

"The sperm cell or spermatozoon (plural: spermatozoa), is a motile mature male gamete with rounded or elongated head, a neck, a middle piece and a tail with an end piece. It is an output of the testes" (Dorland's Medical Dictionary, 1988:1556).

Spermatic cord:

"A cord that suspends the testis within the scrotum, contains the vas deferens, vessels and nerves of the testis, and extends from the deep inguinal ring through the inguinal canal and superficial inguinal ring downward into the scrotum" (Webster's Medical Dictionary 1986: 665).

Spermatic vein:

"Testicular vein; any of the veins leading from the testes, forming with tributaries from the epididymis, the pampiniform plexus in the spermatic cord, and thence accompanying the testicular artery and eventually uniting to form a single trunk which on the right side opens into the vena cava and on the left side into the renal vein" (Webster's Medical Dictionary, 1986:709).

Spermatogenesis:

"The process of male gamete formation or production of spermatozoa in the testes" (Webster's Medical Dictionary, 1986:665).

Sphincter:

"That which binds a ringlike band of muscle fibres that constricts a passage or closes a natural orifice" (Dorland's Medical Dictionary, 1988:1558).

Spina Bifida:

"A congenital cleft of the vertebral column with hernial protrusion of the meninges" (Webster's Medical Dictionary, 1986:667).

Staphylococcus:

"A member of a group of bacteria that cause boils or pus forming infections" (Maxwell, 1976:550).

Stenosed:

"Affected with stenosis, abnormally constricted, a narrowing or constriction of the diameter of a bodily passage or orifice" (Webster's Medical Dictionary, 1986:675).

Steroidgenesis:

"Synthesis of steroids" (Webster's Medical Dictionary, 1986:677).

Streptococcus:

"Any of the large group of spherical bacteria" (Maxwell, 1976:552).

Stump:

"Basal portion of a bodily part, remaining after the rest is removed" (Webster's Medical Dictionary, 1986:682).

Subnormal:

"Below the normal standard or quality" (Stedman's Medical Dictionary, 1990:1494).

Subzonal:

"Below or beneath any zona or zone, such as the zona pellucida" (Stedman's Medical Dictionary, 1990:1497).

Sucrose:

"A sweet crystalline sugar that occurs naturally in most land plants and is the sugar obtained from sugarcane" (Webster's Medical Dictionary, 1986:687).

Supine position:

"Lying on the back with the face upward" (Webster's Medical Dictionary, 1986:692).

Supravaginal:

"Situated or occurring above the vagina" (Webster's Medical Dictionary, 1986:694).

Surgery:

"A branch of medicine concerned with diseases and conditions

requiring or amenable to operation or manual procedures" (Webster's Medical Dictionary, 1986:694).

Surrogate:

"One that serves as a substitute" (Webster's Medical Dictionary, 1986:694).

Sympathectomy:

"Excision of a segment of a sympathetic nerve or of one or more sympathetic ganglia" (Stedman's Medical Dictionary, 1990:1517).

Sympathetic nervous system:

"The part of the autonomic nervous system that is concerned especially with preparing the body to react to situations of stress or emergency, that contains chiefly adrenergic fibres and tends to depress secretion, decrease tone and contractibility of smooth muscle and cause the contraction of blood vessels" (Webster's Medical Dictionary, 1986:697).

Sympatholytic drugs:

"Denoting antagonism to or inhibition of adrenergic nerve activity" (Stedman's Medical Dictionary, 1990:1518).

Syndrome:

"A group of signs and symptoms that occur together and characterize a particular abnormality" (Webster's Medical Dictionary, 1986:698).

Syphilis:

"An acute and chronic infectious disease transmitted by direct contact, usually through sexual intercourse" (Stedman's Medical Dictionary, 1990:1544).

Syringe:

"A device used to inject fluids into or withdraw them from something" (Webster's Medical Dictionary, 1986:700).

Tay Sachs disease:

"Cerebral sphingolipidosis; occurs almost exclusively among the northwest Jews; characterized by infantile onset (3-6 months), doll-like faces, cherry red macular spots, early blindness, seizures, children die between 2 and 5 years of age" (Dorland's Medical Dictionary, 1988:493).

Teratozoospermia:

"The increased presence of malformed spermatozoa in the semen" (Dorland's Medical Dictionary, 1988:1672).

Testicle/Testis:

"The male gonad; either of the paired egg-shaped glands normally

situated in the scrotum" (Dorland's Medical Dictionary, 1988:1699).

Testicular:

"Relating to the testes" (Stedman's Medical Dictionary, 1990:1577).

Testicular artery:

(See spermatic vein).

Testicular failure:

"Failure in the functioning of the testicles" (Maxwell, 1976:558).

Testitis/Orchitis:

"Inflammation of the testes" (Dorland's Medical Dictionary, 1988:1699).

Testosterone:

"A male hormone that is produced by the testes or made synthetically, is responsible for inducing and maintaining male secondary sex characters" (Webster's Medical Dictionary, 1986:709).

Thalassemia:

"Observed originally in persons of Mediterranean origin; a heterogeneous group of hereditary hemolytic anemias which have in common a decreased rate of synthesis of one or more hemoglobin" (Dorland's Medical Dictionary, 1988:1703).

Thermography:

"A technique for detecting and measuring variations in the heat emitted by various regions of the body and transforming them into visible signals that can be recorded photographically" (Webster's Medical Dictionary, 1986:712).

Thrombosis:

"Formation or presence of a thrombus; clotting within a blood vessel, which may cause infarction of tissues supplied by the vessel" (Stedman's Medical Dictionary, 1990:1597).

Thyroid gland:

"An endocrine gland located at the base of the neck on both sides of the windpipe below the larynx or voice box. The thyroid gland produces the hormone thyroxine, which regulates the speed of chemical reactions and influences the rate of growth and the development of sexual characteristics" (Maxwell, 1976:561).

Thyroid stimulating hormone (TSH):

"Thyrotropin, a hormone secreted by the adenohypophysis of the pituitary gland that regulates the formation and secretion of thyroid hormone" (Webster's Medical Dictionary, 1986:718).

Thyrotropin releasing hormone (TRH):

"A tripeptide hormone synthesized in the hypothalamus that stimulates secretion of thyrotropin by the anterior lobe of the pituitary gland" (Webster's Medical Dictionary, 1986:718).

Tissue:

"A collection of similar cells and the intercellular substances surrounding them" (Stedman's Medical Dictionary, 1990:1603).

Tract:

"An elongated area" (Stedman's Medical Dictionary, 1990:1617).

Transfer:

"The carry-over or generalization of learned responses from one type of situation to another" (Webster's Medical Dictionary, 1986:725).

Transurethral:

"Passing through or performed by way of the urethra" (Webster's Medical Dictionary, 1986:727).

Transvaginal:

"Passing through or performed by way of the vagina" (Webster's Medical Dictionary, 1986:727).

Trauma:

"A wound or injury, whether physical or psychic" (Dorland's Medical Dictionary, 1988:1746).

Trichomonas vaginalis:

"A species found in the vagina and male genital tract, usually transmitted by coitus. Vaginalis trichomonas may be asymptomatic or it may be manifested by severe vaginitis associated with discharge, burning and chafing and pruritis; in the male it may produce urethritis, enlargement of the prostate and epididymitis" (Dorland's Medical Dictionary, 1988:1753).

Triiodothyronine (T3):

"One of the two principal hormones secreted by the thyroid gland; the other being thyroxine. It is secreted in excess in hyperthyroidism. It is used pharmaceutically in T3 suppression test for thyroid function" (International Dictionary of Medicine and Biology, 1986:3006).

Tubal:

"Relating to or involving a tube, especially the Fallopian tube" (Webster's Medical Dictionary, 1986:735).

Tuberculosis:

"An infectious, communicable disease, most frequently affecting the

lungs, but also the larynx, bones, joints, skin, lymph nodes, intestines, kidneys and the nervous system" (Maxwell, 1976:565).

Tubule:

"A small tube, a slender elongated anatomical channel" (Webster's Medical Dictionary, 1986:736).

Tumescence:

"The condition of being or becoming tumid" (Stedman's Medical Dictionary, 1990:1652).

Tumour:

"A swelling on or in the body resulting either from an abnormal growth of tissue or a collection of body fluid or semifluid in a membranous sac" (Maxwell, 1976:566).

Tunica albuginea:

"A white fibrous capsule especially of the testis" (Webster's Medical Dictionary, 1986:737).

Tunica vaginalis:

"A pouch of serous membrane covering the testis and derived from the peritoneum" (Webster's Medical Dictionary, 1986:737).

Turner's Syndrome:

"A genetically determined condition that is associated with the presence of one X chromosome and no Y chromosome, and is characterized by an outwardly female phenotype with incomplete and infertile gonads" (Webster's Medical Dictionary, 1986:738).

Ulcer"

"A lesion on the surface of the skin or a mucous surface, caused by superficial loss of tissue, usually with inflammation. A wound with superficial loss of tissue from trauma is not primarily an ulcer, but may become ulcerated if infection occurs" (Stedman's Medical Dictionary, 1990:1661).

Ultrasonography:

"The visualization of deep structures of the body by recording the reflection of or echoes of pulses of ultrasonic waves directed into the tissues; echography or sonography" (Dorland's Medical Dictionary, 1988:1785).

Umbilicus:

"Small depression in the abdominal wall at the point of attachment of the umbilical cord to the embryo-called navel" (Webster's Medical Dictionary, 1986:741).

Unilateral:

"Occurring of or affecting one side of the body or one of its parts" (Webster's Medical Dictionary, 1986:742).

Uremia:

"Accumulation in the blood usually in severe kidney disease, of constituents normally eliminated in the urine producing a severe toxic condition" (Webster's Medical Dictionary, 1986:744).

Ureter:

"Either of the paired ducts that carry away urine from a kidney to the bladder and in man are slender membranous epithelium-lined flat tubes about 16 inches long, which open above into the pelvis of a kidney and below into the back part of the same side of the bladder at a very oblique angle" (Webster's Medical Dictionary, 1986:744).

Urethra:

"The membranous canal conveying urine from the bladder to the exterior of the body" (Dorland's Medical Dictionary, 1988: 1791).

Urethral:

"Relating to the urethra" (Stedman's Medical Dictionary, 1990:1672).

Urethral meatus/orifice:

"Ostium ureteris; a passage or channel, the external opening, urethral opening or meatus; orificium ureteris, the opening of the ureter in the bladder, situated one at each lateral angle of the trigone" (Stedman's Medical Dictionary, 1990:1111).

Urethritis:

"Inflammation of the urethra" (Maxwell, 1976:569).

Urethroscopy:

"Inspection of the urethra with a urethroscope" (Stedman's Medical Dictionary, 1990:1673).

Urinary bladder:

"The musculomembranous sac, situated in the anterior part of the pelvic cavity, that serves as a reservoir for urine, which it receives through the ureters and discharges through the urethra" (Dorland's Medical Dictionary, 1988:212).

Urinary system:

"The organs of reproduction, together with the organs concerned in the production and excretion of urine" (Dorland's Medical Dictionary, 1988:1656).

Urinary tract:

"The tract through which urine passes and which consists of the renal

tubules and pelvis of the kidney, the ureters, the bladder and the urethra" (Webster's Medical Dictionary, 1986:746).

Urologist:

"A specialist in urology" (Stedman's Medical Dictionary, 1990:1675).

Urology:

"The medical speciality concerned with the study, diagnosis, and treatment of diseases of the genitourinary tract, especially the urinary tract in both sexes and the genital organs in the male" (Stedman's Medical Dictionary, 1990:1675).

Uterine:

"Pertaining to or occurring in the uterus" (Dorland's Medical Dictionary, 1988:1797).

Uterine cavity:

"Ostium uteri; orificium externum uteri; mouth of womb, vaginal opening of the uterus" (Stedman's Medical Dictionary, 1990:1111).

Uterus:

"The hollow muscular organ in the pelvis of the female in which the growing fetus is protected and nourished until birth" (Maxwell, 1976:570).

Vacuum extraction:

"Removal of the fetus from the uterus or vagina at or near the end of the pregnancy by suction" (Stedman's Medical Dictionary, 1990:552).

Vagina:

"A sheath-like structure, the canal in the female genital organ extending from the vulva to the cervix uteri, which receives the penis during coitus" (Dorland's Medical Dictionary, 1988:1801).

Vaginal:

"Relating to the vagina or to any sheath" (Stedman's Medical Dictionary, 1990:1683).

Vaginal smear:

"A smear taken from the vaginal mucosa for cytologic diagnosis" (Webster's Medical Dictionary, 1986:748).

Vaginismus:

"Vaginism, vulvismus; painful involuntary spasm of the vagina preventing intercourse" (Stedman's Medical Dictionary, 1990:1683).

Vaginitis:

"Inflammation of the vagina" (Stedman's Medical Dictionary, 1990:1683).

Varicocele:

"A varicose condition of the veins of the testes forming a swelling, feeling like a bag of worms, appearing bluish through the skin of the scrotum and accompanied by constant pulling, dragging or dull pain in the scrotum" (Dorland's Medical Dictionary, 1988:1807).

Varicocelelectomy:

"Ligation and excision of the enlarged veins causing the varicocele" (Dorland's Medical Dictionary, 1988:1807).

Vas:

"Combining form denoting a vas, blood vessel, also vaso" (Stedman's Medical Dictionary, 1990:1689).

Vascular:

"Pertaining to blood vessels or indicative of a copious blood supply" (Dorland's Medical Dictionary, 1988:1808).

Vas deferens:

"The ejaculatory duct of the testis, the canal formed by union of the ductus deferens and the excretory duct of the seminal vesicle. It enters the prostatic part of the urethra" (Dorland's Medical Dictionary, 1988:512).

Vasectomy:

"A surgical operation in which the vas deferens is cut, so that sperm cannot pass from the testicles to the penis" (Maxwell, 1976:573).

Vasography:

"Roentgenography of blood vessels; roentgenographic study of the vas deferens, utilizing a contrast agent injected into the lumen, either transurethrally or by open vasotomy" (Stedman's Medical Dictionary, 1990:1690).

Vasotomy:

"Vasosection, incision or division of the vas deferens" (Stedman's Medical Dictionary, 1990:1691).

Venereal:

"Pertaining to or related to or transmitted by sexual contact" (Dorland's Medical Dictionary, 1988:1826).

Venous:

"Relating to a vein or to the veins" (Stedman's Medical Dictionary, 1990:1705).

Vesicular ovarian follicles:

"Maturing ovarian follicles" (Dorland's Medical Dictionary, 1988:647).

Virus:

"Any of a large variety of exceedingly small particles that cause many different diseases" (Maxwell, 1976:575).

Visceral:

"Relating to or located on or among the viscera, viscus" (Webster's Medical Dictionary, 1986:759).

Viscosity:

"A physical property of fluids that determines the internal resistance of shear forces" (Dorland's Medical Dictionary, 1988:1843).

Viscus:

"An internal organ of the body, especially one (as the heart, liver or intestine) located in the large cavity of the trunk" (Webster's Medical Dictionary, 1986:760).

Vitrification:

"Conversion of e.g. dental porcelain to a glassy substance by heat and fusion" (Stedman's Medical Dictionary, 1990:1727).

Volume:

"The measure of the quantity or capacity of a substance" (Dorland's Medical Dictionary, 1988:1847).

Vulva:

"The region of the external genital organs of the female" (Dorland's Medical Dictionary, 1988:1849).

White blood cells:

"A blood cell that does not contain hemoglobin-leukocyte" (Webster's Medical Dictionary, 1986:769).

X-ray:

"Any of the electromagnetic radiations of the same nature as visible radiation, but of an extremely short wavelength, penetrating various thicknesses of all solids, of producing secondary radiations by impinging on material bodies, acting on photographic films and plates, as light does, and causing fluorescent screens to emit light-called roentgen ray" (Webster's Medical Dictionary, 1986:774).

Zona:

"Zone, segment, any encircling or beltlike structure, either external or internal, longitudinal or transverse" (Stedman's Medical Dictionary, 1990:1747).

Zona pellucida:

"Pellucid zone, a layer consisting of microvilli of the oocyte, cellular processes of follicular cells, of an intervening substance

rich in glycoprotein; it appears homogeneous and translucent under light microscope" (Stedman's Medical Dictionary, 1990:1747).

Zygote:

"The cell formed from the union of an egg cell (ovum) and a sperm cell (spermatozoon); a fertilized egg, which is the first stage in the development of an embryo" (Maxwell, 1976:581).

APPENDIX 2

Letters of permission for study

TRANSVAALSE PROVINSIALE HOSPITALE

Telegrafiese Adres
Telegraphic Address.....

Telefoon Nr. 21 3211 x 2414
Telephone No. DR D J L VAN ROOY



TRANSVAAL PROVINCIAL HOSPITALS

H F VERWOERD- HOSPITAAL
HOSPITAL

IN ANTWOORD VERMELD ASB.
IN REPLY PLEASE QUOTE
No. 1.5.1

Alle korrespondensie moet aan die
Superintendent gerig word.
All communications to be addressed to
the Superintendent.

DEPARTEMENT VAN HOSPITAALDIENSTE TRANSVAAL
H. F. VERWOERD-HOSPITAAL PRIVAATSAK/PRIVATE BAG X-169
1990 -07-02
001 PRETORIA H. F. VERWOERD HOSPITAL
DEPARTMENT OF HOSPITAL SERVICES TRANSVAAL

Mev C Carbonatto
Lektrise Maatskaplike Werk
Universiteit van Pretoria
PRETORIA
0002

Geagte mev Carbonatto

**AANSOEK GOEDKEURING NAVORSING D PHIL GRAAD
U VOORLEGGING VAN 26 JUNIE 1990**

Goedkeuring word verleen vir die voortsetting van u navorsing soos
voorgelê onderhewig aan al die voorwaardes soos aan u bekend.

Sukses met u studie.

Die uwe


SUPERINTENDENT
DJLvR/JB 1990.06.29



Universiteit van Pretoria

0002 Pretoria Teleks 3-22723 SA Teleg PUNIV Tel (012) 4209111
Faks 43-2185

Fakulteit Lettere en Wysbegeerte

Aandag: Dr D J L van Rooy

Die Superintendent
H F Verwoerd Hospitaal
Privaatsak X169
PRETORIA
0001

Departement Maatskaplike Werk

Ons verw. H.2
Mev C Carbonatto
Tel. 420-2393

1990-06-26

Geagte dr Van Rooy,

**TOESTEMMING VIR NAVORSING VIR 'N D.PHIL-GRAAD IN MAATSKAPLIKE WERK
TE UNIVERSITEIT VAN PRETORIA DEUR MEV C CARBONATTO (Néé LAURENCE)
LEKTRISE - DEPARTEMENT MAATSKAPLIKE WERK**

Hiermee word u toestemming vir die voortsetting van navorsing wat reeds in 1987 deur bogenoemde by die infertiliteitskliniek gefiniseer is, versoek. Bogenoemde het in Desember 1987 terwyl werksaam by H F Verwoerd Hospitaal en besig met navorsing vir 'n M.A.(M.W.) Geneeskundige Maatskaplike Werk graad, 15 egpare vir kunsmatige inseminasie met skenkersemen (KIS) behandeling voorberei. Net 'n gedeelte van hierdie navorsingsbevindinge is vir die M.A.-skripsie benut. (Kyk aangehegte toestemmingsbriewe vir navorsing en M.A.-graadsertifikate.)

Bogenoemde is as U.P. lektrise betrokke by maatskaplikewerk-studente wat by H.F. Verwoerd Hospitaal vir praktiese opleiding inskakel. 'n Ere-aanstelling is vanaf 13 Maart 1989 aan haar toegestaan. Sy is bekend met die Departementele reëls en voorskrifte. (Kyk aangehegte aanstellingsbrief.)

Vir die huidige D.Phil-studie word dus beoog om van hierdie navorsingsbevindinge van 1987 wat nie vir die M.A.-skripsie benut is nie, te gebruik. Verder word daar ook beplan om dieselfde 15 egpare wat in 1987 deur bogenoemde voorberei is en dus met haar bekend is, op te volg. Die doel van hierdie navorsing is om die effektiwiteit van die KIS voorbereidingsprogram te bepaal, 'n riglyn vir die voorbereiding van egpare vir KIS daar te stel asook om die uitwerking van sodanige program op die egpare te bepaal. Die titel van hierdie D.Phil-studie is: "Die voorbereiding van egpare vir kunsmatige inseminasie met skenkersemen - 'n geneeskundige maatskaplikewerk-perspektief". (Kyk aangehegte navorsingsplan.)


Alle egpare sal eers telefonies gekontak word om hulle toestemming vir deelname in die studie te verkry. Hierdie egpare is al vir geruime tyd nie meer pasiënte van die infertiliteitskliniek van H.F. Verwoerd hospitaal nie, as gevolg van die KIS program wat gestaak is na aanleiding van die tekort aan skenkers. Hulle adresse sal wel met behulp van die infertiliteitskliniek se personeel op hul afgehandelde lêers gekontroleer moet word. Alle inligting sal vertroulik hanteer word en die egpare se anonimiteit sal deurgangs gewaarborg word.

Die beoogde navorsing is reeds in Mei 1990 met dr C.B. van O. Sevenster, hoof van die infertiliteitskliniek en mej L H Winckler, hoof van die maatskaplikewerk-afdeling bespreek en albei was baie positief daaroor en het die waarde van so 'n studie ondersteun.

U goedgunstige oorweging van bogenoemde sal hoog op prys gestel word.

Met vriendelike hoogagting,

Die uwe,



Mev C Carbonatto

(B.A.[M.W.][Pret.], M.S.W.[Washington], M.A.[M.W.]-G.M.W.[Pret.]

LEKTRISE: DEPARTEMENT MAATSKAPLIKE WERK

APPENDIX 3

Questionnaire for first empirical study (Bilingual)

H.F. VERWOERD-HOSPITAAL — INTERTILITEITSKLINIEK
H.F. VERWOERD HOSPITAL — INFERTILITY CLINIC

DIE VOORBEREIDING VAN EGPAAR VIR KUNSMATIGE INSEMINASIE MET SKENKERSAAD (KIS)
THE PREPARATION OF COUPLES FOR ARTIFICIAL INSEMINATION WITH DONOR SEMEN (AID)

A. INTERTILITEIT/INFERTILITY

1. BESONDERHEDE/PARTICULARS

1.1 GESLAG/SEX

MANLIK/ MALE	VROULIK/ FEMALE
-----------------	--------------------

1.2 OUDERDOM/AGE (spesifiseer/specify) _____

1.3 DUUR VAN HUWELIK (spesifiseer) _____
DURATION OF MARRIAGE (specify) _____

1.4 DUUR VAN INTERTILITEIT (spesifiseer) _____
DURATION OF INFERTILITY (specify) _____

1.5 INTERTILITEITS DIAGNOSE (spesifiseer) _____
INFERTILITY DIAGNOSIS (specify) _____

1.6 OPVOEDKUNDIGE KWALIFIKASIES (bv. St 10; BA) (spesifiseer) _____
EDUCATIONAL QUALIFICATIONS (e.g. Std 10; BA) (specify) _____

1.7 BEROEP (spesifiseer) _____
OCCUPATION (specify) _____

1.8 VOORHEEN GETROUD (spesifiseer) _____
PREVIOUSLY MARRIED (specify) _____

1.9 KINDERS UIT 'N VORIGE HUWELIK (spesifiseer) _____
CHILDREN FROM PREVIOUS MARRIAGE (specify) _____

1.10 KINDERS UIT HIERDIE HUWELIK (spesifiseer) _____
CHILDREN FROM THIS MARRIAGE (specify) _____

1.3 VERDUIDELIK DIE KIS BEHANDELINGSPROSEDURE? (spesifiseer)
EXPLAIN THE AID TREATMENT PROCEDURE? (specify)

1.4 DINK U KIS BEHANDELING SAL ENIGE NEGATIEWE INVLOED OP U Hê?
DO YOU THINK AID TREATMENT WILL HAVE A NEGATIVE EFFECT ON YOU?

(spesifiseer/specify) -----

JA YES	ONSEKER UNSURE	NEE NO

2. IMPLIKASIES/IMPLICATIONS

2.2 REGSASPEKTE/LEGAL ASPECTS

2.2.1 VOLGENS DIE WET OP SKENKING VAN MENSLIKE WEEFSEL (WET 65 VAN 1983,) ASOOK DIE REGULASIES VAN 1986 T.O.V. SKENKING VAN SEMEN, WATTER VAN DIE VOLGENDE ASPEKTE DINK U IS IN DIE WET GENOEM?
ACCORDING TO THE HUMAN TISSUE ACT (ACT 65 OF 1983) AND THE 1986 REGULATIONS REGARDING AID, WHICH OF THE FOLLOWING ASPECTS ARE MENTIONED IN THE ACT?

- DIE KIND IS 'N WETTIGE KIND UIT DIE HUWELIK
THE CHILD IS A LEGITIMATE CHILD FROM THE MARRIAGE
- DIE KIND IS 'N BUTTE-EGTELIKE KIND
THE CHILD IS AN ILLEGITIMATE CHILD
- DIE KIND MOET DEUR DIE EGGENOOT VAN DIE VROU NA GEBOORTE AANGENEEM WORD/THE CHILD MUST BE ADOPTED BY THE HUSBAND OF THE WOMAN AFTER BIRTH
- ALBEI MAN EN VROU SE NAME VERSKYN OP DIE GEBOORTE-SERTIFIKAAT VAN DIE KIND/BOTH HUSBAND'S AND WIFE'S NAMES APPEAR ON THE BIRTH CERTIFICATE OF THE CHILD
- DIE SKENKER SE NAAM WORD GEREJISTREER IN 'N SENTRALE REGISTER VTR SKENKERS/THE DONOR'S NAME MUST BE REGISTERED IN A CENTRAL REGISTER FOR DONORS

JA YES	ONSEKER UNSURE	NEE NO

2.3 GODSDIENSTIGE/ETIESE ASPEKTE
RELIGIOUS/ETHICAL ASPECTS

2.3.1 WAT IS U KERKVERBAND (spesifiseer)
WHAT IS YOUR CHURCH DENOMINATION (specify)

2.3.2 WAT IS U KERK SE HOUDING T.O.V. KIS?
 WHAT IS YOUR CHURCH'S ATTITUDE REGARDING AID?

2.3.3 WAT IS U ETIESE/GODSDIENSTIGE STANDPUNT T.O.V. KIS? (spesifiseer)
 WHAT IS YOUR ETHICAL/RELIGIOUS ATTITUDE REGARDING AID? (specify)

POSITIEF POSITIVE	ONSEKER UNSURE	NEGATIEF NEGATIVE

• HET U AL DIE ETIESE/GODSDIENSTIGE ASPEKTE M.B.T. KIS MET IEMAND BESPREEK (spesifiseer)/HAVE YOU DISCUSSED THE ETHICAL/RELIGIOUS ASPECTS OF AID WITH ANYONE YET?

JA YES	NEE NO

• VOEL U DAT U DIE ETIESE/GODSDIENSTIGE ASPEKTE VIR USELF AL VERWERK OF UITGESORTEER HET? (Spesifiseer)/DO YOU FEEL AS IF YOU HAVE COME TO TERMS WITH THE ETHICAL/RELIGIOUS ASPECTS? (Specify)

JA YES	ONSEKER UNSURE	NEE NO

• HET U NOG STEEDS 'N BEHOEFTE OM DIE ETIESE/GODSDIENSTIGE ASPEKTE M.B.T. KIS MET IEMAND TE BESPREEK?(Spesifiseer)/DO YOU STILL HAVE A NEED TO DISCUSS THE ETHICAL/RELIGIOUS ASPECTS WITH SOMEONE? (Specify)

JA YES	ONSEKER UNSURE	NEE NO

• WAT DINK U IS DIE GEMEENSAP SE MENING/SIENING T.O.V. KIS?/WHAT DO YOU THINK SOCIETY'S ATTITUDE REGARDING AID IS.

POSITIEF POSITIVE	ONSEKER UNSURE	NEGATIEF NEGATIVE

2.4 PSIGOSOSIALE ASPEKTE/PSYCHOSOCIAL ASPECTS

2.4.1 SAL U OUERS GOEDKEURING T.O.V. KIS BEHANDELING GEE?/WILL YOUR PARENTS GIVE THEIR CONSENT FOR AID TREATMENT?

JA YES	ONSEKER UNSURE	NEE NO

2.4.2 WATTER EFFEK DINK U SAL KIS BEHANDELING OP U HÊ?
WHAT EFFECT DO YOU THINK AID TREATMENT WILL HAVE ON YOU?
(Spesifiseer/specify)

2.4.3 WATTER INVLOED DINK U KAN KIS OP U HUWELIK HÊ? (Spesifiseer)
WHAT EFFECT DO YOU THINK AID WILL HAVE ON YOUR MARRIAGE? (Specify)

MAN ALLEENLIK/ HUSBAND ONLY

2.4.4 DINK U KIS KAN ENIGE VAN DIE VOLGENDE REAKSIES VEROORSAAK:
DO YOU THINK AID COULD CAUSE ANY OF THE FOLLOWING REACTIONS:

- MINDERWAARDIGHEIDSGEVOELENS AS GEVOLG VAN DIE SKENKER/*INFERTORITY FEELINGS BECAUSE OF THE DONOR*
- GEVOELENS VAN JALoesIE TEENoor DIE SKENKER
FEELINGS OF JEALOUSY TOWARDS THE DONOR
- UITGELAAT VOEL GEDURENDE DIE KIS PROSEDURE
FEELING LEFT OUT DURING THE PROCEDURE
- SKULDIG VOEL OMREDE U SAAD NIE GEBRUIK KON WORD VIR INSEMINASIE NIE/*FEELING GUILTY BECAUSE YOUR SEMEN CANNOT BE USED FOR INSEMINATION*
- KIS GEBRUIK OM MEKAAR GEDURENDE ARGUMENTE TE VERWYT/*USE AID DURING ARGUMENTS TO BLAME EACH OTHER*

JA YES	ONSEKER UNSURE	NEE NO

2.4.5 MET BETREKKING TOT DIE KIS SWANGERSKAP, SAL U:
REGARDOMG THE AID PREGNANCY, WILL YOU:

- GENIET OM U VROU SWANGER TE SIEN/*ENJOY SEEING YOUR WIFE PREGNANT*
- DIE MOONTLIKHEID DAT SY HAAR FIGUUR SAL VERLOOR KAN AANVAAR/*ACCEPT THE POSSIBILITY OF LOSING HER FIGURE*
- HAAR MOONTLIKE OGGENDNAARHEID WEENS DIE SWANGERSKAP KAN HANTEER/*COPE WITH HER MORNING SICKNESS DUE TO THE PREGNANCY*

JA YES	ONSEKER UNSURE	NEE NO

JA YES	ONSEKER UNSURE	NEE NO

- U VROU SE MOONTLIKE ONWILLIGHEID OF ONVERMOË OM GEMEENSKAP GEDURENDE DIE LAASTE DEEL VAN DIE SWANGERSKAP TE KAN HÊ, KAN AANVAAR/*ACCEPT YOUR WIFE'S POSSIBLE UNWILLINGNESS OR INABILITY TO HAVE INTERCOURSE DURING THE LAST TRIMESTER OF HER PREGNANCY*
- INSTEM OM BY TE STAAN TYDENS DIE BEVALLING *AGREE TO BE PRESENT DURING THE DELIVERY*

2.4.6 MET BETREKING TOT U KIS KIND, SAL U:
REGARDING THE AID CHILD, WILL YOU:

JA YES	ONSEKER UNSURE	NEE NO

- 'N KLEIN BABA WAT BAIE GEDURENDE DIE NAG HUIL OF SKREEU, KAN HANTEER/*COPE WITH A BABY CRYING OR SCREAMING DURING THE NIGHT*
- KAN HELP DOEKE VERANDER ASOOK ANDER TAKE M.B.T. DIE BABA TE VERRIG/*HELP CHANGE NAPPIES AND ASSIST IN OTHER TASKS REGARDING THE BABY*
- DIE AANPASSING VAN 'N KIND IN U LEWE KAN HANTEER NA SOVEEL JARE VAN VRYHEID EN ONAFHANKLIKHEID/*ADAPT TO A CHILD IN YOUR LIFE AFTER SO MANY YEARS OF FREEDOM AND INDEPENDENCE*
- DIE KIND AS U EIE KAN GROOTMAAK AL IS U NIE DIE BIOLOGIESE VADER NIE/*BE ABLE TO RAISE THE CHILD EVEN THOUGH YOU ARE NOG THE BIOLOGICAL FATHER*
- ONSEKERHEID ERVAAR OOR U VERMOË OM 'N GOEIE VADER TE KAN WEES/*EXPERIENCE UNCERTAINTY REGARDING YOUR ABILITY TO BE A GOOD FATHER*
- VRESE ERVAAR DAT DIE KIND U MOONTLIK SAL VERWERP/*HAVE A FEAR OF THE CHILD REJECTING YOU*

VROU ALLEENLIK/WIFE ONLY

2.4.4 DINK U KIS KAN ENIGE VAN DIE VOLGENDE REAKSIES VEROORSAAK?:
DO YOU THINK AID COULD CAUSE ANY OF THE FOLLOWING REACTIONS?:

JA YES	ONSEKER UNSURE	NEE NO

- MEERDERWAARDIGHEIDSGEVOELEN S TEENOR U MAN ERVAAR WEENS SY ONVERMOË OM U SELF TE BEVRUG?
SUPERIOR FEELINGS TOWARDS YOUR HUSBAND BECAUSE OF HIS INABILITY TO IMPREGNATE YOU
- FANTASEER OOR DIE SKENKER/*FANTASIZING ABOUT THE DONOR*
- SKULDIG VOEL DAT U MET SKENKERSAAD BEVRUG IS
FEEL GUILTY BECAUSE YOU WERE INSEMINATED WITH A DONOR'S SEMEN

JA YES	ONSEKER UNSURE	NEE NO

- U MAN LAAT SKULDIG VOEL WEENS SY INFERTILITEITSPROBLEEM/MAKE YOUR HUSBAND FEEL GUILTY ABOUT HIS INFERTILITY PROBLEM
- KIS GEBRUIK OM MEKAAR GEDURENDE ARGUMENTE TE VERWYT/USE AID TO BLAME EACH OTHER DURING ARGUMENTS

2.4.5 MET BETREKKING TOT DIE KIS SWANGERSKAP, SAL U:
REGARDING THE AID PREGNANCY, WILL YOU:

JA YES	ONSEKER UNSURE	NEE NO

- GENIET OM SWANGER TE WEES
ENJOY BEING PREGNANT
- DIE MOONTLIKHEID DAT U, U FIGUUR VERLOOR KAN AANVAAR/ACCEPT THE POSSIBILITY OF LOSING YOUR FIGURE
- DIE MOONTLIKE OGGENDNAARHEID, WEENS DIE SWANGERSKAP KAN HANTEER/COPE WITH THE MORNING SICKNESS DUE TO THE PREGNANCY
- U MAN SE BEHOEFTE AAN GEMEENSKAP TYDENS DIE SWANGERSKAP KAN AANVAAR/ACCEPT YOUR HUSBAND'S NEED FOR INTERCOURSE DURING THE PREGNANCY
- WIL HÊ DAT U MAN TYDENS DIE BEVALLING TEENWOORDIG IS/WANT YOUR HUSBAND TO BE PRESENT AT THE DELIVERY

2.4.6 MET BETREKKING TOT U KIS KIND, SAL U:
REGARDING THE AID CHILD, WILL YOU:

JA YES	ONSEKER UNSURE	NEE NO

- 'N KLEIN BABA WAT BAIE GEDURENDE DIE NAG HUIL OF SKREEU HANTEER/COPE WITH A BABY CRYING OR SCREAMING DURING THE NIGHT
- DIT KAN HANTEER OM GEREELD DOEKE TE MOET VERANDER EN ANDER TAKE M.B.T. DIE BABA TE VERRIG/COPE WITH THE REGULAR CHANGING OF NAPPIES AND OTHER TASKS REGARDING THE BABY
- DIE AANPASSING VAN 'N KIND IN U LEWE KAN HANTEER NA SOVEEL JARE VAN VRYHEID EN ONAFHANKLIKHEID/ADAPT TO A CHILD IN YOUR LIFE AFTER SO MANY YEARS OF FREEDOM AND INDEPENDENCE

	JA YES	ONSEKER UNSURE	NEE NO
• DIE KIND KAN GROOTMAAK, MET DIE WETE DAT U MAN NIE DIE BIOLOGIESE VADER IS NIE <i>BE ABLE TO RAISE THE CHILD, KNOWING YOUR HUSBAND IS NOT THE BIOLOGICAL FATHER</i>			
• ONSEKERHEID ERVAAR OOR U VERMOË OM 'N GOEIE MOEDER TE WEES/ <i>EXPERIENCE UNCERTAINTY REGARDING YOUR ABILITY TO BE A GOOD MOTHER</i>			
• VREES ERVAAR DAT U KIND U MOONTLIK SAL VERWERP/ <i>HAVE FEAR OF THE CHILD REJECTING YOU</i>			

2.5 GEHEIMHOUDING/SECREC*Y*

2.5.1 WEET IEMAND VAN U PLANNE OM KIS BEHANDELING TE ONDERGAAN?
DOES ANYONE KNOW OF YOUR AID PLANS?

JA YES	NEE NO

• INDIEN JA, WIE:
IF YES, WHO:

JA YES	NEE NO

★ OUERS/*PARENTS:*

 VROU SE OUERS (MATERNE)/*WIFE'S PARENTS (MATERNAL)*

 MAN SE OUERS (PATERNE)/*HUSBAND'S PARENTS (PATERNAL)*

★ BROERS OF SUSTERS/*BROTHERS OR SISTERS (SIBLINGS)*

★ ANDER FAMILIE/*OTHER FAMILY*

★ NABYE VRIENDE/*CLOSE FRIENDS*

★ KOLLEGAS/*COLLEAGUES*

★ PROFESSIONELE PERSONE/*PROFESSIONALS*

★ ANDER/*OTHER*
 (*Spesifiseer/specify*)

• INDIEN NEE (*Spesifiseer*)
IF NOT (Specify)

2.5.2 IS ENIGE VAN DIE VOLGENDE ASPEKTE MOONTLIKE REDES/MOTIEWE VIR U GEHEIMHOUDING?/*ARE ANY OF THE FOLLOWING ASPECTS POSSIBLE REASONS/MOTIVES FOR YOUR SECREC**Y?*

3. DIE KIND/*THE CHILD*

3.1 IS U BEKOMMERD DAT ENIGE VAN DIE VOLGENDE STREMMENDE FAKTORE MOONTLIK BY U KIND MAG VOORKOM? (ALHOEWEL DAAR GEEN BEWYSE IS DAT KIS 'N HOËR INSTIDENSTE VAN AFWYKINGS VEROORSAAK NIE)

ARE YOU CONCERNED THAT ANY OF THE FOLLOWING IMPLICATIONS MIGHT BE PRESENT IN YOUR CHILD? (THERE IS NO PROOF OF AID CAUSING A HIGHER INCIDENCE OF ABNORMALITIES)

- 'N VERSTANDELIK VERTRAAGDE KIND/*A MENTALLY RETARDED CHILD*
- 'N FISIES GESTREMDE KIND/*A PHYSICALLY DISABLED CHILD*
- 'N GERINGE ABNORMALITEIT/*A MINIMAL ABNORMALITY*
- VERLAAGDE INTELLEKTUELE VERMOË/*LOW INTELLECTUAL LEVEL*
- 'N KIND WAT GLAD NIE NA EEN VAN U LYK NIE/*A CHILD THAT DOES NOT RESEMBLE EITHER OF YOU*
- 'N KIND WAT HEELTEMAL TEENOORGESTELDE BELANGSTELLINGS HET/*A CHILD WITH OPPOSITE INTERESTS*
- 'N SLEGTE VERHOUDING TUSSEN U EN U KIND/*A BAD PARENT-CHILD RELATIONSHIP*
- 'N KIND WIE GLAD NIE AAN U VERWAGTINGS VOLDOEN NIE/*A CHILD WHO DOES NOT LIVE UP TO YOUR EXPECTATIONS*
- DIE MOONTLIKHEID DAT DIE KIND UITVIND VAN HY/SY KIS AFKOMS/*THE POSSIBILITY OF THE CHILD FINDING OUT ABOUT HIS/HER AID ORIGIN*
- VERWERPING DEUR DIE KIND NA BEKENDMAKING VAN SY/HAAR KIS AFKOMS/*REJECTION OF THE CHILD AFTER FINDING OUT OF HIS/HER AID ORIGIN*
- ANDER (Spesifiseer)
OTHER (Specify)

JA YES	ONSEKER UNSURE	NEE NO

3.2 VEROORSAAK ENIGE VAN DIE VOLGENDE BEKOMMERNIS BY U? *DO ANY OF THE FOLLOWING CAUSE YOU CONCERN?*

- ONSUKSESVOLLE KIS BEHANDELING/*UNSUCCESSFUL AID TREATMENT*

JA YES	ONSEKER UNSURE	NEE NO

- DIE VROU MOET AL DIE PROSEDURES DEURMAAK, TERWYL DIE MAN NET 'N TOESKOUER IS/*THE WIFE HAS TO ENDURE THE WHOLE PROCEDURE, WHILE THE HUSBAND IS MERELY A SPECTATOR*
- DIE MAN WORD SELF NIE BEHANDEL NIE EN KAN DUS VERWERP OF UITGESLUIT VOEL/*THE HUSBAND IS NOT TREATED AND CAN FEEL REJECTED OR LEFT OUT*
- DIE MOONTLIKHEID VAN 'N ABNORMALITEIT GEDURENDE DIE SWANGERSKAP WAT LEI TOT 'N TERAPEUTIESE ABORTUS/*THE POSSIBILITY OF AN ABNORMALITY DURING THE PREGNANCY, LEADING TO A THERAPEUTIC ABORTION*
- 'N SPONTANE MISKRAAM/*A SPONTANEOUS ABORTION*
- DIE MOONTLIKHEID DAT DIE VROU GLAD NIE DIE KIS SWANGERSKAP KAN HANTEER NIE/*THE POSSIBILITY THAT THE WIFE CANNOT COPE WITH THE PREGNANCY*
- DAT DIE MAN MOET BYSTAAN BY DIE GEBOORTE/*THAT THE HUSBAND SHOULD BE PRESENT AT THE DELIVERY*
- DIE MOONTLIKHEID DAT DIE MAN GLAD NIE DIE VROU SE KIS SWANGERSKAP KAN HANTEER NIE/*THE POSSIBILITY THAT THE HUSBAND CANNOT COPE WITH HIS WIFE'S AID PREGNANCY*
- 'N STILGEBOORTE (baba word doodgebore)
A STILLBIRTH (baby born dead)
- 'N MOEILIKE BEVALLING/*A DIFFICULT DELIVERY*
- 'N KEISERSNEE/*A CAESAREAN*
- 'N PREMATURE BABA/*A PREMATURE BABY*
- 'N SIEKLIKE BABA/*AN ILL BABY*
- POST-PARTUM DEPRESSIE
POST-PARTUM DEPRESSION
- ANDER (Spesifiseer)
OTHER (Specify)

JA YES	ONSEKER UNSURE	NEE NO

4. OUERSKAP/PARENTHOOD

4.1 HOE SEKER VOEL U OOR U KENNIS EN VERMOË OM 'N GOEIE OUER TE KAN WEES
(Spesifiseer)/HOW SURE DO YOU FEEL ABOUT YOUR KNOWLEDGE AND ABILITY
TO BE A GOOD PARENT (Specify)

4.2 HET U AL 'N GELEENTHEID GEHAD OM U KENNIS EN VAARDIGHEID MET
BETREKKING TOT OUERSKAP TE VERBETER?/HAVE YOU HAD AN OPPORTUNITY TO
IMPROVE YOUR KNOWLEDGE AND SKILLS REGARDING PARENTHOOD?

- NOG NIE/NOT YET
- VOEL VOL VERTROUE EN VAARDIGHEID/FEEL CONFIDENT AND SKILLED
- JA, EK HET MY KENNIS EN VAARDIGHEID VERBETER DEUR:
YES, I HAVE IMPROVED MY KNOWLEDGE AND SKILLS THROUGH:
 - ★ LITERATUUR MET BETREKKING TOT OUERSKAP TE LEES
READING LITERATURE REGARDING PARENTHOOD
 - ★ BYWONING VAN LESINGS OF KURSUSSE OOR OUERSKAP
ATTENDING PARENTHOOD LECTURES' OR COURSES
 - ★ DEELNAME IN GROEPBESPREKINGS OOR OUERSKAP
PARTTAKING IN GROUP DISCUSSIONS REGARDING PARENTHOOD
 - ★ HET KINDERS VAN MY EIE EN VOEL DUS VOL VERTROUE
HAVE CHILDREN OF MY OWN AND FEEL CONFIDENT
 - ★ PRAKTIESE ERVARING MET VRIENDE/FAMILIE SE KINDERS REEDS
GEHAD/PRACTICAL EXPERIENCE WITH FRIENDS OR FAMILY'S
CHILDREN
 - ★ ANDER (Spesifiseer)
OTHER (Specify)

JA YES	NEE NO

4.3 INDIEN U NOG NIE DIE GELEENTHEID GEHAD HET OM U KENNIS EN VAARDIGHEID
RONDON OM OUERSKAP TE VERBETER NIE, WAT BEPLAN U OM DAAROMTRENT TE DOEN?
IF YOU HAVE NOT YET HAD THE OPPORTUNITY TO IMPROVE YOUR PARENTAL
KNOWLEDGE AND SKILLS, SWAT DO YOU PLAN TO DO?
(Spesifiseer/Specify)

4.4 WAT IS U VRESE M.B.T. OUERSKAP?/WHAT ARE YOUR FEARS REGARDING PARENTHOOD?
(Spesifiseer/Specify)

5. DIE SKENKER/THE DONOR

JA YES	NEE NO

5.1 HET U AL OOK GEDINK OOR DIE SKENKER?
HAVE YOU EVER THOUGHT OF THE DONOR?

5.2 HET U AL OOK OOR ENIGE VAN DIE VOLGENDE ASPEKTE T.O.V. DIE SKENKER
GEWONDER?/HAVE YOU EVER WONDERED ABOUT ANY OF THE FOLLOWING ASPECTS
REGARDING THE DONOR?

- SY MOTIEWE/HIS MOTIVES
- SY GEVOELENS M.B.T. DIE SKENKING VAN SY EIE SAAD
 HIS FEELINGS REGARDING THE DONATION OF HIS SPERM
- DIE EFFEK WAT KIS OP HOM MAG HÊ/THE EFFECT AID MIGHT HAVE
 ON HIM
- DIE EFFEK WAT KIS OP SY VROU OF VRIENDIN KAN HÊ
 THE EFFECT AID MIGHT HAVE ON HIS WIFE OR GIRLFRIEND
- DIE INVLOED/EFFEK WAT KIS OP SY HUWELIK MAG HÊ
 THE EFFECT AID MIGHT HAVE ON HIS MARRIAGE
- HY IS DIE VADER VAN 'N KIND WAT HY NOOIT SAL KEN NIE
 HE IS THE FATHER OF A CHILD HE WILL NEVER KNOW
- ANDER (Spesifiseer)
 OTHER (Specify)

JA YES	NEE NO

5.3 DINK U SKENKERS WORD GESELEKTEER?
DO YOU THINK DONORS ARE SELECTED?

JA YES	ONSEKER UNSURE	NEE NO

- INDIEN JA, WATTER VAN DIE VOLGENDE ASPEKTE DINK U WORD TYDENS DIE
 SELEKTERING IN AG GENEEM :
 IF YES, WHICH OF THE FOLLOWING ASPECTS DO YOU THINK ARE TAKEN INTO
 CONSIDERATION DURING SELECTION :

- ★ RAS/RACE
- ★ NASIONALITEIT/NATIONALITY
- ★ KERKVERBAND/CHURCH DENOMINATION
- ★ ALGHEELE GESONDHEID/GENERAL HEALTH

JA YES	ONSEKER UNSURE	NEE NO

- ★ OORERFLIKE SIEKTES/HEREDITARY DISEASES
- ★ OORDRAAGBARE SIEKTES/TRANSMISSIBLE DISEASES
- ★ PSIGIATRIESE AFWYKINGS/PSYCHIATRIC DISORDERS
- ★ PSIGOSOSIALE ASPEKTE: - BV. VERMOË OM
SITUASIE TE HANTEER
PSYCHOSOCIAL ASPECTS: - E.G. ABILITY TO COPE
WITH THE SITUATION
- ★ BLOEDGROEP/BLOODGROUP
- ★ MOTIEWE VIR SKENKING/MOTIVES FOR DONATION
- ★ SEMEN ANALISE/SEMEN ANALYSIS

JA YES	ONSEKER UNSURE	NEE NO

5.4 DINK U SKENKERS WORD GEPAS BY 'N SPESIFIEKE EGPAAR?
DO YOU THINK DONORS ARE MATCHED WITH A RECIPIENT COUPLE?

JA YES	NEE NO

- INDIEN JA, WATTER ASPEKTE DINK U WORD IN AG GENEEM:
IF YES, WHICH ASPECTS DO YOU THINK ARE TAKEN INTO CONSIDERATION:

- ★ RAS/RACE
- ★ KERKVERBAND/CHURCH DENOMINATION
- ★ NASIONALITEIT/NATIONALITY
- ★ FISIESE VOORKOMS/PHYSICAL APPEARANCE
- ★ INTELLEKTUELE VLAK/KWALIFIKASIE
INTELLECTUAL LEVEL/QUALIFICATION
- ★ SOSIO-EKONOMIESE STATUS/SOCIO-ECONOMIC STATUS
- ★ ANDER (Spesifiseer)
OTHER (Specify)

JA YES	ONSEKER UNSURE	NEE NO

5.5 VIR HOEVEEL SWANGERSKAPPE IN DIE KIS PROGRAM KAN ELKE SKENKER SE SAAD
 GEBRUIK WORD? (Spesifiseer)/FOR HOW MANY PREGNANCIES IN THE AID PROGRAMME
 CAN THE DONOR'S SEMEN BE USED. (Specify)

6.2 INDIEN KIS BEHANDELING ONSUKSESVOL IS, WATTER ANDER ALTERNATIEWE SAL U OORWEEG?/IF AID TREATMENT IS UNSUCCESSFUL, WHICH OTHER ALTERNATIVES WILL YOU CONSIDER?

- OM KINDERLOOSHEID TE AANVAAR
ACCEPT CHILDLESSNESS
- AANNAME/ADOPTION
- NOG NIE DAARAAN GEDINK NIE
HAVE NOT THOUGHT OF IT YET

JA YES	ONSEKER UNSURE	NEE NO

6.3 INDIEN KIS NIE SLAAG NIE, HOE DINK U SAL DIT U AFFEKTEER? (Spesifiseer)
IF AID IS UNSUCCESSFUL, HOW WILL IT AFFECT YOU? (Specify)

6.4 INDIEN GROEPBESPREKINGS MET ANDER KIS EGARE BY DIE INFERTILITEITS-KLINIEK GEHOU WORD, SAL U BELANGSTEL OM DEEL TE NEEM?/IF GROUP DISCUSSIONS WITH OTHER AID COUPLES ARE HELD AT THE INFERTILITY CLINIC, WILL YOU BE INTERESTED TO PARTAKE?
(Spesifiseer/Specify)

JA YES	ONSEKER UNSURE	NEE NO

6.5 DINK U DIT IS NODIG DAT EGARE WAT KIS BEHANDELING BEPLAN, DEEGLIK VOORBEREI MOET WORD DEUR DIE KLINIEK SE GENEESHEER EN GENEESKUNDIGE MAATSKAPLIKE WERKER T.O.V. DIE MEDIESE, WETLIKE, GODSDIENSTIGE, ETIESE SIELKUNDIGE EN MAATSKAPLIKE ASPEKTE VAN KIS?
DO YOU THINK IT IS NECESSARY FOR THE MEDICAL PRACTITIONER AND MEDICAL SOCIAL WORKER TO PREPARE PATIENTS FOR AID TREATMENT THOROUGHLY REGARDING THE MEDICAL, LEGAL, RELIGIOUS, ETHICAL, PSYCHOLOGICAL AND SOCIAL ASPECTS OF AID.
(Spesifiseer/Specify)

JA YES	ONSEKER UNSURE	NEE NO

7. EVALUASIE/EVALUATION

7.1 HOE HET U HIERDIE VRAELYS ERVAAR MET BETREKKING TOT:
HOW DID YOU EXPERIENCE THIS QUESTIONNAIRE REGARDING THE FOLLOWING:

- DIE GEVOELENS WAARTOE DIT AANLEIDING GEGEE HET (Spesifiseer)
THE FEELINGS RAISED BY IT (Specify)

- ASPEKTE MET BETREKKING TOT KIS WAT DUIDELIKER GEMAAK IS (Spesifiseer)
ASPECTS REGARDING AID WHICH WERE MADE CLEARER (Specify)

- NUWE INLIGTING MET BETREKKING TOT KIS WAT VERSKAF IS (Spesifiseer)
NEW INFORMATION PROVIDED REGARDING AID (Specify)

- NUWE BEKOMMERNISSE OF VRESE WAARTOE DIT AANLEIDING GEGEE HET (Spesifiseer)
NEW CONCERNS OR ANXIETIES RAISED (Specify)

- ONSEKERHEDE OOR INLIGTING (Spesifiseer)
UNCERTAINTIES ABOUT INFORMATION (Specify)

- VERMOË OM VRAE TE VERSTAAN (Spesifiseer)
ABILITY TO UNDERSTAND THE QUESTIONS (Specify)

- VRAE WAT TE PERSOONLIK WAS (Spesifiseer)
QUESTIONS WHICH WERE TOO PERSONAL (Specify)

- DIE TYD WAT DIT U GENEEM HET OM DIE VRAELYS TE VOLTOOI (Spesifiseer)
THE TIME TAKEN TO COMPLETE THE QUESTIONNAIRE (Specify)

- ASPEKTE WAT NA VORE GEBRING IS M.B.T. KIS WAARVAN U ONBEWUS WAS?
ASPECTS RAISED REGARDING AID OF WHICH YOU WERE UNAWARE?
(Spesifiseer/*Specify*)

- HET U NA VOLTOOING 'N BETER BEELD VAN WAT KIS ALLES BEHELST?
AFTER COMPLETION, DO YOU HAVE A BETTER VISION OF WHAT AID ENTAILS?
(Spesifiseer/*Specify*)

DANKIE VIR U TYD EN SAMEWERKING.
THANK YOU FOR YOUR TIME AND CO-OPERATION.

APPENDIX 4

Questionnaires for second empirical study (English and Afrikaans)

Respondent Number

Card Number

For office use

V1			1-2
V2			3-4

SECTION 1: BIOGRAPHICAL DATA

1.1 Sex.

Male	1
Female	2

V3 5

1.2 Age.

Year

V4 6-7

1.3 Marital Status

		DURING THE INFERTILITY TREATMENT AT H.F. VERWOERD HOSPITAL	PRESENTLY
1	Married		
2	Estranged		
3	Widowed		
4	Divorced		
5	Other:		
		Specify	

V5 8

V6 9

1.3.1 If your marital status has changed, indicate the date it changed.

M Y

V7 10-11

V8 12-13

1.3.2 Motivate the reason for this change indicated in question 1.3.1

V9 14

1.4 Highest educational qualifications.

Std 9 or less	1
Std 10	2
Trade	3
Diploma	4
University degree (B-degree)	5
University degree (M- or D-degree)	6
Other:	7
Specify	

V10 15

1.5 Present Occupation.

Professional	1
Management	2
Clerical	3
Technical	4
Trade	5
Housewife	6
Unemployed	7
Other:	8
Specify	

V11 16

1.6 Religious denomination.

Dutch Reformed	1
Reformed (Calvinistic)	2
Reformed	3
Apostolic Faith	4
Roman Catholic	5
Anglican	6
Methodist	7
Other:	8
Specify	

For office use

V12 17

1.7 Do you have any children presently?

Yes	1
No	2

V13 18

1.7.1 If you answered YES in question 1.7., indicate the origin of your child/children.

	Amount		Amount
Biological child from previous marriage		Child in foster care	
Biological child from present marriage		Other:	
Donor infertility treatment child		Specify	
Adopted child			

V14 19

V15 20

V16 21

SECTION 2: MEDICAL DATA

2.1 After undergoing the preparation session for donor infertility treatment with the social worker at the Infertility clinic at the H F Verwoerd Hospital in 1987/1988, did you or your spouse undergo any donor infertility treatment up to now?

Yes	1
No	2

V17 22

2.1.1 If you answered NO in question 2.1, motivate which factors contributed to your decision against donor infertility treatment.

V18 23

(IF YOU ANSWERED QUESTION 2.1.1, GO DIRECTLY TO QUESTION 3 ON PAGE 6)

2.1.2 If you answered YES in question 2.1, indicate the nature of the donor infertility treatment you underwent.

Artificial insemination with donor sperm (AID)	1
Donor In-vitro fertilization (Donor-IVF)	2
Donor Gamete intra-fallopian tube transfer (Donor-GIFT)	3
Donor Zygote intra-fallopian tube transfer (Donor-ZIFT)	4
Other:	5
Specify	

V19 24

2.2 How long after the preparation session with the social worker at the Infertility Clinic at H F Verwoerd Hospital did you or your spouse undergo donor infertility treatment?

0-1 year	1	4 years or more	5
1-2 years	2	Other:	6
2-3 years	3	Specify	
3-4 years	4		

V20 25

2.3 How many infertility treatment attempts did you as a couple undergo?

None	1
1-2	2
3-4	3
5-6	4
7-8	5
9 or more	6
Other:	7

Specify _____

V21 26

2.4 Were any of the donor infertility treatment attempts successful, that is, with a resultant positive pregnancy test?

Yes	1
No	2

V22 27

2.4.1 If you answered NO in question 2.4, what decision did you make after the unsuccessful treatment attempt and why?

V23 28

(IF YOU ANSWERED QUESTION 2.4.1, GO DIRECTLY TO QUESTION 3, PAGE 6)

2.5 Indicate where you underwent the donor infertility treatment.

Provincial hospital	1
Private hospital	2
Clinic	3
Private doctor	4
Other:	5

Specify _____

V24 29

2.5.1 Specify your answer in question 2.5: Name of hospital

V25 30-31

City

V26 32-33

2.6 Indicate who performed the donor infertility treatment.

General practitioner	1
Gynaecologist	2
Nurse	3
Combination of the above	4
Other:	5

Specify _____

V27 34

2.7 Did the same person perform the treatment every time?

Yes	1
No	2

V28 35

2.7.1 If you answered NO in question 2.7, would you have preferred the same person to perform it each time?

Yes	1
No	2

V29 36
 V30 37

2.7.2 Motivate your answer in question 2.7.1.

2.8 Was your husband/were you as husband present during the insemination or oocyte/embryo transfer?

Yes	1
No	2

V31 38
 V32 39

2.8.1 Motivate your answer in question 2.8 and the effect it had on you

2.9 Did you and your spouse have sexual intercourse directly after the insemination or oocyte/embryo transfer?

Yes	1
No	2

V33 40
 V34 41

2.9.1 Motivate your answer in question 2.9

2.10 How long did this pregnancy as a result of the donor infertility treatment last?

Full term	1
Incomplete	2
Specify	months

V35 42
 V36 43

2.11 Were there any medical complications during the pregnancy?

Yes	1
No	2

V37 44

2.11.1 If you answered YES in question 2.11, specify

V38 45

2.12 Did you receive any information about the donor from the medical practitioner?

Yes	1
No	2

V39 46

2.12.1 If you answered YES in question 2.12, what kind of information did you receive?

V40 47

2.12.2 What information about the donor would you like to obtain?

V41 48

2.13 If you had a baby by means of donor infertility treatment, what type of confinement/delivery did you have?

Normal	1
Forceps delivery	2
Vacuum extraction	3
Epidural	4
Caesarean	5
Epidural caesarean	6
Other:	7
Specify	

V42 49

For office use

2.14 Indicate the date of birth of your child.

M Y

V43	<input type="text"/>	<input type="text"/>	50-51
V44	<input type="text"/>	<input type="text"/>	52-53

2.15 Indicate the sex of your child.

Male	1
Female	2

V45 54

2.16 Indicate where the child was born.

Provincial hospital	1
Private hospital	2
Clinic	3
Other:	4
Specify	

V46 55

2.16.1 Specify your answer in question 2.16.

Name of hospital

City

V47	<input type="text"/>	<input type="text"/>	56-57
V48	<input type="text"/>	<input type="text"/>	58-59

2.17 Indicate who delivered the baby.

General practitioner	1
Gynaecologist	2
Nurse	3
Combination of the above	4
Other:	5
Specify	

V49 60

2.18 Was the person mentioned in question 2.17 the same person who performed the donor infertility treatment?

Yes	1
No	2

V50 61

2.18.1 If you answered NO in question 2.18, motivate.

V51 62

2.19 Was the medical practitioner who delivered the baby aware of your donor infertility treatment?

Yes	1
No	2

V52 63

2.19.1 If you answered NO in question 2.19, motivate.

V53 64

2.20 Did the baby have any abnormality or medical problem after birth?

Yes	1
No	2

V54 65

2.20.1 If you answered YES in question 2.20, specify.

V55 66

2.21 Indicate the child's present physical condition.

Healthy	1
Ill	2
Other:	3
Specify	

V56 67

For office use

2.22 Did you inform the medical practitioner who performed the donor infertility treatment of the birth of you baby for the purposes of registration of the birth according to the law, by the Central Register for Artificial Fertilization at the Department of National Health and Population Development?

Yes	1
No	2

2.22.1 If you answer NO in question 2.22, motivate.

V57		68
V58		69

2.23 Are you satisfied with your child's physical appearance and resemblance with you as couple as a result of the matching process between you and the donor before treatment?

Yes	1
No	2

2.23.1 Motivate your answer in question 2.23.

V59		70
V60		71

Respondent Number

V61			1-2
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Card Number

V62			3-4
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SECTION 3: EVALUATION OF PREPARATION SESSION WITH SOCIAL WORKER.

3.1 Choose four of the most important feelings you experienced before, four feelings you experienced during and four feelings you experienced after the preparation session with the social worker at H F Verwoerd Hospital. (MARK ONLY THE FOUR MOST IMPORTANT FEELINGS BEFORE, DURING AND AFTER)

	FEELINGS	BEFORE	DURING	AFTER
1	Excitement			
2	Happiness			
3	Hope			
4	Enthusiasm			

	FEELINGS	BEFORE	DURING	AFTER
16	Sadness			
17	Uncertainty			
18	Frustration			
19	Aggression			

BEFORE			
V63			5-6
V64			7-8
V65			9-10
V66			11-12

5	Suspicion			
6	Ambivalent feelings			
7	Guilt			
8	Shyness			
9	Humiliation			
10	Blame			
11	Disappointment			
12	Helplessness			
13	Rejection			
14	Unconcerned			
15	Exposure			

20	Jealousy			
21	Anxiety			
22	Fear			
23	Despair			
24	Shock			
25	Bewilderment			
26	Disbelieve			
27	Stress			
28	Depression			
29	Isolation			
30	Other:			

Specify

DURING			
V67			13-14
V68			15-16
V69			17-18
V70			19-20

AFTER			
V71			21-22
V72			23-24
V73			25-26
V74			27-28

3.2 What value did the preparation session with the social worker have for you?

No value	1
Moderate value	2
High value	3

V75		29
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For office use

3.3 Of what value were the following aspects to you, which were discussed during the preparation session? (Mark all the applicable)

Aspects discussed during preparation session	No value	Moderate value	High value
Medical aspects	1	2	3
Legal aspects	1	2	3
Religious aspects	1	2	3
Ethical-moral aspects	1	2	3
Social and psychological aspects	1	2	3

V76 30
 V77 31
 V78 32
 V79 33
 V80 34

3.4 What value did the following social aspects which were discussed have for you, especially regarding the influence of donor infertility treatment on these aspects. (Mark all the applicable)

	No value	Moderate value	High value
Self	1	2	3
Spouse	1	2	3
Marital relationship	1	2	3
Work	1	2	3
Finances	1	2	3
Religion	1	2	3
Social life	1	2	3
Family	1	2	3
Friends	1	2	3

V81 35
 V82 36
 V83 37
 V84 38
 V85 39
 V86 40
 V87 41
 V88 42
 V89 43

Pregnancy	1	2	3
Secrecy	1	2	3
The child	1	2	3

V90 44
 V91 45
 V92 46

3.5 Which three important influences did the preparation session have on your decision regarding donor infertility treatment? (Mark all the applicable)

Made you have doubts about donor infertility treatment	1
Evoked mixed feelings regarding donor infertility treatment	2
Helped you to decide against donor infertility treatment	3
Revealed aspects regarding donor infertility treatment not previously considered	4
Made you feel you should first reconsider	5
Gave a more thorough image of donor infertility treatment	6
Made you think more realistically about donor infertility treatment	7
Helped you decide to go ahead with donor infertility treatment	8
Made you feel more confident about donor treatment	9
Other:	10
Specify	

V93 47
 V94 48
 V95 49

3.6 Do you think it is necessary to undergo a preparation session for donor infertility treatment?

Yes	1
No	2

V96 50

3.6.1 Motivate your answer in question 3.6.

3.7 Do you think a preparation session with a social worker for potential donor receiver couples like you should be:

Compulsory	1
Optional	2
Unnecessary	3
Other:	4
Specify	

For office use

V97 51

V98 52

SECTION 4: PSYCHO-SOCIAL DATA

4.1 Motives for donor infertility treatment

4.1.1 Indicate the five most important motives why you wanted a child by means of donor infertility treatment (Mark only the five most important)

Biological determination and instinct	1
Social pressure to have a child	2
Every woman must have a child	3
Our friends all have children	4
Our infertility will remain a secret	5
Want to experience pregnancy and birth	6
Need an heir	7
The child will be accepted as our own	8
Do not want to adopt a child	9

Have not been selected for adoption	10
The child will be fifty percent blood related	11
Do not want to undergo the long selection and waiting period of adoption	12
Strong desire for a child	13
Married to have a child	14
My spouse wants a child	15
For the family name	16
Feel useless without a child	17
Feel selfish without a child	18
A child is important for a happy marriage	19
Pressure from parents to have a child	20
Pressure from family to have a child	21
Pressure from friends to have a child	22
Think we will be good parents	23
Life is incomplete without a child	24
To prove that we can have a child	25
Other:	26
Specify	

V99	<input type="checkbox"/>	<input type="checkbox"/>	53-54
V100	<input type="checkbox"/>	<input type="checkbox"/>	55-56
V101	<input type="checkbox"/>	<input type="checkbox"/>	57-58
V102	<input type="checkbox"/>	<input type="checkbox"/>	59-60
V103	<input type="checkbox"/>	<input type="checkbox"/>	61-62

4.2 Influence of donor infertility treatment

4.2.1 Indicate the three most important feelings that you experienced in each stage as shown in the columns. (Mark only the three most important in each column)

	FEELINGS	BEFORE TREATMENT	DURING TREATMENT	AFTER PREGNANCY TEST RESULTS	DURING PREGNANCY	AFTER BIRTH OF CHILD	PRESENTLY
1	Excitement						
2	Happiness						
3	Hope						
4	Enthusiasm						
5	Suspicion						
6	Ambivalent feelings						
7	Guilt						
8	Shyness						
9	Humiliation						
10	Blame						
11	Disappointment						
12	Helplessness						
13	Rejection						
14	Unconcerned						
15	Exposure						

For office use

BEFORE

V104			63-64
V105			65-66
V106			67-68

DURING

V107			69-70
V108			71-72
V109			73-74

AFTER

V110			75-76
V111			77-78
V112			79-80

Respondent Number

Card Number

16	Sadness						
17	Uncertainty						
18	Frustration						
19	Aggression						
20	Jealousy						
21	Anxiety						
22	Fear						
23	Despair						
24	Shock						
25	Bewilderment						
26	Disbelief						
27	Stress						
28	Depression						
29	Isolation						
30	Other:						
	Specify						

V113			1-2
V114			3-4

DURING

V115			5-6
V116			7-8
V117			9-10

AFTER

V118			11-12
V119			13-14
V120			15-16

PRESENTLY

V121			17-18
V122			19-20
V123			21-22

4.2.2 Which of the following thoughts did you experience concerning yourself or your spouse in any of the stages as shown in the columns? (Mark only the three most important in each column)

	THOUGHTS	BEFORE TREATMENT	DURING TREATMENT	AFTER PREGNANCY TEST RESULTS	DURING PREGNANCY	AFTER BIRTH OF CHILD	PRESENTLY
1	Am I acceptable to my spouse?						
2	Is my spouse acceptable to me?						
3	Did I make the correct decision?						
4	Did my spouse make the correct decision?						
5	I feel superior						
6	My spouse feels superior						
7	I feel inferior						
8	My spouse feels inferior						
9	Am I a failure?						
10	Is my spouse a failure?						
11	Am I to blame?						
12	Is my spouse to blame?						

For office use

BEFORE

V124

--	--

 23-24

V125

--	--

 25-26

V126

--	--

 27-28

DURING

V127

--	--

 29-30

V128

--	--

 31-32

V129

--	--

 33-34

AFTER

V130

--	--

 35-36

V131

--	--

 37-38

V132

--	--

 39-40

DURING

V133

--	--

 41-42

V134

--	--

 43-44

V135

--	--

 45-46

13	Am I incompetent?						
14	Is my spouse incompetent?						
15	Am I dirty within?						
16	Is my spouse dirty within?						
17	Have I sinned?						
18	Has my spouse sinned?						
19	Am I a complete man/woman?						
20	Is my spouse a complete man/woman?						
21	Other: Specify						

AFTER

V136

--	--

 47-48

V137

--	--

 49-50

V138

--	--

 51-52

PRESENTLY

V139

--	--

 53-54

V140

--	--

 55-56

V141

--	--

 57-58

V142

--	--

 1-2

V143

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 3-4

Respondent Number

Card Number

4.2.3 Did you during any of the following stages as indicated in the columns, experience any of the influences on your marital relationship? (Mark only the three most important in each column)

	INFLUENCE ON MARRIAGE	BEFORE TREATMENT	DURING TREATMENT	AFTER PREGNANCY TEST RESULTS	DURING PREGNANCY	AFTER BIRTH OF CHILD	PRESENTLY
1	Strengthened your love for each other						
2	Increased your mutual respect						

BEFORE

V144

--	--

 5-6

V145

--	--

 7-8

V146

--	--

 9-10

3	Made you more affectionate towards each other						
4	Brought you closer together						
5	Improved your communication						
6	Did more things together						
7	Sexual relationship improved						
8	Weakened your love for each other						
9	Your mutual respect decreased						
10	Made you less affectionate towards each other						
11	Drove you apart						
12	Communication deteriorated						
13	Did fewer things together						
14	Sexual relationship deteriorated						
15	Quarrels increased						
16	Blamed each other						
17	Humiliated each other						
18	Evoked feeling of jealousy						

For office use

DURING

V147	<input type="checkbox"/>	<input type="checkbox"/>	11-12
V148	<input type="checkbox"/>	<input type="checkbox"/>	13-14
V149	<input type="checkbox"/>	<input type="checkbox"/>	15-16

AFTER

V150	<input type="checkbox"/>	<input type="checkbox"/>	17-18
V151	<input type="checkbox"/>	<input type="checkbox"/>	19-20
V152	<input type="checkbox"/>	<input type="checkbox"/>	21-22

DURING

V153	<input type="checkbox"/>	<input type="checkbox"/>	23-24
V154	<input type="checkbox"/>	<input type="checkbox"/>	25-26
V155	<input type="checkbox"/>	<input type="checkbox"/>	27-28

19	Evoked fantasies of the donor						
20	Isolated yourselves from friends						
21	Feared that people will find out about your secret						
22	Led to an extramarital affair by you						
23	Led to an extramarital affair by your spouse						
24	Led to estrangement						
25	Led to divorce						
26	Other: Specify						

AFTER

V156	<input type="checkbox"/>	<input type="checkbox"/>	29-30
V157	<input type="checkbox"/>	<input type="checkbox"/>	31-32
V158	<input type="checkbox"/>	<input type="checkbox"/>	33-34

PRESENTLY

V159	<input type="checkbox"/>	<input type="checkbox"/>	35-36
V160	<input type="checkbox"/>	<input type="checkbox"/>	37-38
V161	<input type="checkbox"/>	<input type="checkbox"/>	39-40

4.2.4 Were you at any of the stages as indicated in the columns, concerned about any of the following aspects? (Mark only the three most important in each column)

	BEFORE TREATMENT	DURING TREATMENT	AFTER PREGNANCY TEST RESULTS	DURING PREGNANCY	AT THE BIRTH OF THE CHILD
1	Threatening miscarriage				
2	Complicated pregnancy				
3	Difficult birth				
4	Stillbirth				

BEFORE

V162	<input type="checkbox"/>	<input type="checkbox"/>	41-42
V163	<input type="checkbox"/>	<input type="checkbox"/>	43-44
V164	<input type="checkbox"/>	<input type="checkbox"/>	45-46

5	Abnormalities in the baby					
6	Premature baby					
7	Physical appearance of the baby					
8	Personality resemblance of the child					
9	Overall disappointment in the baby					
10	Genetic history of the baby					
11	Health of the baby					
12	Difficulty in bonding with the baby					
13	Your ability to love the baby					
14	Your spouse's ability to love the baby					
15	Your ability to accept the baby as your own					
16	Your spouse's ability to accept the baby as his/her own					
17	Your family's acceptance of the baby					
18	Your friend's acceptance of the baby					

For office use

DURING

V165	<input type="checkbox"/>	<input type="checkbox"/>	47-48
V166	<input type="checkbox"/>	<input type="checkbox"/>	49-50
V167	<input type="checkbox"/>	<input type="checkbox"/>	51-52

AFTER

V168	<input type="checkbox"/>	<input type="checkbox"/>	53-54
V169	<input type="checkbox"/>	<input type="checkbox"/>	55-56
V170	<input type="checkbox"/>	<input type="checkbox"/>	57-58

DURING

V171	<input type="checkbox"/>	<input type="checkbox"/>	59-60
V172	<input type="checkbox"/>	<input type="checkbox"/>	61-62
V173	<input type="checkbox"/>	<input type="checkbox"/>	63-64

BY BIRTH

V174	<input type="checkbox"/>	<input type="checkbox"/>	65-66
V175	<input type="checkbox"/>	<input type="checkbox"/>	67-68
V176	<input type="checkbox"/>	<input type="checkbox"/>	69-70

19	Development of a parent-child relationship					
20	People might suspect the child's donor conception					
21	Fear that people will find out about your secret					
22	Rejection of the baby by you					
23	Rejection of the baby by others					
24	Are you betraying your spouse by going ahead with the donor treatment?					
25	Did you disappoint your spouse by not being able to have your biological child?					
26	Ability to be a good parent					
27	Was the correct decision made?					
28	Will the child inherit genetic abnormalities from the donor?					
29	The child's possible different nature to you as a couple					
30	Your communication with the child					

31	How will you cope with the child?					
32	The infliction of discipline					
33	Other: Specify					

4.2.5 Has the child thusfar evoked any of the following thoughts by you? (Mark only the five most important)

Reminder of your infertility	1
Confirmation of your inability	2
Fantasies of the donor	3
Doubts concerning your decision	4
Confirmation of your own incompetence	5
Concerns about people suspecting your donor treatment	6
This child is not our child	7
This child does not resemble you	8
This child is not your child	9
The child does not resemble your spouse	10
The child does not have your nature	11
The child does not have your spouse's nature	12
Blame regarding the financial costs this child has caused	13

For office use

V177			71-72
V178			73-74
V179			75-76
V180			77-78
V181			79-80

It is your fault	14
It is your spouse's fault	15
Gratefulness that you have a child	16
Gratefulness that the medical sciences could help you	17
Other: Specify	18

Respondent Number

Card Number

V182			1-2
V183			3-4

4.2.6 Were any of your following relationships affected negatively or positively in the stages as indicated in the columns?
(Mark all the applicable with 1 = positive 2 = negative)

	BEFORE TREATMENT	DURING TREATMENT	AFTER PREGNANCY TEST RESULTS	DURING PREGNANCY	AFTER BIRTH OF CHILD	PRESENTLY
God						
Spouse						
Family						
Friends						
Colleagues						

GOD		FAMILY	
V184		V196	
V185		V197	
V186		V198	
V187		V199	
V188		V200	
V189		V201	
SPOUSE		FRIENDS	
V190		V202	
V191		V203	
V192		V204	
V193		V205	
V194		V206	
V195		V207	
COLLEAGUES			
		V208	
		V209	
		V210	
		V211	
		V212	
		V213	

4.2.6.1 If any of the abovementioned relationships in question 4.2.6 were affected, motivate your answer.

God

Spouse

Family

Friends

Colleagues

4.2.7 Were any of the following aspects affected negatively or positively in the stages as indicated in the columns? (Mark all the applicable with 1 = positive 2 = negative)

	BEFORE TREATMENT	DURING TREATMENT	AFTER PREGNANCY TEST RESULTS	DURING PREGNANCY	AFTER BIRTH OF CHILD	PRESENTLY
Social life						
Work						
Finances						
Housing						

4.2.7.1 If any of the abovementioned aspects in question 4.2.7 were affected, motivate your answer.

Social life

Work

Finances

Housing

4.2.8 Are you happy with your child conceived by means of donor infertility treatment?

YES	1
NO	2
SOMETIMES	3
NOT APPLICABLE	4

4.2.8.1 Motivate your answer in question 4.2.8

.....

4.3 Influence on unsuccessful or no donor infertility treatment

(IF YOU HAD UNSUCCESSFUL OR NO DONOR INFERTILITY TREATMENT, ANSWER THIS SECTION)
 (IF YOU HAD SUCCESSFUL DONOR INFERTILITY TREATMENT WITH THE BIRTH OF A CHILD, GO DIRECTLY TO QUESTION 4.4 ON PAGE 17)

4.3.1 Which of the following were applicable to your situation?

We had no donor infertility treatment	1
We had donor infertility treatment but it was unsuccessful	2

Respondent Number

Card Number

4.3.2 Indicate five feelings you experienced after the donor infertility treatment was unsuccessful or after you decided against donor infertility treatment. (Mark only the five most important)

Excitement	1	Helplessness	12	Despair	23
Happiness	2	Rejection	13	Shock	24

For office use

V214 35

V215 36

V216 37

V217 38

V218 39

SOS

FIN

V219 40 V231 52

V220 41 V232 53

V221 42 V233 54

V222 43 V234 55

V223 44 V235 56

V224 45 V236 57

WORK

HOUSE

V225 46 V237 58

V226 47 V238 59

V227 48 V239 60

V228 49 V240 61

V229 50 V241 62

V230 51 V242 63

V243 64

V244 65

V245 66

V246 67

V247 68

V248 69

V249 70

V250 1-2

V251 3-4

For office use

Hope	3	Unconcerned	14	Bewilderment	25
Enthusiasm	4	Exposure	15	Disbelief	26
Suspicion	5	Sadness	16	Stress	27
Ambivalent feelings	6	Uncertainty	17	Depression	28
Guilt	7	Frustration	18	Isolation	29
Shyness	8	Aggression	19	Other:	30
Humiliation	9	Jealousy	20	Specify	
Blame	10	Anxiety	21		
Disappointment	11	Fear	22		

V252		5-6
V253		7-8
V254		9-10
V255		11-12
V256		13-14

4.3.3 Indicate five thoughts you experienced after the **unsuccessful donor infertility treatment** or after you **decided against donor infertility treatment**. (Mark only the five most important)

THOUGHTS	
Am I acceptable to my spouse?	1
Is my spouse acceptable to me?	2
Did I make the correct decision?	3
Did my spouse make the correct decision?	4
I feel superior	5
My spouse feels superior	6
I feel inferior	7

My spouse feels inferior	8
Am I a failure?	9
Is my spouse a failure?	10
Am I to blame?	11
Is my spouse to blame?	12
Am I incompetent?	13
Is my spouse incompetent?	14
Am I dirty within?	15
Is my spouse dirty within?	16
Have I sinned?	17
Has my spouse sinned?	18
Am I a complete man/woman?	19
Is my spouse a complete man/woman?	20
Other:	21
Specify	

V257		15-16
V258		17-18
V259		19-20
V260		21-22
V261		23-24

4.3.4 Indicate which five influences the **unsuccessful donor infertility treatment** or your **decision against donor infertility treatment** had on your marital relationship? (Mark only the five most important)

INFLUENCE ON MARRIAGE	
Strengthened your love for each other	1

For office use

Increased your mutual respect	2
Made you more affectionate towards each other	3
Brought you closer together	4
Improved your communication	5
Did more things together	6
Sexual relationship improved	7
Weakened your love for each other	8
Your mutual respect decreased	9
Made you less affectionate towards each other	10
Drove you apart	11
Communication deteriorated	12
Did fewer things together	13
Sexual relationship deteriorated	14
Quarrels increased	15
Blamed each other	16
Humiliated each other	17
Evoked feelings of jealousy	18
Evoked fantasies of the donor	19
Isolated yourselves from friends	20

V262		25-26
V263		27-28
V264		29-30
V265		31-32
V266		33-34

Feared that people will find out about your secret	21
Led to an extramarital affair by you	22
Led to an extramarital affair by your spouse	23
Led to estrangement	24
Led to divorce	25
Other:	26
Specify	

4.3.5 Which of the following relationships were affected by your situation?

God	1
Spouse	2
Family	3
Friends	4
Colleagues	5

V267		35
V268		36
V269		37
V270		38
V271		39

4.3.5.1 If any of the abovementioned relationships in question 4.3.5 were affected, motivate your answer

God
 Spouse
 Family
 Friends
 Colleagues

V272		40
V273		41
V274		42
V275		43
V276		44

4.3.6 Which of the following aspects were affected by your situation?

Social life	1
Work	2
Finances	3
Housing	4

4.3.6.1 If any of the abovementioned aspects in question 4.3.6 were affected, motivate your answer

Social life

Work

Finances

Housing

4.4 Influence of secrecy

4.4.1 Have you told anybody of your donor infertility treatment plans?

YES	1
NO	2

4.4.1.1 If you answered YES in question 4.4.1, whom did you tell? (Mark all the applicable)

PERSONS			
Paternal mother		Other family	
Paternal father		Friends	
Maternal mother		Colleagues	

Maternal father		Social worker	
Wife's siblings		Minister/Pastor	
Husband's siblings		Doctor	
Paternal grandparents		Other:	
Maternal grandparents		Specify	

Respondent Number

Card Number

4.4.1.2 How did the abovementioned person/persons react? (Mark all the applicable reactions with a number as shown below to indicate a specific person)

Condemned donor treatment		
Encouraged donor treatment		
Mentioned ethical-moral concerns		
Mentioned legal aspects		
Discussed the psycho-social implications		
Provided emotional support		
Offered financial support		
Gauranteed confidentiality		
Helped us with our decision making		
Supported us in our decision		
Rejected us as couple		

For office use

V277		45
V278		46
V279		47
V280		48

V281		49
V282		50
V283		51
V284		52

V285		53
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V286		54	V294		62
V287		55	V295		63
V288		56	V296		64

V289		57	V297		65
V290		58	V298		66
V291		59	V299		67
V292		60	V300		68
V293		61			

V301			1-2
V302			3-4

V303			5-6
V304			7-8
V305			9-10
V306			11-12
V307			13-14
V308			15-16
V309			17-18
V310			19-20
V311			21-22
V312			23-24
V313			25-26

For office use

Regarded it as shocking news			
Other:			
Specify			

V314			27-28
V315			29-30

PERSONS:

- | | | |
|------------------------|---------------------------|----------------------|
| Paternal mother = 1 | Maternal grandparents = 7 | Minister/Pastor = 13 |
| Paternal father = 2 | Paternal grandparents = 8 | Doctor = 14 |
| Maternal mother = 3 | Other family = 9 | Other = 15 |
| Maternal father = 4 | Friends = 10 | |
| Wife's siblings = 5 | Colleagues = 11 | |
| Husband's siblings = 6 | Social worker = 12 | |

4.4.1.3 If you answered NO in question 4.4.1, why did you tell nobody?
(Mark all the applicable)

It is a private matter	
Nobody needs to know	
Nobody is aware of our infertility problem	
Scared of self-exposure	
Scared of exposure of my spouse	
Scared our family name is affected	
Uncertain as to how people will react	
Fear of rejection by others	

V316		31
V317		32
V318		33
V319		34
V320		35
V321		36
V322		37
V323		38

Fear of exposure of the child	
Fear of rejection of the child	
Fear of the influence it will have on the child	
Other:	
Specify	

V324		39
V325		40
V326		41
V327		42

4.4.2 Do you plan to tell somebody in the future of your donor infertility treatment?

YES	1
NO	2

V328		43
------	--	----

4.4.2.1 Motivate your answer in question 4.4.2.

V329		44
------	--	----

4.4.3 Did your **secrecy** regarding the donor infertility treatment thusfar evoke any of the following feelings by you? (Mark only the five most important)

Excitement	1	Sadness	16
Happiness	2	Uncertainty	17
Hope	3	Frustration	18
Enthusiasm	4	Aggression	19
Suspicion	5	Jealousy	20
Ambivalent feelings	6	Anxiety	21
Guilt	7	Fear	22
Shyness	8	Despair	23

For office use

Humiliation	9
Blame	10
Disappointment	11
Helplessness	12
Rejection	13
Unconcerned	14
Exposure	15

Shock	24
Bewilderment	25
Disbelief	26
Stress	27
Depression	28
Isolation	29
Other:	30

Specify _____

4.4.4 Did the secrecy regarding the donor infertility treatment have any of the following influences on your marital relationship? (Mark only the five most important)

Strengthened your love for each other	1
Increased your mutual respect	2
Made you more affectionate towards each other	3
Brought you closer together	4
Improved your communication	5
Did more things together	6
Sexual relationship improved	7
Weakened your love for each other	8
Your mutual respect decreased	9

V330			45-46
V331			47-48
V332			49-50
V333			51-52
V334			53-54

V335			55-56
V336			57-58
V337			59-60
V338			61-62
V339			63-64

Made you less affectionate towards each other	10
Drove you apart	11
Communication deteriorated	12
Did fewer things together	13
Sexual relationship deteriorated	14
Quarrels increased	15
Blamed each other	16
Humiliated each other	17
Evoked feelings of jealousy	18
Evoked fantasies of the donor	19
Isolated yourself from friends	20
Feared that people will find out about your secret	21
Led to an extramarital affair by you	22
Led to an extramarital affair by your spouse	23
Led to estrangement	24
Led to divorce	25
Other:	26

Specify _____

4.4.5 Did the **secrecy regarding donor infertility treatment** lead to any of the following concerns?
 (Mark only the three most important)

I am a living lie	1
I get no emotional support from others	2
We are mutually dependent on each other for support	3
We fear that others will find our about this secret	4
We fear that the child will find out about this secret	5
Did we make the correct decision to keep it secret?	6
How will we deal with the situation if someone finds out?	7
Others suspecting our donor infertility treatment	8
Other:	9
Specify	

V340 65
 V341 66
 V342 67

4.4.6 Do you plan in the future to tell the **child of the donor infertility treatment**?

YES	1
NO	2
NOT APPLICABLE	3

V343 68
 V344 69

4.4.6.1 Motivate your answer in question 4.4.6

.....

4.4.7 If you could have this donor infertility treatment situation over again, would you tell anybody?

YES	1
NO	2

4.4.7.1 Motivate your answer in question 4.4.7

.....

V345 70
 V346 71
 V347 1-2
 V348 3-4

Respondent Number

Card Number

SECTION 5: PROFESSIONAL SERVICES

5.1 Indicate the **value** the input of the following **professional persons** had for you regarding the stages of treatment as indicated in the columns. (Mark all the applicable with the number for the specific value: No value = 1, Reasonable value = 2, High value = 3)

PROFESSIONAL PERSONS	PREPARATION FOR TREATMENT	DURING TREATMENT	AFTER TREATMENT
Medical doctor			
Nurse			
Social worker			
Psychologist			
Minister/Pastor			
Laboratory personnel			
Administrative personnel			
Other:			
Specify			

<p style="text-align: center;">D</p> <p>V349 <input type="checkbox"/> 5 V350 <input type="checkbox"/> 6 V351 <input type="checkbox"/> 7</p> <p style="text-align: center;">N</p> <p>V352 <input type="checkbox"/> 8 V353 <input type="checkbox"/> 9 V354 <input type="checkbox"/> 10</p> <p style="text-align: center;">SW</p> <p>V355 <input type="checkbox"/> 11 V356 <input type="checkbox"/> 12 V357 <input type="checkbox"/> 13</p> <p style="text-align: center;">P</p> <p>V358 <input type="checkbox"/> 14 V359 <input type="checkbox"/> 15 V360 <input type="checkbox"/> 16</p>	<p style="text-align: center;">M</p> <p>V361 <input type="checkbox"/> 17 V362 <input type="checkbox"/> 18 V363 <input type="checkbox"/> 19</p> <p style="text-align: center;">L</p> <p>V364 <input type="checkbox"/> 20 V365 <input type="checkbox"/> 21 V366 <input type="checkbox"/> 22</p> <p style="text-align: center;">Ad</p> <p>V367 <input type="checkbox"/> 23 V368 <input type="checkbox"/> 24 V369 <input type="checkbox"/> 25</p> <p style="text-align: center;">O</p> <p>V370 <input type="checkbox"/> 26 V371 <input type="checkbox"/> 27 V372 <input type="checkbox"/> 28</p>
---	--

5.2 Indicate during which of the following stages you had the **largest need** to consult a **social worker** (Mark all the applicable)

After the infertility diagnosis was made	
After donor infertility treatment was recommended	
While you were busy deciding about donor infertility treatment	
After the preparation session with the social worker	
After the decision was made to go ahead with donor infertility treatment	
After the decision was made not to go ahead with donor infertility treatment	
Before donor infertility treatment	
During the donor infertility treatment period	
After the unsuccessful donor infertility treatment	
After the successful donor infertility treatment	
After the miscarriage	
During the pregnancy	
Before the confinement	

V373	29
V374	30
V375	31
V376	32
V377	33
V378	34
V379	35
V380	36
V381	37
V382	38
V383	39
V384	40
V385	41

Directly after the birth of the child	
During the first few months with the baby at home	
Presently	
Other:	
Specify	

V386	42
V387	43
V388	44
V389	45

5.3 Have you ever undergone any counselling by any of the following persons?

Social worker	1
Psychologist	2
Minister/Pastor	3
Other:	4
Specify	

V390	46
V391	47
V392	48
V393	49

5.3.1 If you did undergo counselling by any of the abovementioned professional persons, motivate the reason and at what stage of the treatment process.

Social worker
 Psychologist
 Minister/Pastor
 Other

V394	50
V395	51
V396	52
V397	53

5.4 Specify how you think a social worker can be involved better by couples like you

V398	54-55
------	-------

5.5 Do you have any **recommendations** regarding the **improved input from team members** for couples like you (Specify)

- Doctor:
- Nurse:
- Social worker:
- Psychologist:
- Minister/Pastor:
- Laboratory personnel:
- Administrative personnel:
- Other:

V399	□	56
V400	□	57
V401	□	58
V402	□	59
V403	□	60
V404	□	61
V405	□	62
V406	□	63

5.6 Do you think it is necessary for couples like you to undergo counselling with a **Social Worker** regarding donor infertility treatment?

YES	1
NO	2

V407	□	64
V408	□	65

5.6.1 Motivate your answer in question 5.6

.....

SECTION 6: FUTURE PLANNING

6.1 Would you consider donor infertility treatment again if you wanted another child?

YES	1
NO	2

V409	□	66
V410	□	67

6.1.1 Motivate your answer in question 6.1

.....

6.1.2 If you answered **YES** in question 6.1, which sort of treatment would you plan on having?

Artificial insemination with donor sperm (AID)	1
Donor in-vitro fertilization (Donor-IVF)	2
Donor gamete intra-fallopian tube transfer (Donor GIFT)	3
Donor zygote intra-fallopian tube transfer (Donor-ZIFT)	4
Other:	5
Specify	

V411	□	68
------	---	----

6.1.3 If you answered **NO** in question 6.1, in other words that **you had no further infertility treatment plans**, which alternative have you already considered?

To remain childless	1
Adoption	2
Foster care	3
Already have a child/children	4
Other:	5
Specify	

V412	□	69
------	---	----

6.1.3.1 Motivate your answer in question 6.1.3

.....

V413	□	70
------	---	----

THANK YOU FOR YOUR TIME AND CO-OPERATION

MRS. C.L. CARONATTO

Respondentnummer

Kaartnummer

AFDELING 1: BIOGRAFIESE DATA

1.1 Geslag.

Manlik	1
Vroulik	2

1.2 Ouderdom.

<input type="text"/>	<input type="text"/>	Jaar
----------------------	----------------------	------

1.3 Huwelikstaat.

TEN TYE VAN INFERTILITEITSBEHANDELING
BY H.F. VERWOERDHOSPITAAL TANS

1	Getroud	
2	Vervreemd	
3	Wedustaat	
4	Geskei	
5	Ander:	
Spesifiseer		

1.3.1 Indien 'u huwelikstaat verander het, dui die datum aan waarop dit verander het.

M J

1.3.2 Motiveer die rede vir die verandering in vraag 1.3.1 aangedui

1.4 Hoogste opvoedkundige kwalifikasies.

St 9 of laer	1
St 10	2
Ambag	3
Naskoolse diploma	4
Universiteitsgraad (B-graad)	5
Universiteitsgraad (M- of D-graad)	6
Ander:	7
Spesifiseer	

1.5 Huidige beroep.

Professioneel	1
Bestuurs	2
Klerikaal	3
Tegnies	4
Ambag	5
Huisvrou	6
Werkloos	7
Ander:	8
Spesifiseer	

Slegs vir kantoorgebruik

V1 1-2
V2 3-4

V3 5

V4 6-7

V5 8

V6 9

V7 10-11

V8 12-13

V9 14

V10 15

V11 16

1.6 Kerkverband.

Nederduits Gereformeerd	1
Gereformeerd	2
Hervormd	3
Apostoliese Geloofsending	4
Katoliek	5
Anglikaans	6
Metodis	7
Ander:	8
Spesifiseer	

V12 17

1.7 Het u tans enige kinders?

Ja	1
Nee	2

V13 18

1.7.1 Indien u JA geantwoord het by vraag 1.7, meld die oorsprong van u kind/kinders.

	Aantal		Aantal
Biologiese kind van vorige huwelik		Kind in pleegsorg	
Biologiese kind van huidige huwelik		Ander:	
Donor infertiliteitsbehandeling		Spesifiseer	
Aangenome kind			

V14 19

V15 20

V16 21

AFDELING 2: MEDIËSE DATA

2.1 Nadat u die voorbereidingsessie vir donor infertiliteitsbehandeling met die maatskaplike werker by die Infertiliteitskliniek te H F Verwoerd Hospitaal in 1987/1988 ondergaan het, het u of u egmaat enige donor infertiliteitsbehandeling tot dusver iewers ondergaan?

Ja	1
Nee	2

V17 22

2.1.1 Indien u NEE geantwoord het by vraag 2.1, motiveer watter faktore bygedra het tot u besluit teen donor infertiliteitsbehandeling.

V18 23

(INDIEN U VRAAG 2.1.1 GEANTWOORD HET, GAAN DIREK NA VRAAG 3 OP BLADSY 6)

2.1.2 Indien u JA geantwoord het by vraag 2.1, meld die aard van al die donor infertiliteitsbehandeling wat u ondergaan het.

Kunsmatige inseminasie met skenkarsaad (KIS)	1
Donor In-vitro bevrugting (Donor-IVB/IVF)	2
Donor Gameet intra-fallopiese buisoordraging (Donor-GIFT)	3
Donor Sigoot intra-fallopiese buisoordraging (Donor-ZIFT)	4
Ander:	5
Spesifiseer	

V19 24

2.2 Hoe lank na die voorbereidingsessie met die maatskaplike werker by die Infertiliteitskliniek te H F Verwoerd Hospitaal het u of u egmaat donor infertiliteitsbehandeling ondergaan?

0-1 jaar	1	4 jaar of meer	5
1-2 jaar	2	Ander:	6
2-3 jaar	3	Spesifiseer	
3-4 jaar	4		

V20 25

2.3 Hoeveel infertiliteitsbehandelingspogings het u as egpaar ondergaan?

Geen	1
1-2	2
3-4	3
5-6	4
7-8	5
9 of meer	6
Ander:	7
Spesifiseer	

V21 26

2.4 Was enige van u donor infertiliteitsbehandelingspogings suksesvol, met ander woorde, was 'n swangerskaptoets positief?

Ja	1
Nee	2

V22 27

2.4.1 Indien u NEE geantwoord het by vraag 2.4, watter besluit het u na die onsuksesvolle behandelingspoging geneem en waarom?

V23 28

(INDIEN U VRAAG 2.4.1 GEANTWOORD HET, GAAN DIREK NA VRAAG 3, BLADSY 6)

2.5 Meld waar u die donor infertiliteitsbehandeling ondergaan het.

Provinsiale hospitaal	1
Privaat hospitaal	2
Kliniek	3
Privaat dokter	4
Ander:	5
Spesifiseer	

V24 29

2.5.1 Spesifiseer u antwoord by vraag 2.5: Naam van hospitaal
stad

V25 30-31

V26 32-33

2.6 Dui aan wie die donor infertiliteitsbehandeling behartig het.

Huisdokter	1
Ginekoloog	2
Verpleegster	3
Kombinasie van bogenoemde	4
Ander:	5
Spesifiseer	

V27 34

2.7 Het dieselfde persoon die behandeling elke keer behartig?

Ja	1
Nee	2

V28 35

2.7.1 Indien u NEE by vraag 2.7 geantwoord het, sou u verkies het dat dieselfde persoon dit elke keer behartig het?

Ja	1
Nee	2

2.7.2 Motiveer u antwoord by vraag 2.7.1.

V29 36
 V30 37

2.8 Was u man/u as man tydens die inseminasie, of oosiet/embrio terugplasing teenwoordig?

Ja	1
Nee	2

2.8.1 Motiveer u antwoord by vraag 2.8 en die effek wat dit op u gehad het.

V31 38
 V32 39

2.9 Het u en u egmaat direk na die inseminasie/oosiet of embrio terugplasing geslagsgemeenskap gehad?

Ja	1
Nee	2

2.9.1 Motiveer u antwoord by vraag 2.9.

V33 40
 V34 41

2.10 Hoe lank het die swangerskap na aanleiding van die donor infertiliteitsbehandeling geduur?

Volle termyn	1
Onvolledig	2
Spesifiseer maande	

V35 42
 V36 43

2.11 Was daar enige mediese komplikasies tydens die swangerskap?

Ja	1
Nee	2

V37 44

2.11.1 Indien u JA geantwoord het by vraag 2.11, spesifiseer.

V38 45

2.12 Het u enige inligting oor die skenker vanaf die medikus ontvang?

Ja	1
Nee	2

V39 46

2.12.1 Indien u JA by vraag 2.12 geantwoord het, watter tipe inligting het u ontvang?

V40 47

2.12.2 Watter inligting oor die skenker sou u graag wou bekom?

V41 48

2.13 Indien u deur middel van donor infertiliteitsbehandeling 'n baba gehad het, watter tipe bevalling het u gehad?

Normale geboorte	1
Tangverlossing	2
Suierverlossing	3
Epiduraal	4
Keisersnee	5
Epidurale keisersnee	6
Ander:	7
Spesifiseer	

V42 49

2.14 Meld die geboortedatum van die kind.

M J

2.15 Dui die kind se geslag aan.

Manlik	1
Vroulik	2

2.16 Meld waar die kind gebore is.

Provinsiale hospitaal	1
Privaat hospitaal	2
Kliniek	3
Ander:	4
Spesifiseer	

2.16.1 Spesifiseer u antwoord by vraag 2.16:

Naam van hospitaal

Stad

2.17 Dui aan wie die bevalling behartig het.

Huisdokter	1
Ginekoloog	2
Verpleegster	3
Kombinasie van bogenoende	4
Ander:	5
Spesifiseer	

2.18 Was die persoon in vraag 2.17 gemeld dieselfde persoon as dié wie die donor infertiliteits-behandeling behartig het?

Ja	1
Nee	2

2.18.1 Indien u NEE geantwoord het by vraag 2.18, motiveer.

2.19 Was die medikus wie die bevalling behartig het, bewus van u donor infertiliteitsbehandeling?

Ja	1
Nee	2

2.19.1 Indien u NEE geantwoord het by vraag 2.19, motiveer.

2.20 Was daar enige abnormaliteit of mediese probleem by die baba na geboorte teenwoordig?

Ja	1
Nee	2

2.20.1 Indien u JA geantwoord het by vraag 2.20, spesifiseer.

2.21 Meld die kind se huidige fisiese toestand.

Gesond	1
Sieklik	2
Ander:	3
Spesifiseer	

Slegs vir kantoorgebruik

V43 50-51
V44 52-53

V45 54

V46 55

V47 56-57
V48 58-59

V49 60

V50 61

V51 62

V52 63

V53 64

V54 65

V55 66

V56 67

2.22 Het u die medikus wat die donor infertiliteitsbehandeling behartig het in kennis gestel van die baba se geboorte vir die doeleindes van registrasie van die geboorte, volgens wet, by die Sentrale Register vir Kunsmatige Bevrugting by die Departement Nasionale Gesondheid en Bevolkingsontwikkeling?

Ja	1
Nee	2

2.22.1 Indien u NEE geantwoord het by vraag 2.22, motiveer.

V57 68
 V58 69

2.23 Is u tevrede met u kind se fisiese voorkoms en ooreenkoms met u as egpaar, na aanleiding van die passingsproses tussen u en die donor vóór die behandeling?

Ja	1
Nee	2

2.23.1 Motiveer u antwoord by vraag 2.23.

V59 70
 V60 71

Respondentnommer

V61 1-2
 V62 3-4

Kaartnommer

AFDEELING 3: EVALUERINGS VAN VOORBEREIDINGSSESIE MET MAATSKAPLIKE WERKER.

3.1 Kies vier van die belangrikste gevoelens wat u voor, vier gevoelens wat u tydens en vier gevoelens wat u na die voorbereidingsessie met die maatskaplike werker by die H. F. Verwoerd Hospitaal ervaar het. (Merk net die 4 belangrikste gevoelens by voor, tydens en na).

	GEVOELENS	VOOR	TYDENS	NA
1	Opgewondenheid			
2	Blydskap			
3	Hoop			

	GEVOELENS	VOOR	TYDENS	NA
16	Hartseer			
17	Onsekerheid			
18	Frustrasie			

VOOR

V63 5-6
 V64 7-8
 V65 9-10
 V66 11-12

4	Entoesiasme			
5	Agterdog			
6	Teenstrydige gevoelens			
7	Skuldgevoelens			
8	Skaamte			
9	Vernedering			
10	Verwyt			
11	Teleurstelling			
12	Hulpeloosheid			
13	Verwerping			
14	Onbetrokkenheid			
15	Blootgesteldheid			

19	Aggressie			
20	Jaloesie			
21	Angs			
22	Vrees			
23	Wanhoop			
24	Skok			
25	Verwardheid			
26	Ongeloof			
27	Stres			
28	Depressie			
29	Isolasie			
30	Ander:			

Spesifiseer

TYDENS

V67 13-14
 V68 15-16
 V69 17-18
 V70 19-20

NA

V71 21-22
 V72 23-24
 V73 25-26
 V74 27-28

3.2 Watter waarde het die voorbereidingsessie met die Maatskaplike Werker vir u gehad?

Geen waarde	1
Redelike waarde	2
Baie waarde	3

V75 29

3.3 Watter waarde het die volgende aspekte wat tydens die voorbereidingsessie bespreek is, vir u gehad? (Merk al die toepaslikes)

Aspekte tydens voorbereidingsessie bespreek	Geen waarde	Redelike waarde	Baie waarde
Mediese aspekte	1	2	3
Wetlike aspekte	1	2	3
Godsdienstige aspekte	1	2	3
Eties-morele aspekte	1	2	3
Maatskaplike en sielkundige aspekte	1	2	3

V76 30
 V77 31
 V78 32
 V79 33
 V80 34

3.4 Watter waarde het die volgende maatskaplike aspekte wat bespreek is, vir u gehad veral met betrekking tot die invloed wat die donor infertiliteitsbehandeling, daarop kon hê? (Merk al die toepaslikes)

	Geen waarde	Redelike waarde	Baie waarde
Self	1	2	3
Egmaat	1	2	3
Huweliksverhouding	1	2	3
Werk	1	2	3
Finansies	1	2	3
Geloof	1	2	3
Sosiale lewe	1	2	3
Familie	1	2	3
Vriende	1	2	3

V81 35
 V82 36
 V83 37
 V84 38
 V85 39
 V86 40
 V87 41
 V88 42
 V89 43

Swangerskap	1	2	3
Geheimhouding	1	2	3
Die kind	1	2	3

V90 44
 V91 45
 V92 46

3.5 Watter drie belangrike invloede het die voorbereidingsessie op u besluit met betrekking tot donor infertiliteitsbehandeling gehad? (Merk net die drie belangrikstes)

U oor donor infertiliteitsbehandeling laat twyfel	1
Teenstrydige gevoelens oor donor behandeling ontlok	2
U gehelp om teen donor behandeling te laat besluit	3
Aspekte oor donor behandeling openbaar waaroor u nog nie voorheen gedink het nie	4
U laat voel u moet eers weer daarvoor gaan nadink	5
U 'n vollediger beeld van donor behandeling gegee	6
U meer realisties oor donor behandeling laat dink	7
U gehelp om te besluit om met donor behandeling voort te gaan	8
U meer seker oor donor behandeling laat voel	9
Ander:	10
Spesifiseer	

V93 47
 V94 48
 V95 49

3.6 Dink u dit is nodig om 'n voorbereidingsessie vir donor infertiliteitsbehandeling te ondergaan?

Ja	1
Nee	2

V96 50

3.6.1 Motiveer u antwoord by vraag 3.6.

V97 51

3.7 Dink u 'n voorbereidingsessie met 'n maatskaplike werker behoort vir voornemende donor ontvanger egpare:

Verpligtend te wees	1
Opsioneel te wees	2
Nie nodig te wees nie	3
Ander:	4

Spesifiseer

V98 52

AFDELING 4: PSIGOSOSIALE DATA

4.1 Motiewe vir donor infertiliteitsbehandeling

4.1.1 Meld die vyf belangrikste motiewe waarom u 'n kind deur middel van donor infertiliteitsbehandeling wou hê (Merk net die vyf belangrikstes)

Biologiese determinasie en instink	1
Sosiale druk om 'n kind te hê	2
Elke vrou moet 'n kind hê	3
Ons vriende het almal kinders	4
Ons infertiliteit sal 'n geheim kan bly	5
Wil 'n swangerskap en geboorte ervaar	6
Het 'n erfgenaam nodig	7
Die kind word as ons eie kind aanvaar	8
Wil nie 'n kind aanneem nie	9

Is reeds afgekeur vir aanneming	10
Die kind sal vyftig persent bloedverwant wees	11
Wil nie die lang keuring en wag periode van aanneming ondergaan nie	12
Sterk begeerte om 'n kind te hê	13
Het getrou om 'n kind te hê	14
My egmaat wil 'n kind hê	15
Vir die familienaam	16
Voel nutteloos sonder 'n kind	17
Voel selfsugtig sonder 'n kind	18
'n Kind is belangrik vir 'n gelukkige huwelik	19
Druk van ouers om 'n kind te hê	20
Druk van familie om 'n kind te hê	21
Druk van vriende om 'n kind te hê	22
Dink ons sal goeie ouers wees	23
Die lewe is nie voltooid sonder 'n kind nie	24
Om te bewys ons kan 'n kind hê	25
Ander:	26
Spesifiseer	

V99	<input type="checkbox"/>	<input type="checkbox"/>	53-54
V100	<input type="checkbox"/>	<input type="checkbox"/>	55-56
V101	<input type="checkbox"/>	<input type="checkbox"/>	57-58
V102	<input type="checkbox"/>	<input type="checkbox"/>	59-60
V103	<input type="checkbox"/>	<input type="checkbox"/>	61-62

4.2 Invloed van donor infertiliteitsbehandeling

4.2.1 Meld die drie belangrikste gevoelens wat u in elke stadium soos in die kolomme uiteengesit ervaar het. (Merk net die drie belangrikstes in elke kolom)

	GEVOELENS	VOOR BE- HANDELING	TYDENS BE- BEHANDELING	NA SWANGERSKAPS- TOETS RESULTATE	TYDENS SWANGERSKAP	NA GEBOORTE VAN KIND	TANS
1	Opgewondenheid						
2	Blydskap						
3	Hoop						
4	Entoesiasme						
5	Agterdog						
6	Teenstrydige gevoelens						
7	Skuldgevoelens						
8	Skaamte						
9	Vernedering						
10	Verwyt						
11	Teleurstelling						
12	Hulpeloosheid						
13	Verwerping						
14	Onbetrokkenheid						
15	Blootgesteldheid						

Slegs vir kantoorgebruik

VOOR

V104			63-64
V105			65-66
V106			67-68

TYDENS

V107			69-70
V108			71-72
V109			73-74

NA

V110			75-76
V111			77-78
V112			79-80

Respondentnummer

Kaartnummer

16	Hartseer						
17	Onsekerheid						
18	Frustrasie						
19	Aggressie						
20	Jaloesie						
21	Angs						
22	Vrees						
23	Wanhoop						
24	Skok						
25	Verwardheid						
26	Ongeloof						
27	Stres						
28	Depressie						
29	Isolasie						
30	Ander:						
Spesifiseer							

V113			1-2
V114			3-4

TYDENS

V115			5-6
V116			7-8
V117			9-10

NA

V118			11-12
V119			13-14
V120			15-16

TANS

V121			17-18
V122			19-20
V123			21-22

4.2.2 Watter van die volgende gedagtes het u met betrekking tot uself en u egmaat in enige van die stadiums soos in die kolomme uiteengesit beleef? (Merk net die drie belangrikstes in elke kolom)

	GEDAGTES	VOOR BE- HANDELING	TYDENS BE- HANDELING	NA SWANGERSKAPS- TOETS RESULTATE	TYDENS SWANGERSKAP	NA GEBOORTE VAN KIND	TANS
1	Is ek aanvaarbaar vir my egmaat?						
2	Is my egmaat aanvaarbaar vir my?						
3	Het ek die regte besluit geneem?						
4	Het my egmaat die regte besluit geneem?						
5	Ek voel meerderwaardig						
6	My egmaat voel meerderwaardig						
7	Ek voel minderwaardig						
8	My egmaat voel minderwaardig						
9	Is ek 'n mislukking?						
10	Is my egmaat 'n mislukking?						
11	Dra ek die skuld?						
12	Dra my egmaat die skuld?						

Slegs vir kantoorgebruik

VOOR

V124

--	--

 23-24

V125

--	--

 25-26

V126

--	--

 27-28

TYDENS

V127

--	--

 29-30

V128

--	--

 31-32

V129

--	--

 33-34

NA

V130

--	--

 35-36

V131

--	--

 37-38

V132

--	--

 39-40

TYDENS

V133

--	--

 41-42

V134

--	--

 43-44

V135

--	--

 45-46

13	Is ek onbevoeg?						
14	Is my egmaat onbevoeg?						
15	Is ek innerlik vuil?						
16	Is my egmaat innerlik vuil?						
17	Het ek gesondig?						
18	Het my egmaat gesondig?						
19	Is ek 'n volkome man/vrou?						
20	Is my egmaat 'n volkome man/vrou?						
21	Ander: Spesifiseer						

NA

V136

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 47-48

V137

--	--

 49-50

V138

--	--

 51-52

TANS

V139

--	--

 53-54

V140

--	--

 55-56

V141

--	--

 57-58

V142

--	--

 1-2

V143

--	--

 3-4

Respondentnommer

Kaartnommer

4.2.3 Het u in enige van die volgende stadiums soos uiteengesit in die kolomme, van die invloed op u huweliksverhouding ervaar? (Merk net die drie belangrikstes in elke kolom)

	INVLOED OP HUWELIK	VOOR BE- HANDELING	TYDENS BE- HANDELING	NA SWANGERSKAPS- TOETS RESULTATE	TYDENS SWANGERSKAP	NA GEBOORTE VAN KIND	TANS
1	Liefde vir mekaar versterk						
2	Respek vir mekaar vermeerder						

VOOR

V144

--	--

 5-6

V145

--	--

 7-8

V146

--	--

 9-10

3	Liefdevoller teenoor mekaar opgetree						
4	Nader aan mekaar gevoel						
5	Kommunikasie verbeter						
6	Meer dinge saam gedoen						
7	Seksuele verhouding verbeter						
8	Liefde vir mekaar verswak						
9	Respek vir mekaar verminder						
10	Minder liefdevol teenoor mekaar opgetree						
11	Uitnekaar gedryf						
12	Kommunikasie verswak						
13	Minder dinge saam gedoen						
14	Seksuele verhouding verswak						
15	Rusies vermeerder						
16	Mekaar verwyf						
17	Mekaar verneder						
18	Gevoelens van jaloesie ontlok						

Slegs vir kantoorgebruik

TYDENS

V147			11-12
V148			13-14
V149			15-16

NA

V150			17-18
V151			19-20
V152			21-22

TYDENS

V153			23-24
V154			25-26
V155			27-28

19	Fantasieë oor die skenker ontlok						
20	U van vriende geïsoleer						
21	Gevrees dat mense u geheim sal ontdek						
22	Tot 'n buite-egtelike verhouding by u gelei						
23	Tot 'n buite-egtelike verhouding by u egmaat gelei						
24	Tot vervreemding gelei						
25	Tot 'n egskeiding gelei						
26	Anders: Spesifiseer						

NA

V156			29-30
V157			31-32
V158			33-34

TANS

V159			35-36
V160			37-38
V161			39-40

4.2.4 Was u tydens enige van die stadiums soos uiteengesit in die kolomme oor enige van die volgende aspekte bekommerd? (Merk net die drie belangrikstes in elke kolom)

	VOOR BEHANDELING	TYDENS BEHANDELING	NA SWANGERSKAPSTOETS RESULTATE	TYDENS SWANGERSKAP	BY GEBORTE VAN DIE BABA
1	Dreigende miskraam				
2	Gekompliseerde swangerskap				
3	Moeilike bevalling				
4	Stilgeboorte				

VOOR

V162			41-42
V163			43-44
V164			45-46

5	Abnormaliteit by die baba				
6	Premature baba				
7	Fisiese ooreenkoms van die baba				
8	Persoonlikheidsooreenkoms van die kind				
9	Algehele teleurstelling in in die baba				
10	Genetiese geskiedenis van die baba				
11	Gesondheid van die baba				
12	Moeilike binding met die baba				
13	U vermoë om die baba lief te hê				
14	U egmaat se vermoë om die baba lief te hê				
15	U vermoë om die baba as u eie te aanvaar				
16	U egmaat se vermoë om die baba as sy/haar eie te aanvaar				
17	U familie se aanvaarding van die baba				
18	U vriende se aanvaarding van die baba				

TYDENS

V165			47-48
V166			49-50
V167			51-52

NA

V168			53-54
V169			55-56
V170			57-58

TYDENS

V171			59-60
V172			61-62
V173			63-64

BY GEB

V174			65-66
V175			67-68
V176			69-70

19	Ontwikkeling van 'n ouer-kind verhouding				
20	Vermoede deur mense van die kind se donor verwekking				
21	Vrees dat mense u geheim sal ontdek				
22	Verwerping van die baba deur u				
23	Verwerping van die baba deur ander				
24	Verraai u u egmaat deur voort te gaan met die donor behandeling?				
25	Het u u egmaat teleurgestel deur nie u eie biologiese kind te kan hê nie?				
26	Vermoë om 'n goeie ouer te wees				
27	Is die regte besluit geneem?				
28	Sal die kind genetiese afwykings van die skenker oorerf?				
29	Kind se moontlike verskillende geaardheid van u as egpaar				
30	U kommunikasie met die kind				

31	Hoe sal u die kind hanteer?				
32	Die toepassing van dissipline				
33	Ander: Spesifiseer				

4.2.5 Het die kind tot dusver enige van die volgende gedagtes by u ontlok? (Merk net die vyf belangrikstes)

Herinnering aan u infertiliteit	1
Bevestiging van u onvermoë	2
Fantasieë oor die skenker	3
Twyfel met betrekking tot u besluit	4
Bevestiging van u eie onbevoegdheid	5
Bekommernis oor ander mense se vermoede van u donor behandeling	6
Die kind is nie ons kind nie	7
Die kind lyk nie soos ek nie	8
Die kind is nie my kind nie	9
Die kind lyk nie soos my egmaat nie	10
Die kind het nie my geaardheid nie	11
Die kind het nie my egmaat se geaardheid nie	12
Verwyt oor die finansiële uitgawe wat die kind veroorsaak het	13

V177		71-72
V178		73-74
V179		75-76
V180		77-78
V181		79-80

Dit is u skuld	14
Dit is u egmaat se skuld	15
Dankbaarheid dat u 'n kind het	16
Dankbaarheid dat die mediese wetenskap u kon help	17
Ander: Spesifiseer	18

Respondentnommer

Kaartnommer

4.2.6 Is enige van u volgende verhoudings in die stadiums soos in die kolomme uiteengesit negatief of positief beïnvloed?
(Merk al die toepaslikes 1 = positief 2 = negatief)

	VOOR BEHANDELING	TYDENS BEHANDELING	NA SWANGERSKAPS- TOETS RESULTATE	TYDENS SWANGERSKAP	NA GEBORTE VAN KIND	TANS
God						
Egmaat						
Familie						
Vriende						
Kollegas						

V182		1-2
V183		3-4

GOD		FAMILIE	
V184	5	V196	17
V185	6	V197	18
V186	7	V198	19
V187	8	V199	20
V188	9	V200	21
V189	10	V201	22
EGMAAT		VRIENDE	
V190	11	V202	23
V191	12	V203	24
V192	13	V204	25
V193	14	V205	26
V194	15	V206	27
V195	16	V207	28
KOLLEGAS			
V208			29
V209			30
V210			31
V211			32
V212			33
V213			34

4.2.6.1 Indien enige van u bogenoemde verhoudings in vraag 4.2.6 beïnvloed is, motiveer u antwoord:

God

Egmaat

Familie

Vriende

Kollegas

V214 35

V215 36

V216 37

V217 38

V218 39

4.2.7 Is enige van die volgende aspekte by u in van die stadiums soos in die kolomme uiteengesit, positief of negatief beïnvloed? (Merk die toepaslikes 1 = positief 2 = negatief)

	VOOR BEHANDELING	TYDENS BEHANDELING	NA SWANGERSKAPS- TOETS RESULTATE	TYDENS SWANGERSKAP	NA GEBORTE VAN KIND	TANS
Sosiale lewe						
Werk						
Finansies						
Behuising						

SOS		FIN			
V219	<input type="text"/>	40	V231	<input type="text"/>	52
V220	<input type="text"/>	41	V232	<input type="text"/>	53
V221	<input type="text"/>	42	V233	<input type="text"/>	54
V222	<input type="text"/>	43	V234	<input type="text"/>	55
V223	<input type="text"/>	44	V235	<input type="text"/>	56
V224	<input type="text"/>	45	V236	<input type="text"/>	57
WERK		BEH			
V225	<input type="text"/>	46	V237	<input type="text"/>	58
V226	<input type="text"/>	47	V238	<input type="text"/>	59
V227	<input type="text"/>	48	V239	<input type="text"/>	60
V228	<input type="text"/>	49	V240	<input type="text"/>	61
V229	<input type="text"/>	50	V241	<input type="text"/>	62
V230	<input type="text"/>	51	V242	<input type="text"/>	63

4.2.7.1 Indien enige van die bogenoemde aspekte in vraag 4.2.7 beïnvloed is, motiveer u antwoord:

Sosiale lewe

Werk

Finansies

Behuising

V243 64

V244 65

V245 66

V246 67

4.2.8 Is u gelukkig met u kind wat deur middel van donor infertiliteitsbehandeling verwek is?

JA	1
NEE	2
SOMS	3
NIE VAN TOEPASSING	4

V247 68

4.2.8.1 Motiveer u antwoord by vraag 4.2.8.

V248 69

4.3 Invloed van onsuksesvolle of geen donor infertiliteitsbehandeling

(INDIEN U ONSUKSESVOLLE OF GEEN DONOR INFERTILITEITSBEHANDELING ONDERGAAN HET, BEANTWOORDE HIERDIE AFDELING)

(INDIEN U SUKSESVOLLE DONOR INFERTILITEITSBEHANDELING GEHAD HET MET DIE GEBORTE VAN 'N KIND, GAAN DIREK NA VRAAG 4.4 OP BLADSY 17)

4.3.1 Watter van die volgende was op u situasie van toepassing?

Ons het geen donor infertiliteitsbehandeling ondergaan nie	1
Ons het donor infertiliteitsbehandeling ondergaan maar dit was onsuksesvol	2

V249 70

Respondentnommer

V250 1-2

Kaartnommer

V251 3-4

4.3.2 Dui aan watter vyf gevoelens u ervaar het nadat die donor infertiliteitsbehandeling onsuksesvol was of nadat u teen donor infertiliteitsbehandeling besluit het? (Merk net die vyf belangrikstes)

Opgewondenheid	1	hulpeloosheid	12	Wanhooop	23
Blydiskap	2	Verwerping	13	Skok	24

Hoop	3	Onbetrokkenheid	14	Verwardheid	25
Entoesiasme	4	Blootgesteldheid	15	Ongeloof	26
Agterdog	5	Hartseer	16	Stres	27
Teenstrydige gevoelens	6	Onsekerheid	17	Depressie	28
Skuldgevoelens	7	Frustrasie	18	Isolasie	29
Skaamte	8	Aggressie	19	Ander:	30
Vernedering	9	Jaloesie	20	Spesifiseer	
Verwyf	10	Angs	21		
Teleurstelling	11	Vrees	22		

V252			5-6
V253			7-8
V254			9-10
V255			11-12
V256			13-14

4.3.3 Dui aan vyf gedagtes wat u gehad het na die **onsuksesvolle donor infertiliteitsbehandeling** of nadat u **teen donor infertiliteitsbehandeling besluit het?** (Merk net die vyf belangrikstes)

GEDAGTES	
Is ek aanvaarbaar vir my egmaat?	1
Is my egmaat aanvaarbaar vir my?	2
Het ek die regte besluit geneem?	3
Het my egmaat die regte besluit geneem?	4
Ek voel meerderwaardig	5
My egmaat voel meerderwaardig	6
Ek voel minderwaardig	7

My egmaat voel minderwaardig	8
Is ek 'n mislukking?	9
Is my egmaat 'n mislukking?	10
Dra ek die skuld?	11
Dra my egmaat die skuld?	12
Is ek onbevoeg?	13
Is my egmaat onbevoeg?	14
Is ek innerlik vuil?	15
Is my egmaat innerlik vuil?	16
Het ek gesondig?	17
Het my egmaat gesondig?	18
Is ek 'n volkome man/vrou?	19
Is my egmaat 'n volkome man/vrou?	20
Ander:	21
Spesifiseer	

V257			15-16
V258			17-18
V259			19-20
V260			21-22
V261			23-24

4.3.4 Dui aan watter vyf invloede die **onsuksesvolle donor infertiliteitsbehandeling** of u besluit **téén donor infertiliteitsbehandeling op u huweliksverhouding** gehad het. (Merk net die vyf belangrikstes)

INVLOED OP HUWELIK	
Liefde vir mekaar versterk	1

Respek vir mekaar vermeerder	2
Liefdevoller teenoor mekaar opgetree	3
Nader aan mekaar gevoel	4
Kommunikasie verbeter	5
Meer dinge saam gedoen	6
Seksuele verhouding verbeter	7
Liefde vir mekaar verswak	8
Respek vir mekaar verminder	9
Minder liefdevol teenoor mekaar opgetree	10
Uitmekaar gedryf	11
Kommunikasie verswak	12
Minder dinge saam gedoen	13
Seksuele verhouding verswak	14
Rusies vermeerder	15
Mekaar verwyt	16
Mekaar verneder	17
Gevoelens van jaloesie ontlok	18
Fantasieë oor die skenker ontlok	19
U van vriende geïsoleer	20

V262		25-26
V263		27-28
V264		29-30
V265		31-32
V266		33-34

Gevrees dat mense u geheim sal ontdek	21
Tot 'n buite-egtelike verhouding by u gelei	22
Tot 'n buite-egtelike verhouding by u egmaat gelei	23
Tot vervreëding gelei	24
Tot 'n egskedding gelei	25
Ander:	26
Spesifiseer	

4.3.5 Watter van die volgende verhoudings is deur u situasie beïnvloed?

God	1
Egmaat	2
Familie	3
Vriende	4
Kollegas	5

V267		35
V268		36
V269		37
V270		38
V271		39

4.3.5.1 Indien enige van u bogenoemde verhoudings in vraag 4.3.5 beïnvloed is, motiveer u antwoord:

God
 Egmaat
 Familie
 Vriende
 Kollegas

V272		40
V273		41
V274		42
V275		43
V276		44

4.3.6 Watter van die volgende aspekte is deur u situasie beïnvloed?

Sosiale lewe	1
Werk	2
Finansies	3
Behuising	4

4.3.6.1 Indien enige van bogenoemde aspekte in vraag 4.3.6 beïnvloed is, motiveer u antwoord:

Sosiale lewe

Werk

Finansies

Behuising

4.4 Invloed van geheimhouding

4.4.1 Het u al vir enigiemand van u donor infertiliteitsbehandelingsplanne vertel?

JA	1
NEE	2

4.4.1.1 Indien u JA by vraag 4.4.1 geantwoord het, vir wie het u vertel?
(Merk al die toepaslikes)

PERSONE			
Paterne moeder		Ander familie	
Paterne vader		Vriende	
Materne moeder		Kollegas	

Materne vader		Maatskaplike werker	
Vrou se sibbe		Predikant/Pastoor	
Man se sibbe		Dokter	
Paterne grootouers		Ander:	
Materne grootouers		Spesifiseer	

Respondentnommer

Kaartnommer

4.4.1.2 Op watter wyse het bogenoemde persoon/persone gereageer? (Merk al die toepaslike reaksies met die nommer soos onder uiteengesit wat die spesifieke persoon aandui)

Donor behandeling afgekeer		
Donor behandeling aangemoedig		
Eties-morele besware genoem		
Wetlike aspekte genoem		
Psigo-sosiale invloede bespreek		
Emosionele ondersteuning gebied		
Finansiële steun aangebied		
Konfidensiëleit gewaarborg		
Ons gehelp met ons besluitneming		
Ons gesteun in ons besluit		
Ons verwerp as egpaar		

Slegs vir kantoorgebruik

V277 45

V278 46

V279 47

V280 48

V281 49

V282 50

V283 51

V284 52

V285 53

V286 54 V294 62

V287 55 V295 63

V288 56 V296 64

V289 57 V297 65

V290 58 V298 66

V291 59 V299 67

V292 60 V300 68

V293 61

V301 1-2

V302 3-4

V303 5-6

V304 7-8

V305 9-10

V306 11-12

V307 13-14

V308 15-16

V309 17-18

V310 19-20

V311 21-22

V312 23-24

V313 25-26

Dit as skokkende nuus ervaar			
Ander:			
Spesifiseer			

PERSONE:

Paterne moeder = 1	Materne grootouers = 7	Predikant/Pastoor = 13
Paterne vader = 2	Paterne grootouers = 8	Dokter = 14
Materne moeder = 3	Ander familie = 9	Ander = 15
Materne vader = 4	Vriende = 10	
Vrou se sibbe = 5	Kollegas = 11	
Man se sibbe = 6	Maatskaplike werker = 12	

4.4.1.3 Indien u NEE by vraag 4.4.1 geantwoord het, hoekom het u niemand vertel nie?
(Merk al die toepaslikes)

Dit is 'n private aangeleentheid	
Niemand hoef te weet nie	
Niemand is bewus van ons infertiliteitsprobleem nie	
Bang vir blootstelling van uself	
Bang vir blootstelling van u egmaat	
Bang u familienaam word geraak	
Onseker oor hoe mense sal reageer	
Vrees vir verwerping deur ander	

Slegs vir kantoorgebruik

V314				27-28
V315				29-30

V316		31
V317		32
V318		33
V319		34
V320		35
V321		36
V322		37
V323		38

Vrees vir blootstelling van kind	
Vrees vir verwerping van kind	
Vrees vir die invloed wat dit op die kind mag hê	
Ander:	
Spesifiseer	

V324		39
V325		40
V326		41
V327		42

4.4.2 Beplan u om vir iemand in die toekoms van u donor infertiliteitsbehandeling te vertel

JA	1
NEE	2

V328		43
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4.4.2.1 Motiveer u antwoord by vraag 4.4.2.

V329		44
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4.4.3 Het u geheimhouding meet betrekking tot donor infertiliteitsbehandeling tot dusver enige van die volgende gevoelens by u ontlok? (Merk net die vyf belangrikstes)

Opgewondenheid	1	Hartseer	16
Blydskap	2	Onsekerheid	17
Hoop	3	Frustrasie	18
Entosiasme	4	Aggressie	19
Agterdog	5	Jaloesie	20
Teenstrydige gevoelens	6	Angs	21
Skuldgevoelens	7	Vrees	22
Skannte	8	Wanhoop	23

Vernedering	9
Verwyt	10
Telurstelling	11
Hulpeloosheid	12
Verwerping	13
Onbetrokkenheid	14
Blotgesteldheid	15

Skok	24
Verwardheid	25
Ongeloof	26
Stres	27
Depressie	28
Isolasie	29
Ander:	30

Spesifiseer

V330			45-46
V331			47-48
V332			49-50
V333			51-52
V334			53-54

4.4.4 Met die geheimhouding met betrekking tot donor infertiliteitsbehandeling enige van die volgende invloede op u huweliksverhouding gehad? (Merk net die vyf belangrikstes)

Liefde vir mekaar versterk	1
Respek vir mekaar vermeerder	2
Liefdevoller teenoor mekaar opgetree	3
Nader aan mekaar gevoel	4
Kommunikasie verbeter	5
Meer dinge saam gedoen	6
Seksuele verhouding verbeter	7
Liefde vir mekaar verswak	8
Respek vir mekaar verminder	9

V335			55-56
V336			57-58
V337			59-60
V338			61-62
V339			63-64

Minder liefdevol teenoor mekaar opgetree	10
Uitmekaar gedryf	11
Kommunikasie verswak	12
Minder dinge saam gedoen	13
Seksuele verhouding verswak	14
Rusies vermeerder	15
Mekaar verwyt	16
Mekaar verneder	17
Gevoelens van jaloesie ontlok	18
Fantasieë oor die skenker ontlok	19
U van vriende geïsoleer	20
Gevrees dat mense u geheim sal ontdek	21
Tot 'n buite-egtelike verhouding by u gelei	22
Tot 'n buite-egtelike verhouding by u egmaat gelei	23
Tot vervreemding gelei	24
Tot 'n egskeiding gelei	25
Ander:	26

Spesifiseer

4.4.5 Het die geheimhouding met betrekking tot donor infertiliteitsbehandeling tot dusver enige een die volgende bekommernisse tot gevolg gehad? (Merk net die drie belangrikstes)

Ek lewe 'n leuen	1
Ek kry geen emosionele ondersteuning van ander nie	2
Ons is net op mekaar aangewese vir ondersteuning	3
Ons vrees dat ander hierdie geheim sal ontdek	4
Ons vrees dat die kind hierdie geheim sal ontdek	5
Het ons die regte besluit geneem om dit geheim te hou?	6
Het sal ons die situasie hanteer as iemand uitvind?	7
Vermoede deur ander van ons donor infertiliteitsbehandeling	8
Ander:	9
Spesifiseer	

V340 65
 V341 66
 V342 67

4.4.6 Beplan u in die toekoms om vir die kind van die donor infertiliteitsbehandeling te vertel?

JA	1
NEE	2
NEE VAN TOEPASSING	3

V343 68
 V344 69

4.4.6.1 Motiveer u antwoord by vraag 4.4.6.

4.4.7 As u die donor infertiliteitsbehandeling situasie weer oor kon gehad het, sou u iemand daarvan vertel het?

JA	1
NEE	2

4.4.7.1 Motiveer u antwoord by vraag 4.4.7.

V345 70
 V346 71
 V347 1-2
 V348 3-4

Identifiseringsnommer

Page nommer

ADDELING 5: PROFESSIONELE DIENSTE

4.5 Dui aan watter waarde die insette van die volgende professionele persone vir u gehad het met betrekking tot die stadiums van behandeling soos in die kolom aangedui. (Merk al die toepaslikes met die nommer vir die spesifieke waarde aan: Geen waarde = 1, Redelike waarde = 2, Baie waarde = 3)

PROFESSIONELE PERSONE	VOORBEREIDING VIR BEHANDELING	TYDENS BEHANDELING	NA BEHANDELING
Mediese dokter			
Verpleegkundige			
Geesteskaplike werker			
Wetenskapkundige			
Prokurator/Pastoor			
Laboratoriumpersoneel			
Administratiewe personeel			
Ander:			
Spesifiseer			

<p style="text-align: center;">D</p> <p>V349 <input type="checkbox"/> 5 V350 <input type="checkbox"/> 6 V351 <input type="checkbox"/> 7</p> <p style="text-align: center;">V</p> <p>V352 <input type="checkbox"/> 8 V353 <input type="checkbox"/> 9 V354 <input type="checkbox"/> 10</p> <p style="text-align: center;">MW</p> <p>V355 <input type="checkbox"/> 11 V356 <input type="checkbox"/> 12 V357 <input type="checkbox"/> 13</p> <p style="text-align: center;">S</p> <p>V358 <input type="checkbox"/> 14 V359 <input type="checkbox"/> 15 V360 <input type="checkbox"/> 16</p>	<p style="text-align: center;">P</p> <p>V361 <input type="checkbox"/> 17 V362 <input type="checkbox"/> 18 V363 <input type="checkbox"/> 19</p> <p style="text-align: center;">L</p> <p>V364 <input type="checkbox"/> 20 V365 <input type="checkbox"/> 21 V366 <input type="checkbox"/> 22</p> <p style="text-align: center;">Ad</p> <p>V367 <input type="checkbox"/> 23 V368 <input type="checkbox"/> 24 V369 <input type="checkbox"/> 25</p> <p style="text-align: center;">A</p> <p>V370 <input type="checkbox"/> 26 V371 <input type="checkbox"/> 27 V372 <input type="checkbox"/> 28</p>
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5.2 Dui aan tydens watter van die volgende stadiums u die grootste behoefte gehad het om die maatskaplike werker te raadpleeg (Merk al die toepaslikes)

Ma die infertiliteitsdiagnose gemaak is	
Ma dat donor infertiliteitsbehandeling aan u aanbeveel is	
Terwyl u besig was om donor infertiliteitsbehandeling te besluit	
Ma die voorbereidingsessie met die maatskaplike werker	
Ma die besluit geneem is om met donor infertiliteitsbehandeling voort te gaan	
Ma die besluit geneem is om nie met donor infertiliteitsbehandeling voort te gaan nie	
Voor donor infertiliteitsbehandeling	
Tydens die donor infertiliteitsbehandelings tydperk	
Ma die onsuksesvolle donor infertiliteitsbehandeling	
Ma die suksesvolle donor infertiliteitsbehandeling	
Ma die miskraam	
Tydens die swangerskap	
Voor die bevalling	

V373		29
V374		30
V375		31
V376		32
V377		33
V378		34
V379		35
V380		36
V381		37
V382		38
V383		39
V384		40
V385		41

Pas na die geboorte van die kind	
Tydens die eerste paar maande met die baba tuis	
Tans	
Ander:	
Spesifiseer	

V386		42
V387		43
V388		44
V389		45

5.3 Het u ooit professionele berading by enige van die volgende persone ondergaan?

Maatskaplike werker	1
Sielkundige	2
Predikant/Pastoor	3
Ander:	4
Spesifiseer	

V390		46
V391		47
V392		48
V393		49

5.3.1 Indien u by enige van bogenoemde professionele persoon berading gehad het, motiveer waarom en op watter stadium van die behandelingsproses:

Maatskaplike werker

Sielkundige

Predikant/Pastoor

Ander:

V394		50
V395		51
V396		52
V397		53

5.4 Spesifiseer hoe u dink 'n maatskaplike werker beter betrokke kan wees by egpare soos u.

V398		54-55
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5.5 Het u enige voorstelle met betrekking tot die verbetering van spaniede se insette met betrekking tot egpare soos u? (Spesifiseer)

- Dokter:
- Verpleegkundige:
- Maatskaplike werker:
- Sielkundige:
- Predikant/Pastoor:
- Laboratoriumpersoneel:
- Administratiewe personeel:
- Ander:

- V399 56
- V400 57
- V401 58
- V402 59
- V403 60
- V404 61
- V405 62
- V406 63

5.6 Dink u dit is nodig vir egpare soos u om berading by 'n maatskaplike werker oor aspekte rakende donor infertiliteitsbehandeling te kry?

JA	1
NEE	2

- V407 64
- V408 65

5.6.1 Motiveer u antwoord in vraag 5.6.

AFDELING 6: TOEKOMSBEPLANNING

6.1 Sou u weer donor infertiliteitsbehandeling oorweeg as u nog 'n kind wou hê?

JA	1
NEE	2

- V409 66
- V410 67

6.1.1 Motiveer u antwoord by vraag 6.1.

6.1.2 Indien u JA by vraag 6.1 geantwoord het, watter soort behandeling beplan u?

Kunsmatige inseminasie met skenkersaad (KIS)	1
Donor in-vitro bevrugting (Donor-IVB/IVF)	2
Donor gameet intra-fallopiese buis oordraging (Donor-GIFT)	3
Donor sigoot intra-fallopiese buis oordraging (Donor-ZIFT)	4
Ander:	5
Spesifiseer	

- V411 68

6.1.3 Indien u NEE by vraag 6.1 geantwoord het, met ander woorde dat u geen verdere infertiliteitsbehandeling beplan nie, watter alternatief het u al oorweeg?

Om kinderloos te bly	1
Aanneming	2
Pleegsorg	3
Het reeds 'n kind/kinders	4
Ander:	5
Spesifiseer	

- V412 69

6.1.3.1 Motiveer u antwoord by vraag 6.1.3.

- V413 70

DANKIE VIR U TYD EN SAMEWERKING

MEV. C.L. CARONATO

APPENDIX 5

Abstract of paper presented on the first empirical study at
"The First International Conference on Social Work in Health
and Mental Health Care," at the Hebrew University of
Jerusalem, 22-27 January 1995, Jerusalem, Israel.

**NEW REPRODUCTIVE TECHNOLOGY WITH DONOR GAMETES:
A SOCIAL WORK IN HEALTH CARE PERSPECTIVE**

**MRS CHARLENE LAURENCE CARBONATTO
LECTURER: DEPARTMENT OF SOCIAL WORK UNIVERSITY OF PRETORIA,
PRETORIA, SOUTH AFRICA**

In an exploratory study 30 infertile persons who were on the waiting list for artificial fertilization with donor gametes at an academic training hospital in Pretoria were subjected to a preparation programme. This preparation programme for couples planning to undergo artificial fertilization with donor gametes was developed by researcher, a social worker in health care. The aim of this Ph.D.-study was to assess the knowledge, insight and realism of each respondent prior and subsequent to the preparation programme for artificial fertilization with donor gametes, as well as to evaluate the effectiveness of the programme in preparing couples thoroughly and realistically for artificial fertilization with donor gametes. This preparation programme consisted of in-depth sessions with each potential couple where the biological-medical, ethical-moral, religious, legal and psychosocial aspects regarding artificial fertilization with donor gametes were discussed with each couple by researcher to help them in their final decision-making process. A self-constructed questionnaire was administered to these respondents in a pre-test prior to the preparation programme and in a post-test at the termination of the preparation programme. It was found that these respondents, who were all on the waiting list for treatment, had insufficient knowledge and insight regarding all the aspects related to artificial fertilization with donor gametes prior to the preparation sessions, were unrealistic and were thus not fully equipped to make a final decision regarding treatment. This preparation programme by the social worker is thus of utmost importance in an interdisciplinary approach to ensure that couples planning to undergo artificial fertilization with donor gametes are thoroughly prepared and are equipped to make a correct decision.

THE FIRST
INTERNATIONAL
CONFERENCE ON
SOCIAL WORK
IN HEALTH AND
MENTAL HEALTH CARE

JANUARY 22-26, 1995

JERUSALEM

23 Oct. 1994

To: C. L. Carbonatto

From: Gail K. Auslander, Chair, Scientific Program
Committee

**URI AVIRAM, CHAIR
ORGANIZING COMMITTEE**
Director, Paul Baerwald School
of Social Work
The Hebrew University
of Jerusalem

**GAIL AUSLANDER, CHAIR
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We are pleased to inform you that your abstract (no. 400) entitled "New Reproductive Technology with Donor Gametes: A Social Work in Health Care Perspective" has been accepted for oral presentation as a paper in the First International Conference on Social Work in Health and Mental Health Care to be held in Jerusalem, January 22-26, 1995. Papers will be presented in parallel sessions, with 2 to 4 papers on related topics per session. Note that each paper presentation will be allocated 20 minutes, with an additional 10 minutes for questions and discussion. Enclosed are instructions and suggestions for paper presentation which we hope will be useful.

Because we can only notify first authors of each acceptance, we would ask that you notify all other individuals involved in your presentation. If for some reason you find that you will not be able to make this presentation, please let us know as soon as possible.


Note that Book of Abstracts will only include abstracts of those presenters who have paid and registered for the conference by December 1, 1994.

We also ask you once again to ascertain that your abstract was prepared according to the instructions in the Call for Papers, and was submitted by mail (not fax).

Additional information for participants, as well as the preliminary program will be sent to you during the month of November. Please let us know if we can be of any further assistance.

We look forward to your participation in the Conference.

Sincerely,


Gail K. Auslander, DSW

APPENDIX 6

Documentation of doctoral seminar

INVITATION
TO
ATTEND
THE DOCTORAL SEMINAR
OF
MRS CHARLENE L. CARBONATTO
ON
"Artificial fertilization with donor gametes: a medical social work perspective"
WEDNESDAY: 24 JANUARY 1996
AT: 10:30 - 12:30
IN ROOM 10-2, G.W. BUILDING,
DEPARTMENT OF SOCIAL WORK
UNIVERSITY OF PRETORIA

Please RSVP before Friday 19 January 1996 so that a programme and material can be provided.

Tel.: 420-2410 or 420-2325 or 348-4549 or Fax: 420-2698 Attention Mrs C L Carbonatto, Dept of Social Work.

UNIVERSITY OF PRETORIA
DEPARTMENT OF SOCIAL WORK
DOCTORAL SEMINAR - MRS CHARLENE LAURENCE-CARBONATTO

ABSTRACT

Infertility is a condition which affects many couples worldwide and of which the incidence is increasing. New reproductive technology is constantly being developed by specialists all over the world to help assist these persons. Some people can be assisted by means of various techniques of artificial fertilization using their own gametes, while others with a poorer prognosis have only 3 alternatives to consider: adoption, remaining childless or artificial fertilization with donor gametes, where the gametes of an anonymous person is used to achieve conception. Artificial fertilization with donor gametes is a complicated option and as little research has been performed on this topic, it was chosen for this study.

The aims of this study were:

- To develop, implement, evaluate and describe a guideline for the holistic preparation of couples for artificial fertilization with donor gametes.
- To do a longitudinal study of the same couples to determine the longterm psycho-social implications of successful or unsuccessful artificial fertilization with donor gametes.
- To provide a medical social work guideline for the preparation and counselling of couples undergoing artificial fertilization with donor gametes.

All thirty infertile patients who were on a waiting list for artificial fertilization with donor gametes at an academic hospital in Pretoria were included in this study. These couples all underwent individual preparation sessions developed by researcher providing them with information regarding this option. They were encouraged to utilize this information and to take time to make their final decision whether to go ahead with this treatment or not. These same couples were then followed up in a longitudinal survey to determine the psycho-social effect of successful or unsuccessful treatment a few years later.

This seminar will review this study and highlight some findings, conclusions and recommendations. Some questions which can be addressed by attendants are:

- Should couples be allowed to go ahead with artificial fertilization with donor gametes when they are prepared on medical grounds only by most medical practitioners?
- Can these couples decide on this option and give informed consent if they don't know of all the medical, legal, ethical-moral, religious and psycho-social issues related to this option?
- Should a preparation session for each couple contemplating this option be compulsory?
- Can these couples be allowed to make hasty uninformed decision or should a decision-making period of a few months be recommended?
- Should these couples be allowed to vanish conveniently to lead a secret life with their "donor" child or should they be followed up?
- Should national statistics of these families be available on request or be inaccessible as is at present?
- Should couples receive more non-identifying information on the donor or none as is the practice at present?
- Should the donor's spouse also be taken into consideration and interviewed or informed?
- Should donors be allowed to request non-identifying information of the recipients?
- Should the child be informed and when?
- Should the family be informed and when?