



**A COMPARISON BETWEEN
FOUR MIDWIFE OBSTETRIC UNITS
IN THE PRETORIA REGION**

a dissertation by

NGWAKO THERESA MABALE

Submitted in partial fulfilment of the requirement for the
Masters Degree in Advanced Midwifery and Neonatal Care Nursing Science

in the

Department of Nursing Science
School of Health Care Sciences
Faculty of Health Science
University of Pretoria

SUPERVISORS/PROMOTORS : DR S J C VAN DER WALT
PROF R C PATTINSON

DECEMBER 2003

ACKNOWLEDGEMENTS

To God all the honour.

The research for this dissertation was carried out at the Department of Nursing Science, School of Health Care Sciences, Faculty of Health Sciences, University of Pretoria. I wish to express my appreciation to the following persons and organizations that made this research possible:

- The MRC Research Unit for Maternal and Infant Health Care Strategies, Kalafong Hospital, University of Pretoria, for their continuous sustained support and bursary, which enabled me to complete my MCur studies.
- The Department of Health, Pretoria Region, for allowing me to collect data at the different Midwife Obstetric Units (MOUs). Thanks to the Deputy Directors Nursing Services at the MOUs.
- The Unit Managers and midwives of all the MOUs where data was collected. My humble thanks to the women who participated in this research project. Your experiences contributed to my personal enrichment.
- I am also grateful to the lecturers of the University of Pretoria, Nursing Science Department, whose constructive critique of this research was valuable and assisted with the scientific trustworthiness.
- I owe particular thanks to my supervisors, Dr Christa van der Walt and Professor Bob Pattinson, for their guidance and support.
- I am also thankful to Annelize de Villiers for her help and support. You really distressed me when I was drowning in stress. Thank you Maureen Venter and Lebo Jali for typing parts of the research report and Ross Prinsloo, for processing and documenting the progress of my study.
- Thank you, Professor Neltjie van Wyk, for affording me the opportunity to be on an exchange program to Sweden, Kalskrona, where I completed the reporting of this research.

- Thanks to the lecturers at Blekinge Institute of Technology University, Sweden, Department of Health Science Mathematics, particularly Doris Bohman, for their assistance in the report writing.
- I also want to thank the staff at Grasvik Library, Blekinge Institute of Technology University, in particular Anne-Marrie Petterson and Lena Aknius, for helping me to develop computer skills.
- To Dr. Frans Ramusi, your emotional support was invaluable.
- I want to thank my family, my mother Jane Moloko Mabale, my daughter Neo Mokgadi, my son Daniel and my brother Jack, for the years of love, support and encouragement. You were my light when I experienced darkness.
- Lastly I want to give my sincere thanks to Annetjie Jefferson for the great work done of typing this big volume of my report and Isobel van Huyssteen for editing the dissertation. Your efforts are greatly appreciated.

---oOo---

ABSTRACT

INTRODUCTION

Midwifery obstetric units (MOUs) have been established in South Africa in response to the health needs of pregnant women. Although various types of MOUs currently exist, the function of the MOU and the quality of midwifery care rendered, have never been documented.

This study aims to describe and compare four different types of MOUs in the Pretoria region. This will contribute towards providing an evidence base, needed for effective policy-making. The researcher believes that MOUs should play an important role in the reduction of maternal morbidity and mortality.

METHODS AND PROCEDURES

A comparative and descriptive design was used to reach the aim of the study. Both qualitative and quantitative methods were used, to contribute to a comprehensive picture of the functioning of MOUs and midwifery care rendered. Three objectives were set at the onset of the study. Objective one was to describe and compare the function of the MOUs with regard to: specific criteria: the number of admissions, the number of referrals, the number of deliveries, birth mass of babies delivered, number of perinatal deaths before admission and after delivery, neonate deaths, episiotomies rate, oxytocin use, pain relief rate, apgar score at 5 minutes of <8, neonatal referral rate, pregnancy complications (e.g. postpartum haemorrhage, retained placenta, birth trauma), management of third stage of labour, fetal monitoring type (doptone, Pinard stethoscope), referral criteria of each institution, indication for referral, and compliance to management protocol. Objective two was to describe and compare staffing and work load, which include the number of staff per shift in the labour ward,

number of deliveries per shift, level of training, number of midwives with PEP training, number of advanced midwives, and availability job description of staff in labour ward. Objective three dealt with the description and comparison of the quality of care, with specific regard to the quality of the partogram and patient satisfaction.

Triangulation of data collection methods were used to ensure trustworthiness of data. To attain the objectives, stated above, the data collection methods included: monthly statistical forms for objective one, structured individual interview with unit managers and job analysis of all categories of staff in the MOU, for objective two and for objective three a structured individual interview with patients was used to determine patient's satisfaction, and an audit of the partogram, to determine quality of care.

A sample of four MOUs in the Pretoria region was purposively selected, because of their unique characteristics, resembling four different types of MOUs. To achieve objective one, statistics were obtained for a twelve-month period. To attain objective two a convenient sample of unit managers of the four MOUs were used. To attain objective three, a simple random sampling was used, to select patients' records ($n=50$) from each MOU, a total of ($n=200$) 200 records were selected. Convenient sampling was done for the interviews with patients, ($n=120$) and again, a further interview was held with patients who bypassed the MOUs, of a period of 2 months.

The content validity of the statistical form was based on the current format used in the MOUs and according to the "Guidelines for Maternity Care in South Africa" (Department of Health). The interview guide, used for interviews with the unit managers, was structured according to the study objectives. The interview guide, used to interview the patients, was based on an instrument developed by Steyn (1998), to assess patient's satisfaction in antenatal care, and adapted for the purpose of the study. All the methods used for data collection was tested during a pilot study.

Descriptive and inferential statistics, as well as Tesch's approach towards the analysis of qualitative data, was used to examine differences between the four MOUs. Within the scope of this study, the researcher does not intend to generalize the findings.

CONCLUSION

The uniqueness of the study lies in the relevance of MOUs in the provision of maternity care, as one of the priorities of National Health. Up to date, little scientific knowledge is available on the functioning of the MOUs, in the Pretoria region. This study provides valuable information for the functioning of MOUs to effectively manage resources, and improve the quality of maternal care. It may further assist midwifery educators, to embark on hands-on, training on site, approach on the management criteria of each institution, indication for referral, and compliance to management of women in labour.

ABSTRAK

INLEIDING

Vroedvrou-obstetriese eenhede (VOEs) het in Suid Afrika tot stand gekom in respons tot die gesondheidsbehoefte van swanger vroue. Alhoewel verskeie tipes VOEs tans bestaan, is die funksie van die VOE en die kwaliteit van diens wat gelewer word, tot op datum, nooit gedokumenteer nie.

Hierdie studie beoog om vier verskillende tipes VOEs, in die Pretoria gebied, te beskryf en te vergelyk. Dit sal bydrae tot 'n bewysleweringsbasis, wat nodig is vir effektiewe beleidmaking.

METODES EN PROSEDURES

'n Vergelykende en beskrywende ontwerp is gebruik om die doel van die studie te bereik. Beide kwalitatiewe en kwantitatiewe metodes word gebruik om by te dra tot 'n omvattende beeld van die funksionering van die VOEs en die vroedvrou diens wat gelewer word. Aanvanklik is drie doelstellings identifiseer. Die eerste doelstelling is om die funksie van die VOE te beskryf en te vergelyk, met betrekking tot die aantal toelatings, die aantal verwysings, die aantal verlossings, geboortemassa van babas wat verlos is, aantal perinatale sterftes voor opname en na verlossing, neonatale sterftes, episiotomies koers, oxytocin gebruik, pyn verligting koers, apgar telling by 5 minute of <8 , neonatale verwysings koers, swangerskap komplikasies bv, postpartum bloeding, teruggehoude plasenta, geboortetrauma, hantering van die derde stadium van kraam, fetale monitering tipe (*dopotone, Pinard stetoskoop*), verwysingskriteria van elke instituut, indikasie vir verwysing en inskiklikheid ten opsigte van bestuurs protokol . Die tweede doelstelling is om die personeeltoekenning en werkslading te beskryf en te vergelyk. Dit sluit die aantal personeel per skof, hulle opleiding, die

aantal verlossings (geboortes) per skof, aantal vroedvroue met 'PEP' opleiding, die aantal gevorderde vroedvroue en die werksbeskrywing van personeel in die kraamsaal in. Die derde doelstelling hanteer die beskrywing en vergelyking van die kwaliteit van die partogram en pasiënt satisfaksie, in.

Triangulering van die data versamelingsmetodes is gebruik om betroubaarheid van data te verseker. Om bogenoemde doelstellings te bereik, sluit die versameling van data die volgende in: maandelikse statistiekvorms vir doelstelling een, gestruktureerde individuele onderhoude met eenheid bestuurders, en werksontleding van alle kategorieë van personeel in die VOE vir die tweede doelstelling, en vir die derde doelstelling is die gestruktureerde individuele onderhoud met pasiënte gebruik, om pasiënte se bevrediging te bepaal en 'n audit van die partogram om die kwaliteit van versorging te bepaal.

'n Steekproef van vier VOEs in die Pretoria distrik is gekies as gevolg van hul unieke karakteristieke, om vier verskillende tipes VOEs te verteenwoordig. Om die eerste doelstelling te bereik is statistieke oor twaalf maande versamel. Om die tweede doelstelling te bereik is 'n gerieflikheids steekproef eenheidsbestuurders van die vier eenhede gebruik. Om doelstelling drie te bereik is 'n lukrake steekproef gebruik waarin pasiënt rekords ($n=50$) vir elke eenheid, gebruik is. Tweehonderd ($n=200$) rekords in totaal, is gebruik. Gerieflikheids steekproeftrekking is gebruik vir die onderhoude met pasiënte, ($n=120$) en later is 'n verdere onderhoud gevoer met die pasiënte wat die VOEs oorgesien het, dit het oor 'n periode van 'n maand geskied.

Die inhoudsgeldigheid van die statistiekvorm is gebaseer op die huidige formaat van die vorms, tans in gebruik in die VOEs en volgens die "guidelines for Maternity Care in South Africa" (Departement van Gesondheid). Die onderhoudsgids wat gebruik is in die onderhoude met eenheid-bestuurders is volgens studiedoelstellings gestruktureer. Die onderhoudsgids, wat gebruik is in die onderhoude met pasiënte, is gebaseer op 'n instrument wat ontwikkel is deur Steyn (1998), om pasiënte se bevrediging tydens antenatale sorg, te meet, en is aangepas vir die doel van die studie. Al die metodes wat in die studie gebruik is, is gedurende die loodsstudie getoets.

Beskrywende en inferensiële statistiek, asook Tesch se benadering tot die analise van kwalitatiewe data, is in die ontleding van die vier VOEs gebruik. Die navorser beoog nie om die bevindinge van hierdie studie te veralgemeen nie.

GEVOLGTREKING

Die uniekheid van die studie lê in die toepaslikheid van kraamversorging, as een van die prioriteite van Nasionale Gesondheid. Tot op datum is daar min wetenskaplike inligting, ten opsigte van die funksionering van die VOEs in die Pretoria distrik, beskikbaar. Die studie kan waardevolle inligting in verband met die funksionering van die VOEs verskaf om sodoende beskikbare hulpbronne ten beste aan te wend en die kwaliteit van kraamversorging te verbeter. Dit kan verder ook vroedvrou-opleiers help met die 'hands-on', op die perseel opleiding, benadering tot die hantering van vroue in kraam.



KEY WORDS

- Midwife Obstetric Units
- Safety
- Cost-effectiveness
- Quality of Care

DECLARATION

I, NGWAKO THERESA MABALE, declare that this dissertation entitled "A COMPARISON BETWEEN FOUR MIDWIFE OBSTETRIC UNITS IN THE PRETORIA REGION" is my own work, and all the sources that I have used, or quoted, have been indicated and acknowledged by means of complete reference.

This dissertation has not been submitted previously for any degree, or examination to any other university.

N. T. Mabale
NGWAKO THERESA MABALE

20 . 7 . 04
.....

DATE

TABLE OF CONTENTS

	PAGE
ACKNOWLEDGEMENTS	ii
ABSTRACT	iv
ABSTRAK	vii
KEY WORDS	x
DECLARATION	xi
LIST OF TABLES	xviii
LIST OF FIGURES	xx
ANNEXURES	xxi
CHAPTER 1:	
RESEARCH OVERVIEW	
1.1 BACKGROUND AND RATIONALE OF THE STUDY	1
1.2 PROBLEM STATEMENT	4
1.3 AIM OF THE STUDY	5
1.3.1 Objective One	5
1.3.2 Objective Two	6
1.3.3 Objective Three	7
1.4 DEFINITION OF CONCEPTS	7
1.4.1 Quality of Care	7
1.4.2 Quality of Midwifery Care	7
1.4.3 Midwife Obstetric Units (MOUs)	8
1.5 STUDY DESIGN	8
1.6 POPULATION AND SAMPLE	8
1.7 METHOD AND PROCEDURES	9
1.8 RELIABILITY AND VALIDITY	11
1.9 DATA ANALYSIS	12
1.10 ETHICAL CONSIDERATIONS	13
1.11 DISSEMINATION OF THE FINDINGS	13
1.12 SUMMARY	14
1.13 OUTLINE OF DISSERTATION	14

CHAPTER 2:	PAGE
LITERATURE OVERVIEW	
2.1 INTRODUCTION	15
2.2 WHY DO WE NEED MIDWIFE OBSTETRIC UNITS?	16
2.3 THE HISTORY OF MOUs IN SOUTH AFRICA	18
2.4 THE PLACE OF MOUs IN THE NATIONAL HEALTH PLAN FOR SOUTH AFRICA	19
2.5 MIDWIFERY CARE: THE SOUTH AFRICAN MIDWIFE	23
2.5.1 The Scope of Practice for Midwives	24
2.5.2 Midwife care: an overview (international)	24
2.5.2.1 Midwife Managed Care Units	25
2.5.2.2 Team Midwifery Care Units	26
2.5.2.3 Midwife-Led Units	27
2.6 HOW DO WE MEASURE THE SUCCESS OF MOUs	27
2.6.1 Structure of the MOUs	27
2.6.2 Equipment	29
2.6.3 Resuscitation Equipment	29
2.6.4 Phototherapy Unit, Vacuum Delivery Units, Fetal-monitoring unit	29
2.6.5 Infant Incubator, oxygen supply	30
2.6.6 Comfortable furniture	30
2.6.7 Ambulance and motor vehicle	30
2.6.8 Staffing	31
2.6.8.1 Staff Development	31
2.6.8.2 Staff Facilities	32
2.6.9 Non-drug consumables (Dry dispensary)	32
2.6.10 Commissioning the MOU	33
2.6.11 Process of the MOU	34
2.6.11.1 Patient's Rights in the context of Maternal Care	34
2.6.11.2 A Healthy and Safe Environment	35
2.6.11.3 Access to Health Care	35
2.6.11.4 Choice of Health services	36
2.6.11.5 Treated by a Named Health Care Provider	37

2.6.11.6	Informed Consent and Participation in Decision-making	37
2.6.11.7	Batho Pele Principles	37
2.6.11.8	Better Birth Initiative	38
2.6.11.9	Benefit of Better Birth Initiative	41
2.6.11.10	Progress in the active phase of labour	43
2.6.11.11	Second and third stage of labour	44
2.6.11.12	Privacy and Labour support	45
2.6.11.13	Discharge from the MOU	45
2.6.11.14	Care of the newborn and follow up visit	45
2.6.11.15	Unbooked Mothers in Labour	46
2.6.11.16	Referral Arrangements	46
2.6.11.17	Indicators of successful care in MOUs	46
2.6.11.18	Perinatal audit meetings	48
2.6.11.19	Record Keeping for future references	49
2.7	QUALITY OF MIDWIFERY CARE IN MOUs	49
2.7.1	Quality of Care	50
2.7.2	Definition of Quality	50
2.8	WHY PATIENT SATISFACTION?	52
2.8.1	Demographic variables	53
2.8.2	How to measure success of MOUs	55
2.9	CONCLUSION	56

CHAPTER 3:	PAGE
RESEARCH METHODOLOGY	
3.1 INTRODUCTION	57
3.2 OVERALL RESEARCH DESIGN	57
3.3 METHODS AND PROCEDURES	58
3.3.1 Unit of analysis	58
3.4 ETHICAL CONSIDERATIONS	59
3.5 METHODS AND PROCEDURES: OBJECTIVE ONE	60
3.5.1 Population and Sample	60
3.5.2 Instruments	61
3.5.3 Reliability	62
3.5.4 Validity	62
3.5.5 Procedure	62
3.5.6 Data analysis	63
3.6 METHOD AND PROCEDURES: OBJECTIVE TWO	63
3.6.1 Sample	63
3.6.2 Method and procedure to describe and compare staffing and workload	64
3.6.3 Reliability	64
3.6.4 Validity	64
3.6.5 Data analysis	64
3.6.6 Ethical considerations	65
3.7 METHOD AND PROCEDURES: OBJECTIVE THREE	65
3.7.1 Population and sample	65
3.7.2 Instrument	66
3.7.3 Reliability and validity	68
3.7.3.1 The value of audit	69
3.7.3.2 The value of the use of questionnaire and the presence of the researcher during data collection	69
3.7.3.3 Procedure	70
3.7.3.4 Overall ethical consideration	70
3.7.3.5 Data Analysis	71
3.8 LIMITATIONS	71
3.9 SUMMARY	72
3.10 CONCLUSION	77

CHAPTER 4:		PAGE
FINDING OF THE STUDY		
4.1	INTRODUCTION	79
4.2	SETTING AND CHARACTERISTICS OF THE SAMPLE	79
4.2.1	Gaining access to the study site	79
4.2.2	Location, staffing and referral systems of the MOU	79
4.2.3	The Researcher	82
4.3	THE FUNCTIONING OF THE MOU	82
4.3.1	Discussion of the criteria used in describing the function of the MOU	85
4.3.1.1	Birth mass of babies delivered	85
4.3.1.2	Indication for referral	86
4.3.1.3	Unbooked mothers	87
4.3.1.4	Comparison of pregnancy complications over a twelve month period	87
4.4	CONCLUSION (OBJECTIVE ONE)	88
4.5	STAFFING OF THE MOUs	88
4.6	QUALITY OF MIDWIFERY CARE IN THE MOUs	89
4.6.1	Discussion and comparison of the findings of the audit of the partogram	91
4.7	PATIENT SATISFACTION	92
4.7.1	Patients' response to the sixteen items questionnaires at the four MOUs	93
4.8	PATIENTS BYPASSING THE MOUs AND DELIVERING AT THE HOSPITAL	113
4.9	CONCLUSION	114

CHAPTER 5:		PAGE
CONCLUSIONS AND RECOMMENDATIONS		
5.1	INTRODUCTION	116
5.2	MAIN FINDINGS	116
5.2.1	Safety	116
5.2.2	Cost-effectiveness	116
5.2.3	Quality of care	116
5.3	STAFFING AND WORKLOAD	117
5.4	QUALITY OF THE PARTOGRAM	118
5.5	PATIENT SATISFACTION	118
5.6	LIMITATIONS	119
5.7	CONCLUSION	119
5.8	RECOMMENDATIONS	121
5.8.1	In-service training	121
5.8.2	Towards quality Intra-Partum care	122
	LIST OF REFERENCES	123

LIST OF TABLES

	PAGE	
TABLE 1.1	METHOD OF DATA COLLECTION FOR OBJECTIVE ONE	10
TABLE 1.2	METHOD OF DATA COLLECTION FOR OBJECTIVE TWO	10
TABLE 1.3	METHOD OF DATA COLLECTION FOR OBJECTIVE THREE	11
TABLE 2.1	BED NUMBERS ACCORDING TO POPULATION SERVED	28
TABLE 2.2	PRACTICES THAT CAN PREVENT MATERNAL AND INFANT DEATH	40
TABLE 2.3	PRACTICES THAT CAN IMPROVE THE HEALTH OF WOMEN AND INFANTS	40
TABLE 2.4	PRACTICES THAT ARE DEGRADING OR PAINFUL AND SHOULD BE AVOIDED IN MOUs	41
TABLE 3.1	MONTHLY STATISTICS	61
TABLE 4.1	A DESCRIPTION OF THE FOUR MOUs: LOCATION, STAFFING AND REFERRAL PATTERN	81
TABLE 4.2	A DESCRIPTION OF THE FUNCTIONING OF MOUs (STAFFING EXCLUDED)	83
TABLE 4.3	STAFF ESTABLISHMENT OF THE FOUR MOUs	89
TABLE 4.4	ALL THE FOUR MOUs PARTOGRAMS WITH MEAN AND MAXIMUM SCORES	90
TABLE 4.5(a)	SATISFIED WITH THE INTRAPARTUM CARE	93
TABLE 4.5(b)	TOTAL NUMBER OF RESPONSES	94
TABLE 4.6(a)	POOR INTRAPARTUM CARE	94
TABLE 4.6(b)	TOTAL NUMBER OF RESPONSES	95
TABLE 4.7(a)	ACCESS TO MOUs	95
TABLE 4.7(b)	TOTAL NUMBER OF RESPONSES	96
TABLE 4.8(a)	EASY ACCESS TO MOUs	96
TABLE 4.8(b)	TOTAL NUMBER OF RESPONSES	97
TABLE 4.9(a)	WAITING TIME	97
TABLE 4.9(b)	TOTAL NUMBER OF RESPONSES	98

TABLE 4.10(a)	RECEPTION OF STAFF AT THE MOU	98
TABLE 4.10(b)	TOTAL NUMBER OF RESPONSES	99
TABLE 4.11(a)	PATIENTS TREATED WITH RESPECT	99
TABLE 4.11(b)	TOTAL NUMBER OF RESPONSES	100
TABLE 4.12(a)	PATIENT TRUSTS IN MIDWIVES	100
TABLE 4.12(b)	TOTAL NUMBER OF RESPONSES	101
TABLE 4.13(a)	MIDWIVES REASSURED PATIENT IN LABOUR	101
TABLE 4.13(b)	TOTAL NUMBER OF RESPONSES	102
TABLE 4.14(a)	MIDWIVES SPENDING TIME WITH PATIENT IN LABOUR	102
TABLE 4.14(b)	TOTAL NUMBER OF RESPONSES	103
TABLE 4.15(a)	MIDWIVES LISTENING TO PATIENTS IN LABOUR	103
TABLE 4.15(b)	TOTAL NUMBER OF RESPONSES	104
TABLE 4.16(a)	EXPLANATION OF LABOUR BY MIDWIVES	104
TABLE 4.16(b)	TOTAL NUMBER OF RESPONSES	105
TABLE 4.17(a)	MIDWIVES EXPLAINING REASONS FOR TEST	105
TABLE 4.17(b)	TOTAL NUMBER OF RESPONSES	106
TABLE 4.18(a)	THOROUGH EXAMINATION ON PATIENTS IN LABOUR BY MIDWIVES	106
TABLE 4.18(b)	TOTAL NUMBER OF RESPONSES	107
TABLE 4.19(a)	UNNECESSARY EXAMINATION BY MIDWIVES ON PATIENTS DURING LABOUR	107
TABLE 4.19(b)	TOTAL NUMBER OF RESPONSES	108
TABLE 4.20(a)	MIDWIFE COMPETENCY IN MANAGEMENT OF PATIENTS IN LABOUR	109
TABLE 4.20(b)	TOTAL NUMBER OF RESPONSES	109
TABLE 4.21	PATIENT'S PERCEPTIONS OF THE QUALITY OF MIDWIFERY STAFF IN THE MOUs	110
TABLE 4.22	PATIENT'S PERCEPTION OF SAFETY	111
TABLE 4.23	REFERRAL IN LABOUR	112
TABLE 5.1	SAFETY OF THE MOUs	116
TABLE 5.2	COST-EFFECTIVENESS OF MOUs	117

LIST OF FIGURES

		PAGE
FIGURE 3.1	SCHEMATIC PRESENTATION OF RESEARCH DESIGN	58
FIGURE 4.1	ADMISSIONS OF PATIENTS PER YEAR (2000-2001)	84
FIGURE 4.2	REFERRAL RATE PER YEAR OF THE FOUR MOUs	84
FIGURE 4.3	INTRAPARTUM CARE MANAGEMENT: NUMBER OF DELIVERIES PER YEAR	85
FIGURE 4.4	COMPARISON OF THE FOUR MOUs WITH REGARD TO ADMISSION, REFERRALS AND DELIVERIES	86
FIGURE 4.5	COMPARISON OF THE MEAN PERCENTAGE SCORE OF THE AUDIT OF THE PARTOGRAM OF THE FOUR MOUs	92
FIGURE 4.6	PATIENTS' SATISFACTION WITH INTRAPARTUM CARE	94
FIGURE 4.7	POOR INTRAPARTUM CARE	95
FIGURE 4.8	ACCESS TO MOUs	96
FIGURE 4.9	EASY ACCESS TO MOUs	97
FIGURE 4.10	WAITING TIME	98
FIGURE 4.11	RECEPTION OF PATIENTS AT MOUs	99
FIGURE 4.12	PATIENTS TREATED WITH RESPECT	100
FIGURE 4.13	PATIENT TRUST IN MIDWIVES	101
FIGURE 4.14	MIDWIVES REASSURED PATIENTS IN LABOUR	102
FIGURE 4.15	MIDWIVES SPENDING TIME WITH PATIENTS IN LABOUR	103
FIGURE 4.16	MIDWIVES LISTENING TO PATIENTS IN LABOUR	104
FIGURE 4.17	EXPLANATION OF PROCEDURES BY MIDWIVES	105
FIGURE 4.18	MIDWIVES EXPLAINING REASONS FOR TESTS/ EXAMINATIONS	106
FIGURE 4.19	THOROUGH EXAMINATION ON PATIENTS BY MIDWIVES DURING LABOUR	107
FIGURE 4.20	UNNECESSARY EXAMINATION BY MIDWIVES ON PATIENTS DURING LABOUR	108
FIGURE 4.21	MIDWIFE COMPETENCY IN MANAGEMENT OF PATIENT IN LABOUR	109

ANNEXURES

	PAGE
ANNEXURE A MONTHLY STATISTICS FOR 12-MONTH PERIOD	129
ANNEXURE B INFORMED CONSENT AND UNIT MANAGERS INTERVIEW GUIDE	133
ANNEXURE C AUDIT OF INTRAPARTUM CARE (PARTOGRAM)	137
ANNEXURE D INFORMED CONSENT AND INTERVIEW GUIDE (PATIENT SATISFACTION)	139
ANNEXURE E APPROVAL LETTER FROM ETHICS COMMITTEE	148
ANNEXURE F APPROVAL LETTER FROM METRO HEALTH SERVICES, PRETORIA	150
ANNEXURE G APPROVAL LETTERS FROM THE STUDY SITE	153

CHAPTER 1

RESEARCH OVERVIEW

1.1 BACKGROUND AND RATIONALE OF THE STUDY

The aim of this study is to describe and compare the four different MOUs (Midwife Obstetric Units) in the Pretoria region.

The report by the National Committee on Confidential Enquiries into Maternal Deaths (NCCEMD) (Gauteng Department of Health 1998: 1) established that the problems that caused 50 per cent of maternal deaths, occurred at primary level, including MOUs. The major focus of maternity services nationally is to reduce maternal mortality and morbidity through the provision of institutional deliveries.

The Peninsula Maternity and Neonatal Service was started in 1980. The aim was to establish decentralized delivery units for the care of low risk pregnant women (Nolte 1998: 14). These units provide antenatal, intrapartum and postnatal care, and are within the reach of pregnant women. Medical care is also accessible by means of an ambulance service, or an on-site doctor (a visiting doctor from the referral hospital) (Nolte 1998: 15).

The Gauteng Province emphasizes the use of MOUs. The organisation of MOUs is clearly defined in the MOU Policy Recommendation Document (Gauteng Department of Health 1995: 1).

The emphasis of care rendered by midwives in a MOU, should fall on low risk patients, hereby bringing midwifery care closer to the pregnant women.

The advantages of MOU deliveries include:

- The facilities are often more hygienic than a delivery at home; and
- Staff can handle life-threatening emergencies.

However, the deliveries at MOUs are not without disadvantages, and these include:

- Women are removed from their social support systems;
- By “medicalizing” childbirth, women are often subjected to uncomfortable and unnecessary midwifery procedures;
- MOUs are sometimes not fully equipped to deal with emergency; and
- Transport/ambulance system is required to transfer patients out.

The MOU is viewed as a low risk delivery unit (labour ward) managed entirely by midwives. The unit has varying degrees of accessibility to doctors. MOUs have been established in Gauteng to provide a greater accessibility to maternity care, within the reach of pregnant women.

There are currently four different types of MOUs in the Pretoria Region:

- MOUs in a community health centre setting, where midwives refer the patients to the next level of care. Doctors are available on-site, for the management of emergencies and resuscitation. An ambulance transfers patients to the next level of care.
- MOUs in a community health centre. The doctor in casualty takes rounds in the labour ward and he/she transfers the patients to the next level of care, remote from the MOU. An ambulance transfers patients.
- MOUs are situated in the general labour of a hospital, where midwives refer patients to the doctor, literally across a corridor.
- Stand alone MOUs, where midwives refer the patients to the next level care. There are no doctors on site for emergencies. An ambulance transfers the patients.

The Department of Health identified maternity care as one of its priorities areas, therefore this study is important in highlighting the functioning of the MOUs. Little information is available on the functioning of the MOUs in the South African region. This study will provide valuable information on the functioning of MOUs. This could result in:

- more effective management of resources;
- improvement of the quality of midwifery care;
- the assistance of midwifery educators at the nursing colleges and clinical sites, to embark on hands-on on-site training of student midwives:
 - in the management of women in labour; and
 - helping nursing service manager to improve the quality of midwifery care.

1.2 PROBLEM STATEMENT

Little scientific information is available for policy makers to effectively manage resources and improve the quality of midwifery care at MOUs.

To make maternal health care accessible to all women in South Africa, the National and Gauteng Provincial Government support the use of MOUs at community level, thereby bringing midwifery care closer to the pregnant women. The utilization of MOUs is clearly defined in the MOU Policy Recommendation Document (Gauteng Department of Health 1995: 1). Unfortunately there is evidence that MOUs in the Gauteng Province are underutilized (Mashazi 1999: 55).

From the identified problem the following questions arise:

- How do these different types of MOUs function?

- What type of staff establishment exists at the MOUs?
- What type of patients do the MOUs manage?
- How many patients are attended to at the MOUs?
- What types of activities are performed at the MOUs?
- What is the quality of care rendered in the MOUs, as
 - Perceived by the patients; and
 - Measured by an audit of partograms.

1.3 AIM OF THE STUDY

The aim of this study is to describe and compare four different types of MOUs in the Pretoria region. This will be achieved through the following objectives:

1.3.1 OBJECTIVE ONE

Objective one is to describe and compare the functions of the MOUs with regard to:

- the number of admissions;
- the number of referrals out of the MOU of intrapartum patients;
- the number of deliveries;
- number of babies birth mass of babies delivered <2,5kg;

- fresh stillbirth of babies of >2.5kg birth mass;
- episiotomy rate;
 - apgar score, at 5 minutes of <8;
 - neonatal referral rate;
 - pregnancy complications e.g. postpartum haemorrhage, retained placenta, maternal birth trauma;
 - management of third stage of labour;
 - fetal monitoring type (doptone, Pinard stethoscope);
 - referral criteria of each institution;
 - indication for referral; and
 - protocols displayed for management of labour.

1.3.2 OBJECTIVE TWO

Objective two is to describe and compare staffing and work load, with regard to:

- number of staff per shift in the labour ward;
- levels of training;
- number of midwives with Perinatal Education Programme (PEP) training;
- number of advanced midwives; and
- availability of job description of staff in the labour ward.

1.3.3 OBJECTIVE THREE

Objective three is to describe and compare the quality of care, specifically with regard to:

- the quality of intrapartum care as evident by an audit of the partogram;
and
- patient satisfaction including the reasons why patients by-pass the MOUs and deliver at the hospital.

1.4 DEFINITION OF CONCEPTS

1.4.1 QUALITY OF CARE

Quality of care is the degree to which health services for individuals and population, increase the likelihood for desired outcomes, and are consistent with current professional knowledge (Hulton, Matthews and Stones 2000: 9).

1.4.2 QUALITY OF MIDWIFERY CARE

Quality of midwifery care refers to the degree to which maternity health services for individuals and populations, increase the likelihood of timely and appropriate treatment, for the purpose of achieving desired outcomes, that are both consistent with current professional knowledge, and uphold basic reproductive rights (Hulton *et al* 2000: 9).

1.4.3 MIDWIFE OBSTETRICS UNITS (MOUs)

An MOU is a unit that provides antenatal, intrapartum and postpartum care to low risk pregnant women. It is run entirely by midwives, with varying accessibility to doctors (refer page 2).

1.5 STUDY DESIGN

A comparative, descriptive research design will be followed to achieve the aim of the study. To achieve the objectives of the study, qualitative and quantitative methods will be used. The research design is described in Chapter 3 page 2, Table 3.1.

1.6 POPULATION AND SAMPLE

To achieve the aims of the study, four MOUs were purposively selected in the Pretoria, Pretoria region, because of their unique characteristics, representing the four different types of MOUs found in Gauteng.

To achieve the mentioned objectives, the following steps were structured, according to the unit of analysis:

- Objective one: Monthly statistics were obtained over a twelve-month period, from 01 June 2000 to 31 May 2001.

- Objective two: A purposive sample of unit managers was used, to assess staffing and workload.
- Objective three:
 - Patients' records were used to assess the quality of the partogram. A simple random sampling technique was used to select records of patients (n=50) from each MOU. A total of 200 patient-records were audited.
 - Assessing patient satisfaction on the quality of care they received, including the reason why patients by-pass the MOUs. A convenient sampling was done for the individual structured interviews with patients (n=120). Thirty patients (n=30) were selected from each MOU. Further interviews (extending over a one month period) were conducted with patients (n=68) who by-passed MOUs and delivered at a hospital of their choice.

1.7 METHOD AND PROCEDURES

Triangulation of data collection methods and sources was used, to ensure a rich and comprehensive description of the functioning of MOUs and the quality of midwifery care rendered in the Pretoria region (De Vos 1998: 45). The methods of data collection are described in Chapter 3. A summary is presented in Table 1.1, Table 1.2 and Table 1.3.

TABLE 1.1: METHOD OF DATA COLLECTION FOR OBJECTIVE ONE

<p>OBJECTIVE ONE</p> <p>Description and comparison of the functioning of the MOUs with regard to:</p> <ul style="list-style-type: none"> • The number of admissions • The number of referrals out of MOU intrapartum patients. • The number of deliveries • Birth mass of babies delivered • Fresh stillbirths • Episiotomy rate • Oxytocin use • Apgar score, at 5 minutes of <8 • Neonatal referral rate • Pregnancy complications e.g. post-partum haemorrhage, retained placenta, maternal birth trauma • Management of third stage of labour • Fetal monitoring type (doptone, Pinard stethoscope) • Referral criteria of each MOU. • Indication for referral <p>Protocol displayed for management of labour</p>	<p><u>Method of data collection:</u></p> <ul style="list-style-type: none"> • Monthly statistics over a twelve-month period. <p><u>Data sources:</u></p> <ul style="list-style-type: none"> • Admission books • Delivery books • Referral books • Patient records
---	--

TABLE 1.2: METHOD OF DATA COLLECTION FOR OBJECTIVE TWO

<p>OBJECTIVE TWO</p> <p>Describe and compare staffing and work load:</p> <ul style="list-style-type: none"> • Number of staff per shift in the labour ward • Number of deliveries per shift • Levels of training • Number of midwives with PEP training • Number of advanced midwives • Job description of staff in labour ward. The availability thereof. 	<p><u>Method of data collection:</u></p> <ul style="list-style-type: none"> • Interviews with unit managers • Job descriptions <p><u>Data sources:</u></p> <ul style="list-style-type: none"> • Delegation lists (books) • Delivery books registers • Job description lists • Unit managers
---	---

TABLE 1.3: METHOD OF DATA COLLECTION FOR OBJECTIVE THREE

<p>OBJECTIVE THREE</p> <p>Describe and compare the quality of care with regard to</p> <ul style="list-style-type: none"> • Quality of the partogram • Patient satisfaction • Reason why patients by-pass MOUs 	<p><u>Method of data collection:</u></p> <ul style="list-style-type: none"> • Audit of partograms • Interview with patients <p><u>Data sources:</u></p> <ul style="list-style-type: none"> • Patients' records (partogram) • Interviews with patients
---	---

1.8 RELIABILITY AND VALIDITY

Monthly statistics was based on the current format used in the MOUs, as well as the *Guidelines for Maternity Care in South Africa* (Gauteng Department of Health 2000: 132) (refer Annexure A).

Structured interviews with unit managers were used to achieve objective two. The interview guide was developed, based on the analysis of the job descriptions of the staff of the MOUs (refer Annexure B).

To achieve objective three, an interview guide for patient satisfaction was adapted, based on an existing valid and reliable instrument developed by Steyn (1998: 64) to assess patient satisfaction with antenatal care (1998). For this study, the interview guide focused on patient satisfaction with intrapartum care, and was tested during a pilot study (see Annexure C).

The audit performed on the partogram was conducted, using an instrument developed by the MRC Unit for Maternal and Infant Health Care Strategies, Kalafong Hospital, University of Pretoria, and was validated (RCP) (see Annexure D).

The researcher is competent to conduct this study, is an advanced midwife, an advanced midwifery preceptor with advanced training in research methods, is well known, and respected in the field of midwifery.

1.9 DATA ANALYSIS

Descriptive statistics was used to analyse the quantitative data to:

- Describe the function of the MOUs (objective one);
- Describe the staffing and workload (objective two);
- Rating of the partograms (objective three); and
- Rating of patient satisfaction (objective three).

Open-ended questions on the patients' satisfaction questionnaires was analysed by means of content analysis.

1.10 ETHICAL CONSIDERATIONS

The Ethics Committee of the University of Pretoria granted approval for this study. Approval was also obtained from the Department of Health, and each Chief Executive Officer of the four MOUs. Letters of permission are attached as Annexure E. Written informed consent was obtained from all the participants. A copy of the informed consent letter attached as (Annexure C).

The researcher personally conducted the study and accepted the responsibilities, to adhere to strict ethical standards. Special attention was given to confidentiality, and to obtain informed written consent. Adequate and accurate records were kept, for the purpose of data analysis. This will be described in more depth in Chapter 3.

1.11 DISSEMINATION OF THE FINDINGS

The findings of the study will be used to improve policymaking and planning, for midwifery care in the Pretoria, Pretoria region. Findings will be reported to the institutions, and to the Department of Health, Maternal and Child Health (MCH) Directorate, at provincial and national office. The study will be written up as a technical report and a dissertation. At least one article will be offered for publication in a peer-reviewed journal. The findings will also be presented at conferences, specifically the annual Midwifery Conference and the Priorities in Perinatal Care in Southern Africa Conference.

1.12 SUMMARY

Midwife Obstetric Units (MOUs) were established in South Africa, in response to the health needs of pregnant women. Although various types of MOUs currently exist, the functioning of the MOU, and the quality of midwifery care rendered, have never been documented for the Pretoria region. This study, aiming at describing and comparing the different types of MOUs in the Pretoria region, will contribute towards providing evidence-based information, needed for effective policy making.

1.13 OUTLINE OF DISSERTATION

Chapter two will deal with the literature review. Chapter three deals with research methodology. Chapter four will address empirical findings. Chapter five will include discussion of the findings, and recommendations.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

In chapter one an overview of the study was presented. Chapter two deals with the literature review of the research, to achieve the aim of the study scientifically. To reach the aim of the study three objectives were formulated:

- Describing and comparing the functioning of the MOUs with regard to specific set criteria;
- Describing and comparing the staffing and workload with regard to specific set criteria; and
- Describing and comparing the quality of care with regard to the quality of the partogram and patient satisfaction.

To reach the set objectives, an extensive literature review was done to provide the necessary adequate scientific foundation for the study. The literature review relevant to the three objectives, will provide a comprehensive picture of the structure, processes and the outcomes of the MOUs, in the Pretoria region.

Limited literature is available on the topic of the study and only a few studies have been done on the functioning and quality of care pertaining to the MOUs. The literature review, on the topic being studied, is based on the following aspects of relevance to this study; and addresses the following questions:

- (a) Why do we need midwife obstetric units? This question will be addressed by discussing the following:
 - The need for MOUs; and

- The history of MOUs in South Africa.
- (b) What is the place of MOUs in the National Health Plan for South Africa. This question will be addressed by discussing the following:
- The National Health Plan; and
 - A National Strategy for Maternity Care.
- (c) How do the MOUs function? The focus of the discussion will be on:
- Midwifery care in South Africa;
 - Midwifery care internationally;
 - The functioning of MOUs;
 - The effectiveness of MOUs; and
 - The quality of care of MOUs.
- (d) How do we measure the success of the MOUs? The focus of the discussion will be on:
- The structures of the MOUs;
 - Processes of care; and
 - Indicators of successful care in MOUs.

2.2 WHY DO WE NEED MIDWIFE OBSTETRIC UNITS?

MOUs are a uniquely South African perinatal care system, which was established for a largely developing country scenario, but it is equally appropriate for developed countries. MOUs render in principle more applicable and comprehensive midwifery care system, available today (Van Coeverden de Groot and Dommise, 1995: 190).

MOUs are an important way of delivering primary health care in South Africa to low risk pregnant women. The establishment of these units is a national effort to provide improved midwifery care and reduce maternal mortality through accessible institutional deliveries within the community (Van Coeverden de Groot and Dommise 1995: 190).

A study conducted over a period of more than two decades, by Van Coeverden de Groot and Dommise (1995), in the Peninsula region in the Western Cape (South Africa), found MOUs “to be safe primary perinatal care facilities, appropriate and acceptable to the community”. MOUs provide antenatal, intrapartum and postnatal care, within reach of pregnant women in terms of distance from their home. Medical care in case of emergencies is also available by means of an air ambulance service, or an on-site or visiting doctor from the referral hospital (Nolte 1998: 129).

The South African government recognized that deaths, due to maternal mortality, were high. To reduce maternal mortality in South Africa, deaths occurring during pregnancy, childbirth, and the postpartum period, were made notifiable on 1 October 1997. In terms of the National Health Act (Act No. 116 of 1990) the Minister of Health appointed the National Committee on Confidential Enquiries into Maternal Death (NCCEMD). The task of the NCCEMD is to determine if there was a breakdown in the health care system, that could have led to the death of the woman, be it at home, in the hospital or at the MOU. Recommendations, based on the confidential study of maternal deaths, are presented to the Department of Health. The implementation of the recommendations should lead to a reduction in maternal mortality. The NCCEMD continuously monitors and evaluates maternal mortality for remedial action (Gauteng Department of Health 2002: 15).

At provincial level in South Africa, policymakers emphasize the use of MOUs because they are located in the community and bring midwifery care closer to women. The Department of Health developed a document on the utilization of MOUs, referred to as the *MOU Policy Recommendation Document* (Gauteng Department of Health, 1995: 4). The document stipulates that the emphasis of care rendered in MOUs, provided by midwives, should fall on low risk clients. These midwives should be trained to manage life threatening midwifery emergencies, and strive to provide quality

midwifery care. The Department of Health encourage communities to participate in the planning of maternity services, to improve and optimise service delivery (Gauteng Department of Health 1995: 4).

In an effort to set norms and standards for service delivery, a number of guidelines were developed: Batho Pele Principles, Patient's Rights Charter and Better Birth Initiative. These were used as the main yardstick against which the function and the quality of care in MOUs, was assessed, in the study.

2.3 THE HISTORY OF MOUs IN SOUTH AFRICA

In 1980, a service called Peninsula Maternity and Neonatal Service, came into operation in the Cape, with the aim of establishing midwife obstetric units (MOUs) for the care of low risk pregnant women, located at community level. This model of care was establish throughout South Africa. These MOUs are entirely staffed by midwives, who assume primary responsibility for antenatal, intrapartum and postpartum care (Nolte 1998: 6).

Some of the advantages of MOUs are:

- It saves women time and transport cost, because the units are situated conveniently in terms of distance within the community; and
- The women receive midwifery care from the midwives they know from the community (Nolte1998: 6).

The MOUs of the Peninsula Maternity and Neonatal Service seem to function optimally and achieve their goals, as indicated in a study on Midwife obstetric unit and birth centres by Van Coeverden de Groot, Woods and Howland (1987:538).

There is some evidence that existing MOUs in Gauteng are underutilized. Mashazi (1999: 55) shows in her study that the community does not utilize the MOUs because of (among others) the following reasons:

- Negative attitudes of midwives;
- Lack of material and human resources;
- Poor safety and security measures; and
- Lack of community involvement.

Other problems described by Modise (2000: 10) in a study on the underutilization of MOUs in the Gauteng Province, include:

- Most MOUs did not reach the World Health Organization guidelines of 150 deliveries per month;
- The opening of additional MOUs in the same area;
- Women attend the antenatal clinic at MOUs, but deliver at private clinics;
- Limited services rendered by MOUs, e.g. some MOUs provide antenatal care only, no intrapartum or postpartum care.
- A lack of patient friendly services;
- Over-referral of normal deliveries; and
- Migration of patients to new residential area.

2.4 THE PLACE OF MOUs IN THE NATIONAL HEALTH PLAN FOR SOUTH AFRICA

THE NATIONAL HEALTH PLAN

The Reconstruction and Development Programme (RDP) constitutes a policy framework, which serves as a basis for any service, and directs decisions which are made by the government (Booyens 1998: 107). In restructuring the health care service in the new South Africa, the Department of Health is faced with moving from a largely curative based and fragmented system, to a more community orientated system, based on primary health care principles. This new system's emphasis focus on improving the preventative and promotive services for children and women, who constitute 73% of the

population. A large number of these women are of childbearing age and may be admitted to MOUs for intrapartum care at some stage (Gauteng Department of Health 1997: 9).

The Department of Health is committed to achieving universal access to services for women and children, while at the same time improving the quality of maternity services provided by the introduction of MOUs within the community. Because the MOUs are accessible, in terms of distance, they are acceptable. Because the patients know the midwives they will use them leading to reduction in maternal morbidity and mortality, in accordance with the RDP goal (Gauteng Department of Health 1997: 29).

The South African government is committed to empower individuals, households and communities, with adequate knowledge and skills, to promote positive behaviour, related to maternal, child and reproductive health by the establishment of MOUs which are readily accessible to all. MOU-services should be efficient, cost-effective and of good quality. Women and men are provided with services, which enable them to achieve optimal reproductive and sexual health (Gauteng Department of Health 1994: 84).

A NATIONAL STRATEGY FOR MATERNITY CARE

The Government of National Unity inherited 14 fragmented Departments of Health. They were faced with the challenge of forming a single National Health System, based on a primary health care approach. Low risk pregnant patients were attended to in secondary and tertiary health care levels, instead of primary level in MOUs. The new Government therefore was faced with shifting the services. The new health care system is organized in such a way that it delivers health care services, based on human- and patient rights, to all South Africans. Through a consultative, participatory process, the Department of Health managed to divide the function between the national authorities, provinces and districts levels.

Health priorities and objectives were clearly formulated in the Reconstruction and Development Programme, which serves as a vehicle for socio-economic transformation in the country (Gauteng Department of Health 1997: 29).

The transformation lead to establishment of three levels of care which are as follows:

Level 1 includes MOUs managed by midwives, advanced midwives and sometimes a doctor. Some of these MOUs provide only antenatal and postnatal for eight hours daily. Others provide intrapartum care and function for 24 hours.

Level 2 include District or Secondary and regional hospital with a staff compliment consisting of midwives, doctors and specialists providing high-risk deliveries and intensive care but due to inadequate delivery services, this level also provide deliveries for low risk patients.

Level 3 is a tertiary (academic) hospital with a staff compliment similar to a Level 2 hospital and sub-specialists providing more complex services of super-specialist care (Gauteng Department of Health 2001: 4).

The planning and implementation of Maternal, Child and Women's Health (MCWH) programmes is district-focused and community-based. The co-ordination of MCWH activities is undertaken within the framework of local government structures. The shifting of the service towards a single national health care system, that is community-based with the emphasis on a primary health care approach, brought about a dramatic change in the health care delivery, and needed participation from all health personnel, particularly from midwives. Nurse managers have to respond to the anxiety, conflict, confusion, resistance and even hostility that can be associated with major organizational change (Bonalumi and Fisher 1999: 69).

“There is a growing global commitment to reduce the unacceptably high maternal death rate in developing countries, most of this deaths are occurring in MOUs. Progress towards this goal in South Africa, demand national co-operation, to assess the causes of maternal death, to ensure that quality health services are rendered to pregnant women during labour at MOUs” (Gauteng Department of Health 2000: 4).

Midwifery care forms an integral component of primary health care. Within South Africa, the maternal and child health programme is allocated in general development policies. It is focused on meeting the basic needs of rural and urban communities, maximizing human resources potential, enlarging the economy and spreading its benefit, and democratising society and its institutions. To comply with these principles, the introduction of free health care services for pregnant women and children under the age of 6 years, was announced and introduced by the Minister of Health in July 1994. These services include MOUs (Gauteng Department of Health 2000: 4).

A national strategy for maternity care is included in the Maternity Care guidelines, formulated by the Department of Health. The guidelines include community participation, the community empowerment to improve maternal health and the establishment of MOUs (Gauteng Department of Health 2000: 6).

Quality of care starts with legislation and policies in place to support the process of free maternal care, termination of unwanted pregnancy services and the protection of women. Active effort must be made to improve the status of women in society, particularly in reproductive choice, education, employment and prevention of abuse. These efforts empower the women and help them to make good decisions related to their care (Gauteng Department of Health 2000: 6).

2.5 MIDWIFERY CARE: THE SOUTH AFRICAN MIDWIFE

"A midwife is a person who, having been regularly admitted to a midwifery educational programme, duly recognized in the country in which it is located, has successfully completed the prescribed course of studies in midwifery and has acquired the requisite qualifications to be registered and/or legally licensed to practise midwifery (Myles 1991: 41).

The midwife must be able to give the necessary supervision, care and advice to women during pregnancy, labour and the postpartum period, to conduct deliveries on her own and to care for the newborn and the infant. This care includes preventative measures, the detection of abnormal conditions in mother and child, the procurement of medical assistance and the execution of emergency measures in the absence of medical help. She has an important task in health counselling and education, not only for the women, but also within the family and the community. The work should involve antenatal education and preparation for parenthood and extends to certain areas of Gynaecology, family planning and childcare. She may practise in hospitals, clinics, health units, and domiciliary conditions or in any other service" (Paine, Denver, Edward and Mail 1999: 107).

Change is taking place to democratise the nursing profession and to enable midwives, through education, to meet the health needs of their communities with a primary health care approach (Poggenpoel and Wessman 1994: 11). As the result of this change, midwives are skilled, independent practitioners, who are able to manage the MOUs. Initially the doctor and midwife were managing the patient together with the doctor making the final decision. Presently midwives are on their own in MOUs and they have to make the correct decision in patient care.

2.5.1 THE SCOPE OF PRACTICE FOR MIDWIVES

The South African Nursing Council, the statutory body controlling the nursing and midwifery practice, set out regulations that prescribe the practice of midwifery care. This is referred to as the Scope of Practice.

The Scope of Practice for Midwives provides guidelines that prescribe how midwives should carry out their practice within the legal framework. In South Africa the Nursing act (Act no. 50 of 1978) governs the Midwifery Practice. For the purpose of this study regulation R2598 is focused upon as it directly deals with intrapartum care. Regulation R2598 states that the midwife should be in the patient's attendance throughout labour, do the necessary monitoring, administer the recommended drugs and stay with the patient for as long as the baby and the mother may demand (Government Notice R2598 of 30 November 1984, as amended).

The rules setting out acts or omissions that are in line with the scope of practice for midwives are stipulated in (Government Notice R386 15 February 1985 as amended) any deviation from this rules constitutes unlawful behaviour and the practitioner may be liable for disciplining or a penalty. These rules are also applicable in MOUs.

2.5.2 MIDWIFE CARE: AN OVERVIEW (INTERNATIONAL)

To be able to identify good quality midwifery care in MOUs this study looked at international midwifery models and compared the quality of care. Birth centres, providing midwifery care, exist internationally. In South Africa we have MOUs. The difference is that Birth centres provide midwifery care to high socio-economic groups, who can afford to pay, while MOUs in South Africa provides free midwifery care for low socio-economic groups.

A more appropriate alternative, suitable for South Africa which is a combination of first and Third World society, is provided by MOUs, such as the Peninsula Maternity and Neonatal Service (PMNS) in the Cape Town. The safety record of this (PMNS) MOUs is similar to most of the hospitals. Between 1980 and 1985, their labour ward admitted nearly 7,800 patients. Available figures, although dated 1980-1985, indicate that the uncorrected maternal mortality rate was 8 per 100 000 births. The perinatal mortality rate, per patient admitted with live birth fetus, was 40 per 1,000 births. For such a low perinatal mortality rate, staff at PMNS MOUs adhere to a very strict referral protocol. Approximately 25% of patients admitted to PMNS MOUs labour ward, had to be transferred to hospital, either for labour, or postpartum problems (Van Coeverden de Groot and Domisse 1987: 537).

In order to achieve the WHO and South African goal of reducing maternal mortality, there are several decentralized delivery units worldwide. The public assumption is that hospital delivery provides greater safety for mothers and babies. Research has shown that utilisation of decentralized midwifery units overseas proved to be as effective. Although these units have a different approach, it has the same goal as MOUs in South Africa. To illustrate the similarities between MOUs and these units, the following units will be discussed:

- Midwife managed care units;
- Team midwifery care units; and
- Midwife led-units.

2.5.2.1 Midwife Managed Care Units

The philosophy behind a midwife managed care unit in Aberdeen, Scotland is to provide women with a safe homely environment. Here women in labour can make choices about, and retain control over their labour. The unit is located 20km from a obstetrician-led labour ward, similar to some of MOUs in South Africa. Midwives take total responsibility for the care of

women, thus developing and maintaining their competencies. The unit caters solely for low risk women and uses the following practices:

- Labour is managed traditionally; nature is allowed to take its course.
- Fetal heart rate is monitored with a Pinard stethoscope or hand held Doptone;
- Active labour is encouraged with minimal intervention; and
- There are strict protocols for booking, admission and transfer out of patients to the obstetrician.

A review of this unit showed that midwife-managed intrapartum care results in more mobility and fewer epidural and episiotomies, with no increase in neonatal morbidity (Hundley, Cruickshank and Lang 1994: 144).

2.5.2.2 Team Midwifery Care Units

In 1996, a new model of maternity care was implemented in Australia. It was characterized by care by a team of midwives, from early pregnancy through to the postpartum period. This model was implemented in Monaco Medical Centre, a tertiary level obstetric service in Melbourne, Australia, where a team of midwives cared for low risk clients.

The study done in this unit showed that there was continuity of patient care, associated with reduction of medical procedures in labour and shorter length of stay, without compromising maternal and perinatal safety (Biro, Woldenström and Pannifex 2000: 168-173).

Team midwifery care, appears to have the greatest impact on patient satisfaction during the antenatal period, compared to standard care groups. Mothers felt better informed about what was happening and noted that the caregiver made an effort to explain anything they did not understand. Mothers who were given an active say in decisions about their care, more often thought that the caregiver was encouraging and reassuring and less

often felt rushed. 84% of mothers in the team midwifery care group, chose this model of care in subsequent pregnancy, compared to 60% in the standard care group. It was also shown that increased satisfaction with intrapartum and postpartum care, was an effect of continuity of midwifery caregiver (Woldenström 2000: 156-167).

2.5.2.3 Midwife-Led Units

A midwife-led unit at Heatherwood Hospital in Ascot, United Kingdom, was established due to strong public feeling about having such a unit. However, there is not enough evidence about the overall effect of a midwife-led service. There seems to be a trend towards a lower rate of intervention and greater satisfaction with care (Handley 1992: 11).

2.6. HOW DO WE MEASURE THE SUCCESS OF THE MOUs?

2.6.1 STRUCTURE OF THE MOUs

For the MOU to maintain the optimal function, guidelines were established by the Gauteng Province Department of Health and documented in the MOU Policy Recommendation (Gauteng Department of Health 1995: 2). The WHO suggests that the size of population served, will determine which standard size of the MOU is chosen, with the necessary influence on bed numbers and staff establishments. All units should be constructed so as to allow expansion of the MOU where the level of utilization justifies this. An example of bed numbers and population served by the Department of Health Gauteng Province, is given in Table 2.1.

An arrangement has to be made, whereby the hospital laboratory would receive specimens and provide results that could easily be collected by the MOU. An excellent service would be one where the laboratory could phone the MOU in case of positive RPR, or urinary tract infection (Gauteng Department of Health 1995: 27). The laboratory at the referral hospital

would be responsible for seeing to it that mothers get the results, before they are discharged from the MOU.

TABLE 2.1: BED NUMBERS ACCORDING TO POPULATION SERVED (Gauteng Department of Health 1995).

POPULATION SIZE	LESS THAN 100 000	100 000 - 200 000	MORE THAN 200 000
First stage beds	4	6	8
Delivery beds	1	2	3
Postnatal beds	4	8	12

“Population workload estimation literature, suggest that It would be reasonable to plan for units that each serve about 100 000 people. Calculating from an estimated crude birth rate of 30 per 1000, one might expect 3000 birth to occur in one year, 250 per month. If 60% (150) of this labour occurs in MOUs, it gives an average of five confinements per day. One or two of these would likely be transferred to hospital for delivery problems, leaving three to four deliveries per day, assuming that the unit is fully utilized” (Gauteng Department of Health 1995: 11).

The recommended physical structure of the labour ward in an MOU, suggested by the Department of Health (1995) is as follows:

- Assistant Director’s office;
- Nurses station;
- Kitchen;
- Cleaners room;
- Staff ablution;
- Patient and visitors waiting area;
- Clean linen room;
- Dirty linen room;
- Store room;
- Sluice room;
- Nursery phototherapy room;
- Security wall or fence and entrance gate;
- Outside flood lights;
- Window security;
- Security door, or gate for labour ward entrance; and
- Emergency power supply.

2.6.2 EQUIPMENT

The unit manager should decide on all the equipment required to run the MOU, and this can be done in consultation with the Department of Health, for the recommendation of suppliers.

2.6.3 RESUSCITATION EQUIPMENT

Resuscitation equipment for newborn babies should include:

- An overhead heater;
- Efficient manual ventilation apparatus (e.g. Laerdal);
- An infant head box;
- Laryngoscopes; and
- McGill's forceps.

Resuscitation equipment for adults should include an Ambu-type manual ventilation apparatus with a laryngoscope and should comply with the guidelines by the Department of Health.

2.6.4 PHOTOTHERAPY UNIT, VACUUM DELIVERY UNITS, FETAL-MONITORING UNIT

Midwives in MOUs can supervise phototherapy treatment to neonates. A number of phototherapy units may be installed.

Advanced midwives are trained to perform a vacuum delivery. These vacuum extractors should be available in the MOU.

It is recommended that each MOU has two vacuum extractors in the labour ward. For auscultation of the fetal heart rate a Pinard stethoscope or hand held Doptone should be used.

2.6.5 INFANT INCUBATOR, OXYGEN SUPPLY

One incubator is probably sufficient for emergency transportation of babies in case of preterm birth, that may occur at the MOU before the mother could be transferred to a hospital. A transportable incubator would be advisable unless this could be provided by the emergency ambulance service.

Piped oxygen is not a necessity. Large cylinders are needed for the unit and smaller ones for the transfer of patients.

2.6.6 COMFORTABLE FURNITURE

Mothers in early labour and their visitors will need to be able to relax in comfortable easy chairs. Very few women in the latent phase of labour want to lie on the bed. Most women prefer to walk around or sit down in a chair.

2.6.7 AMBULANCE AND MOTOR VEHICLE

Access to a reliable ambulance service is very important. Use of the local authority's service is probably the most economic solution. However, it may be cost-effective for a very busy MOU to keep it's own ambulance. Drivers will have to be employed and the vehicle will need to be kept safely. A detailed cost analysis would be necessary for any unit considering this investment.

A motor vehicle is essential for transport of drugs, laboratory specimens, supplies and other uses.

2.6.8 STAFFING

Staff norms should be drawn up for each MOU. For a 24-hour service, with a medium-sized labour ward serving (100 000 to 200 000 population), staff requirement for each 40-hour week must be multiplied by four, to make up 168 hours in the week. A further addition should be made to accommodate leave requirements. The staff requirement for a unit with six first stage beds, two delivery beds and eight postnatal beds may consist of, as suggested by Gauteng Department of Health (1995).

- 1 Assistant Director;
- senior professional nurses;
- professional nurses;
- nursing auxiliary;
- general assistants;
- 1 gardener; and
- Security guards.

2.6.8.1 Staff Development

Staff can be developed by using programmes such as:

- Perinatal Education Programmes (Maternal care; Neonatal care and Perinatal HIV module) and in the following ways: The programmes can be done at the MOUs, co-ordinated by the advanced midwives or as a distance learning programme from the college/university.

The abovementioned programmes were tested and found to be effective in improving the knowledge and skills of midwives. Such a study was done by Jackson, Semane, Madikizela, Siqanqwe, Mballo, Masilela, de Groot and McCoy (2002) on the experience with the Perinatal Education Programme (PEP) in the rural Eastern Cape.

- Opportunity to study a course in Advanced Midwifery through distance education, should be offered.
- Monthly feedback on success or problems with referral, should be arranged with the referral hospitals, midwives and doctors.
- Perinatal audit meetings should be arranged.
- All employees should be involved in in-service training or staff development.

2.6.8.2 Staff Facilities

The following should be provided:

- Rest and ablution facilities for the staff;
- Meals for staff on night duty;
- A feeling of safety at the MOU;
- Parking inside the MOUs premises for those personnel with vehicles;
- Lockers for staff, to place their valuable possessions in; and
- Arrangements (probably with the referral hospital) for food to be delivered or fetched at the MOU (Gauteng Department of Health 1995: 7).

2.6.9 NON-DRUG CONSUMABLES (DRY DISPENSARY)

A list would include:

- Injection needles (various sizes);
- Intravenous cunulae (various sizes);
- Newborn and adult scalp vein sets;
- Syringes (various sizes);
- Intravenous fluids administration sets (various sizes);

- Neonatal endotracheal tubes (various sizes);
- 40% oxygen face masks and tubing;
- Cord clamps;
- Identity bands;
- Tape measures; and
- Appropriate stationary, especially:
 - Labour charts (partograms);
 - Road to Health card;
 - Ward register;
 - Maternity register;
 - Notification of birth forms;
 - Duty register;
 - Statistics forms;
 - Death report book;
 - Schedule drug books and
 - Ordering lists.

2.6.10 COMMISSIONING THE MOU

To get the MOU up and running, a commissioning committee needs to consider the guidelines given in this document. Necessary building alteration and addition of services at a later stage also need to be determined. All staff should be involved in the process of commissioning.

The following role players will be representatives for the commissioning of the MOU:

- The local community;
- The referral hospital;
- Staff at the health centre where the MOU is to be set up;
- New staff of the proposed MOU (if possible);
- The Department of Health;

- The emergency medical service; and
- The district facilitating committee.

The community and the Department of Health must choose a community body. A formal relationship between the MOU and the referral hospital must be established with respect to drugs, supplies, food, laundry, laboratory, waste disposal and the referral of patients. An agreement must be reached with the emergency medical service regarding the transfer of patients.

All facilities, equipment and supplies must be available and ready for use. Sufficient staff will be appointed to run the unit. It would not be necessary for all posts to be filled, when the unit opens (Gauteng Department of Health 1995: 28).

2.6.11 PROCESS OF THE MOU

Midwifery care should be guided by the midwife's legal scope of practice and accepted, evidence-based guidelines and protocols. Guidelines to patient care can be based on the contents of the Maternal Care Manual of Perinatal Education Programme (Woods 1995), Guidelines for Maternity Care (Gauteng Department of Health 2002), Patient's Right Charter and Batho Pele Principles. Reference copies should be available in each MOU.

2.6.11.1 Patient's Rights in the context of Maternal Care

Human rights are the rights to fair treatment and justice and to basic needs such as shelter, food, health and education (Barnhart and Barnhart 1987:1030).

Bandman (1978: 143) defines human rights as the "...entitlement for making effective claims and demands." For many decades the vast majority of the South African population experienced either a denial, or a violation of

fundamental human rights, including the right to health care and maternity health care services.

Every pregnant woman has the right to receive the best possible midwifery care. The midwife is legally and professionally obliged to provide this care to pregnant women, as set out by the Nursing Act (Act No. 50 of 1978 as amended) and the Regulation set out by South African Nursing Council (SANC Reg. No. R2598 and R2488).

The South African population was ensured of their rights in the Constitution of the Republic of South Africa (Act No.108 of 1996) and the Department of Health is committed to the upholding, protecting and promoting of these rights, as proclaimed in the Patients' Rights Charter, as a common standard for achieving the realization of this right. The following discussion will briefly focus on these rights.

2.6.11.2 A Healthy and Safe Environment

The Constitution of the Republic of South Africa (Act No.108 of 1996), states that everyone has the right to a healthy and safe environment that will ensure their physical and mental health or well-being, including adequate water supply, sanitation and waste disposal, as well as protection from all forms of environmental danger. The situation should apply in MOUs as suggested by Hulton et al (2000: 22).

2.6.11.3 Access to Health Care

MOUs are located in townships, bringing health care as close as possible to the women. This constitutes the first element of a community health process, which include accessibility, acceptability, and affordability (Nolte 1998: 5).

The Department of Health is committed to achieve universal access to service for everyone, including infants under six years of age and pregnant women,

while at the same time improving the quality of service provided. This is necessary to enable the health sector to make a contribution to the reduction of infant, child and maternal mortality and morbidity, in accordance with the Reconstruction and Development Programme's (RDP) goals. As previously stated, maternal services should be restructured into a more community-oriented system, such as the MOU, based on primary health care principles (Gauteng Department of Health 1996: 94). Within the context of maternity care, these refer to the following:

- Maternal, child and women's health (MCWH) services should reach all mothers, children, adolescents and women, with the focus on the most vulnerable.
- MCWH services should be efficient, cost-effective and of a good quality.
- MCWH should be comprehensive and integrated.
- Patients should receive timely emergency care at any health service close to his/her home, regardless of her/his ability to pay.
- The facility should provide a positive disposition displayed by health care workers, to demonstrate courtesy, human dignity, patience, empathy, tolerance and health information (this includes the availability of health services and how best to use such services). Such information shall be in the language understood by the patient (Gauteng Department of Health 1996: 94).

2.6.11.4 Choice of Health services

Everyone has a right to choose a particular health care provider for services, or a health care facility for treatment, provided that such choice shall not be contrary to the ethical standards applicable to such health care provider, or facilities, and the choice of facility is in line with prescribed service delivery guidelines. The implication for MOUs is that women may choose to by-pass the MOU for another health care facility for different reasons. One of the questions arising in this study is: why do women by-pass MOUs?

2.6.11.5 Treated by a Named Health Care Provider

Everyone has a right to know the person who is providing health care and therefore must be attended to by clearly identified health providers. Therefore, midwives should wear nametags as well as the prescribed distinguishing devices (epaulettes and appropriate bars).

2.6.11.6 Informed Consent and Participation in Decision-making

Everyone has the right to be given full and accurate information about the nature of one's illnesses, diagnostic procedures, the proposed treatment and the costs involved to enable one to make a decision that affects any one of these elements. Information concerning one's health, including information concerning treatment may only be disclosed with informed consent, except when required in terms of any law or an order of court. Participation in decision-making is every pregnant woman's right. She must be able to make decisions on matters affecting her health and that of her unborn child, and decide on how to access health care. Respecting human rights and dignity, encourages better, simple and appropriate care to patients, which is the basic care required in MOUs.

2.6.11.7 Batho Pele Principles

The Batho Pele Principles serves as a valuable guideline for the provision and assessment of quality midwifery care. These principles include aspects such as:

- Access to health care for all pregnant women. MOUs are readily accessible because of their location within the community.
- Courteous behaviour towards pregnant women and their families, to reduce the emotional barriers and prevent breakdown in communication.

- Women and their families should receive continuous, appropriate, high quality information, on the importance of antenatal care and institutional (MOU) deliveries.
- Openness and transparency should prevail, where women and their families are oriented to the situation of delivering in the MOUs, e.g. what to bring when coming for delivery, what to expect when in labour, procedures and examinations that would be carried out during labour, and the physical layout of the MOUs where they are going to deliver. This information should reduce the emotional stress of labour.
- The redress of quality midwifery care and value for money (Gauteng Department of Health 2000: 9).

The Batho Pele Principles is a simple approach, that should be employed in MOUs to maintain quality midwifery care. In addition to the Batho Pele Principles, the Health care authorities have to strive to improve midwifery care further, in an effort to reduce maternal mortality and improving patient humane care, at primary health care level (MOU). This is achieved by the introduction of strategies such as Patients' Right Charter and Better Birth Initiative.

2.6.11.8 Better Birth Initiative

The 'Better Birth Initiative' began in 2000, and has been adapted for implementation in a variety of settings, including services in South Africa, China and Zimbabwe. It was been developed by a network of individuals who want to see midwifery care in developing countries change for the better (Brown 2001: 2).

A 'Better Birth Initiative' package aims to:

- Improve infant and maternal survival by using midwifery procedures, where the evidence from research and reviews show beneficial health outcomes.
- Improve women's experience of midwifery care by eliminating unnecessary painful procedures, and encouraging health workers to deliver care with respect.
- Improve the uptake of care, as midwifery services develop their reputation for quality and humanity.

Through the implementation of the 'Better Birth Initiative', midwives are encouraged to maintain focus, and elicit change in targeted areas to benefit the women in labour. It establishes the process towards a commitment to evidence based approaches and explain what this means to providers, using multi-faceted approaches with audit, feedback and self-appraisal (Brown 2001: 3).

These guidelines for midwifery practices applies to the midwives, functioning at the MOUs, and assist them to save maternal and infant lives, improve quality of midwifery care to pregnant women, and avoid harms.

The Better Birth Initiative simply means improving lives of pregnant women by employing simple midwifery practices (Brown and Hofmeyr 2000(b)).

Descriptive studies conducted in China, Zimbabwe, Tanzania and South Africa, by the Better Birth Initiative on *saving lives, improving quality of care* and *avoiding harms*, showed that companionship during labour shortens labour and reduces the need for pain relief. It also showed that being mobile shortens labour and reduces the need for forceps delivery. Such evidence proves that midwifery care could be dramatically improved if health care workers focus on changing practice around a handful of routine procedures. Some procedures should be discontinued, and procedures that save lives and are more appropriate in simple settings like MOUs, should be encouraged (Brown and Hofmeyr 2000(b)).

The World Health Organization's Reproductive Health Library, in collaboration with the Better Births Initiative, provides some guidance on the best practices in midwifery care, appropriate for practicing at MOUs. For the purpose of this study, the practices revolve around intrapartum care. These best midwifery practices revolve around saving lives, improving quality of midwifery care to pregnant women and avoiding harm, and are depicted in the following tables: (2.2); (2.3) and (2.4) (Smith, Brown, Hofmeyr, Tetteh, Garner and Rees 2001: 1-19).

TABLE 2.2: PRACTICES THAT CAN PREVENT MATERNAL AND INFANT DEATH

<ul style="list-style-type: none"> ❑ Routine oxytocin drugs are given to the mother after the baby is born. This reduces the risk of postpartum haemorrhage.
<ul style="list-style-type: none"> ❑ Magnesium sulphate is given to women with eclampsia. This reduces the risk of further convulsion.
<ul style="list-style-type: none"> ❑ Anti-retroviral drugs are given to the women who are HIV positive. This reduces the risk of mother-to-child transmission.
<ul style="list-style-type: none"> ❑ Prophylactic antibiotics are given to women with prolonged rupture of membranes. This reduces the risk of maternal and neonatal infection.

(Smith *et al.* 2001:19)

TABLE 2.3: PRACTICES THAT CAN IMPROVE THE HEALTH OF WOMEN AND INFANTS

<ul style="list-style-type: none"> ❑ Companionship provided by a family member or a lay carer during labour improves maternal satisfaction, shortens labour and improves breastfeeding. It also reduces the need for pain relief and assisted delivery.
<ul style="list-style-type: none"> ❑ Being mobile during labour encourages the descent of the baby. It also shortens labour, reduces the need for pain relief and assisted delivery.
<ul style="list-style-type: none"> ❑ Keeping the umbilical cord clean at delivery prevents sepsis.

(Smith *et al.* 2001: 1-19)

TABLE 2.4: PRACTICES THAT ARE DEGRADING OR PAINFUL AND SHOULD BE AVOIDED IN MOUs

<p>□ Routine episiotomies are associated with more pain, poor healing and longer hospital stays. Episiotomies should only be done where clinically necessary.</p>
<p>□ Routine enemas are uncomfortable, messy and of no benefit. Enemas should be used only if requested.</p>
<p>□ Perineal shaving is degrading and of no demonstrable benefit.</p>
<p>□ Withholding oral fluids is uncomfortable and unjustified.</p>
<p>□ Routine Artificial Rupture of the Membranes (AROM) is painful, and of no value, unless progress in labour is abnormal.</p>
<p>□ The supine position for delivery affects blood flow in the uterus and interferes with the progress of the second stage of labour.</p>

(Smith *et al.* 2001: 19)

Effective basic midwifery care during the intrapartum period improves the survival of mothers and their infants. Reliable research provides midwives and doctors with knowledge to improve services, but the challenge to bring about change, is converting knowledge into action.

2.6.11.9 Benefit of Better Birth Initiative

Midwifery interventions are powerful, and women depend on midwives making the best use of existing knowledge. Midwives have a responsibility to use findings of evidence based research to guide them in policy making and practices, using procedures that are of benefit, and eliminating procedures that do harm. The midwives' approach should be geared towards humanity, commitment and action (Brown 2001: 2).

(a) Humanity toward women in labour at MOUs

Humane care is central to providing good quality midwifery care and helps women during an important time in their lives. Sometimes health

services experience a lack of resources for midwifery care. Inhumane, discredited practices, such as shaving and the giving of enemas, of which there is no evidence of benefit to the patient, should be stopped. Stopping these practices will improve the humanity of midwifery care (Brown 2001: 2).

(b) Midwives commitment to women in labour at the MOUs

Commitment is needed at all levels of health care, particularly among midwives, who work in MOUs, towards evidence-based practice. Many routine practices, which are harmful, need to be discouraged. Midwives, needs to understand change, and believe that it is right and is needed (Brown 2001: 2).

(c) Midwives should re-organise their action based on evidence based practice

Information, knowledge and commitment are necessary, but not sufficient for change. People who work together, need to agree to change, and then re-organise the way they do things. Midwives should be involved in research, develop and implement interventions, and evaluate the implementation thereof continuously, as this study is doing. The 'Better Birth Initiative' needs people to act and increase the benefit of evidence-based practice. Research showed that there are some procedures that improve labour and the health of women and their infants, and such procedures were discussed in this chapter (Brown 2001: 2).

2.6.11.10 Progress in the active phase of labour

Literature in Better Birth Initiative and Maternal care Manual of PEP suggests that women in the latent phase should be allowed to walk around and eat light snacks. In the active phase they do not normally have an intravenous drip, and may take oral fluids. The choice of position should be left to her, provided she does not use the supine position (Gauteng Department of Health 1995: 20).

The active phase of labour begins when the cervix is three centimetres dilated and fully effaced. Literature in Maternal Care Manual of PEP suggests that the cervix should dilate at a rate of at least one centimetre per hour. As soon as the active phase of labour is diagnosed, the essential management tool, the partogram, is used to record all relevant observations during labour. Therefore it is important for this study to embark on auditing of the partogram in assessing the quality of care rendered in the MOUs. According to the Maternal Care Manual of the Perinatal Self-educated Programme PEP, the patient in active phase of labour should be examined 2 hourly (vaginal examination), and referred to a hospital if the cervix has not dilated further, or if there is an increasing moulding with no descent of the presenting part, and the transfer line has been crossed.

Literature suggest in Better Birth Initiative (2000), Maternity care guidelines (Gauteng Department of Health 2002) MOU Policy Recommendation Gauteng Province (Gauteng Department of Health 1995: 2) that routine artificial rupture of membranes (AROM) should be discouraged and performed only when necessary e.g. when the latent phase exceeds 8 hours in duration, or if the fetal head is engaged. Always exclude cord presentation or cord prolapse and listen to the fetal heart after AROM.

Management of pain in labour (Government Notice R2488 of 15 February 1985 as amended Chapter 2, no. 3), authorises midwives in MOU to administer analgesia. Patients may receive a single dose of pethidine and hydroxyzine (Atarex ®). Pethidine 100mg IMI with hydroxyzine 100 mg IMI may be given to relieve pain in women where labour is not advanced, e.g. cervical dilation of less than 8 cm (Gauteng Department of Health 2000: 34).

2.6.11.11 Second and third stage of labour

The time when pushing starts, should be recorded. Pushing should only be encouraged once the cervix is fully dilated, the fetal head is on the pelvic floor and the mother has a strong urge to push.

According to the Maternal Care Manual of PEP (1995) The use of active management of the third stage of labour includes:

- Controlled cord traction (modified Brandt Andrews);
- Administering ten units of Syntocinon ® IMI immediately after the baby is born;
- If the placenta has not been expelled within 30 minutes, an IV infusion of Ringer's lactate with 20 units of Syntocinon, running at 240ml/hr should be started;
- Emptying the bladder;

The patient should be referred to the nearest hospital if the placenta is not expelled in the next 30 minutes, or there is excessive vaginal bleeding or incomplete placenta and membranes. If the patient is bleeding the cause should be found. Confirm if placenta is complete and the uterus is atonic. Clots should be expelled, and syntomentrine 1amp IMI should be given. In the case of Laceration, try to legate any accessible bleeding points.

Patients should be observed according to the Maternity care guidelines as set out by the Department of Health.

2.6.11.12 Privacy and Labour Support

A mother in labour should under no circumstances be left unattended, but her needs for privacy should be respected. Appropriate screening must be provided if built-in walls or partition do not exist. She should be encouraged to have one labour companion (close relative, friend, husband or partner) to stay with her throughout the confinement. Better Birth Initiative studies has shown that companionship benefits the woman. The birth of her child is a very special and memorable experience in a woman's life. The MOU staff should, in their attitudes and actions, do all they can to make the mother feel special (Brown 2000: 10).

2.6.11.13 Discharge from the MOU

According to MOU policy Recommendation Document, the mother may be discharged six hours after delivery: (Gauteng Department of Health 1995: 25) if none of the following surface:

- There should be no excessive vaginal bleeding (clots), nor offensive lochia;
- Her temperature should not be above 37,5°C;
- Pulse rate should not exceed 100 per minute;
- Blood pressure should be normal; and
- She should feel well enough to go home.

2.6.11.14 Care of the newborn and follow up visit

Routine care of the baby should be carried out immediately after the birth and any problems should be referred to hospital. It is recommended that the mother makes at least one return visit to the MOU on the third day after delivery. Her general condition, breasts, uterine involution, perineum

and lochia should be examined, problems discussed and advice given (Gauteng Department of Health 1995: 25).

2.6.11.15 Unbooked Mothers in Labour

Unbooked mothers are included in this study as it was found that booked mothers have a high morbidity rate. An unbooked mother in labour requires full assessment with special investigation, as if she is attending antenatal care for the first time. Blood testing for syphilis (RPR, WR) and rhesus group (rapid Rh), is mandatory. Arrangement should be made for a follow-up of the syphilis tests results after delivery or discharge from the MOU. Labour is otherwise conducted exactly as for a booked mother (Gauteng Department of Health 1995: 20).

2.6.11.16 Referral Arrangements

When referring a patient with emergency in labour, the midwife should contact the doctor on call at the referral hospital for further advice and to help the staff prepare to receive the patient. A registered midwife or paramedic must accompany the patient in the ambulance (Gauteng Department of Health 1995: 20).

2.6.11.17 Indicators of successful care in MOUs

The successful outcomes of MOUs are noticed through the mother's labour, depending on the midwife and the doctor making the correct decisions. Each decision depends on having accurate and complete information. Correct decisions are based on the observations on the mother and fetus, good recording of those observations, correct interpretations of the observations and prompt implementation of the observation (Gauteng Department of Health 2001: 77).

The ultimate goal, achieved through the implementation of accurate, informed observation, is a healthy mother and baby and provision of quality midwifery practice in MOUs, with the resultant reduction of maternal mortality throughout the South African continent.

Knowledge, skill and equipment should equip midwives to observe correctly, perform a clean and safe delivery and provide postpartum-care to mothers and babies (Gauteng Department of Health 2000: 5). Midwives can evaluate the outcome of the MOUs by using the indicators of success.

In order to develop, implement and evaluate policies and programmes efforts to understand why women are dying from pregnancy and childbearing, is more important than establishing the level of maternal mortality. A variety of assessment tools were developed to aid in the formation of national strategies to reduce maternal mortality and to improve maternal health (World Health Organization 1998: 9). These strategies include indicators of success, developed by WHO (World Health Organization 1998: 9) to aid the MOU, to identify whether they are providing quality care to women in labour. These indicators are called process indicators. Process indicators provide information about the system in place that either enable, or hinder, access and delivery of high quality maternal care. This includes:

- Proportion of births attended by a skilled health professional;
- Proportion of births taking place in MOUs;
- Proportion of pregnant women receiving tetanus toxoid immunization;
- Proportion of pregnant women attending antenatal care; and
- Ratio of unbooked to booked deliveries, in MOUs.

Each of these indicators has advantages and disadvantages. Health planners need to identify which indicators are more useful for their purpose (WHO 1998: 9).

2.6.11.18 Perinatal audit meetings

Undertaking a facility based audit helps to improve quality of care. An example of this is case reviews, where the patient's records are audited to assess the care given during labour. This method is used to help identify problems in caring for women who are in labour in MOUs, and to devise solutions to these problems (Gauteng Department of Health 2000: 132). Other widely used tools, to assess and monitor the quality of maternal health services are:

- Maternal death case reviews (a qualitative, in-depth investigation of the causes and circumstances surrounding a small number of maternal deaths occurring at selected health facilities); and
- Facility-based audits (this audit can examine what happened before the woman reached the health facility, the circumstances in the community that contributed to her mortality, such as a delay in seeking care or lack of access to a health care facility) (World Health Organization 1998: 11).

The midwives should undertake a monthly audit, of the following, preferably with a senior doctor from the referral hospital:

- Number of antenatal first visits;
- Rate of mothers with syphilis results unknown;
- Rate of referral to hospital, and reasons for referral;
- Number of deliveries;
- Rate of teenage (<18yr) mothers, delivering in the MOU;
- Rate of unbooked mothers;
- Rate of low birth weight babies (<2500g);
- Stillbirth, early neonatal deaths and maternal deaths;
- Random audit of antenatal card,

- Random audit of partogram (Gauteng Department of Health 1995: 26).

2.6.11.19 Record Keeping for future references

Certain records of patient's management must be kept at the MOU for future reference.

The mother should bring her antenatal card with her when she arrives in labour. This should be inserted into the labour record (bed letter) and the entire folder must be filed in the MOU, after she is discharged. The records include:

- Labour and delivery records;
- All patients admitted or assessed, whether in labour or not;
- All labour referrals to the hospital with reasons for referral;
- All births in the birth register using standard entry format; and
- All unbooked mother giving birth in the MOU.

2.7 QUALITY OF MIDWIFERY CARE IN MOUs

Quality of midwifery care was initiated at the Global Safe Motherhood Conference in Nairobi in 1987, with the aim of reducing maternal mortality by 50% globally, MOUs could contribute to the achievement of the global goal by providing quality care to pregnant women. The quality of midwifery care can be achieved by following the guidelines set out in Maternal care guidelines, provided by the Department of Health, Gauteng Province. The guidelines set out protocols for the management of women in labour. Included in Maternal guidelines are pillars of Safe Motherhood initiative, which protects and empowers the women.

2.7.1 QUALITY OF CARE

Having looked at all aspects related to the provision of care, the study finally comes to the core of its focus: quality of care. Quality is an integral part of health care. It is part of its professional standards, guidelines, codes and accountability. Accountability should be towards the patient, the employer, the professional council and the public courts.

Because the consumer of health (pregnant women) publicly criticize and challenge the health care systems, it is important that personnel in health care units employ a group effort to maintain and improve the general quality of midwifery care.

Health care costs are rapidly increasing, therefore productivity and quality need to be evaluated continuously, so that the appropriate measures, which should ultimately result in the reduction of maternal morbidity and mortality, and health care costs, can be taken into consideration (Booyens 1998: 595).

2.7.2 DEFINITION OF QUALITY

Quality of care was defined by Hulton *et al* (2000: 9) [Refer to chapter one]. Muller (1996: 237-238) refers to quality as the characteristics of excellence which includes:

- **Applicability:** the right decision at the right time.
- **Acceptability:** legal, ethical and cultural.
- **Safety:** a therapeutic environment (physical, mental and spiritual) with appropriate management.
- **Equality:** money, race, sex and social status will not play a role.
- **Accessibility:** provision of health care services, facilities, equipment and personnel expertise.
- **Effectiveness:** clinical results and resources utilization.
- **Professional knowledge and competence:** applicable according to needs and demands that are set.

- Satisfaction: patient, family, management and health personnel.

All the above characteristics of quality are applicable to midwifery care and should be practised in MOUs.

A recent definition by Hulton *et al* (2000: 9), relevant in the context of maternal health, states that quality of care is the degree to which health services for individuals and populations increase the likelihood of timely and appropriate treatment, for the purpose of achieving desired outcomes that are both consistent with current professional knowledge, and uphold basic reproductive right. This working definition provides the basis from which to create a quality assessment framework for maternal health in an institutional setting. The definition allows quality in this context to be separated into two constituents parts:

- The quality of the provision of care within the institution; and
- The quality of the care as experienced by users (women in labour).

For quality of care to be meaningful, it is fundamental that elements of these two components of care should be consistent with the basic norms of internationally agreed reproductive rights. The division of quality, into these two components, recognize the fact that the use of services and the outcomes, are the results, not only of the quality of the provision of care, but also of women's experience of that care (Hulton *et al* 2000: 10). In this study, by looking at the partogram and describing patient satisfaction, we will be able to measure the phenomena quality of care, in the MOUs in the Pretoria region.

Quality of care can be conceptualised as provision of care on one hand and women's experience of care on the other hand (Hulton *et-al*/2000: 18):

Provision of care:

- Human and physical resources, in order to achieve optimal function of the MOUs;
- Referral system, for provision of quality care, prevention and timeous management of pregnancy complications;
- Maternity information, to women in labour so that they are able to make good decision and are in control of their labour;
- Internationally recognized good practice; and
- Management of obstetric emergencies, provided by skilled and knowledgeable midwives in MOUs.

Women's experience of care include:

- Human and physical resources;
- Cognition, skills and knowledge pertaining to midwifery practice;
- Respect, dignity and equity as set out by the Patient's Right Charter, Batho Pele Principles and Better Birth Initiative; and
- Emotional support (as discussed earlier, on patient rights and Batho Pele principles).

2.8 WHY PATIENT SATISFACTION?

Patient satisfaction is an important indicator of quality of care. Interest in patient satisfaction with the care they received, is increasing. Patient satisfaction, together with health status, is considered to be an outcome of the delivery of health care service, as well as a measure of its quality (Hulton *et al.* 2000: 10). Studies of patient's satisfaction with maternity care in Europe and North America emerged partly out of the growth of the consumer movement in health care (Wilcock, Kubayashi and Murray 1997: 36).

Assessment of patient satisfaction is an interesting and worthwhile undertaking, which will lead to better utilization of MOUs. The Wilcock, Kubayashi and Murray study on patient satisfaction showed that user friendly services guarantee a high rate of utilization and a high quality of care (Wilcock, Kubayashi and Murray 1997: 36).

Assessing patient satisfaction at MOUs will:

- Serve as a useful predictor of patients' compliance, related to utilization of the services; and
- Indicate the cost effectiveness of the service;
- Prove that accessibility, being in the community and within reach, and saving cost for transport, is appreciated (Geary, Fanagan and Boyland 1997: 533).
- Show whether the MOUs are fully utilized by patients; and

Satisfaction, however, is not easy to assess, and Ware, Avery and Steward (1978: 53) agree that it is not a one dimensional construct and cannot be assessed on a global scale. Methods used to assess patients' satisfaction, in this study, is through interviews.

2.8.1 DEMOGRAPHIC VARIABLES

The William and Calnan study (1978: 53), correlated age significantly with satisfaction ($r = -0,23$ p, 0.001) whereby older people tend to be more satisfied with health care. For this reason age was included in the Pretoria study, to see if the same correlation will be found. Other demographic variables included in the study are:

- Gravity;
- Parity;
- Level of education;
- Employment; and
- Marital status.

All these variables showed in previous studies, to influence patient satisfaction.

A study done in Philadelphia (USA), showed that the site of care was related to satisfaction. In general, women appeared less satisfied with the care received at district health centres, than at community health centres and academic hospitals. Classification with the care at district health centres, was related to variables such as waiting time to see the caregiver, time spent with the caregiver and continuity of care by the caregiver. This study wants to find out how these variables affect the women in the Pretoria region (Hundler 1996: 2).

Earlier studies clearly demonstrate an overall relationship between individual care characteristics and satisfaction with intrapartum care. This study is interested in exploring and describing how low risk women, from diverse ethnic background, view this relationship. Patients in the postnatal ward were selected conveniently patients by-passing the MOUs were identified at the nearest hospital and interviewed (Hundler 1996: 2).

Geary *et al* (1997: 433) proved in their study on patient satisfaction that to improve patient satisfaction, many institutions adopted a family-centred approach, whereby family, friends and relatives are allowed in the labour ward units, their presence provide comfort to the labouring woman.

The availability of information throughout the entire intrapartum process, was shown to be associated with positive psychological outcome. The woman in labour experiences the process of labour positively. A study by Geary *et al* (1997: 433) identified information as the most significant predictor of overall maternity patient, satisfaction.

Lewis (1994: 656) in his study on patient satisfaction, includes items related to midwives explaining what to expect during labour, and midwives explaining why they did certain tests and examinations, midwives staying with

the woman during labour, and listening to their fears of the labour process, as more effective in enhancing satisfaction. The same items were used in this study.

Several relevant dimensions of satisfaction, in the context of primary health care, are becoming apparent Ware, Avery and Steward (1978: 19-20) proposed eight dimensions to patient satisfaction and care which include:

- Technical quality of care;
- Accessibility;
- Convenience;
- Finances, cost;
- Availability and continuity of care;
- Midwives conduct; and
- Acceptability and all these dimensions are prevalent in MOU setting, and are tested in this study through the three objectives formulated in chapter one.

2.8.2 HOW TO MEASURE SUCCESS OF MOUs

- (1) The safety of MOUs is reflected in PNMR, low apgar score, the prevalence of neonatal referrals, maternal trauma, postpartum haemorrhage and retained placentas.
- (2) Cost effectiveness is reflected by staff/birth/day ratio, intrapartum referrals, by-passes, and number of births
- (3) Quality of Care is reflected by patients perceptions, complete partograms, and a low by-pass rate.

2.9 CONCLUSION

Chapter two provided background information on MOUs in South Africa focusing on the four questions asked in the beginning of this chapter which include: The need for MOUs, the place of MOUs in the National Health plan for South Africa, the function of the MOU and indicators of successful function of the MOUs which will indicate that quality of maternity is maintained in MOU.

The quality of MOU delivery services can make a difference between life and death. Before change can be initiated to improve quality, it is important that we understand how these units function, at present. Despite an extensive literature approach, the function of these units have not yet been established and documented.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 INTRODUCTION

This chapter deals with the research methodology, including the research design, population and sampling, methods of data collection, data analysis, and the reliability and validity strategies applied in this study. Ethical considerations, applicable to this study, will also be discussed.

The aim of the study was to describe and compare four different MOUs in the Pretoria region. For the purpose of the study three objectives were set. Each of these objectives will be discussed in relation to the research methodology used.

- Objective 1 : To compare and describe the functioning of the MOU, with regard to specific variables.
- Objective 2 : To compare and describe the staffing, with regard to specific criteria.
- Objective 3 : To compare and describe the quality of care with regard to the quality of the partogram and patient satisfaction.

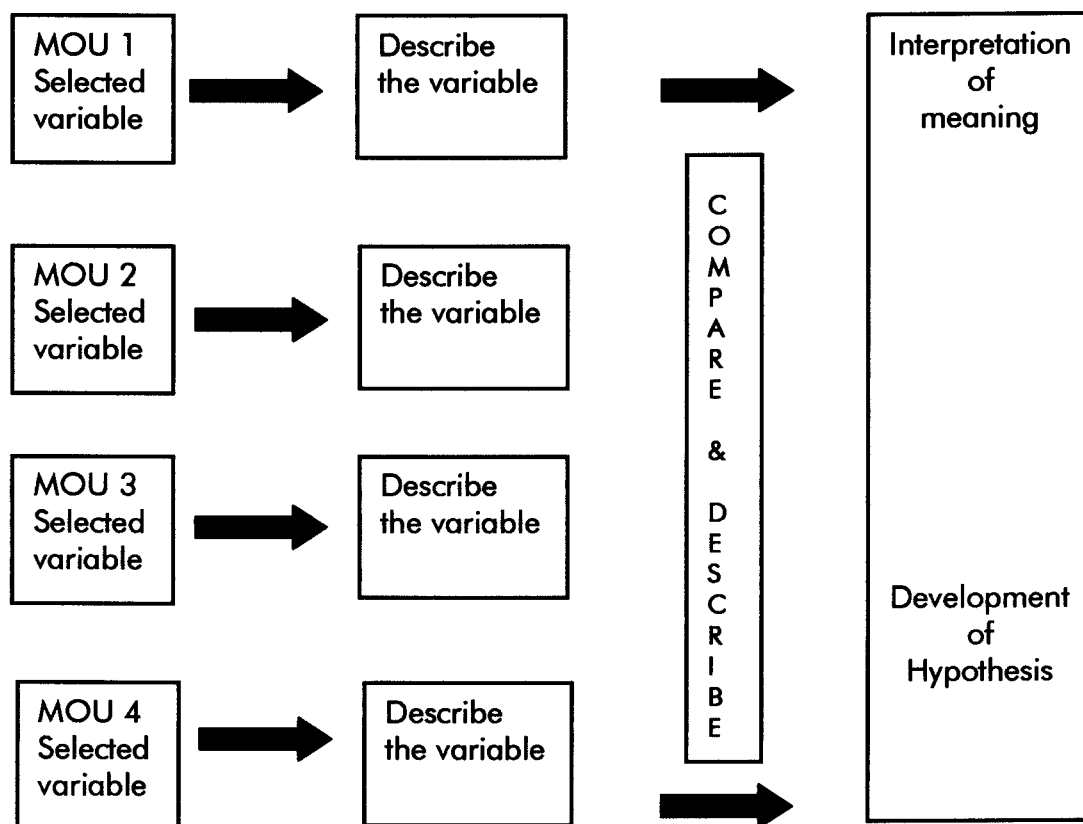
3.2 OVERALL RESEARCH DESIGN

A comparative and descriptive design were used to reach the aim of the study. A schematic presentation of this design is presented in Figure 3.1. According to Burns and Grove (1997: 252) a descriptive design examines and describes differences in variables into one or more groups, or that occurs naturally in a setting. To achieve the objectives of the study, a combination of qualitative and quantitative methods is used, known as triangulation of data collection methods.

The value of triangulation of data collection methods is to give a rich, comprehensive picture of MOUs in the Pretoria region.

Figure 3.1 illustrates the research design.

FIGURE 3.1: SCHEMATIC PRESENTATION OF RESEARCH DESIGN



3.3 METHODS AND PROCEDURES

3.3.1 UNIT OF ANALYSIS

The basic unit of analysis for the study was the Midwife Obstetric Unit. In order to describe the functioning of MOUs the researcher purposively chose four MOUs that are known to function differently, primarily on the basis of the availability of medical assistance.

The aim of this study is not to generalise the findings to all MOUs in South Africa, but to obtain a rich description of the functioning of these four types of MOUs (Uys and Puttergill 2003: 113). One MOU of each 'type' has been selected purposively. The sample is thus selected on the basis of existing knowledge of MOUs in South Africa (Babbie 1992: 230-231).

Clear identification and formulation criteria for the selection of the MOUs was essential (De Vos 2002: 334). In the first place, the MOU must be recognised as a MOU in the setting where it functions, it must comply to the 'availability of a doctor' criterium. All of the four units are publicially and professionally known as MOUs:

To reach the aim of the study data was collected at four MOUs in the Pretoria region. These MOUs were selected on the ground of the availability of medical staff. The medical staff are either on-site but not involved in the care of low risk patients, or they visit the sites periodically. They are all at the level of primary health care, and provide intrapartum care to low risk patients.

3.4 ETHICAL CONSIDERATIONS

Informed consent was obtained from the provincial authority, the institutions themselves, the unit managers and the patients. The unit manager and patients were promised anonymity and confidentiality. It was explained that participation in the study is voluntary and that they had the right to withdraw from the study any time they wished (see informed consent in Annexure C). Ethical approval was obtained from the Ethics Committee of the University of Pretoria.

3.5 METHODS AND PROCEDURES: OBJECTIVE ONE

3.5.1 POPULATION AND SAMPLE

1. The unit of analysis in this part of the study was the midwife obstetric unit, with the focus on the functioning of MOUs. Data was reduced to a number of criteria indicative of the functioning of an MOU (Table 3.1). The issue of validity was that the sample should clearly reflect the phenomenon under study.
2. Sampling units were chosen to describe the functioning of MOUs, namely sources of documentation (admission books, birth registers) and measurements within the documents (audit of partograms).
3. The following documents were used to reach objective one.
Documentaries used:
 - Unit statistics for 12 months such as admissions books and birth registers.
 - Patient records (partograms), over a period of nine months (February to October 2001).
4. A convenient sample was used to obtain as complete picture as possible, because of the relative low number of patients admitted to the MOUs.

The MOUs all use the same type of records, e.g. they all have admission books, delivery registers, and procedure/protocol guidelines. The records were easily obtained from institution archives, on request. Entries in the different records could easily be followed.

3.5.2 INSTRUMENTS

Monthly statistics for the four MOUs were analysed for the period June 2000 to June 2001. A checklist was developed by the researcher to capture the data from the records (refer to the table below):

TABLE 3.1: MONTHLY STATISTICS

To describe and compare the functioning of the MOU with regard to:

- The number of admissions;
- The number of referrals;
- The number of deliveries;
- Birth mass of babies delivered;
- Fresh stillbirth birth mass > 2.5kg;
- Episiotomies rate;
- Maternal birth trauma (tears, lacerations);
- Apgar score of <8, at 5 minutes;
- Neonatal referral rate;
- Pregnancy complications e.g. postpartum haemorrhage, retained placenta, birth trauma;
- Management of third stage of labour;
- Fetal monitoring type (doptone, Pinard stethoscope);
- Referral criteria of each institution;
- Indication for referrals; and
- Protocols displayed for management of labour.

3.5.3 RELIABILITY

With regard to the reliability of the data the researcher made the assumption that information from the records were entered correctly. From here the researcher assumed that the records were a true reflection of the reality. The four MOUs used similar documents which made the data comparable and increased, not only the validity, but also the reliability of the study.

3.5.4 VALIDITY

Experts in the field of maternal and child health care validated the checklist, (Annexure A) to ensure content validity, reflecting the functioning of these four MOUs. An expert panel was utilised during all the phases of the research. Initially the supervisors assisted the researcher in identifying indicators of the functioning of MOUs and in developing appropriate checklists (statistical aspects, staffing and workload) and in refining the partogram audit instrument.

Panel members were selected on the basis of clinical expertise, research expertise and professional specialisation and were lectures from the University of Pretoria and Specialist in Obstetrics and Gynaecology at a local academic hospital.

3.5.5 PROCEDURE

The records were collected from the MOUs' archives. Some were still in use in the units. A document analysis was done, using a checklist, to summarise, describe and compare the functioning of the four MOUs. Treece and Treece (1986: 319) notes that "records are a valuable and lucrative source of nursing research data". This type of data is regarded as secondary data sources in the sense that they may or may not contain the material the researcher needs to

answer the research question. In this study the mentioned records provided the necessary material in a relatively inexpensive, cost-effective way as they were readily available and accessible (Appleton and Courley 1997: 1008-1017).

3.5.6 DATA ANALYSIS

The data was entered on an Excel spread sheet and analysed using descriptive statistics. Because of the difference in the basic functioning the variables were not analysed further.

3.6 METHOD AND PROCEDURES: OBJECTIVE TWO

To describe and compare staffing and workload, with regard to:

- The number of staff per shift in labour ward;
- Number of deliveries per shift;
- Level of training;
- Number of midwives with PEP training;
- Number of advanced midwives; and
- Job description of staff in labour ward.

3.6.1 SAMPLE

The study site and sample is described in paragraph 3.6.1. Data sources were utilised. Unit managers, documents (job description, duty rosters, delegation books) were used to achieve objective two describing and comparing staffing and workload. The four MOUs use the same documents for all the activities carried out in the MOUs. This makes comparison possible.

3.6.2 METHOD AND PROCEDURE TO DESCRIBE AND COMPARE STAFFING AND WORKLOAD

A checklist was developed, to describe the staffing and the workload for the four MOUs, quantitatively. (Refer Annexure B). The unit manager was asked to enlist the numbers of staff in the labour according to the level of training which include, the advanced midwives, basic trained midwives (Registered Nurses) midwives with PEP training, enrolled nurses and auxiliary nurses, the numbers were added up and compared.

The unit managers were asked for evidence of written job description for the different categories of staff in the labour. The researcher confirmed the evidence for the written job description displayed in the files and on the notice board. The workload was assessed according to the number of deliveries, admissions and referrals of each MOU.

3.6.3 RELIABILITY

The same checklist could be used for the four MOUs, implying the process of consistency.

3.6.4 VALIDITY

The checklist was validated by the research expert in the field of maternal and child health care.

3.6.5 DATA ANALYSIS

Data was analysed quantitatively, availability of written job description was checked in the MOUs.

3.6.6 ETHICAL CONSIDERATIONS

Permission to collect data in the MOUs was obtained from the Provincial office and from the institutional directors; informed consent was obtained from the unit managers.

3.7 METHOD AND PROCEDURES: OBJECTIVE THREE

To describe and compare the quality of care, with regard to quality of partograms and patient satisfaction.

3.7.1 POPULATION AND SAMPLE

To reach objective three, patients records from between February to October 2001, were selected randomly and audited, to analyse the quality of the partogram. 200 records were audited from the four MOUs. To assess patients satisfaction, a convenient sample, of post-delivered mothers, over the period of February to October 2001 was asked and guided to fill a questionnaire, to obtain as complete a picture as possible. Because of the relative low number of patients admitted at the MOU, 120 mothers filled the questionnaires in the four MOUs. A convenient sample of 30 post delivered mothers, from each MOU. Sample two consisted of convenient sample of all mothers who bypassed the MOU nearer their homes, and delivered at the hospital, for the month of September 2001. 68 mothers filled the questionnaire, assessing why they bypassed the MOU. Four MOUs in the Pretoria region were chosen because of their unique characteristics, resembling the four different types of MOUs as discussed in Chapter 2.

The sample criteria are non-exclusive to ethnic background. The sample inclusion criteria consist of:

- Post-delivery mother in the postnatal ward, in a more relaxed environment.
- Being an adult over 18 years of age, because the participants have to sign an informed consent.
- Being classified as a low risk patient.
- Post-delivery mothers who were literate so that they could fill in the questionnaire and express their own opinion.

3.7.2 INSTRUMENT

To reach objective three, to compare and describe the quality of care with regard to the (1) quality of the partogram, and (2) patient satisfaction, and to find the reason why patients bypassed the MOU, a quantitative approach was used. A checklist was used to audit the quality of the partogram (Annexure C).

The partogram was chosen because it is a standard essential tool for management of labour, recognized by the Department of Health, in all the Provinces in South Africa, and used by all South African institutions providing intrapartum care. The partogram shows the most salient features of labour in graphic form. The partogram's usefulness lies in the fact that progress in labour is represented visually and any delay or deviation from normal is quickly evident. Prompt action can be taken and the situation corrected. Thus the audit of the partogram contributes twofold, because it will identify the problem areas and provide solutions to the problems, resulting in the reduction of perinatal mortality and morbidity (Myles 1991:161). The checklist was developed by the researcher (T.M.) and the supervisor (C.v.d.W) and validated by the co-supervisor (R.C.P).

The checklist consists of five aspects, namely: the identification criteria, with five items; the fetal condition criteria, with six items, progress of labour; with seven items, maternal condition, with eight items; and management criteria with three items. The items are rated from 0 to 30 scores, with coding between 0 and two, where 0 refers to not documented, or incorrect, one refers to incomplete or partly correct and two refers to complete or correct - see checklist on Annexure C. Auditing is employed in this study because auditing reflects whether the right thing was done. The aim of auditing is to detect errors or omissions in the care of the woman during labour. These errors or omissions will indicate whether good quality care was rendered during labour (Gauteng Department of Health 2001: 8).

Describe and compare the quality of care with regard to patient satisfaction

To elicit information from the participating women an existing semi-structured questionnaire was used to suite the aim of the study. A semi-structured questionnaire, that allowed for open-ended and close-ended comments was utilised. Close-ended format questionnaires are useful, for measuring and comparing satisfaction levels, while open-ended questions are useful whenever the study is also expected to lead to quality improvement initiatives (Steyn 1998: 51).

The development of this questionnaire was guided by the aim of the study. A previously published and tested instrument by Perneger (1996: 64) derived from studies of Ware, *et al* (1983); Hulk, *et al* (1971); Linn, *et al* (1982) was used and a pilot study was conducted at Kalafong MOU in 2000, by the researcher.

The questionnaire consists of two sections. Section one consists of the identification section, with questions on socio demographic variables, which have been shown to influence satisfaction rating (Steyn 1998: 53).

Section two have two parts: Part 1 consists of a sixteen-item questionnaire in a Likert type format. Value-laden positive or negative statements are classified, measuring patient satisfaction with intrapartum care rendered at MOU.

Each statement is followed by five response options, ranging from "strongly agree" to "strongly disagree." All responses to the positive and negative statements were precoded so that "strongly agree" equalled 5, "agree" 4, "not sure" 3 "disagree" 2, and "strongly disagree" 1, - Refer (Annexure D) (Steyn 1998: 65).

The modified satisfaction score for the sixteen items were computed, as well as a score for each aspect measuring patient satisfaction. This is in figures 4.1 to 4.6 in chapter 4 (highest level or lowest level of satisfaction) expressed quantitatively in negative, positive or neutral responses (Steyn 1998: 65).

Part two of the questionnaire consists of statements to assess the reasons why patients by-passed the MOU, three statements are used and patients' responses to these are expressed in numbers for a month.

3.7.3 RELIABILITY AND VALIDITY

The checklist was used in previous study for auditing the partogram by R. Kgoebane and proved to be reliable. The checklist was developed by the MRC Unit for Maternal and Infant Health Care Strategies, Kalafong Hospital, University of Pretoria and validated by (RCP).

Structured questionnaire was used, for assessing patient satisfaction, using the already existing valid and reliable instrument developed by Steyn, assessing patient satisfaction with antenatal care (1998) in Tygerberg in the Cape.

3.7.3.1 The value of audit

Auditing of the partogram will furnish information of whether there was any failure in clinical care, suggesting substandard of care given to the women in labour. Auditing will also identify problems areas in the care of women in labour and a solution can be devised, to rectify the problems. Documentary sources (partogram) audited, used in conjunction with interviews, (patient satisfaction) can be useful for putting events together and helping to distinguish between poor management and poor record keeping, providing useful indicators of good quality (Hulton *et al* 2000: 16).

3.7.3.2 The value of the use of questionnaire and the presence of the researcher during data collection

A questionnaire was used as an instrument for data collection to achieve objective three, on patient satisfaction. The presence of the researcher enhanced high response rate, enforced in face to face interaction, respondents are generally more reluctant to refuse to talk to the interviewer, than to ignore mailed questionnaires. Low response rate can lead to serious biases, because people who complete the questionnaire are rarely a random sample of those the researcher intended to include in the study.

Many people cannot fill out the questionnaires. The respondents appreciated the presence of the interviewer. The questionnaires were less prone to misinterpretation by the respondents because the researcher was present to determine whether the question was misunderstood. The researcher was also in a position to observe or judge the respondents level of understanding, degree of co-cooperativeness and lifestyle. This kind of information can be useful in interpreting responses (Polit and Hungler 1997: 258).

Individual survey were conducted, by the researcher, in the post-delivery ward, in a private, quiet room away from disturbance, to limit biases, such as influences by the presence of other patients or family members.

The researcher conducted the surveys in informal clothing so that she was not recognized as a nurse, to limit the possibility of bias in patient responses. The patients may not feel free to express their opinion in the presence of a nurse, who may have been one of the team that took part in the care process (Steyn 1998: 49).

Some of the respondents could not fill out the questionnaire without the help of the researcher, therefore her presence was more appropriate for this study. The presence of the researcher was greatly appreciated by the participants.

3.7.3.3 Procedure

The patient records were selected randomly by the researcher and audited using a checklist. 200 records from the four MOUs were audited.

A survey was done where post-delivered mothers were helped individually by the researcher to fill in a questionnaire in a private room in the postnatal ward. 30 post delivered mothers from each MOU filled in a questionnaire assessing patients satisfaction. 68 post delivered mothers filled in a questionnaire assising the reasons for by-passing the MOU near their home and delivery at the hospital.

3.7.3.4 Overall ethical consideration

Participants were asked to sign a consent form before undertaking the study. Included in the consent was the purpose of the study, description of procedures,

risks and discomforts, benefits, disclose of alternatives procedures, confidentiality and voluntary participation - see informed consent in Annexure C.

Permission to audit patients records (the partogram) was obtained from Directors of the participating MOUs. See permission letters (Annexure G).

3.7.3.5 Data Analysis

Experts at the University of Pretoria and the researcher analysed the data. Objective one implied that monthly statistics to be summarised and added up to compare and describe the function of the MOUs. All raw data was entered in the computer and checked for errors. Objective two, comparing workload and staff mix consisted of looking at the numbers of the different categories. Job description was assessed for the availability in the MOUs. Objective three, data, was analysed using frequencies, percentages, mean, standard deviations and ranges, and is presented in tables in chapter 4. Patients' responses were described and compared (Burns and Grove 1997: 722).

3.8 LIMITATIONS

Accuracy of the clinical records and patient records cannot be proven. Therefore there may be some omission of certain entries into the records. The researcher assumed that the records were a true reflection of the activities of the MOUs in the study.

It took 9 months to obtain permission for data collection after submitting an application to the provincial office, Department of Health, at one of the MOUs.

At unit level, resistant and negative attitudes of midwives, who thought they were under investigation at two of the MOUs delayed data collection, leading to prolonged period in data collection.

Patient intake at one MOU was very minimal, leading to a prolonged period for data collection, particularly completion of questionnaires by post-delivered mothers.

The questionnaires were in English and the questions were translated into different vernacular languages spoken by the subjects, for those who did not understand English. The subjects were asked to write their responses and this also contributed to prolonged data collection period, 20-30 minutes per session.

3.9 SUMMARY

In summary, a brief description of the four MOUs is given, under the following headings structure, staffing, process and outcome.

MOU 1

(a) Structure

MOU 1 is situated in the community health centre, located on the sixth floor of the hospital setting. It has three delivery beds in separate rooms, eight post-delivery beds, two per room, and a nursery. It provides intrapartum care to patients attending antenatal clinic at the site and six other clinics around the area.

(b) Staffing

Eight nurses are on night duty, four per night one advanced midwife with PEP training, one professional nurse with midwifery and PEP training, one enrolled nurse, and one auxiliary nurse. Four midwives, two auxiliary nurses and one enrolled nurse are on day duty: one advanced midwife, two professional nurses with PEP training, one midwife with basic training, two enrolled nurses and three auxiliary nurses, per shift.

(c) Processes

The matron is in charge of the maternity section where the MOU is situated. The chief professional nurse is in charge of the MOU. The midwives carry out all the activities in the labour ward, i.e., that is progressing of the women in labour, deliveries and discharge of patients. The patients are discharged from six hours post-delivery to twenty-four hour depending on the condition of the mother and baby. The midwives refer the sick patients to the referral hospital. The other categories of staff help with monitoring of maternal vital signs and errands. Electronic fetal monitoring is used most of the time.

Doctors are on the site, but in the casualty department, and are only available for resuscitation of patients in emergency. The visiting doctor comes periodically, but he/she has nothing to do with patient management. Midwives refer patients to the next level of care, after telephonic consultation with the obstetrician of the referral hospital.

(d) Outcomes

There was relatively low patient intake, illustrated by the long period of data collection at this MOU. The partogram is used for monitoring of progress of women in labour. 99% of the midwives have Perinatal education program training, there is a low number of patients who are referred out.

MOU 2

(a) Structure

MOU 2 is a community-based unit situated in the township, functioning in conjunction with the community health care centre. There are four beds for first stage in one cubicle and four delivery beds in separate cubicles. The post-delivery ward has fourteen beds, four in three cubicles and one in two side wards.

(b) Staffing

The labour ward has four midwives and two auxiliary nurses per shift, the postnatal ward has it's own staff. The matron of the health centre is in charge of the entire unit and the chief professional nurse is in charge of the labour ward. There was only one advanced midwife working in the labour ward and 40% of the midwives are PEP trained. The doctor takes rounds in the labour ward in the morning, and he/she refers the patients to the next level of care. He/she also discharges patients. Patients are discharged from 24-hours post-delivery. The midwife manages the patients in labour. The MOU provides intrapartum care to a vast number of the population from the surrounding clinics, as these clinics do not provide intrapartum care. Pinards' stethoscope is used for fetal monitoring. The MOU also

manages high-risk patients and refers them to hospital after being stabilised.

(c) Outcomes

Midwives do not use the partogram for progress of labour. During data collection a high referral rate to the next level of care, 33.9% of patients, was detected. Perinatal death was high, 39.1/1000. This is cause for concern. Midwives do not exercise their independent function because they are not allowed to refer patients out. They cannot make the final decision in patient management, they must wait for the doctor to do that e.g. transferring the patient to the next level of care.

MOU 3

(a) Structure

MOU 3 is in a metropolitan area, located in the general labour ward of a Provincial hospital. It has five delivery cubicles and five beds, one neonatal resuscitation cubicle as well as two cubicles with six beds for fourth stage.

(b) Staffing

Two midwives are allocated in the MOU during the day and one at night, with the help of midwives from other areas, e.g. high risk, high care, depending on how busy the area is. The unit manager, with advanced midwifery and PEP training, is in charge of the whole labour ward, including high-risk, high-care and the MOU. 40% of the midwives are PEP trained.

(c) Process

The obstetrician on admission screens all the patients. They are classified according to their problems and the low risk patients are transferred to the MOU.

A midwife provides care to the patients in the MOU, including progress of labour and deliveries. The partogram is used for the monitoring of women in labour. Electronic fetal monitoring is used often. Midwives refer the patients across the floor to the obstetrician. Average deliveries per month are 225 patients, of these, 25% are referred to the obstetrician. The patients are transferred to the postnatal ward an hour post-delivery. The MOU provides intrapartum care for a vast population from the surrounding informal settlements, and the local clinics (± 15) as these places do not have intrapartum care services.

(c) Outcome

Though the partogram is used to monitor the progress of labour, there is still evidence of incompleteness of the partogram, which warrants some degree of concern.

MOU 4

(a) Structure

MOU 4 is a stand-alone MOU, located in the rural outskirts of a township, next to the railway station. Patients use taxis and the train to reach the

MOU. There are eight beds in the admission area for first stage of labour, four delivery beds in separate rooms, and eight beds in the postnatal ward.

(b) Staffing

The unit manager is in charge of the labour ward. Four midwives and two auxiliary nurses are allocated in the unit, per shift.

(c) Processes

The site provides antenatal care, therefore most of the patients who delivered at this MOU attended the clinic at the site. There is no doctor at the site. Midwives manage the patients throughout the stages of labour and discharge them six to twenty four hours after delivery, provided there are no complications. All midwives use the partogram for progress of patients in labour. Fetal heart rate monitoring is done using the Pinard stethoscope. No cardiotocograph machines are available in this MOU. Midwives refer the patients to next level of care.

(d) Outcomes

Average patient intake per month is 281 patients, average deliveries per month 163, referral rate per year is 31.0%. The use of the partogram is satisfactorily. Fresh stillbirth rate is low. The averages and percentage (<10/1000 are worked out of the total number of admissions and deliveries.

3.10 CONCLUSION

The initiation of data collection is one of the most exciting part of research. It involves five main tasks, which were carefully planned in advance, with the

supervisors of this study. Triangulation of data collection was employed in the study whereby statistics were collected from current entries used in the units. To achieve objective I and II patients records were used particularly the partogram which was audited to assess quality of care to achieve objective III. Post-delivered mothers were selected convenient and filled the questionnaires with the help of the researcher individually in private to assess patient satisfaction. Patients by-passing the MOU nearer to their homes were asked to fill the questionnaires to assess the reason for their by-passing the MOUs. Data was collected in a consistent way (Burns and Grove 1997: 404)

Maintaining research controls and solving problems that threaten to disrupt the study, the researcher has experienced in conducting research therefore she was able to control and maintain perspective of the study, she was able to avert external influences on subjects responses by explaining the process of study to the people involved during the study, by using private rooms during the survey, by conducting the interviews in informal clothing so as she is not recognized as a nurse, she could easily develop a good interaction relationship with the subjects and the midwives in the study site and enhance support from stake holders and significant others (Burns and Grove 1997: 405).

Large quantities of checklists and questionnaires used in the study were prepared in advance. The researcher kept these papers safe after data was collected then given to the supervisor for data analysis and they are safely stored for the continuity of the study and future publication (Burns and Grove 1997: 405).

CHAPTER 4

FINDING OF THE STUDY

4.1 INTRODUCTION

In this chapter, the results and discussion of the findings are presented. The MOUs are described according to their physical setting, the characteristics, the size, workload, quality of care rendered, the role of midwives and the doctors. The description and comparison of the functioning of the MOUs are based on the three objectives set out in chapter one.

4.2 SETTING AND CHARACTERISTICS OF THE SAMPLE

4.2.1 GAINING ACCESS TO THE STUDY SITE

Commencement of the fieldwork for the study took longer than it was expected, due to the following:

- Obtaining consent from the MOUs and Provincial office, Department of Health, took one year.
- Midwives were reluctant to cooperate because they perceived the research as investigating them. After the researcher spend time with the midwives, explaining the aim of the study, co-operation was achieved and fieldwork was started.
- Accuracy of data correlation of admission book, birth register and discharge book. Birth register was used as legal document to assess birth.

4.2.2 LOCATION, STAFFING AND REFERRAL SYSTEMS OF THE MOU

The four MOUs chosen are situated in the greater Pretoria district. MOU 1 is situated in a level one hospital, located on the sixth floor of the hospital building. The hospital is \pm 5km away from the city centre. The MOU is

staffed by advanced midwives, PEP trained midwives, enrolled nurses and auxiliary nurses. Doctors do not work full time in the MOU, but are available for emergencies.

The midwives refer the patients, after telephonic consultation with the doctor at a level 2, hospital, which is about 5km from the MOU. The patients are transported in an ambulance, accompanied by an enrolled nurse.

MOU 2 is situated in the township, within a community health centre. The MOU is \pm 15km from the city centre. The MOU are staffed by midwives and auxiliary nurses, but the composition of staff differs from that of MOU 1. The doctors and midwives manage the MOU. The doctor takes rounds in the MOU at scheduled times. The doctor refers the patients with complications during labour to a level 2 hospital, which is about \pm 25km away from the MOU. The patients are transported by a private ambulance service, contracted by the Department of Health (Gauteng Province). The private ambulance has trained ambulance attendants who are capable of managing maternal patients in transit.

MOU 3 is \pm 10km away from the city centre, located in the labour ward of a Provincial Hospital (Level 2). The labour ward is divided into three units, on one side is the MOU unit with 8 cubicles, and on the other side is a high-risk unit and high care units. Advanced midwives and PEP trained midwives staff the unit. There are no enrolled nurses or auxiliary nurses. The doctors are immediately available for emergencies. The midwives refer the patients across the corridor to the doctors, in the high risk or high care units.

MOU 4 is a stand alone MOU, located on the outskirts of the township \pm 35 km from the city centre. Because of its location, it is classified as a rural MOU. It is staffed by PEP trained midwives and enrolled nurses. There are no doctors on site. The midwives refer the patients to a level 2 hospital, which is about 25km away from the MOU. The patients are transported in the hospital ambulance, accompanied by a midwife.

TABLE 4.1: A DESCRIPTION OF THE FOUR MOUs: LOCATION, STAFFING AND REFERRAL PATTERN

MOU 1	MOU 2	MOU 3	MOU 4
Community health centre setting. MOU near city centre \pm 5km.	Community health centre. MOU situated in the Township, \pm 15km from city centre.	Metropolitan MOU in city. MOU located in the general labour ward of a Provincial hospital. The labour ward is divided into high-risk, high care and MOU (low risk) unit.	Stand alone MOU. MOUs located in the rural area. Outside township \pm 35km from city centre.
Midwives run the unit, provide care to the patients.	Doctor and midwives runs the unit.	The patients are entirely under mid-wifery care.	Midwives run the unit. There is no doctor on site.
Midwives in charge refer the patient to a level 2 hospital.	Doctor in casualty department takes rounds in the labour ward.	Midwives in charge refer the patients across the corridor, to the doctor in high-risk of high care unit.	Midwives in charge refer the patients to the next level of care, level 3 hospital.
Doctor on site, only for emergencies.	Doctor refers the patients to level 2 hospitals. The MOU also sees emergency high-risk patients and stabilise them before they are referred out to a level 2 hospital.		

4.2.3 THE RESEARCHER

The researcher is an experienced midwife and well-known in the field of midwifery. She has acquired knowledge and skills through training, achieved an advanced midwifery Honours degree through the University of Pretoria, as well as completion a preceptor course for training in advanced midwifery through Rand Afrikaans University. She has been practicing midwifery at a clinical level in the MOU and labour ward of a Provincial hospital, for the past 19 years. She acquired midwifery research skills, by conducting research studies with the MRC Unit for Maternal and Infant Health Care Strategies at Kalafong Hospital, under the auspice of the University of Pretoria, to improve maternal health care services in South Africa. She published one research paper in 1998 and presented several scientific papers at midwifery conferences and Perinatal Priorities conferences. She is a committee member of the organization of midwifery conference in Pretoria, and co-founder of the South African Society of Midwives.

The researcher has the capability to collect accurate data, due to prolonged exposure to research. She was able to achieve co-operation from the authorities and midwives during data collection of the study and was able to ensure subject safety and confidentiality.

4.3 THE FUNCTIONING OF THE MOU

Because of the nature of the data, the presentation of data will be discussed in this chapter. This will be dealt with per objectives, as stipulated in Chapter one, also referring to Table 4.2. Objective one describes and compares the functioning of the four MOUs according to size, by analysing monthly statistics of each site for a period of twelve months, with regard to specific variables as stated in chapter 1. A description of the functioning of the four MOUs is presented in table 4.2.

TABLE 4.2: A DESCRIPTION OF THE FUNCTIONING OF MOUs (STAFFING EXCLUDED)

PERINATAL AND MATERNAL CARE INDICES IN THE MOUs	MOU1	MOU2	MOU3	MOU4
Admissions in labour/year	1166	3310	3690	3378
Discharged before delivery (false labour)	159	292	249	509
Number of births in MOU	919	1994	2690	1982
Number of transfers in labour	88	1024	893	887
Percent transfers of mothers in labour	8.7	33.9	24.9	31.0
Percent low birth weight infant born at MOU	3	11	3	10
Fresh stillbirth rate/1000 births of infants >2.5kg	9.8	39.1	4.8	14.1
5 minute Apgar <8	28	416	305	234
Percentage	3.0	22.4	11.3	11.8
Neonatal referral out	22	43	30	31
Percentage	2.3%	2.2	1.1	1.6
Percentage of episiotomies cut per births	29.7	22.7	20.1	11.8
Other maternal trauma (%)	1.1	3.2	1.8	1.7
Retained placenta	4	13	16	4
Percentage	0.4	0.7	0.6	0.2
Reported postpartum haemorrhages	70	16	57	13
Percentage	7.6	0.8	2.1	0.7
Percent mothers with no recorded antenatal care	0.8	9.2	7.2	7.3
Staff/births/day ratio	6.54	2.06	0.51	1.53

There is evidence of poor intrapartum care at MOU 2, displayed by the high referral out rate of 33.9% of women in labour, as compared to the other three MOUs. The high rate of fresh stillbirth of 39.1/1000 is also an indicator of poor intrapartum care. Any rate above 10/1000 is unacceptable and warrants further investigation. The 89% of babies born with birth mass <2.5kg may be due to the fact that the MOU manages both high-risk and low-risk patients and these babies are born before the mothers are referred out. MOU 3 displays high episiotomy rate of 45%, which is unacceptable and warrants further investigation.

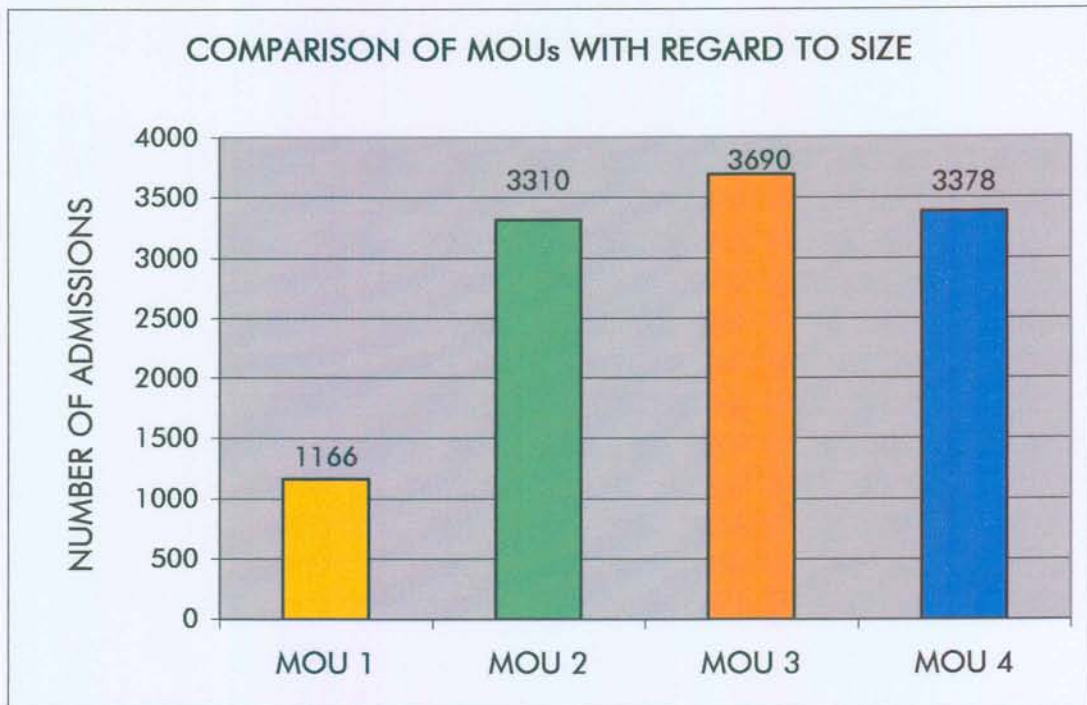


FIGURE 4.1: ADMISSIONS OF PATIENTS PER YEAR (2000-2001)

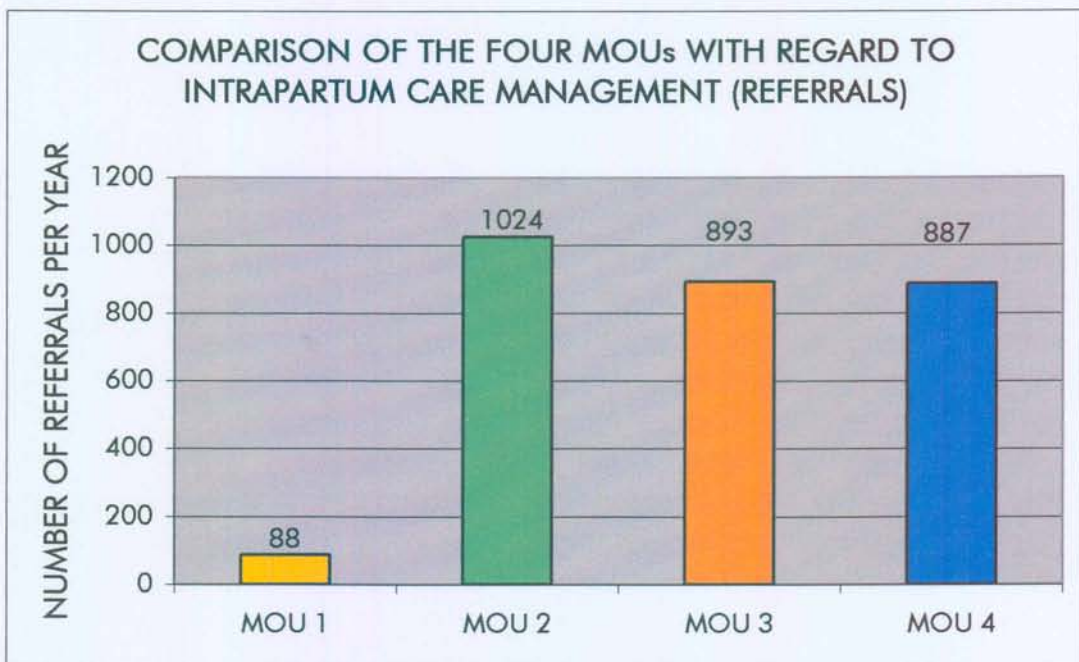


FIGURE 4.2: REFERRAL RATE PER YEAR OF THE FOUR MOUs

High referral rate of women in Labour at MOU 2 may be due to the fact that the MOU 2 is the only site, to the east of Pretoria, where deliveries are managed. High-risk patients should not be admitted but emergencies are managed before the patient is referred to a level 2 hospital.

According to WHO (1998) and Gauteng MOU Policy Recommendation Document (1995), an MOU serving about 100,000 people should at least have an average delivery rate of about 250 deliveries per month. MOU 2 delivery rate seems to be in line with the above statement. MOU 3 has a greater than 200,000 population estimates, therefore the average of 225 deliveries per month might be appropriate.

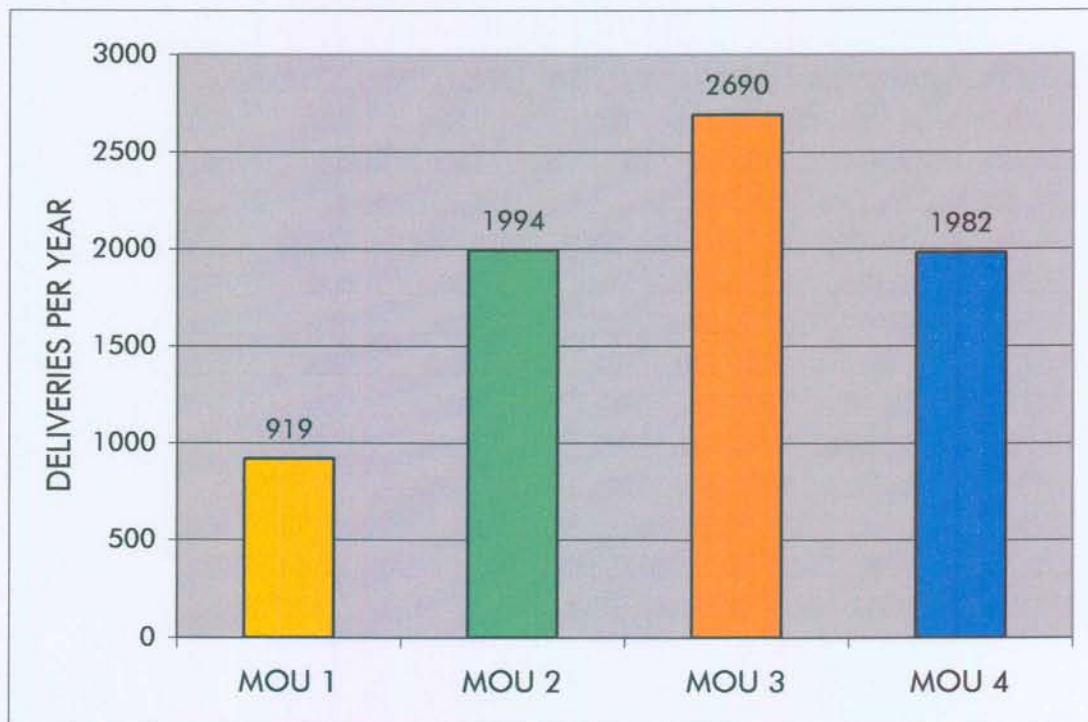


FIGURE 4.3: INTRAPARTUM CARE MANAGEMENT: NUMBER OF DELIVERIES PER YEAR

4.3.1 DISCUSSION OF THE CRITERIA USED IN DESCRIBING THE FUNCTION OF THE MOUs

4.3.1.1 Birth mass of babies delivered

For the purpose of this study only birth mass of 2.5 kilograms and more is discussed because this study looks at low risk babies delivered at the MOUs. MOU 1 delivered 97% of babies of >2.5kg. This indicates a good referral system, patients are referred out in good time. MOU 2 delivered 89% of babies of > 2.5kg. The other 11% may be are babies with problems, since

this MOU also manages high-risk emergency patients. The other possible explanation is a delay in referring the patient to a level 2 hospital in time. Only the doctor refers patients out and sometimes he/she might be out of the labour ward and busy in casualty. Midwives are not allowed to refer the patients out. Patients deliver before they are referred. MOU 3 delivered 97% of babies of >2.5kg, patients are referred across the corridor without any waste of time. MOU 4 delivered 90% of babies of >2.5kg.

4.3.1.2 Indication for referral

MOUs indication for referral in low risk patients includes pre-labour rupture of membranes, reduced fetal movement, prolonged labour (no progress), fetal distress, antepartum bleeding and postpartum bleeding, fetal distress, prolonged labour, retained placenta and postpartum bleeding.

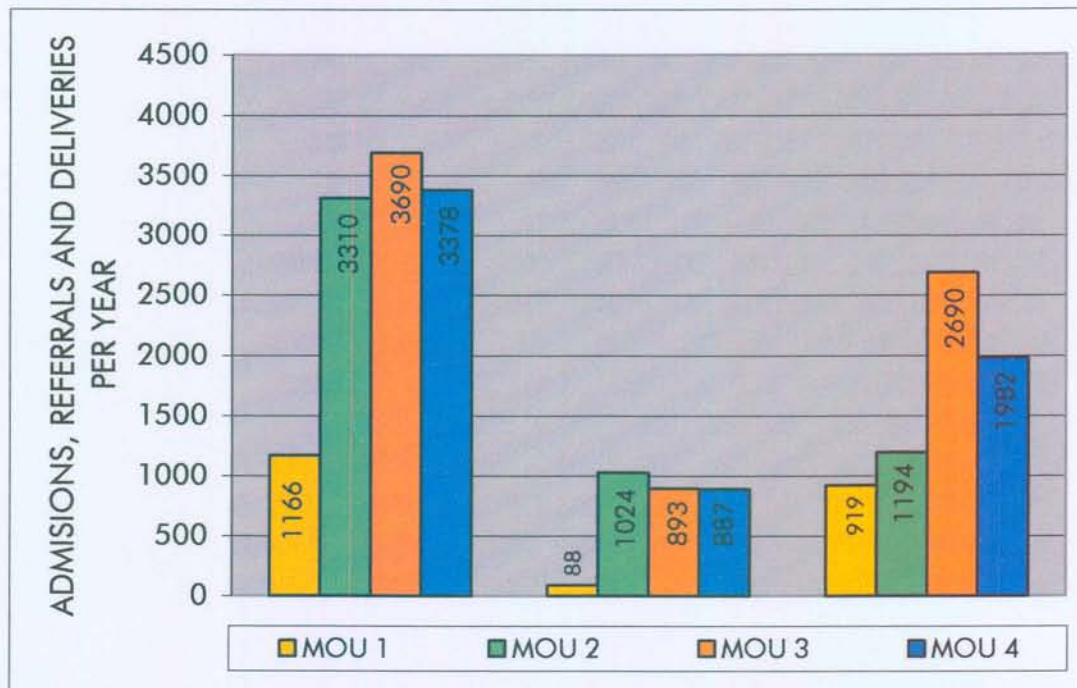


FIGURE 4.4: COMPARISON OF THE FOUR MOUs WITH REGARD TO ADMISSION, REFERRALS AND DELIVERIES

The four MOUs differ in the number of admissions, deliveries and referrals. MOU 1 has the smallest numbers while MOU 3 had the greatest numbers.

4.3.1.3 Unbooked Mothers

Unbooked mothers refer to mothers who did not attend antenatal care and the MOU or public clinics before delivery. The mothers who have seen a general practitioner are excluded from these groups. There are still an increased number of mothers who do not attend antenatal care. It is very important to define the concept unbooked. Mostly, private doctors attend to pregnant women before they come to the MOU or hospital for delivery. This should be regarded as antenatal care booking.

4.3.1.4 Comparison of pregnancy complications over a twelve month period

1. *Postpartum haemorrhage; (refers to excessive bleeding of 500ml or more, after delivery)*

MOU 1 had 70 patients who had postpartum haemorrhage; which is more than the other three MOUs. Looking at the data one may relate the high rate to correct assessment of postpartum bleeding at these site, while there might have been discrepancies in accurately measurement at the other three MOUs. Looking at the data one may ascribe this high rate, at MOU 1, to possible correct assessment of postpartum bleeding, while there may have been discrepancies in accurate measurement at the other three MOUs. Correct assessment could have been possible if the number of patients for blood transfusion was available.

2. *Retained placenta*

MOU 1 and MO 4 had between 2.1 and 4.3/1000 patients with retained placentas. MOU 2 had more patients (6.5/1000) referred for removal of placenta in level 2 hospital.

3. Maternal birth trauma (includes perineal, vaginal and cervical laceration and tears).
4. High percentage occurred at MOU 2, 3.2% as compared to the other three MOUs.

4.4 CONCLUSION (OBJECTIVE ONE)

The data collected shows a difference in the functioning of the MOUs in the Pretoria region. This is primarily due to difference in size, areas of location, the availability of doctors, and the number of patients admitted. MOU 3 manages the largest number of admissions and deliveries. MOU 1 has the smallest number of admissions and deliveries while 2 and 4 have almost the same numbers. MOU 2 has the highest referral rate (possible explanation given earlier in this discussion), and highest fresh stillbirth rate, (refer to table 4.2). This is of great concern and warrants further investigation.

4.5 STAFFING OF THE MOUs

Data was analysed quantitatively to describe the staffing and workload. The number of staff, the number of deliveries per shift, the level of training of staff – number of midwives with PEP training and number of advanced midwives – as well as the availability of written job descriptions of staff in the ward, were taken into account. The checklist enlisted the numbers of staff allocated in the labour ward, the level of training and the extent of upgrading.

Staffing norms differ in the four MOUs, three of the four MOUs are staffed by at least one registered advanced midwife and registered midwives, enrolled nurses and auxiliary nurses.

TABLE 4:3: STAFF ESTABLISHMENT OF THE FOUR MOUs

CATEGORIES OF STAFF	MOU 1	MOU 2	MOU 3	MOU 4
Advanced midwives	2	1	1	0
PEP Trained midwives	8	7	2	8
Registered nurses (with basic midwifery training)	1	5	2	4
Enrolled nurses	2	0	0	0
Auxiliary nurses	3	4	0	0
TOTAL MIDWIVES	13	13	5	12
TOTAL STAFF	18	17	5	12
Staff/birth day rates	6.54	2.06	0.51	1.53

Distribution of midwifery staffing is unevenly allocated due to the fact that the units have different patients capacity, patients intake and different workload. MOU 3 has less staff with high patient intake. The four MOUs have skilled midwives and advanced midwives. PEP trained midwives are referred to as skilled because they have acquired more knowledge and skills than the basic registered midwives. MOU 3 staff rotate on a weekly basis within the general labour ward. Staff in the MOU gets help from the midwives in the high-risk and high-care units. This is referred to as safe intrapartum care, displayed by a low rate of pregnancy complications, low referral rate of mothers and babies and a low fresh stillbirth rate (for percentages refer to table 4.2). Job descriptions are available at three of the units. At MOU 1 and 2 the job descriptions are kept in a file while in MOU 3, the job descriptions are displayed on the notice board and the staff at MOU 3 are all aware of this. All the MOUs used job allocation and delegation rosters for daily delegation of tasks.

4.6 QUALITY OF MIDWIFERY CARE IN THE MOUs

Quality of midwifery care was assessed through auditing of the partogram. The partogram is the essential tool, approved by the National Department of

Health as the appropriate tool for monitoring the progress of labour, therefore it should be used by all the MOUs in the Gauteng Province, including the Pretoria region. Statistical data analysis was performed using Excel 2000, assessing the mean score of the 30 items of the partogram. Each criteria was scored out of 2 (0 = not done/incomplete, 2 = complete and correct), the total score was 60, converted to percentage depicted in figure 4.7. Table 4.4 displays the four units' partograms with the maximum scoring.

TABLE: 4.4 ALL THE FOUR MOUs PARTOGRAMS WITH MEAN AND MAXIMUM SCORES

ITEM	MOU 1	MOU 3	MOU 2	MOU 4
COMPLETION OF PARTOGRAM				
FHR	1.92	1.88	1.9	1.9
Liquor	1.82	0.82	1.8	1.04
Moulding	1.9	0.94	1.8	1.9
Position	1.76	1.48	1.7	1.96
Cervical dil	1.84	1.52	1.8	1.82
Level of head	0.57	0.74	0.6	1.82
Contractions	1.86	1.4	1.9	1.86
Pulse	1.55	1.22	1.6	1.78
Blood pressure	1.84	1.3	1.8	1.8
Urine tested	1.37	1.06	1.4	1.84
Sub-total	16.43	12.36	16.3	17.72
Percentage of maximum	82.3	61.8	81.5	86.8
Problem identified	0.57	0.52	0.8	0.72
Action taken	0.46	0.38	0.3	0.46
Sub-total	1.03	0.8	1.1	1.18
Percentage of maximum	25.8	20	27.5	29.5
Problem identified and action taken	61	48	64	63
Key observation >80% of partogram utilized in MOU 3 and MOU 4				

4.6.1 DISCUSSION AND COMPARISON OF THE FINDINGS OF THE AUDIT OF THE PARTOGRAM

Any score less than 1 is very poor, less than 1.5 is poor. Audit of the partogram at MOU 1 findings were that identification of patients on the partogram was poor, including obstetric history, risk classification, and liquor. Very poor include the following aspects: risk factor, cervical length, effacement, problems identified and action taken. Variability and deceleration was difficult to measure at MOU 1 and MOU 3 because the two used electronic fetal monitoring and this was automatically recorded on a graph, and not in the partogram. The graph was kept in the file. At MOU 2 the observations were badly done, as the partogram shows a lot of aspects, which were very poor and poor, (see table 4.4).

Comparison of the partogram recording

	MOU 1	MOU 2	MOU 3	MOU 4
No < 1 Very Poor	7	11	7	7
No < 1.5 Poor	3	9	3	5

The audit also showed common undocumented aspects in the four sites which includes: risk factors, effacement, moulding, cervical length, level of the head, drugs and intravenous fluids and urine amount. All these aspects are important and should be documented to describe the progress of labour. The undocumented problems identified, and actions taken, may be a reflection of the low risk status of patients managed at MOU level. Should deviations occur during the course of labour necessitating intervention, this must be recorded in the partogram.

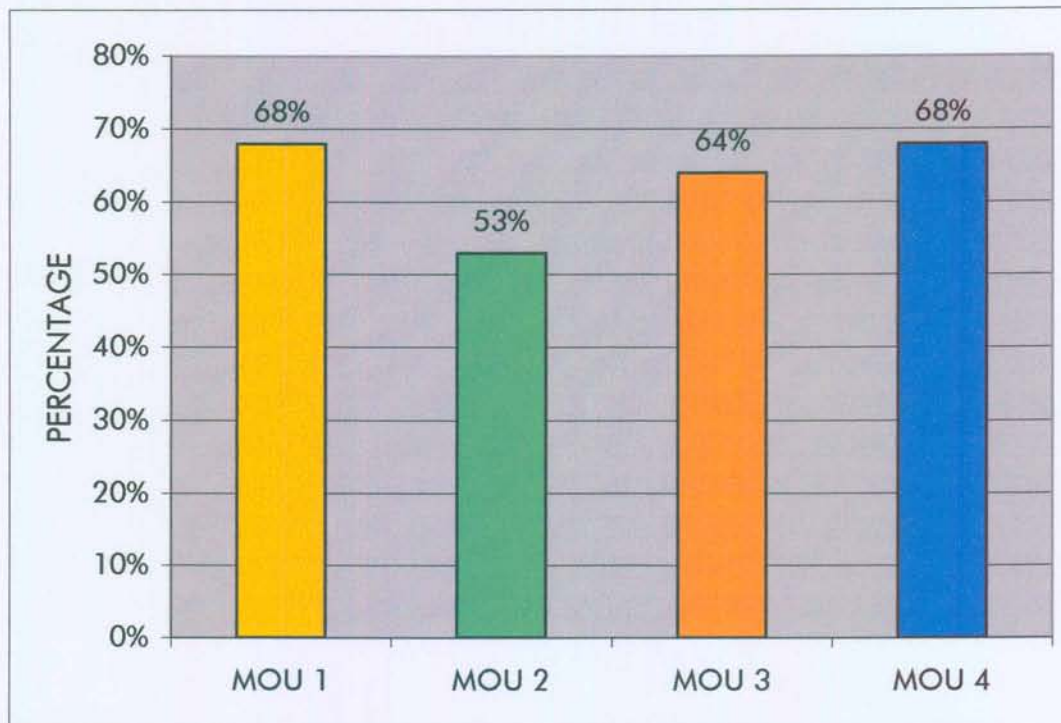


FIGURE 4.5: COMPARISON OF THE MEAN PERCENTAGE SCORE OF THE AUDIT OF THE PARTOGRAM OF THE FOUR MOUs

MOU 1 and MOU 4 had the highest score but not good enough which indicates that the units are partially using the partogram (64%). This gives cause for concern because it is not good enough, it indicates safe care not quality care, and the purpose of for the establishment of MOUs was to provide quality care.

4.7 PATIENT SATISFACTION

Thirty patients from each MOU were selected consecutively and asked to fill a questionnaire in the postnatal ward, after written informed consent was obtained. This questionnaire consisted of three sections. The first section consisted of demographic data, part one consisted of sixteen items assessing patient satisfaction. The Likert-type format scale was used to score the sixteen items. Part two consist of three questions assessing why the patients bypassed the MOU nearer to their homes and delivered at the hospital. (See questionnaire in the annexure C). A total of 120 patients filled the questionnaire, assessing patient satisfaction.

A quantitative method was used to analyse the data. As expected and as highlighted by various other researchers, patients overrate their satisfaction of the care they received. This became evident when we analysed the data quantitatively. 68 patients were selected conveniently for, by-passing the MOU nearer to their homes to deliver at the hospital, were asked to fill the questionnaire, assessing the reasons for by-passing the MOU.

The survey yielded valuable information on the patients' perceptions of quality of care. Part one of the questionnaire yielded the following comments from the patients: See the questionnaire in Annexure C. The following patients' responses displayed. A Likert scale was used to score the questionnaires; one equalled strongly disagree, two disagree, three not sure, four agree, and five strongly agree.

4.7.1 PATIENTS' RESPONSE TO THE SIXTEEN ITEMS QUESTIONNAIRES AT THE FOUR MOUs

To display a comprehensive picture of the results, the responses are grouped into positive, negative and neutral responses, and are structured as:

- Positive responses : strongly agree and agree
 Negative responses : disagree and strongly disagree
 Neutral : not sure

The following tables and figures display the results.

TABLE 4.5(a): SATISFIED WITH THE INTRAPARTUM CARE

(1) I am very satisfied with the intrapartum care I received	MOU 1	MOU 2	MOU 3	MOU 4
5 = Strongly agree	24	8	12	12
4 = Agree	4	5	7	12
3 = Not Sure	0	2	4	0
2 = Disagree	0	2	4	1
1 = Strongly disagree	1	13	3	5

TABLE 4.5(b): TOTAL NUMBER OF RESPONSES

	MOU 1	MOU 2	MOU 3	MOU 4
Satisfied	28	13	19	24
Dissatisfied	1	15	7	6
Unsure	0	2	4	0

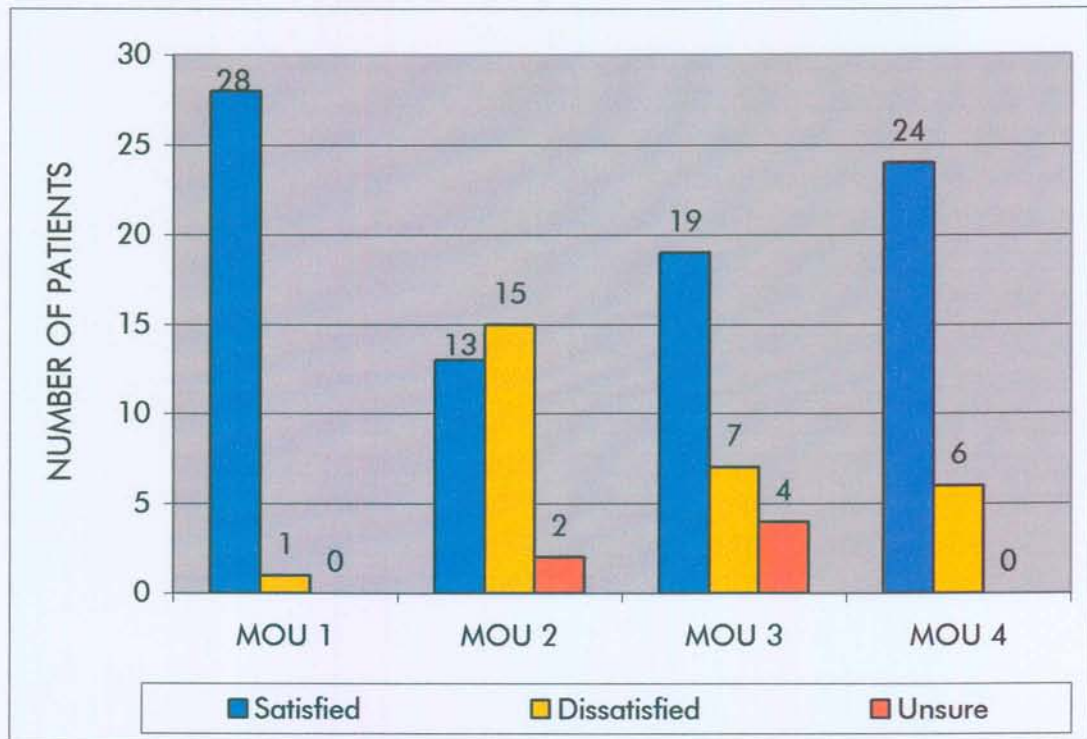


FIGURE 4.6: PATIENTS' SATISFACTION WITH INTRAPARTUM CARE (n=30)

Patients are satisfied with intrapartum care at MOU 1, displayed by the high satisfied response rate, followed by MOU 4, then MOU 3. At MOU 2, patients are dissatisfied with intrapartum care, displayed by the higher number of negative responses.

TABLE 4.6(a): POOR INTRAPARTUM CARE

(2) Intrapartum care was very poor at the MOU	MOU 1	MOU 2	MOU 3	MOU 4
5 = Strongly agree	2	9	1	0
4 = Agree	2	7	1	8
3 = Not Sure	0	2	5	3
2 = Disagree	2	7	10	2
1 = Strongly disagree	23	5	13	19

TABLE 4.6(b): TOTAL NUMBER OF RESPONSES

	MOU 1	MOU 2	MOU 3	MOU 4
Agree	4	16	2	8
Disagree	25	12	23	21
Not sure	0	2	5	1

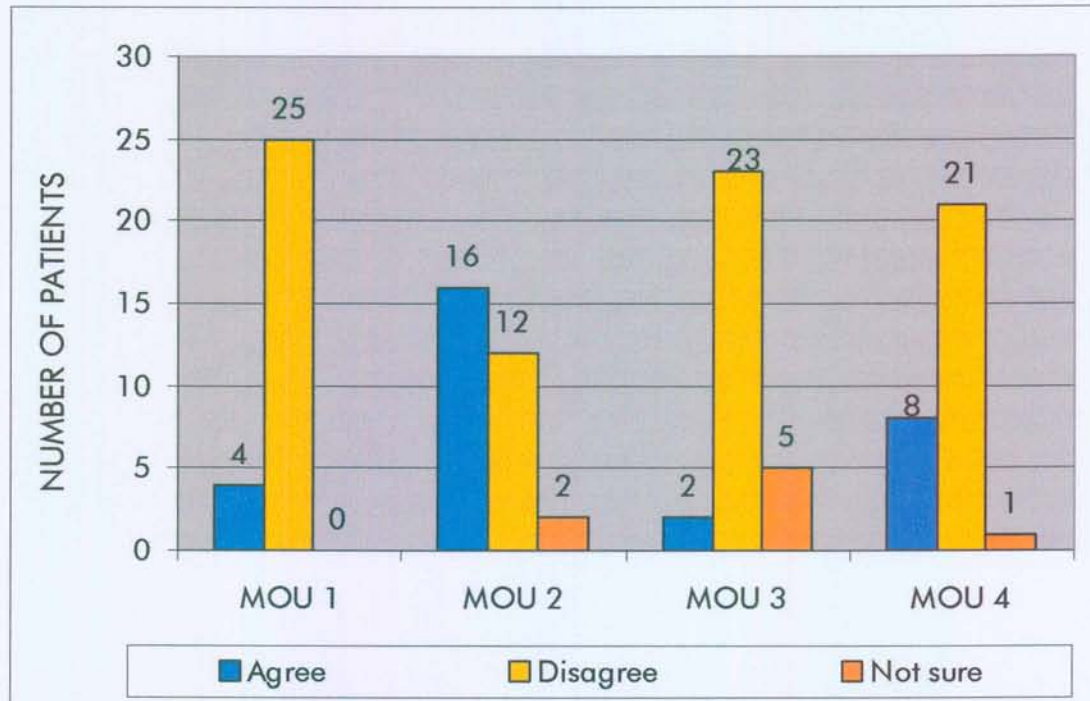


FIGURE 4.7: POOR INTRAPARTUM CARE (n=30)

A high number of negative responses at MOU 1 implies that patients found intrapartum care adequate or good, followed by MOU 3 then MOU 4. MOU 2 has a higher number of positive responses implying that more patients found care poor at the site.

TABLE 4.7(a): ACCESS TO MOUs

(3) It was difficult to get to MOU	MOU 1	MOU 2	MOU 3	MOU 4
5 = Strongly agree	2	3	2	0
4 = Agree	3	3	1	7
3 = Not Sure	0	0	3	0
2 = Disagree	0	6	10	3
1 = Strongly disagree	22	18	14	19

TABLE 4.7(b): TOTAL NUMBER OF RESPONSES

	MOU 1	MOU 2	MOU 3	MOU 4
Agree	5	6	3	7
Disagree	22	24	24	22
Not sure	0	0	3	0

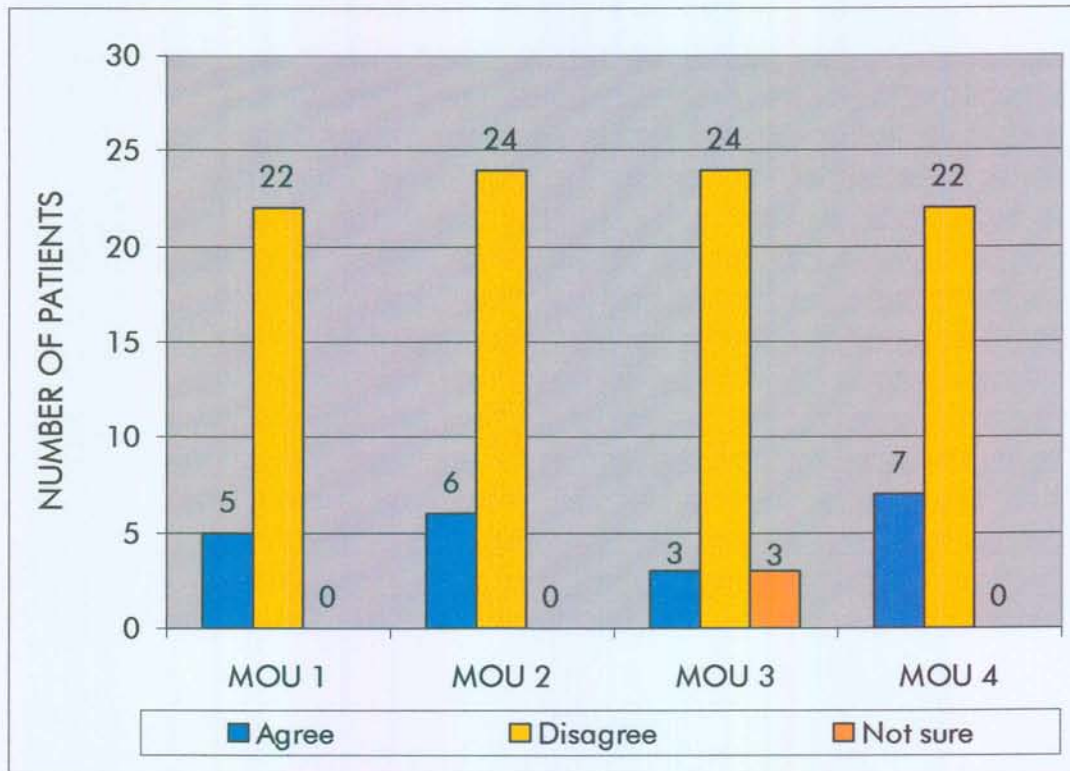


FIGURE 4.8: ACCESS TO MOUs (n=30)

The high negative responses at the four MOUs indicate that it was not difficult to access the sites.

TABLE 4.8(a): EASY ACCESS TO MOU

(4) It was easy to get to the MOU	MOU 1	MOU 2	MOU 3	MOU 4
5 = Strongly agree	4	7	5	1
4 = Agree	21	18	13	21
3 = Not Sure	0	0	3	0
2 = Disagree	0	1	10	1
1 = Strongly disagree	2	4	2	7

TABLE 4.8(b): TOTAL NUMBER OF RESPONSES

	MOU 1	MOU 2	MOU 3	MOU 4
Agree	25	25	18	22
Disagree	2	5	12	8
Not sure	0	0	3	0

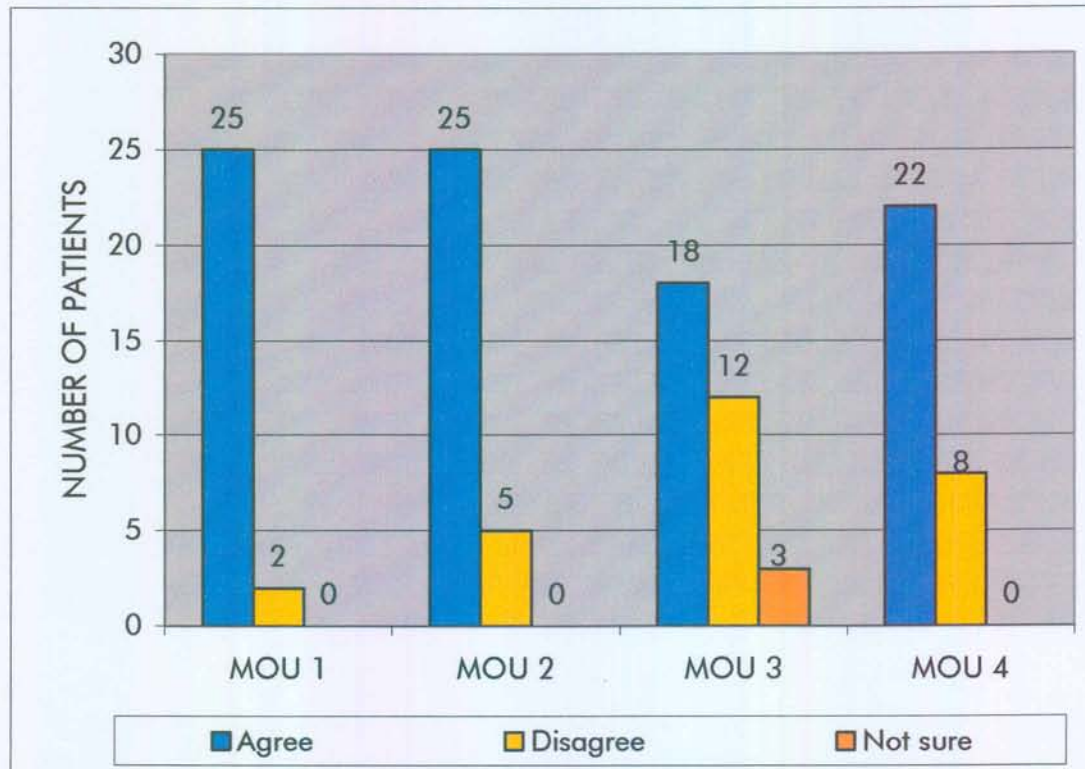


FIGURE 4.9: EASY ACCESS TO MOUs (n=30)

The four MOUs are easily accessible, displayed by the high number of positive responses. MOU 1 and MOU 2 were more accessible followed by MOU 4. MOU 3 was less accessible. This is supported by the number of negative responses which is higher than the other three MOUs.

TABLE 4.9(a): WAITING TIME

(5) I had to wait a long time to be attended to at the MOU	MOU 1	MOU 2	MOU 3	MOU 4
5 = Strongly agree	2	4	4	1
4 = Agree	3	7	3	9
3 = Not Sure	0	0	2	1
2 = Disagree	5	7	12	6
1 = Strongly disagree	18	12	9	13

TABLE 4.9(b): TOTAL NUMBER OF RESPONSES

	MOU 1	MOU 2	MOU 3	MOU 4
Agree	5	11	7	10
Disagree	23	19	21	19
Not sure	0	0	2	1

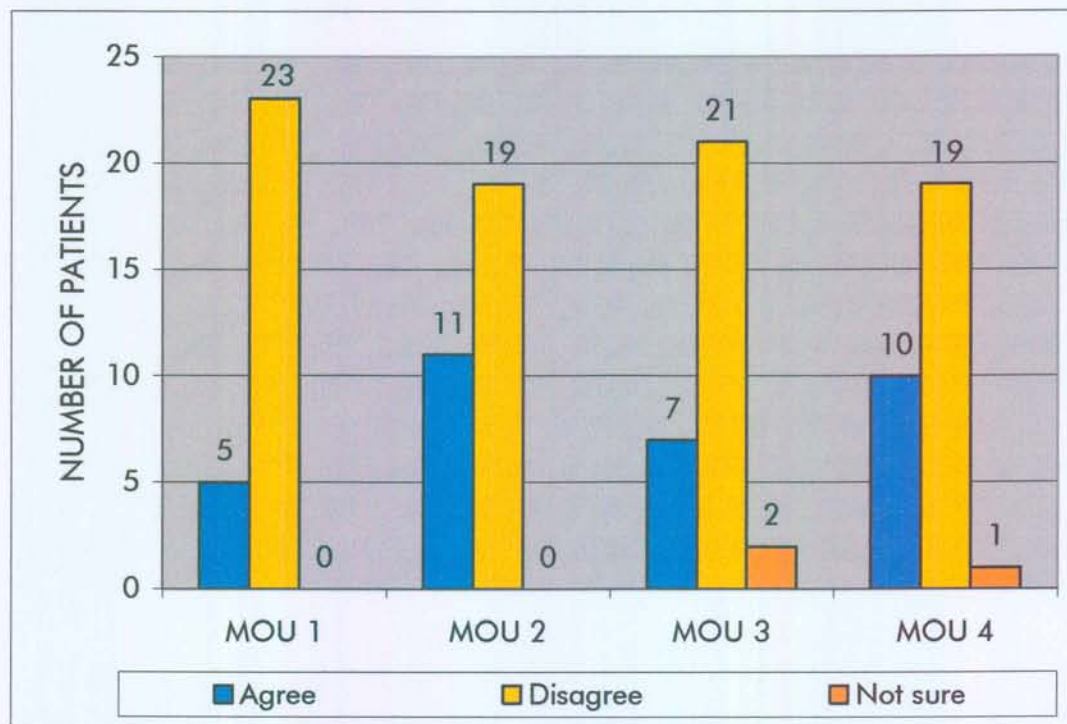


FIGURE 4.10: WAITING TIME (n=30)

This graph indicates that patients are being attended to immediately, at the MOUs 1, 3 and 4. More patients attending MOU 1 disagreed that they waited a long time.

TABLE 4.10(a): RECEPTION OF STAFF AT THE MOU

(6) Reception by staff were friendly and courteous	MOU 1	MOU 2	MOU 3	MOU 4
5 = Strongly agree	10	7	8	0
4 = Agree	17	15	9	23
3 = Not Sure	0	4	1	0
2 = Disagree	0	2	6	5
1 = Strongly disagree	1	2	6	5

TABLE 4.10(b): TOTAL NUMBER OF RESPONSES

	MOU 1	MOU 2	MOU 3	MOU 4
Agree	27	22	17	23
Disagree	1	4	12	10
Not sure	0	4	1	0

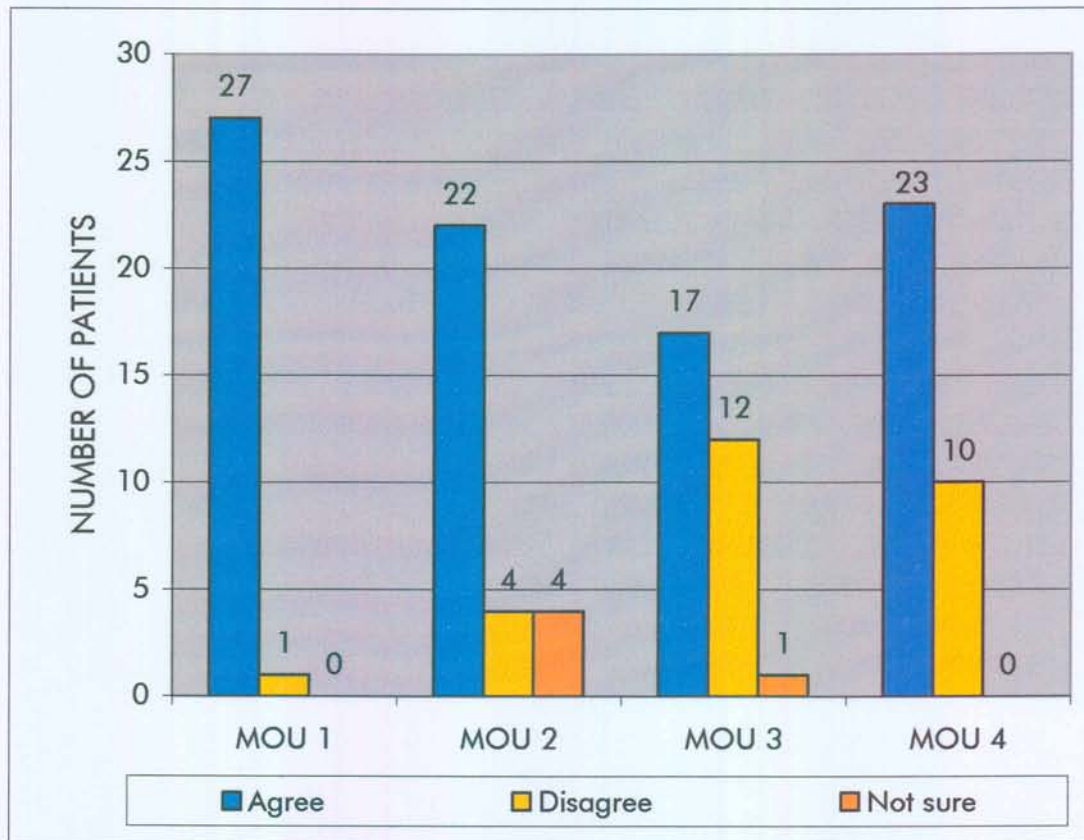


FIGURE 4.11: RECEPTION OF PATIENTS AT MOUs (n=30)

MOU 1 staff were found most friendly and courteous, followed by staff from MOU 4 then MOU 2 MOU 3 staff are less friendly argued by less positive responses and more negative responses than the three MOUs.

TABLE 4.11(a): PATIENTS TREATED WITH RESPECT

(7) The midwives treated me with respect	MOU 1	MOU 2	MOU 3	MOU 4
5 = Strongly agree	12	8	11	0
4 = Agree	15	5	6	23
3 = Not Sure	0	1	3	0
2 = Disagree	1	7	4	5
1 = Strongly disagree	0	9	6	1

TABLE 4.11(b): TOTAL NUMBER OF RESPONSES

	MOU 1	MOU 2	MOU 3	MOU 4
Agree	25	13	17	23
Disagree	1	16	10	6
Not sure	0	1	3	0

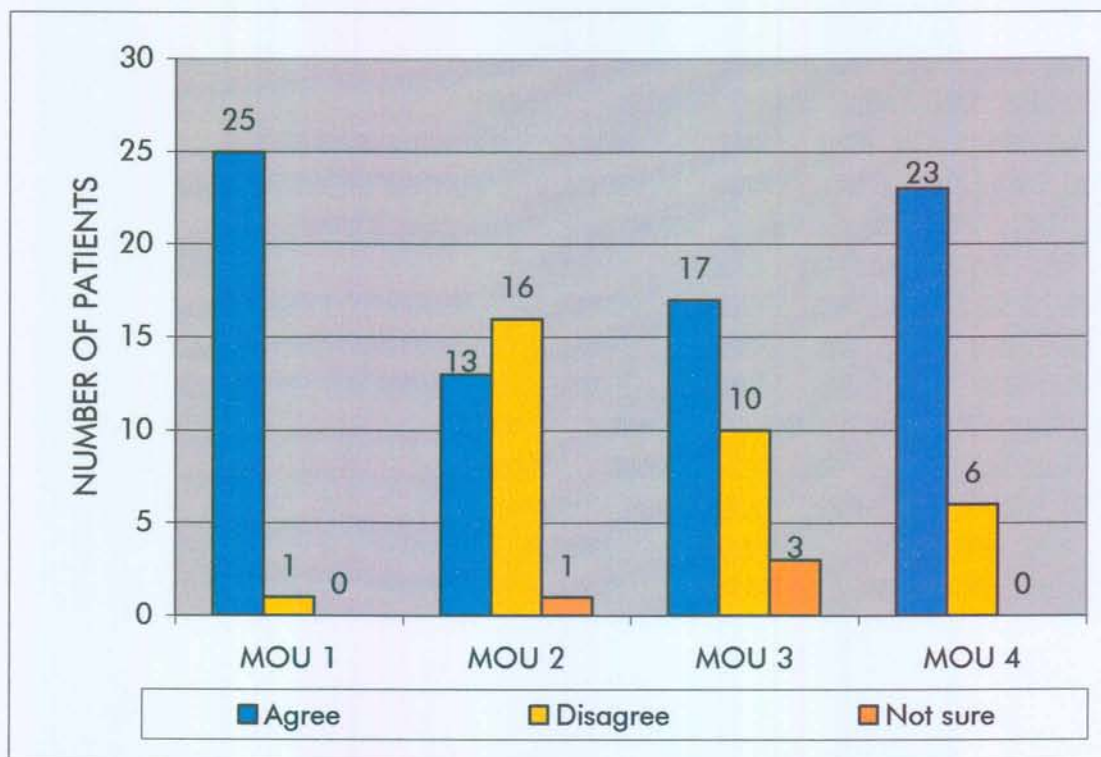


FIGURE 4.12: PATIENTS TREATED WITH RESPECT (n=30)

Patients are more treated with respect at MOU 1, MOU 4 and to a certain limit at MOU 3 lack of respect for patients is displayed at MOU 2 demonstrated by more negative responses than the positive ones.

TABLE 4.12(a): PATIENT TRUSTS IN MIDWIVES

(8) I did not trust the Midwives	MOU 1	MOU 2	MOU 3	MOU 4
5 = Strongly agree	2	11	4	2
4 = Agree	7	5	3	6
3 = Not Sure	2	2	3	0
2 = Disagree	1	7	10	12
1 = Strongly disagree	17	5	10	10

TABLE 4.12(b): TOTAL NUMBER OF RESPONSES

	MOU 1	MOU 2	MOU 3	MOU 4
Agree	9	16	7	8
Disagree	18	12	20	22
Not sure	2	2	3	0

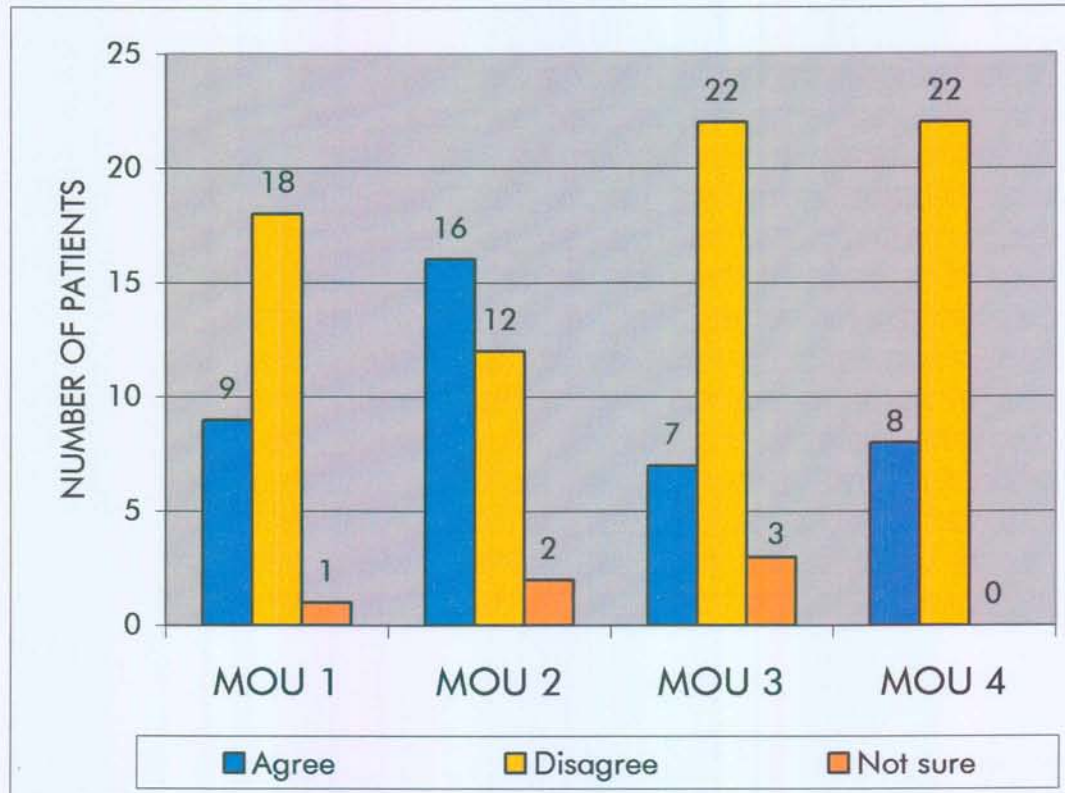


FIGURE 4.13: PATIENT TRUSTS IN MIDWIVES (n=30)

Patients trusted midwives most in MOU 4, followed by MOU patients from MOU 3 and MOU 1. Patients at MOU 2 demonstrated lack of trust in midwives, shown by more positive responses, agreeing with the statement that they did not trust the midwives.

TABLE 4.13(a): MIDWIVES REASSURED PATIENT IN LABOUR

(9) Midwives reassured patient in labour	MOU 1	MOU 2	MOU 3	MOU 4
5 = Strongly agree	6	9	6	1
4 = Agree	20	11	12	19
3 = Not Sure	1	1	4	1
2 = Disagree	1	2	4	7
1 = Strongly disagree	0	7	4	2



TABLE 4.13(b): TOTAL NUMBER OF RESPONSES

	MOU 1	MOU 2	MOU 3	MOU 4
Agree	26	20	18	20
Disagree	1	9	8	9
Not sure	1	1	4	1

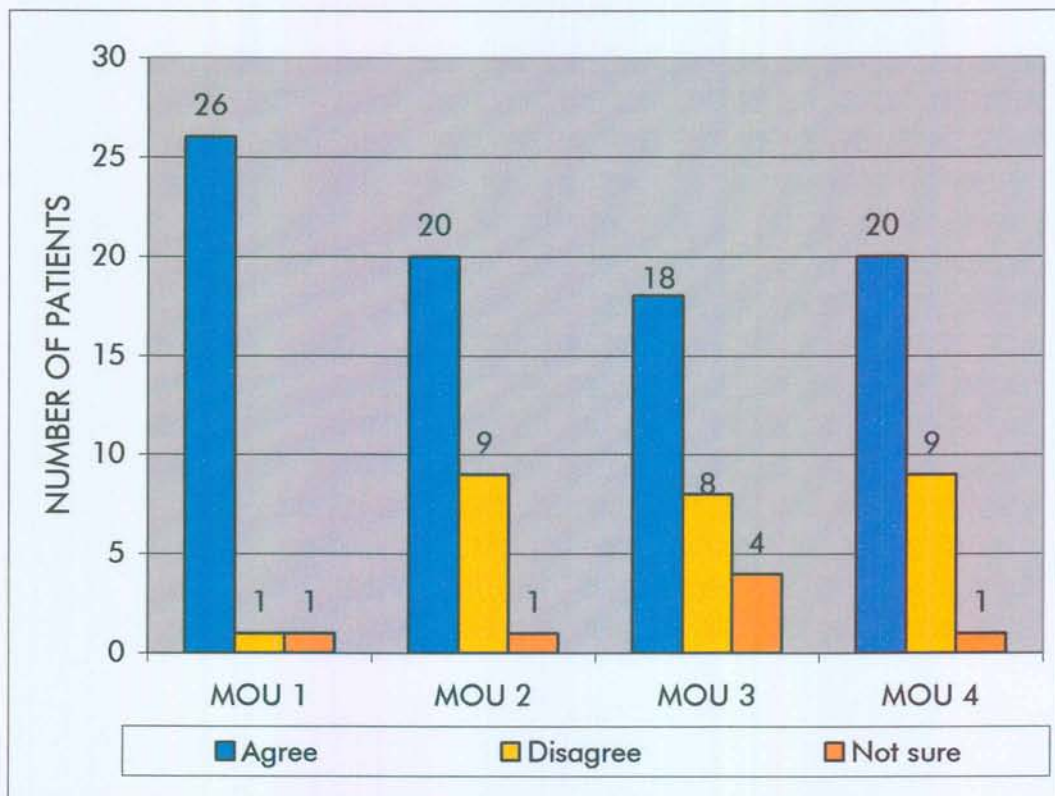


FIGURE 4.14: MIDWIVES REASSURED PATIENTS IN LABOUR (n=30)

Patients were most reassured at MOU 1, followed by MOU 2 and MOU 4. They were least reassured at MOU 3.

TABLE 4.14(a): MIDWIVES SPENDING TIME WITH PATIENT IN LABOUR

(10) The midwives spend a lot of time with me	MOU 1	MOU 2	MOU 3	MOU 4
5 = Strongly agree	10	5	6	1
4 = Agree	12	6	5	18
3 = Not Sure	1	2	2	0
2 = Disagree	2	13	8	6
1 = Strongly disagree	4	4	9	5

TABLE 4.14(b): TOTAL NUMBER OF RESPONSES

	MOU 1	MOU 2	MOU 3	MOU 4
Agree	22	11	11	19
Disagree	6	17	17	11
Not sure	1	2	2	0

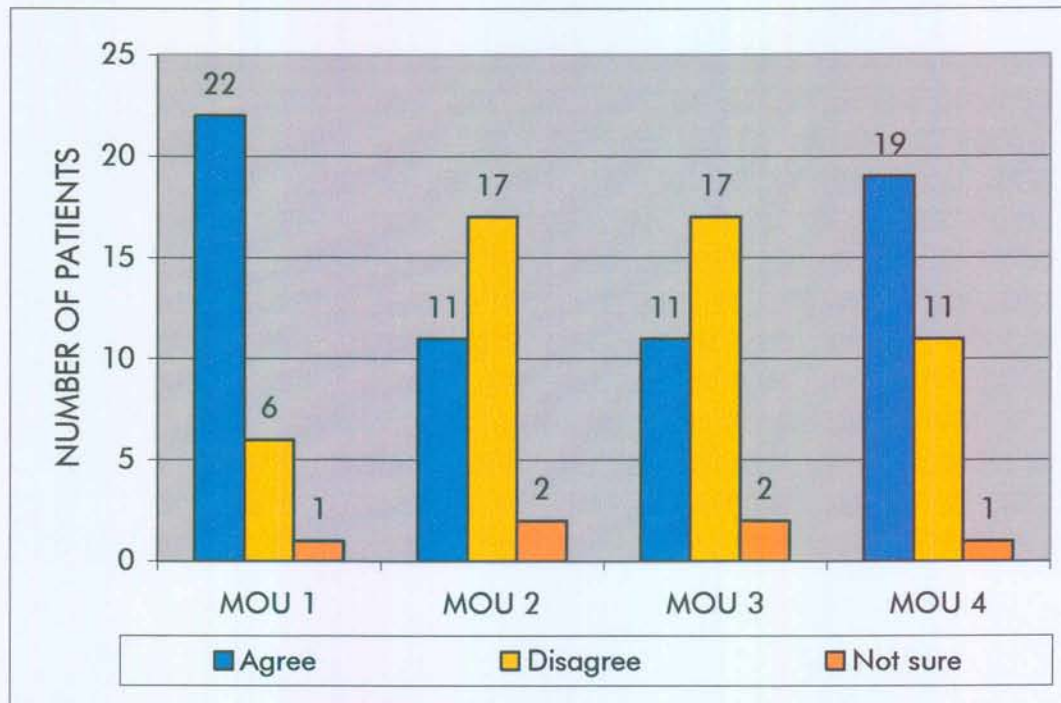


FIGURE 4.15: MIDWIVES SPENDING TIME WITH PATIENTS IN LABOUR (n=30)

Midwives spent a lot of time with patients in labour at MOU 1 and MOU 4, less time was spend with patients at MOU 2 and at MOU 3 the least time was spent with patients.

TABLE 4.15(a): MIDWIVES LISTENING TO PATIENTS IN LABOUR

(11) The midwives did not listen to me	MOU 1	MOU 2	MOU 3	MOU 4
5 = Strongly agree	1	11	5	1
4 = Agree	4	8	4	6
3 = Not Sure	0	2	5	1
2 = Disagree	5	5	7	7
1 = Strongly disagree	18	4	9	15

TABLE 4.15(b): TOTAL NUMBER OF RESPONSES

	MOU 1	MOU 2	MOU 3	MOU 4
Agree	5	19	9	7
Disagree	23	9	16	22
Not sure	0	2	5	1

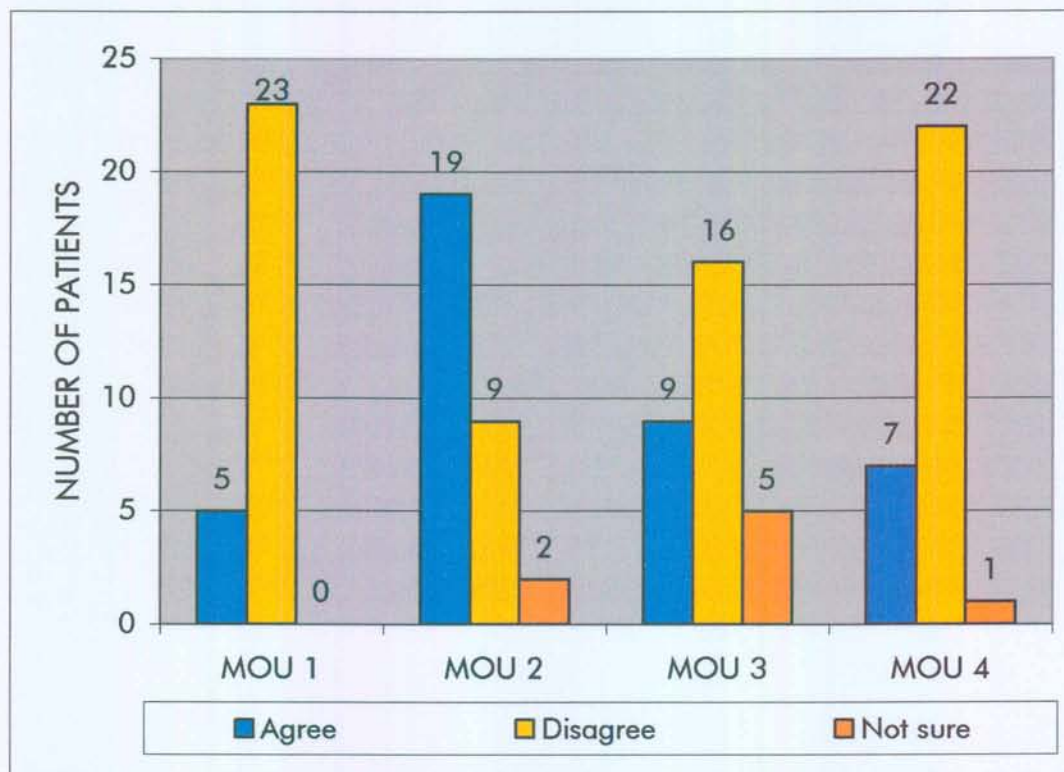


FIGURE 4:16: MIDWIVES LISTENING TO PATIENTS IN LABOUR (n=30)

Midwives listen to patients in labour more often at MOU 1 and MOU 4, followed by MOU 3. Lack of listening skilled is displayed at MOU 2 as demonstrated by high positive responses, agreeing with the statement that midwives do not listen to patients in labour.

TABLE 4.16(a): EXPLANATION OF LABOUR BY MIDWIVES

(12) The midwives told me what to expect during labour	MOU 1	MOU 2	MOU 3	MOU 4
5 = Strongly agree	10	5	6	2
4 = Agree	14	12	5	20
3 = Not Sure	1	2	1	0
2 = Disagree	2	4	8	6
1 = Strongly disagree	2	7	10	2

TABLE 4.16(b): TOTAL NUMBER OF RESPONSES

	MOU 1	MOU 2	MOU 3	MOU 4
Agree	24	17	11	20
Disagree	4	11	18	8
Not sure	1	2	1	0

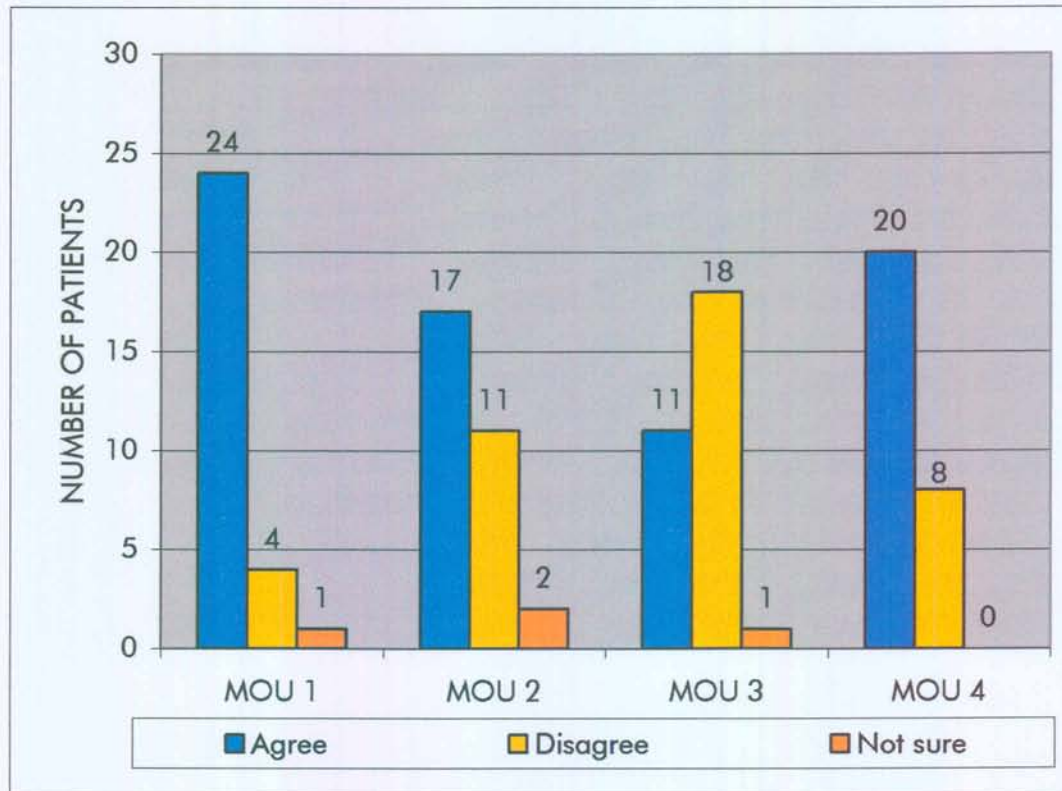


FIGURE 4.17: EXPLANATION OF PROCEDURES BY MIDWIVES (n=30)

Midwives at MOU 1 explained to patients what to expect during labour followed by MOU 4, then MOU 2 and MOU 3 doing less explanation of labour process to patients.

TABLE 4.17(a): MIDWIVES EXPLAINING REASONS FOR TEST

(13) The midwives did not explain why they did tests	MOU 1	MOU 2	MOU 3	MOU 4
5 = Strongly agree	9	2	9	1
4 = Agree	12	3	4	8
3 = Not Sure	1	4	1	0
2 = Disagree	6	13	5	9
1 = Strongly disagree	1	8	11	12

TABLE 4.17(b): TOTAL NUMBER OF RESPONSES

	MOU 1	MOU 2	MOU 3	MOU 4
Agree	27	5	13	9
Disagree	7	21	16	21
Not sure	1	3	1	0

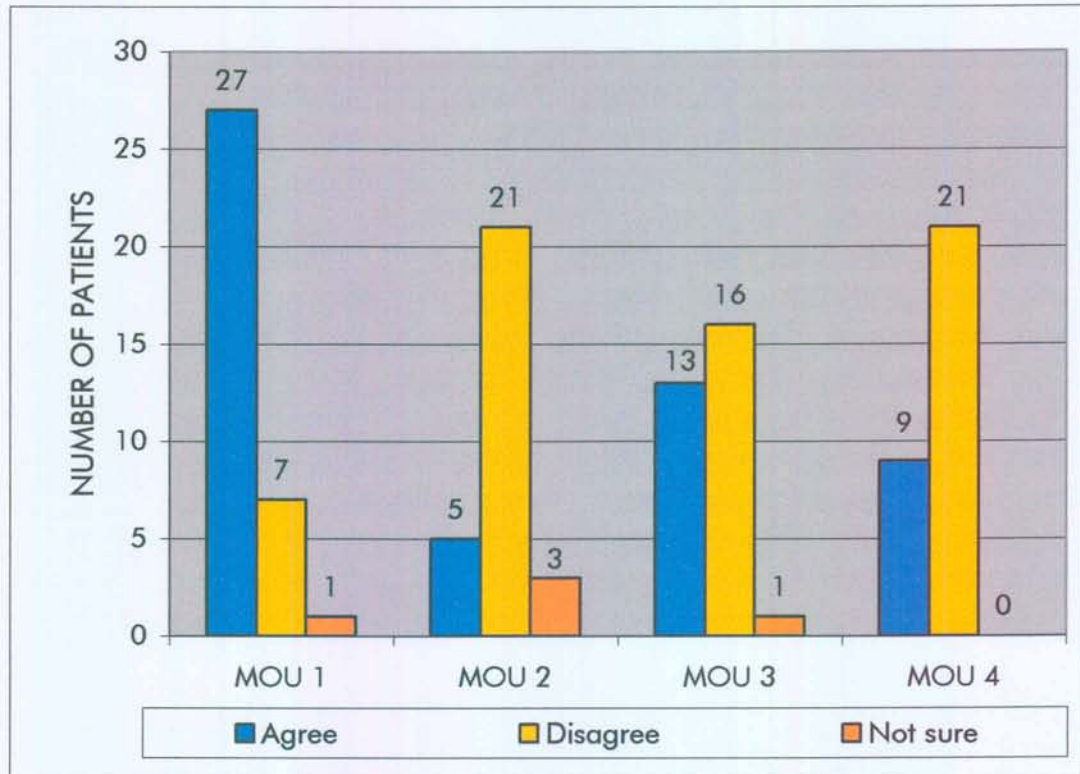


FIGURE 4.18: MIDWIVES EXPLAINING REASONS FOR TESTS/EXAMINATION (n=30)

At MOU 4, MOU 2, and MOU 3 midwives tried to explain reasons for tests, while MOU 1, the high number of positive responses imply that midwives did not explain the reasons for doing tests/examination during labour.

TABLE 4.18(a): THOROUGH EXAMINATION ON PATIENTS IN LABOUR BY MIDWIVES

(14) The midwife was very thorough with her examination	MOU 1	MOU 2	MOU 3	MOU 4
5 = Strongly agree	6	4	8	1
4 = Agree	14	4	7	21
3 = Not Sure	7	2	3	1
2 = Disagree	1	16	6	5
1 = Strongly disagree	1	4	6	2



TABLE 4.18(b): TOTAL NUMBER OF RESPONSES

	MOU 1	MOU 2	MOU 3	MOU 4
Agree	20	8	15	22
Disagree	2	20	12	7
Not sure	7	2	3	1

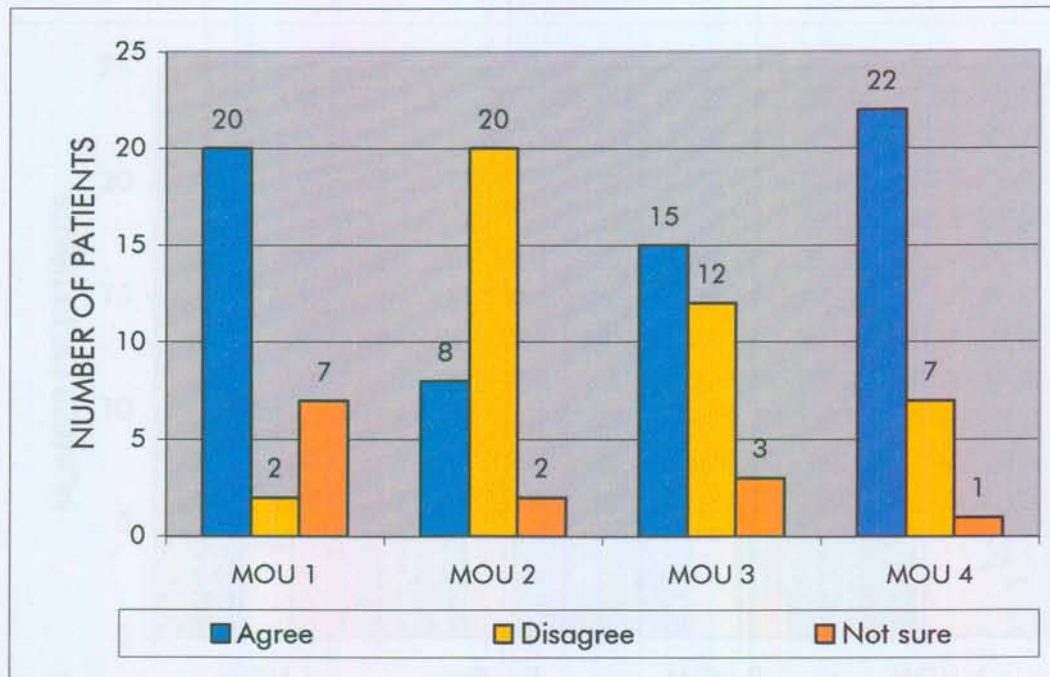


FIGURE 4.19: THOROUGH EXAMINATION ON PATIENTS BY MIDWIVES DURING LABOUR (n=30)

MOU 4 midwives were most often thorough with the patients' examination during labour, followed by MOU 1. MOU 2 patients were not happy with the examination performed during labour, demonstrated by high number of negative responses. MOU 3 had only a few more positive responses than negative ones, implying that to certain extent midwives were better with the examination on patients in labour.

TABLE 4.19(a): UNNECESSARY EXAMINATION BY MIDWIVES ON PATIENTS DURING LABOUR

(15) The midwives did unnecessary examinations	MOU 1	MOU 2	MOU 3	MOU 4
5 = Strongly agree	9	7	11	1
4 = Agree	9	6	2	6
3 = Not Sure	7	0	2	3
2 = Disagree	2	4	6	11
1 = Strongly disagree	2	7	9	9

TABLE 4.19(b): TOTAL NUMBER OF RESPONSES

	MOU 1	MOU 2	MOU 3	MOU 4
Agree	18	13	12	7
Disagree	4	11	15	20
Not sure	7	0	2	3

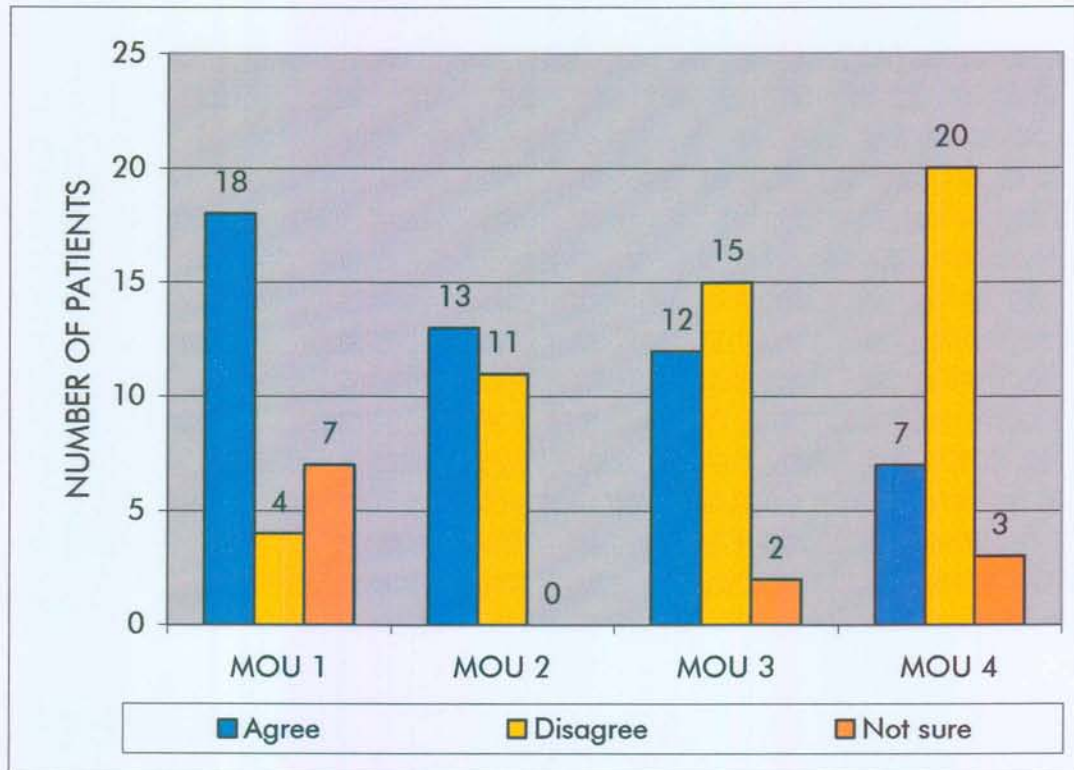


FIGURE 4.20: UNNECESSARY EXAMINATION BY MIDWIVES ON PATIENTS DURING LABOUR (n=30)

Midwives did unnecessary examinations at MOU 1 demonstrated by the high number of positive responses, although quite a few patients were not sure whether the examination was necessary. MOU 4 midwives did very well, displayed by the high number of negative responses. At MOU 3 also had fewer reports of unnecessary examinations.

TABLE 4.20(a): MIDWIFE COMPETENCY IN MANAGEMENT OF PATIENTS IN LABOUR

(16) The midwife was very competent	MOU 1	MOU 2	MOU 3	MOU 4
5 = Strongly agree	20	6	10	19
4 = Agree	6	14	6	8
3 = Not Sure	1	1	1	0
2 = Disagree	1	8	6	2
1 = Strongly disagree	1	1	7	1

TABLE 4.20(b): TOTAL NUMBER OF RESPONSES

	MOU 1	MOU 2	MOU 3	MOU 4
Agree	26	20	16	27
Disagree	2	9	13	3
Not sure	1	1	1	0

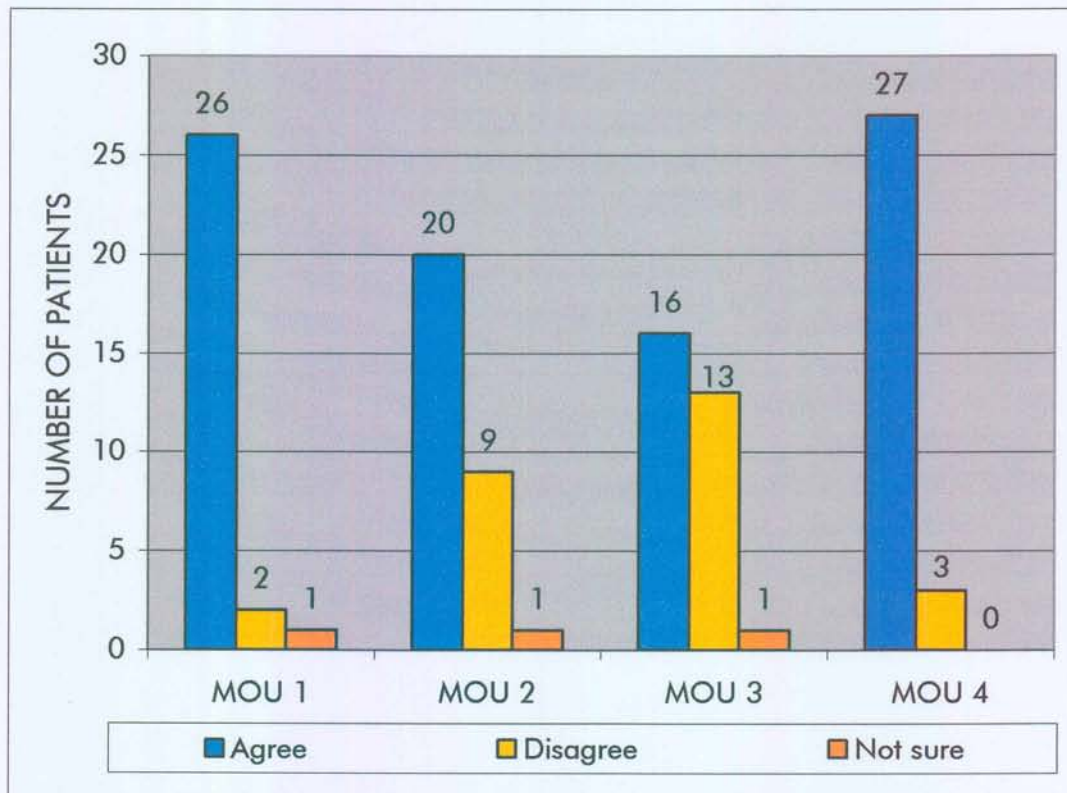


FIGURE 4.21: MIDWIFE COMPETENCY IN MANAGEMENT OF PATIENT IN LABOUR (n=30)

Patients experienced midwives competency at the four MOUs. Most patients agreed that midwives were more competent at MOU 4 and MOU 1.

TABLE 4.21: PATIENT'S PERCEPTIONS OF THE QUALITY OF THE MIDWIFERY STAFF IN THE MOUs

MOU	HIGHEST			LOWEST
1	9	3	-	1
2	1	1	5	6
3	1	3	6	3
4	3	7	3	-

QUESTION	MOU	MOU	MOU	MOU
	1	2	3	4
Satisfied with intrapartum care				
Waiting time				
Reception by staff				
Treated with respect				
Trust of midwives				
Reassurance of patience in labour				
Spending time with patient in labour				
Listening to patients in labour				
Explanation of process				
Explanation of tests				
Examination of patients in labour				
Unnecessary examinations in labour				
Competency of midwives				

Discussion and comparison of patient's satisfaction with intrapartum care, at the four MOUs. MOU 1 and MOU 4 performed much better than MOU 2 and MOU 3 regarding patient satisfaction. Safe intrapartum care is achieved at MOU 1, 3 and 4 illustrated by patients' responses to the assessment of satisfaction. MOU 2 performed very poor, illustrated by patients' dissatisfaction with the care they received.

TABLE 4.22: PATIENT'S PERCEPTION OF SAFETY

CATEGORIES/ SUB-CATEGORIES	QUOTATION	MOU 1	MOU 2	MOU 3	MOU 4
1. Good care	1. "Midwives respect and treat patients well"	√		√	√
	2. "They took good care of me with my first baby"	√		√	
	3. "Midwives are friendly"	√		√	
	4. "Many people talk about it"	√		√	√
2. Midwives competency	1. "I had a difficult labour they saved my baby"	√		√	
	2. "I will come back for my next delivery"	√		√	√
3. Near home	1. "The site is nearer my home"	√	√	√	√
4. No choice	1. "The other clinic does not do deliveries"	√	√	√	√
	2. "It is the nearest place but not necessary nearer to my home"				√
	3. "The ambulance brought me here"			√	√
	4. "I had no money to go somewhere else"		√		
5. Referred	1. "I was referred here"	√	√	√	√
	2. "The private doctor referred me"	√		√	

TABLE 4.23: REFERRAL IN LABOUR

CATEGORIES/ SUBCATEGORIES	QUOTATION	MOU 1	MOU 2	MOU 3	MOU 4
How did you feel when referred here?					
1. Unhappy	1. "The place is far from home"		√		
	2. "I had no choice"	√	√	√	√
	3. "They did not explain why they are referring me here"			√	
	4. " I do not know anybody here"				√
	5. "There is no food here"		√		√
	6. "Our relatives are not allowed in the MOU except during visiting time"		√		√
	7. "We are left alone during labour"		√	√	√
	8. "We stayed hungry"		√		√
2. Safe	1. "Midwives are kind, friendly and caring"	√			√
	2. "They treated patient with respect"	√		√	√
	3. "They never leave you alone"				√
	4. "The site make me feel calm"	√			
	5. "The midwives helped us with a smile"	√		√	√
	6. "The site is clean"	√			
3. Unsafe	1. "The midwives not friendly"		√	√	
	2. "They did not communicate well with us"		√	√	√
	3. "The site is dirty"		√	√	√

4.8 PATIENTS BYPASSING THE MOUs AND DELIVERING AT THE HOSPITAL

A further survey was conducted for the month of September 2001, to assess why patients by-pass MOUs to deliver at the hospital. 68 patients who by-passed the MOUs were asked to fill a questionnaire. The question asked was:

“Why did you by-pass the MUO nearer to you?”

12% of patients bypassed MOU 1 in September 2001 and delivered at MOU 3. The numbers and the reasons given were:

- 4 patients said there are no doctors at MOU 1.
- 3 said they wanted to deliver by operation.
- 2 said they were treated well during their previous deliveries AT MOU 3.
- 2 said there are good doctors and nurses at MOU 3.

30 patients by-passed MOU 2 and delivered at MOU 3 in September 2001, the number and the reasons given for bypassing MOU 2 were:

- 1 patient said that she ruptured membranes at home.
- 1 patient said that she felt weak and tired (maternal exhaustion).
- 3 patients misdiagnosed as post maturity were referred back to MOU 2.
- 5 said that the food was bad at MOU 2.
- 6 said that there was no bed linen at MOU 2.
- 4 said that there were no doctors at MOU 2.
- 4 were referred early in pregnancy for treatment.
- 6 said nurses had bad attitudes at the MOU 2.

27 patients bypassed MOU 4 and delivered at the hospital in September 2001. Reasons given for bypassing the MOU were:

- 6 patients said that the staff was unfriendly at MOU 4.
- 4 patients said that the site was dirty at MOU4.
- 5 said that there were no doctors at MOU 4.

- 6 said that no food was given to patients at MOU 4.
- 1 said that the ambulance took her to the hospital.
- 4 said that there was no bed linen at MOU 4.
- I wanted to deliver by operation.

BY-PASS RATES

MOU 1	MOU 2	MOU 3	MOU 4
12%	20%	2.6%	17.6%

4.9 CONCLUSION

The functioning of MOUs are well displayed by the statistics in the tables. There is a great difference in functioning of these units. This is illustrated by the different patients intake, the rate of deliveries, and the referral rate of patients in labour.

At least one registered advanced midwife and a number of registered midwives, enrolled nurses and auxiliary nurses staff are members of three of the four MOUs. Continuing education is maintained in all the MOUs through PEP. Job description is available in three of the MOUs and an allocation roster is used in all of the MOUs.

The partogram showed similar problems, such as undocumented risk factors, decelerations, drugs and intravenous fluids, liquor, moulding, cervical length and level of the head. These are of great concern at all four MOUs.

Patient satisfaction showed positive and negative responses from all four MOUs. The overall feeling of patients, was very positive at MOU 1, 3 and 4 as illustrated by the following comments:

- MOU is nearer to my home.
- I heard that nurses are good at x MOU.
- Nurses are very competent, I had a difficult labour and they saved my baby, I would come back for my next delivery.

Some negative experiences were highlighted and deserve our prompt attention. Comments that raised concern were e.g.:

- Some midwives are aggressive they do not talk to patients. They scold and hit patients during delivery.
- Midwives must listen and help us when we are in pain.
- The survey yielded valuable information on the patients' perceptions of the quality of care they received during labour.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

Chapter five summarises the findings and suggest recommendations following the findings of the study.

5.2 MAIN FINDINGS

5.2.1 SAFETY

TABLE 5.1: SAFETY OF THE MOUs

MOUs	SAFE
(3,1,4)	Low Fresh stillbirth rate of 2,5kg babies. MOU 3 lowest, MOU 2 unsafe.
(1,3,4)	Low rate, appgars < 8 at 5 minutes.
(1,2,3,4)	Low retained placenta rate.
(4,2,1)	Low postpartum haemorrhage.
(1,4,3)	Low maternal trauma
(3,4)	Low neonatal referrals.

5.2.2 COST-EFFECTIVENESS

- Low staff/birth/day ratio – MOU 3, MOU 4 and MOU 1.
- Low referrals in labour.
- Bypass rate indication of cost-effectiveness.

5.2.3 QUALITY CARE

- Questionnaire (patient satisfaction).

- Best high staff/birth ratio (MOU 1) but worst at record best staff/birth ratio (MOU 2).
- Partogram.
- Low episiotomy rate (MOU 4) poor almost 30%.
- Bypass rate indication of quality of care.
- Hundred percent of Cardiotocographic (CTG). Fetal heart monitoring is used in MOU 1 and MOU 3. Not necessarily bad. CTG monitoring is better than no monitoring (Mahomed K, et al 1994: 308).

TABLE 5.2: COST-EFFECTIVENESS OF MOUs

MOU 1	MOU 2	MOU 3	MOU 4
<ul style="list-style-type: none"> • Low referral rate but only 40% do birth from area Pretoria West, Pretoria suburb. • Underutilized but provide good care. • PNMR low • Staff/birth/ratio high 	<ul style="list-style-type: none"> • This model does not work. • High PNMR. • 30% referral rate. 	<ul style="list-style-type: none"> • Low PNMR. • 25% referral rate across the corridor. • Fully utilized. • Staff/birth ratio good. • Cost effective. 	<ul style="list-style-type: none"> • Low PNMR. • 30% referral rate. • Staff/birth/ratio high. • Fully utilized.

The number of admissions, referrals and deliveries, varies between the MOU. This is due to the fact that the number of patient intake and the size of the population the MOUs serve, are different.

5.3 STAFFING AND WORKLOAD

In the three MOUs the study shows some discrepancies in the allocation of staff in the different MOUs, for example in MOU 3. Intrapartum care is not adequately covered, only two registered midwives are allocated for eight delivery cubicles. At any point in time there could be two or more mothers delivering at the same time and the normal practice is two midwives should attend to a delivery. This means that in most cases, a midwife attends to a



5.4 QUALITY OF THE PARTOGRAM

In the four MOUs, the partogram depicts similar problem areas and similar aspects are undocumented e.g. risk factors, decelerations, drugs and fluids given, liquor, moulding, cervical length, level of the head and effacement. This omission of care indicates unsafe midwifery care of the mothers during labour. With proper documentation of the partogram progress of labour can be seen at a glance, on the sheet of paper. Failure to progress can be readily recognised and prompt action taken to save the lives of the mother and the baby (Murray et al 1995: 225).

5.5 PATIENT SATISFACTION

Patients over rate their satisfaction with the care they received. This became evident when the data was analysed quantitatively, on comments made by the patients. Comments like: "I will come back for my subsequent delivery", "I had a very difficult labour midwives saved my baby", "human's rights are practiced towards patients", "shows that patients were satisfied with the care they received and recognized nurses competency".

Despite this picture of satisfaction there is still a great number of patients bypassing the MOUs nearer to their homes, and delivering at the hospital. Reasons given include comments about no doctors being available at the site: "sometimes you feel you need to be seen by a doctor", "if anything went wrong during my labour the doctor is there". "I wanted to deliver by an operation, the MOU is overcrowded."

5.6 LIMITATIONS

This study also found the problem of undocumented observation on the partogram during the progress of labour. This indicates that women are not properly monitored when in labour which constitutes a serious legal omission according to the regulation of the practice of midwifery. It could also contribute to the increased perinatal mortality in MOUs. Midwives need to open up and disclose, in writing, all the problems that keep them from doing what they are supposed to do, when progressing the women in labour. This will enable problems to be investigated and solutions offered, to improve midwifery care and reduce maternal mortality and disciplinary cases. Some negative comments about midwives' bad attitudes towards patients are often repeated and evidenced by several studies done on patient's satisfaction. This needs further studies to assess the causes.

5.7 CONCLUSION

The findings reveal that there is a form of care with a trade-off between beneficial and adverse effects prevailing in some of the MOUs, such as the large number of admissions at some of the MOUs with lack of basic requirements, e.g. lack of linen, food and overcrowding proves unsafe care.

MOU with best safety, cost-effectiveness and quality of care is MOU 3:

- | | | |
|--------------------|---|---|
| Safety | : | <ul style="list-style-type: none">• PNMR 4,8%• Low apgar score <8 and• Low postpartum haemorrhage. |
| Cost-effectiveness | : | <ul style="list-style-type: none">• Lowest staff/birth/ratio – 0,5• No bypass• Relatively few referral and no ambulance required. |
| Quality of care | | <ul style="list-style-type: none">• Poor but lowest staffing/ratio.• Adequate partogram documentation |

Hence best model MOU on-site in large labour ward with midwives referring patient but should get more staff.

MOU with worst safety, cost-effectiveness and quality of care MOU 2:

- Safety : • Safe PNMR 39.1.
• Low apgar score <8.
- Cost-effectiveness : • Staff/birth/ratio
• Referral out
• High bypass rate.
- Quality of care • Worst

Model of Casualty doctor normally in charge of referral with midwives not given responsibility of referring patients out is the worst needed (Primary level hospital model G.P. model).

MOU intermediate safety, cost effectiveness and best quality of care stand alone MOU (e.g. MOU 4).

Probably most practical where no large labour ward with dedicated obstetric staff in regional or tertiary hospital, but must perform sufficient deliveries to justify existence. Better alternative than option 2.

The survey illustrated that though patients over rate their satisfaction with the care they received in the MOUs, the comments still illustrate some gaps in care. Aspects such as midwives' attitudes and lack of basic supplies require a prompt intervention.

There is also a clear picture of a large number of patients by-passing the MOUs nearer to their homes and delivering somewhere else.

5.8 RECOMMENDATIONS

- (1) Stop occasional operation from controlling labour wards. Either give responsibility to midwives, MOUs with right of referral or have doctors on site in labour wards..
- (2) MOUs must perform sufficient deliveries 1800/year to justify existence or they are not cost-effective.
- (3) MOUs must be staffed adequately to provide quality of care.
- (4) Regional MCWH coordinator should be responsible for:
 - Audit (perinatal audit);
 - Provide support for midwives to improve their morale;
 - Quality assurance performance; and
 - In-service training of midwives.

5.8.1 IN-SERVICE TRAINING

Perinatal audit meetings should be conducted in all MOUs and a visiting midwife consultant must co-ordinate the meetings. Feedback must be given to all the midwives in the MOUs.

'Hands-on' on-site training of student midwives, by the midwifery tutors at nursing colleges, lectures at the universities and clinical midwives in the labour wards, on management of women in labour, should be given. Great emphasis must be placed on documentation and interpretation of the partogram to enhance effective cuts in complications of labour and childbirth (WHO 1994:10). This can be accomplished by more frequent students accompaniment by the midwifery tutors from the educational institutions in the labour wards. The task of teaching the students in the labour wards should not be left to the clinical midwives only. They perform functional duties most of

the time and do not always effectively attend to teaching the student. All midwives working in labour ward should undergo midwifery upgrading courses like the Perinatal Education Program. These should be made compulsory. Midwives working in the labour ward should not be rotated to other disciplines outside the maternity department. They should rotate within the discipline i.e. antenatal labour ward and postnatal ward.

All MOUs must be provided with maternity guidelines manuals, to improve midwifery skills. Workshops on Better Birth Initiatives, Batho Pele Principles should be offered to Midwives at MOUs.

5.8.2 TOWARDS QUALITY INTRA-PARTUM CARE

Quality of care will be achieved by changing the care into a family centred midwifery care in the MOUs, and the implementation of better birth initiative. This includes practices such as:

- The women in labour should be allowed to draw up their delivery plan and midwives should recognise and respect the women's delivery plan.
- The family/support person should be allowed in the delivery room all the time if possible. The person should be chosen by the woman in labour, the concept of a doula should be suggest i.e. Labour Companion should be implemented in all delivery sites (MOUs).
- Midwives should discourage routine suprine position during second stage of labour, evidence has shown that lateral or squatting position have more benefit to the mother and baby (Enkin et al 1995:229).
- There should be continuous scientific monitoring of MOUs to assess quality of maternity care on a broader scale, to contribute to optimal goal of WHO reduction of perinatal morbidity and mortality.

LIST OF REFERENCES

BABBIE, E.R. 1992. The practice of social research. 6th ed. Belmont: Calif.

BANDMAN, B. 1978. The human right of patients, nurses and other health professionals. Boston: Lettle, Brown and Company.

BIRO, M.A., WOLDENSTRÖM, L. & PANNIFEX, J.H. 2000. Team midwifery care in tertiary level obstetric service: A randomized controlled trial. Birth, September 2000, vol. 27, no. 3, p.168-173

BONALUMI, N. & FISHER, K. 1999. Health care change: challenge for nurses administrators. Nurse Admin Aspen Publishers, Inc.

BOOYENS, S.W. 1998. Dimensions of nursing management. 2nd ed. Kenwyn: Juta.

BROWN, H. 2000. Better Birth Initiative. A global initiative to promote human evidence based on child birth care. Reproductive Health Research unit, Department of Obstetrics and Gynaecology, Chris Hani Baragwanath Hospital.

BURNS, M. & GROVE, S.K. 1993. The practice of research, conduct, critique and utilization. 2nd ed. Philadelphia: W.B. Saunders Company.

BURNS, M. & GROVE, S.K. 1997. The practice nursing research, conduct critique and utilization. 2nd ed. Philadelphia: W.B. Saunders Company

DE VOS, A.S. 1998. Research at grass roots: a primer for caring professions. Pretoria: J.L. van Schaik.

DE VOS, A.S. 2002. Research at grass roots: for the social sciences and human services professions. 2nd ed. Pretoria: J.L. van Schaik.

EHRENBERG, A. & EHNFORSS, M. 2001. The accuracy of patient records in Swedish nursing homes: Congruence of record content and nurses and patients description. Journal of Caring Science, Blackwell Science Ltd. Ospring Mead Oxford.

ELKIN, M., KEIRSE, M.J.N.C., RENFREW, M. & NEILSON, J. 1995. A guide to effective care in pregnancy and childbirth. 2nd ed. New York: Oxford University Press.

GEORY, M., FLANAGAN, M. & BOYLAN, P. 1997. Maternal satisfaction with management in labour and preference for mode of delivery. Journal of perinatal medicine, vol. 25 no. 5, p.433-439.

GREENFIELD, T.K. & ATKINSON, C.C. 1989. Steps toward a multifactorial satisfaction scale for primary care and mental health service: Evalwatt program plan no. 12, p.271-278.

HADDAD, S., FOURMIER, P., MACHAUF, N. & YATARA, F. 1998. What does quality mean to lay people? Community perception of primary health care service in Guinea. Social science a medicine, vol. 47, no. 3, p.381-394.

HARVEY, C., LOFTUS-HILLS, A., RYCROFT-MALONE, J., TITCHEN, A., KITSON, A., MCCORMACK, B. & SEERS, K. 2002. Getting evidence into practice: the role and function of facilitation. Journal of advanced nursing, March 2002, vol. 37, no. 6, p.580-581.

HUNDLEY, V., CRUICKSHANK, F.M. & LANG, G.D. 1994. Midwife, managed delivery unit: A randomized controlled comparison with consultant led care. BMJ, 1994, vol. 309, p.1400.

HULTON, L.A., MATHEWS, Z. & STONES, R.W. 2000. Framework for the evaluation of quality of care in maternity service. University of South Hampton.

HUNDLER, A. 1996. Patient satisfaction. Birth, vol. 23, no. 1.

HUNDLEY, V. 1992. Midwife led unit in the U.K. U.K. Midwifery achieves severally.
Laurence Beech.

HOFMEYR, J. 2000. Better Birth Initiative, draft document an update document,
International Conference IAMNEH. April. Stellenbosch, South Africa.

KREFTING, L. 1991. Rigor in qualitative research: the assessment of trustworthiness.
The American Journal of occupational therapy, March 1991, vol. 45, no. 3, p.214-222.

LEWIS, J.R. 1994. Patient views on quality care in general practice literature review soc,
sof, Med. vol.39, no. 5, p.655-670.

MARRINER, T.A 1996. Epicle to nursing management and leadership. St Loins: Mosby.

MASHAZI, M.I. 1998. The utilization of midwifery obstetric unit in metropolitan area.
Johannesburg: Department of nursing, Rand Afrikaans University.

MODISE, L. 2000. Under-utilization of MOU's in the Gauteng Province.

MOHAMED, K. 1994. The Randomised Controlled trial of intrapartum fetal heart rate
monitoring. BMJ, 1994, vol. 308, p.497-500.

MULLER, M. 1998. Nursing dynamics. 2nd ed. Kwa-Zulu Natal: Heinemann.

MYLES, M. 1991. Textbook for midwives. Churchill Livingstone.

NOLTE, A.G.W. 1998. A textbook for midwives. Pretoria: J.L. van Schaik.

PAINE, L, DENVER, C.M, EDWARD, H. & MAIL, O. 1999. Midwifery in the twenty first
Century. Journal of Nurse Midwifery, July/August, vol. 44, no. 4.

POGGENPOEL, M. & WESSMAN, J.P. 1994. South African Nursing: The dynamics of
change. Article for publication in Nursing and Health care.

POLIT, D.F. & HUNGLER, B.P. 1997. Essential of nursing research. Philadelphia: Lippincott.

SALLAH, K. 1998. British Journal of Midwifery, 1998, vol. 6, no 12.

SANDELOWSKI, M. 1986. The problem of rigor in qualitative research. Advanced Nursing Science, vol, 8, p.27-37.

South Africa. African National Congress. 1994. A National Health Plan for South Africa(a)

South Africa. African National Congress. 1994. The Reconstruction and Development Program. A policy framework Johannesburg(b)

South Africa. Constitution of the Republic of South Africa. 1996. Johannesburg.

South Africa. Department of Health. 1994. Provision of maternal and neonatal service for the PWV Province. Johannesburg: Women's Health Project.

South Africa. Department of Health. 1995. Midwifery obstetric unit Policy Recommendation Document. Gauteng Province(b)

South Africa. Department of Health. 2000. Guidelines for Maternity Care in South Africa. A manual for clinics, community health centers and district hospital. Pretoria.

South Africa. Department of Health. 1996. Patients Right Charter. Pretoria: Formeset.

South Africa. Department of Health. 2001. Primary Health Care. Package for South Africa 2001. A set of norms and standards. Pretoria.

South Africa. Department of Health, Gauteng. 1998. Saving Mothers 1998. Report on the Confidential Enquiry into Maternal Deaths in South Africa.

South Africa. Department of Health, Gauteng, 2001. Saving Mothers, 2001. Policy and Management guidelines for common causes of maternal deaths.

South Africa. Department of Health. 1996. Towards a National Health System. Gauteng.

South Africa. South African Nursing Council. 1990. Regulation relating to the condition under which registered midwives and enrolled midwives may carry on their profession, no. R2488. Pretoria.

South Africa. Department of Health. 1997. White paper for the transformation of Health System in South Africa Notice 667 of 1997, Government Gazette.(h). Pretoria

STEYN, P. 1998. Assessment of patients satisfaction with antenatal care. Cape Town: Tygerberg Hospital, University of Stellenbosch.

Switzerland: World Health Organization. 1998. Safe Motherhood. Geneva.

Switzerland: World Health Organization. 1994. Safe Motherhood. A newsletter of worldwide activity issue 15, July – October 1994. Geneva.

Switzerland: World Health Organization. 1995. Safe Motherhood. A newsletter of worldwide activity issues 17, March – June 1995. Geneva.

VAN COEVERDEN DE GROOT, H.A. & DOMMISSE, J. 1995. The need for midwifery obstetric units in South Africa. SAMJ, vol. 85, no. 11, p.1190.

VAN COEVERDEN DE GROOT, H.A. & HOWLAND, R.C. 1987. Deliveries in midwife obstetric unit in Cape Town. SAMJ, vol. 71, p. 603.

VAN COEVERDEN DE GROOT, H.A., WOOD, D.L. & HOWLAND, R.C. 1987. Midwife obstetric units and birth centers. SAMJ, 18 April, vol. 71, p.537.

WADESTROM, U. 2000. Team midwife care increase satisfaction with antenatal, intrapartum and postpartum care? A randomized controlled Trial. Birth, September, vol. 27, no. 3, p.156-167.

WARE, J.E. Jr, DAVIES AVERY, A. & STEWARD, A.L. 1978. The measurement and meaning of patient satisfaction. Health Medical Care Service, Rev.1.1.

WILCOCK, A., KUBAYASHI, L., & MURRAY, I. 1997. Twenty five years of obstetric patient satisfaction in North America. A review of the literature. The Journal of perinatal and neonatal nursing, vol. 10, no. 4, p.36-47.

WOOD, D. 1995. Perinatal Education Programme. Maternal care manual. Cape Town.



ANNEXURE A

MONTHLY STATISTICS FOR 12-MONTH PERIOD



Monthly statistics for (12 months)

2000	June	July	August	September	October	November	December
Number of admissions							
Number of referrals							
Number of deliveries							
Birth mass of babies delivered >2.5 kg							
Fresh stillbirth of babies of >2.5 kg birth mass							
Apgar score at 5 minutes of <8							
Episiotomy rate							
Neonatal referral rate							
Unbooked mothers							
Fetal monitoring type							
Referral criteria of each MOU							

▪ Fetal monitoring type (doptone, Pinard stethoscope)				
▪ Referral criteria of each institution				
▪ Indication for referrals				
▪ Compliance to management protocols				



ANNEXURE B

INFORMED CONSENT AND UNIT MANAGERS INTERVIEW GUIDE

INFORMED CONSENT

***Title: A COMPARISON BETWEEN FOUR MIDWIFE OBSTETRIC UNITS
IN THE PRETORIA REGION***

Candidate: MS NT MABALE

Supervisors: Dr SJC van der Westhuizen and Prof RC Pattinson

1. The study

I, _____ - willingly agree to participate in this study which has been explained to me by _____. This study is being conducted by the Department of Nursing Science of the University of Pretoria.

2. Purpose of the study:

It has been explained to me that the aim of this study is to describe and compare four different Midwife Obstetric Units in the Pretoria Region.

3. Description of procedures:

I understand that I will be interviewed by Ms NT Mabale. The interview will take place in a private setting.

4. Risks or discomforts

There are no risks or discomfort involved.

5. Benefits to the subject or to others which may be expected

The findings of the study will be used to improve policy-making and planning for obstetric care in the Pretoria region.

6. Disclosure of alternative procedures or courses of treatment

Not applicable in this study.



7. Confidentiality

I am assured that the tape and transcription of the interview will be kept in a safe place and will not be made available for any other use than this research project. During the analysis another researcher will analyse the data. However, no information by which I can be identified will be released or published.

8. Voluntary participation

Participation in this study is voluntary. No compensation for participation will be given. I am free to withdraw my consent to participate in this study at any time without prejudice to my subsequent care. Refusing to participate will involve no penalty or loss of benefits. If I do not take part in or withdraw from this study, I will continue to receive care.

Explanation of whom to contact for:

- Researcher: Ms TN Mabale (012 – 318-6477)
- Supervisors: Dr C van der Westhuizen (012 – 354-1784)
Prof RC Pattinson (012 – 373-8041)

I have read all the above, had time to ask questions, received answers concerning areas I did not understand and I willingly give my consent to participate in this study. By signing this form I will receive a copy.

Signature of Patient

Date

Investigator signature (2)

Date

Witness signature (1)

Date

Witness signature (2)

Date



INTERVIEW GUIDE UNIT MANAGER		
Number of staff per shift in labour ward		
Number of deliveries per shift		
Level of training	Advanced Midwives	
	Registered midwives	
	PEP trained (%)	
	Enrolled nurses	
	Auxiliary nurses	
Job description	Advanced Midwives	
	Registered midwives	
	PEP trained (%)	
	Enrolled nurses	
	Auxiliary nurses	
Size of population served		



ANNEXURE C

AUDIT OF INTRAPARTUM CARE (PARTOGRAM)



AUDIT OF INTRAPARTUM CARE					
Nr	Criteria	0	1	2	Remarks (eg Type of documentation)
1	Identification				
2	Obstetric History, info (incl pelvis)				
3	Summary of labour (duration and ROM)				
4	Risk classification				
5	Risk factors				
FOETAL CONDITION					
7	Baseline heart rate				
6	Variability				
8	Decelerations				
9	Liquor				
10	Moulding				
11	Caput				
PROGRESS OF LABOUR					
12	Position				
13	Cervical length				
14	Cervical dilatation				
15	Effacement				
16	Level of head				
17	Contractions				
18	Signature				



Nr	Criteria	0	1	2	Remarks
Maternal condition					
19	Drugs and IV fluids				
20	Oxytocinon				
21	Pulse				
22	Blood pressure				
24	Urine tested				
26	Urine amount				
26	Temperature				
27	Signature				
MANAGEMENT					
28	Time				
29	Problems identified				
30	Action taken				
				Final score (30)	

Remarks:

ANNEXURE D

INFORMED CONSENT AND INTERVIEW GUIDE (PATIENT SATISFACTION)



INFORMED CONSENT

***Title: A COMPARISON BETWEEN FOUR MIDWIFE OBSTETRIC UNITS
IN THE PRETORIA REGION***

Candidate: MS NT MABALE

Supervisors: Dr SJC van der Westhuizen and Prof RC Pattinson

1. The study

I, _____ - willingly agree to participate in this study which has been explained to me by _____. This study is being conducted by the Department of Nursing Science of the University of Pretoria.

2. Purpose of the study:

It has been explained to me that the aim of this study is to describe and compare four different Midwife Obstetric Units in the Pretoria Region.

3. Description of procedures:

I understand that I will be interviewed by Ms NT Mabale. The interview will take place in a private setting.

4. Risks or discomforts

There are no risks or discomfort involved.

5. Benefits to the subject or to others which may be expected

The findings of the study will be used to improve policy-making and planning for obstetric care in the Pretoria region.

6. Disclosure of alternative procedures or courses of treatment

Not applicable in this study.



7. Confidentiality

I am assured that the tape and transcription of the interview will be kept in a safe place and will not be made available for any other use than this research project. During the analysis another researcher will analyse the data. However, no information by which I can be identified will be released or published.

8. Voluntary participation

Participation in this study is voluntary. No compensation for participation will be given. I am free to withdraw my consent to participate in this study at any time without prejudice to my subsequent care. Refusing to participate will involve no penalty or loss of benefits. If I do not take part in or withdraw from this study, I will continue to receive care.

Explanation of whom to contact for:

- Researcher: Ms TN Mabale (012 – 318-6477)
- Supervisors: Dr C van der Westhuizen (012 – 354-1784)
Prof RC Pattinson (012 – 373-8041)

I have read all the above, had time to ask questions, received answers concerning areas I did not understand and I willingly give my consent to participate in this study. By signing this form I will receive a copy.

Signature of Patient

Date

Investigator signature (2)

Date

Witness signature (1)

Date

Witness signature (2)

Date



Demographic Data

Patient Number		
Age		
Parity		
Gravity		
Gestational age		
Race		
Medical risk		
Marital Status:	Single	
	Engaged	
	Married	
	Divorced	
Level of education:	Primary education	
	Secondary education	
	Tertiary education	
	Never attended school	
Employment:	Employed	
	Maternity leave granted	
	Unemployed	
	Never employed	



INTERVIEW GUIDE

PART 1: PATIENT SATISFACTION

ASPECT	1	2	3	4	5	Remarks
I am very satisfied with the intrapartum care I received at the MOU						
Intrapartum care was very poor at the MOU						
It was difficult to get to the MOU						
It was easy to get to the MOU						
I had to wait a long time to be attended to at the MOU						
Reception of staff was friendly and courteous						
The midwife treated me with respect						
I did not trust the midwives						
The midwives did their best to reassure me						
The midwife spend a lot of time with me						
The midwives did not listen to me						
The midwives explained what to expect during labour						
The midwives did not explained why they did tests/examinations						
The midwife was very thorough with her examination						
The midwife did unnecessary examinations						
The midwife was very competent						

1 = Strongly disagree; 2 = disagree; 3 = not sure; 4 = agree; 5 = strongly agree



PART 2	
Why did you deliver at this site?	
Why did you by-pass the MOU nearer to you?	
How did you feel when referred?	
Other	



TSIBISO YA GO TSEA KAROLO YA RESETSHE.

1. Resetshe
Na _____ ke dumela ho tsea karolo mo resetsheng ye e tlhalosetsheng ke _____.
Resetshe ye e dirwa mogo le Dipatemele ya Booki Unibesiting ya Tshwane.
2. Maikemisetso a resetshe.
Maikemisetso a resetshe ke ho tlhalosa le ho bapisa MOU tse nne mo Tshwane.
3. Tshepidiso ya resetshe.
Ke kwisisa gore Ms NT Mabale o tlo mpotsa diposiso ke le tee ka paposing ya porabete.
4. Dirisiki
Ga go dirisiki mo resetsheng ye.
5. Dipoele tsa resetshe.
Dipoele tsa resetshe di tlo thusa go tliša dipetogo mo hlokomelong ya bomme ba leng mo mmeleng mo Tshwane.
6. Melao ya resetshe.
Resetshe ye e tlo tsamaiswa ka melao ya resetshe, seo ke se boletshego se tla hlompīwa, mme se ka se ke sa somiswa ke mang kapa mang. Leina laka ga lena go hlagiswa.
7. Ho tsea karolo.
Ke tsea karolo ntle le gapeletso, ga go moputso mo go tseng karolo. Ke na le matla a go lesa go tsea karolo nako ye engwe le engwe ge ke nyaka, me ke tla hwetsa hlokomelo ka go ya ka tswanelo le ge ke sa tšee karolo.

Dipusitso di ka lebiswa go:

Moresetshera : Ms TN Mabale (012-318-6477)
Balaodi : Dr C van der Walt (012-354-1784)
Prof RC Pattinson (012-3738041)

Ke kwisisa se ngwadileng ka resetshe yee ke dumela go tsea karolo.

Motsea karolo _____ letsatsi le _____

Moresetshera _____ letsatsi la _____

Paki ya mathomo _____ letsatsi la _____

Paki ya bobedi _____ letsatsi la _____



KAROLO YA PELE Tswaro e botse ya batswetshi.

	1	2	3	4	5	
Ke khotsofetse ka hlokomelo ye ke e hweditsego ga ke belega mo MOU.						
Hlokomelo ya batswetshi e a fokola mo MOU.						
Go ne go le boima go fihla mo MOU.						
Go ne go se boima go fihla mo MOU.						
Ke eme sebaka se setelele pele ke hwetsa thuso mo MOU.						
Baoki ba nkamogetse gabotse ka hlompfo						
Baoki ba nhlokometse ka hlompfo Ke be ke sa tshepe baoki						
Baoki ba be ba dira ka nala gore ke se tswenyege						
Baoki ba be ba na le nna nako ye ntshi						
Baoki ba hlalositse tse di tlogo go diragala ge ke hwetsa ngwana						
Baoki ba be ba sa theeltse ge ke bolela le bona						
Baoki ba be ba sa hlalose mabaka ge ba dira dihlahlobo tesete						
Baoki ba be ba tseba seo ba sedirago						
Baoki ba be ba dira dihlahlobo gosa hlokagale						
Baoki ba na lebokgoni mo mosomong wa bona						

1=Ga ke dumele ka kudu;2=ga ke dumele;3=ga ke tsebe;4=ke a dumela;5=ke dumela ka kudu.



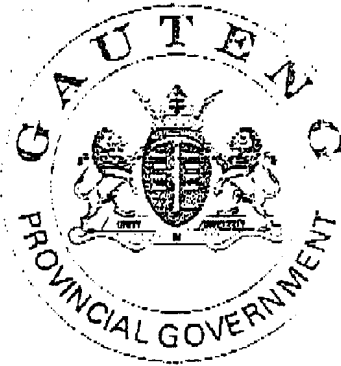
KAROLO YA BOBEDI

<p>?</p> <p>Ke ka baka lang o belegetse mo?</p>	
<p>Ke ka baka lang ge o fetile MOU ya kgauswi le mo o dulago?</p>	
<p>O kwele bjang ge ba go romela sepetlele</p>	



ANNEXURE E

APPROVAL LETTER FROM ETHICS COMMITTEE



DEPARTMENT OF HEALTH
DEPARTEMENT VAN GESONDHEID

Tel: (012) 354 1560
Fax/Faks: (012) 354 1831
Ref/Verw: Ethics Committee
Enquiries/Navrae: Dr R Sommers
Ward 4 Room 19

Date : 7/03/2001

Number : S26/2001
Title : A comparison between four midwife obstetric units in the Pretoria region.
Investigator : Sr N.T. Mabale, Department of Obstetrics and Gynaecology: Pretoria Academic Hospital, Pretoria.
Sponsor : None

This Protocol and Informed Consent has been considered by the Ethics Committee, Faculty Medicine, Univ. of Pretoria and Pretoria Academic Hospitals on 28/02 /2001 and found to be acceptable.

Dr J.E. Davei (female) MBChB: Hospital Superintendent
Prof A.P. du Toit BA; DipTheo; BA (Hons); MA; DPhil: Philosopher
Prof S.V. Grey (female) BSc(Hons); MSc; DSc : Deputy Dean
Mrs R Jooste (female) Dip. Pharm; M Pharm; Pharmacist.
Dr V.O.L. Karusseit MBChB; MFGP(SA); M.Med(Chir); FCS (SA): Surgeon
Dr S. Khan (female) MB.BCh.; Med. Adviser (Gauteng Dept. of Health).
Miss B Mullins (female) BscHons; Teachers Diploma;
Snr Sr J. Phatoli (female) BCur(Et Al) Senior Nursing-Sister
Prof H.W. Pretorius MBChB; M.Med (Psych) MD: Psychiatrist
Prof P. Rheeder MBChB; MMed(Int); LKI(SA); MSc (KLIN.EPI): Specialist Physician
Prof De K. Sommers BChB; HDD; MBChB; MD: Pharmacologist
Dr R Sommers SECRETARIAT (female) MBChB; M.med (Int); MPhar.Med;

Student Ethics Sub-Committee

Mrs E Ahrens (female) B.Cur;
Prof S.V. Grey (female) BSc(Hons); MSc ; DSc : Deputy Dean
Prof P. Rheeder MBChB; MMed(Int); LKI(SA); MSc (KLIN.EPI): Specialist Physician
Dr R. Sommers SECRETARIAT (female) MBChB; M.med (Int); MPharMed;
Dr C van der Westhuizen (female) D.Cur; M.Ed.

DR R SOMMERS: MBChB; M.med (Int); MPhar.Med; SECRETARIAT

PROF. J.R. SNYMAN:

CHAIRPERSON of the Ethics Committee at Pretoria Academic Hospital
MBChB, M.Pharm, Med; MD: Pharmacologist

PROF. P. RHEEDER:

CHAIRPERSON of the Student Ethics Committee at P.A.H.
BChB; MMed(Int); LKI(SA); MSc (KLIN.EPI): Specialist Physician



ANNEXURE F

APPROVAL LETTER FROM METRO HEALTH SERVICES, PRETORIA, REGION C



MEMO

Metro Health Services , Pretoria Region C
Karel Schoeman Building, 179A Skinner Street / PO Box 9514,
Pretoria 0001

☎: (012) 303-9000 / ✉: (012) 324-2566

TO : DR B DESAI
FROM : DR S S ASMALL
DATE : 05 JULY 2001

RE : APPROVAL FOR RESEARCH STUDY

This has reference to a request forwarded to you on 11 December 2000 for approval by the Provincial Research Committee – see attached.

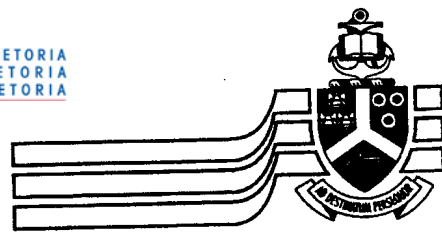
The Pretoria Region – Metro District Services have no problem with the study proposal. The MRC and the Ethics Committee of the University of Pretoria have approved it.

It would be appreciated if Provincial approval can be given as a priority.

Thank you

DR S S ASMALL
DEPUTY DIRECTOR ; METRO

(MEMO.DR B DESAI APPROVAL FOR RESEARCH STUDY STIFFY 2)



University of Pretoria

Private Bag X396 Pretoria 0001 Republic of South Africa
Tel (012) 373-8041 Fax (012) 373-8031
<http://www.up.ac.za>

Faculty of Medicine
Kalafong Hospital

Dr. Asmal
Deputy Director
Metro Health Services
Pretoria Region
Private Bag 9514
Pretoria
0001

29/06/2001

Dear Dr. Asmal

PERMISSION TO DO A STUDY AT SOSHANGUVE COMMUNITY HEALTH SERVICE, CLINIC 3: COMPARISON BETWEEN FOUR MIDWIFE OBSTETRIC UNITS IN THE PRETORIA REGION.

I hereby apply for permission to conduct the above mentioned research project under the supervision of Prof. RC Pattinson, Dr C van der Westhuizen, and Mrs AE Pullen of the University of Pretoria at Soshanguve Clinic 3. I, the researcher, Theresa Mabale will interview the unit manager of labour ward, the post delivery mothers and I will analyze the statistics of labour ward and patients records. The ethics committee of the University of Pretoria has approved the study.

The aim of the study is to describe and compare four different MOU's with regard to their functioning and the quality of midwifery care delivered. The results of the study may have important implications on policy making in South Africa.

I wish to collect data retrospectively from July 2000. Data collection may continue up to October 2001. The protocol and questionnaire is included.

I appreciate your urgent attention and approval of this study to complete in November 2001.

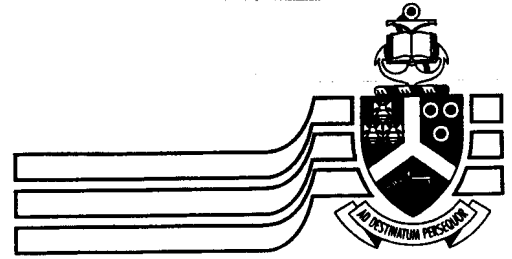
Yours sincerely,

Sr. Theresa Mabale
MCur Midwifery student: University of Pretoria



ANNEXURE G

APPROVAL LETTERS FROM THE STUDY SITES



2000-10-06

The Deputy Director of Nursing
Soshanguve Community Health Services
Private Bag 1834
Block BB
Soshanguve
3304

University of Pretoria

PO Box 667 Pretoria 0001 Republic of South Africa
Tel (012) 354-1000 Fax (012) 329-4524
<http://www.up.ac.za>

Faculty of Medicine

Dear Ms EK Sithole

Mes L. Mogahe

**Permission to do a study at Soshanguve Community Health Service
Clinic 3: *Comparison between four Midwife Obstetric Units in the
Pretoria Region***

I hereby apply permission for Ms Therese Mabale to conduct the above-mentioned research project, under the supervision of Prof RC Pattinson and myself at your institution. This project has been approved by the MRC and has the blessing of Ms Thandi Cnaane from Gauteng Department of Health (Directorate Maternal and Child Health). The study has been approved by the Ethics Committee of the University of Pretoria.

The aim of this study is to describe and compare four different MOU's with regard to functioning and the quality of midwifery care delivered. The results of this study may have important implications on policy making in South Africa.

We request permission to:

1. Analyse the statistics of Labour Ward
2. Interview the Deputy Unit manager of Labour Ward
3. Interview patients post-delivery
4. Analyse patients records

We wish to collect data retrospectively from July 2000. Data collection may continue up till June 2001. The protocol is included.

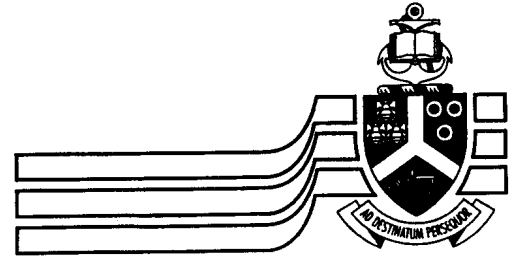
I will appreciate your urgent attention to this matter.

Yours sincerely

JJC van der Westhuizen

Dr SJC van der Westhuizen

Senior lecturer: Department of Nursing Science
Tel (012) 354-1785



2000-10-06

The Deputy Director of Nursing
~~Pretoria Academic Hospital~~ *Mamelodi Hospital*
Pretoria
0001

University of Pretoria

PO Box 667 Pretoria 0001 Republic of South Africa
Tel (012) 354-1000 Fax (012) 329-4524
<http://www.up.ac.za>

Faculty of Medicine

Dear Mrs ~~Koekemoer~~ *Sebati*.

Permission to do a pilot study at Pretoria Academic Hospital: Labour Ward as preparation for the following study: *Comparison between four Midwife Obstetric Units in the Pretoria Region*

Ms Therese Mabale, an MCur student registered at the University of Pretoria, is busy with the above-mentioned research project, under the supervision of Prof RC Pattinson and myself at your institution. This project has been approved by the MRC and has the blessing of Ms Thandi Chaane from Gauteng Department of Health (Directorate Maternal and Child Health). The study has been approved by the Ethics Committee of the University of Pretoria.

The aim of this study is to describe and compare four different MOU's with regard to functioning and the quality of midwifery care delivered. The results of this study may have important implications on policy making in South Africa.

We request permission to do the pilot study in your Hospital's Labour Ward and request to:

1. Analyse the statistics of Labour Ward
2. Interview the Deputy Unit manager of Labour Ward
3. Interview patients post-delivery
4. Analyse patients records

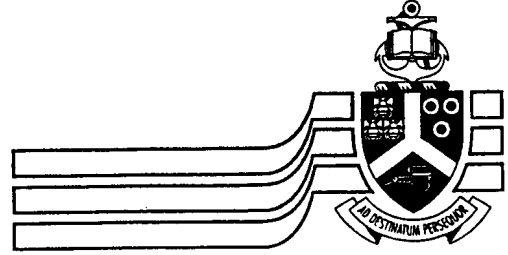
We wish to test the check lists and interview guides as a preparation for the main study. The pilot study has to be completed in October/November 2000. The protocol is included.

I will appreciate your urgent attention to this matter.

Yours sincerely

Dr SJC van der Westhuizen

Senior lecturer: Department of Nursing Science
Tel (012) 354-1785



2000-10-06

The Deputy Director of Nursing
Kalafong Academic Hospital
Private Bag x396
Pretoria
0001

University of Pretoria

PO Box 667 Pretoria 0001 Republic of South Africa
Tel (012) 354-1000 Fax (012) 329-4524
<http://www.up.ac.za>

Faculty of Medicine

Dear Mr Motloung

Permission to do a study at Kalafong Hospital: *Comparison between four Midwife Obstetric Units in the Pretoria Region*

I hereby apply permission for Ms Therese Mabale to conduct the above-mentioned research project, under the supervision of Prof RC Pattinson and myself at your institution. This project has been approved by the MRC and has the blessing of Ms Thandi Chaane from Gauteng Department of Health (Directorate Maternal and Child Health). The study has been approved by the Ethics Committee of the University of Pretoria.

The aim of this study is to describe and compare four different MOU's with regard to functioning and the quality of midwifery care delivered. The results of this study may have important implications on policy making in South Africa.

We request permission to:

1. Analyse the statistics of Labour Ward
2. Interview the Deputy Unit manager of Labour Ward
3. Interview patients post-delivery
4. Analyse patients records

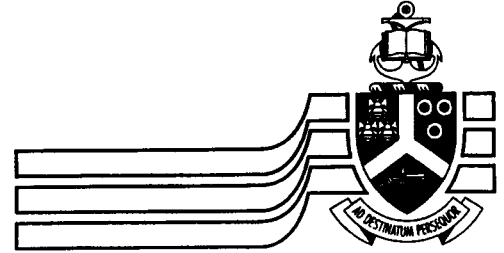
We wish to collect data retrospectively from ~~JUNE~~^{JUNE} 2000. Data collection may continue up till June 2001. The protocol is included.

I will appreciate your urgent attention to this matter.

Yours sincerely

Dr SJC van der Westhuizen

Senior lecturer: Department of Nursing Science
Tel (012) 354-1784



2000-10-06

The Deputy Director of Nursing
Garankuwa Academic Hospital
Private Bag x422
Pretoria
0001

University of Pretoria

PO Box 667 Pretoria 0001 Republic of South Africa
Tel (012) 354-1000 Fax (012) 329-4524
<http://www.up.ac.za>

Faculty of Medicine

Dear Ms CDN Dlamini

**Permission to do a research study at Garankuwa Academic Hospital:
Labour Ward: *Comparison between four Midwife Obstetric Units in the
Pretoria Region***

Ms Therese Mabale, an MCur student registered at the University of Pretoria, is busy with the above-mentioned research project, under the supervision of Prof RC Pattinson and myself at your institution. This project has been approved by the MRC and has the blessing of Ms Thandi Chaane from Gauteng Department of Health (Directorate Maternal and Child Health). The study has been approved by the Ethics Committee of the University of Pretoria.

The aim of this study is to describe and compare four different MOU's with regard to functioning and the quality of midwifery care delivered. The results of this study may have important implications on policy making in South Africa.

We request permission to follow up patients who have been referred to your Hospital from Soshangive Clinic 3, or who have bypassed this MOU. For this reason we need permission to:

1. Analyse the statistics of Labour Ward
2. Interview these patients post-delivery
3. Analyse these patients records

We wish to collect data retrospectively from July 2000. Data collection may continue up till June 2001. The protocol is included.

I will appreciate your urgent attention to this matter.

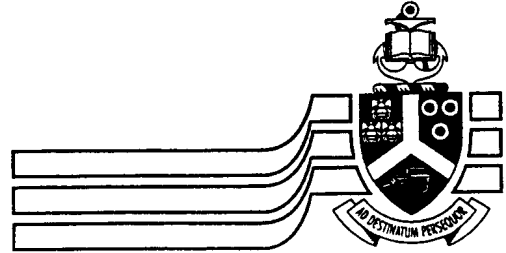
Yours sincerely

Dr SJC van der Westhuizen

Senior lecturer: Department of Nursing Science

Tel (012) 354-1785

MRC UNIT FAX 3730825



2000-10-06

The Deputy Director of Nursing
Pretoria-West Hospital
Private Bag x02
Pretoria-West
0117

University of Pretoria

PO Box 667 Pretoria 0001 Republic of South Africa
Tel (012) 354-1000 Fax (012) 329-4524
<http://www.up.ac.za>

Faculty of Medicine

Dear Ms Koch

Permission to do a study at Pretoria-West Hospital: *Comparison between four Midwife Obstetric Units in the Pretoria Region*

I hereby apply permission for Ms Therese Mabale to conduct the above-mentioned research project, under the supervision of Prof RC Pattinson and myself at your institution. This project has been approved by the MRC and has the blessing of Ms Thandi Chaane from Gauteng Department of Health (Directorate Maternal and Child Health). The study has been approved by the Ethics Committee of the University of Pretoria.

The aim of this study is to describe and compare four different MOU's with regard to functioning and the quality of midwifery care delivered. The results of this study may have important implications on policy making in South Africa.

We request permission to:

1. Analyse the statistics of Labour Ward
2. Interview the Unit manager of Labour Ward
3. Interview patients post-delivery
4. Analyse patients records

We wish to collect data retrospectively from July 2000. Data collection may continue up till June 2001. The protocol is included.

I will appreciate your urgent attention to this matter.

Yours sincerely

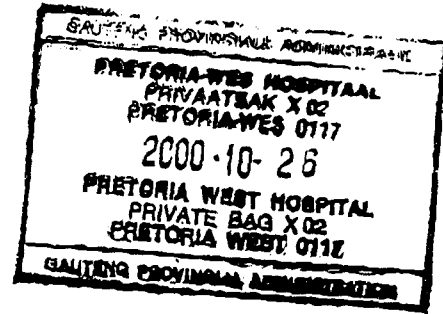
Dr SJC van der Westhuizen

Senior lecturer: Department of Nursing Science
Tel (012) 354-1784

MRC UNIT FAX 3730825



MS HSH KOCH/sb
X 2115



Dr SJC van der Westhuizen
Senior Lecturer: Department of Nursing Science
University of Pretoria
PO Box 667
PRETORIA
0001

RE: RESEARCH IN MOU

Permission approved for your research project as stated in the request.

Contact person: MRS HMM STRYDOM (AREA MANAGER MATERNITY)
TEL: (012) 3865111 x 2118

SUPERINTENDENT