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MALNUTRITION IN CHILDREN: THE PERCEPTIONS OF MOTHERS IN BOTSWANA

MINI-DISSERTATION

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DEDICATION

This study is dedicated to my late grandmother, Molobane Hilda Manthe (1922-2009) who loved me unconditionally and taught me to love.

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SUMMARY

MALNUTRITION IN CHILDREN: THE PERCEPTIONS OF MOTHERS IN BOTSWANA.

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Malnutrition is one of the serious childhood problems that affect children under five (5) years of age, and is common in developing countries Botswana included. The aim of this study was to explore the perceptions of mothers of children diagnosed with malnutrition in Botswana, specifically at Sekgoma Memorial Hospital, Serowe. The said hospital is a district hospital which renders services to Serowe community and the surrounding villages, as such; participants in this study were from Serowe and other surrounding villages like Mabou, Tshimoyapula, Mmashoro and Mogorosi.

Applied research was used as a type of research because it is associated with the researcher's motivation to assist in solving a particular problem facing a particular community. Collective case study was used as a research design. The researcher explored the perceptions of mothers regarding child malnutrition; through the use of semi-structured interviews. Twelve (12) mothers of children with malnutrition were interviewed using systematic random sampling method and subsequently data was analysed according to Creswell's model.

Literature study was done and the following aspects were discussed: Child malnutrition in developing countries; child malnutrition in Botswana; description of child malnutrition; causes of child malnutrition; symptoms of child malnutrition;

treatment of child malnutrition; prevention of child malnutrition; psychosocial implications of child malnutrition on the patient, family and community and social work intervention (therapy and prevention). Literature was also compared with research findings when analysing data.

The study revealed that mothers had limited knowledge on malnutrition as a condition, the signs and symptoms thereof; causes; prevention and treatment of child malnutrition. This lack of knowledge made mothers to have wrong perceptions about child malnutrition.

It was revealed that mothers did not perceive malnutrition as a serious problem that can result in admission for treatment in a hospital, they expected a different diagnosis. They perceive malnutrition as a secondary diagnosis. The majority of mothers had a Setswana diagnosis for their children's condition. Mothers perceived the signs and symptoms of malnutrition as those of Thibamo, Phogwana (fontanel), or Ntsana. They interpret malnutrition as a Setswana ailment that can be treated traditionally.

Factors that were identified to be contributing to malnutrition among children at Sekgoma Memorial Hospital in Serowe were found to be; lack of knowledge about malnutrition, wrong perceptions of malnutrition by mothers, illiteracy and unemployment, and cultural factors like taking a child to a traditional healer instead of a medical health facility.

The study shows that mothers' social functioning is disrupted by their children's illness and hospitalization and thus a need for support from the hospital multi-disciplinary team, especially the social worker who is a trained counselor. The social worker should provide ongoing supportive counseling during the process of the child's illness.

KEY WORDS

English	Afrikaans
Malnutrition	Wanvoeding
Protein-energy malnutrition	Protein-energie wanvoeding
Kwashiorkor	Kwashiokor
Marasmus	Marasmus
Mothers	Moeders
Psychosocial implications	Psigososiale implikasies
Social work intervention	Maatskaplikewerk-intervensie
Multi-disciplinary team	Multi-dissiplinêre span
Medical social work	Geneeskundige maatskaplike werk
Underweight	Ondergewig

CHAPTER 1

GENERAL INFORMATION

1. 1 INTRODUCTION

Malnutrition is one of the serious childhood problems that affect children under five (5) years of age, and is common in developing countries. In its severe state malnutrition can cause death. Berkow, Beers, Bogin and Fletcher (1999:1288) state that malnutrition is one of the leading causes of death and poor health among children. Marek, Dialo, Ndiaye and Rakotosalana (1999:382) are of the opinion that malnutrition remains one of the main causes of child mortality in Africa. “Malnutrition affects physical growth, morbidity, mortality, cognitive development, reproduction, and physical work capacity, and it consequently impacts on human performance, health, and survival” (Mahgoub,Nnyepi, & Bandeke, 2006:1). Boyle and Holben (2006:418) are of the opinion that Protein-energy malnutrition (PEM) is the most widespread form of malnutrition in the world today.

According to Marek *et al.* (1999:382) malnutrition has been a serious problem affecting many of the children in the developing countries, and while the nutritional situation is improving on other continents, it is getting worse in Sub-Saharan Africa, and it remains one of the main causes of child mortality as 56% of all under-five deaths are indirectly associated with some form of malnutrition. Navaratnarajah (2004:2) also states that child malnutrition remains one of the leading causes of morbidity and mortality in many developing countries. Mahgoub *et al.* (2006:2) state that malnutrition is particularly prevalent in developing countries, where it affects one out of every three preschool-age children.

In a study done by Mahgoub *et al.* (2006:7) it was revealed that malnutrition is a problem in Botswana that affects 5.5% (wasting), 38.7% (stunting), and 15.6%

(underweight) of children under 3 years. The above mentioned authors further state that malnutrition differs across population groups of children, with children in rural areas being at a higher risk. Of a similar view are Tharakan and Suchindran (1999:1) who state that child malnutrition measured by stunting and underweight is a serious problem in Botswana. It is also indicated in Republic of Botswana, Ministry of Finance and Development Planning (2003:316) that the prevalence of moderate protein-energy malnutrition among children aged 0 to 5 years old, increased from 0.5% in 1996 to about 2% during the year 2000.

As stated by Mahgoub *et al.* (2006:7) and Tharakan and Suchindran (1999:1), child malnutrition is one of the common conditions that affect children in Botswana. The diagnosis of malnutrition can be distressing for some mothers, as it may lead to hospitalization of the children and lodging for the mothers. Hospitalization of children with malnutrition requires their mothers to lodge so that they can help take care of their children, because most of them are usually very ill, and therefore they need more care. In the opinion of the researcher, this is a period when mothers have to emotionally deal with the child's illness and the psychosocial implications of being admitted to hospital.

Sekgoma Memorial Hospital is a district hospital that admits patients from Serowe and from different villages around Serowe. As a hospital social worker at Sekgoma Memorial Hospital in Botswana, the researcher has observed that most of the cases in the paediatric medical ward are malnutrition cases despite the fact that malnutrition is a highly preventable disease. Some cases are first admissions and some are repeated admissions. The researcher has also observed that sometimes the condition of malnutrition does not come about because of lack of proper nutritious food for children, but because some mothers do not know what to give their children or because they have certain perceptions.

The researcher consulted experts viz; Manne (2008), Sokwane (2008) and Marape (2008) to determine their experience in working with mothers of children

with malnutrition and the extent of child malnutrition prevalence. These experts confirmed that child malnutrition is a problem that affects most children admitted to the paediatric medical ward. This motivated the researcher to embark on this research on malnutrition. It was also motivated by the tendency of some mothers of taking their children from the hospital against medical advice to take them to traditional healers. This has been observed by experts as well and prompted the researcher to explore the mother's perceptions so that they could be understood.

The researcher is of a similar opinion as several authors (Mahgoub *et al.* 2006:7), Tharakan and Suchindran 1999:1) that child malnutrition remains one of the causes of morbidity and mortality in Botswana. This study therefore concentrated on protein- energy malnutrition (PEM) as a nutritional disorder in children. The researcher has noticed that literature does not show mothers' perceptions about malnutrition as a condition in children in Botswana, and the researcher is of the opinion that the knowledge of mothers' perceptions towards malnutrition will be valuable to the social work profession and other professions. This knowledge can help the researcher to recommend a social work intervention strategy that could help in the prevention of malnutrition in children, and thus can reduce childhood deaths caused by malnutrition. The researcher is also of the opinion that the findings of this study could help multi- disciplinary teams providing services to children with malnutrition to treat them effectively and also prevent it, based on the real aspects.

1.2. PROBLEM FORMULATION

Kumar (2007:20) states that a research problem identifies and states what the researcher intends to do research on. According to Fouché and De Vos (2005:91), there are various sources for the identification of research topics. These sources include daily practice, autobiographical element intuition, and observation of reality, theory, previous research, curiosity, and supervisor's comments. The researcher developed the research topic from her daily practice.

In her daily practice as a hospital social worker, the researcher is dealing with child malnutrition, and has identified it as a problem that needs to be investigated.

According to Bomela (2007:61) the most common form of malnutrition in developing countries is under-nutrition, in terms of which food intake is inadequate to meet the energy requirements of the body. The author further states that in developing countries, inadequate food intake is the usual cause of specific nutrition-related diseases, and is a major force behind rates of infection, infant mortality, reduced productivity, and shortened life spans. Coovadia and Wittenburg (2004:200) further explain that under- nutrition in children is determined by the quantity and type of protein and energy available; and that accordingly the most important global nutritional disorder is protein-energy malnutrition (PEM), which can be in the form of kwashiorkor, marasmus or marasmic kwashiorkor. PEM occurs in children of age group six months to five years. Kwashiorkor is a severe characteristic form of PEM while marasmic kwashiorkor is used to describe the wasted intermediate forms of PEM. Baron (2008:1086) states that clinical manifestations of protein energy malnutrition range from mild growth retardation and weight loss to a number of distinct clinical syndromes, and that marasmus and kwashiorkor manifest in children in the developing world.

Bomela (2007:63) is of the opinion that causes of malnutrition are complex, multidimensional, and interrelated, ranging from factors as fundamental as political instability and slow economic growth to those factors specific in their manifestations as respiratory infection and diarrhoeal disease. From another point of view, Coovadia and Wittenburg (2004:191) state that intake of energy and protein below the minimal requirements for growth and health is the basic underlying cause of protein-energy malnutrition. Berkow *et al.* (1999: 1288) are of the opinion that the main causes of PEM are improper or inadequate food intake or an inability to absorb or metabolize nutrients. Children with malnutrition have a

low resistance to illness, and their immunity system is ineffective. According to Navaratnarajah (2004:2), malnutrition manifests in various forms, including stunting, underweight, wasting, blindness (due to vitamin A deficiency) anaemia, and reduced cognitive development. Martorell (1999:288) states that the problem of malnutrition in poor societies is best viewed as a "syndrome of developmental impairment" which includes growth failure, delayed motor, cognitive, and behavioural development, diminished immune competence, and increased morbidity and mortality. This is also confirmed by Tharakan and Suchindran (1999:1) who state that child malnutrition is measured by stunting, wasting, and underweight, and is a serious problem in Botswana. "Malnutrition in all children under five years is still a health concern in Botswana and needs more attention" (Nyepi, 2006:4). Malnutrition is a health concern that needs attention because "health is an integral part of the long-term vision of Botswana-2016, whose overall goal is to have a healthy nation that is fully involved and can contribute meaningfully to the country's development" (Ministry of Finance and Development Planning, Republic of Botswana, 2003:305). As argued by Nyepi (2006:4), year 2020 projections suggest that malnutrition will continue to be a significant problem in sub-Saharan Africa.

Roy, Fuchs, Mahmud, Ara, Islam, Shafique, Akter, and Chakraborty (2005:329) are of the opinion that effective preventative and management strategies should be introduced in communities as a means of reducing malnutrition in children. This should involve the community in building culture-based skills for long-term nutrition goals. Child malnutrition is a condition that can be prevented through interventions such as education and empowerment of the community. The researcher is of the opinion that these intervention strategies can be better implemented if the social worker knows how the community perceives malnutrition. After reading literature and interviewing experts and from malnutrition statistics available in the Department of Social Work in Sekgoma Memorial Hospital, the researcher was able to conclude that child malnutrition is a problem that needs to be addressed. For example, at this hospital, 65 cases

from the Paediatric Medical Ward were referred to the Social Work Department in 2006, and out of these, 48 were malnutrition cases. In 2007, 68 out of the 87 referred cases were malnutrition cases. This shows that most referrals for social work intervention from the paediatric medical ward are malnutrition cases. It is also indicated in the Ministry of Finance and Development Planning of the Republic of Botswana, (2003:316), that moderate protein-energy malnutrition among children aged 0 to 5, as indicated by low weight for age, decreased from 15% in 1995 to 7-9% between 2000/2001. However, the prevalence of a severe malnutrition rate increased from 0.5% in 1996 to about 2% during the year 2000. The researcher is of the opinion that the children suffer from malnutrition because their mothers' perceptions towards the condition is incorrect. This observation is confirmed by the readmissions of children with malnutrition after they were successfully treated. There is a need to uncover these perceptions for the multidisciplinary team to know what it is dealing with for this condition to be ultimately addressed.

The problem to be addressed by this study is lack of knowledge regarding the perceptions of mothers of children diagnosed with malnutrition. This lack of knowledge leads to incorrect preventative intervention resulting in many children diagnosed with malnutrition. This lack of knowledge also leads to the situation where the multidisciplinary team just addresses the symptoms and not going further to address the root cause (that is, treating the children for malnutrition and giving them food baskets). This also leads to a number of children readmitted due to malnutrition, because during the first admission the root cause was not addressed, as it is not known.

1.3 GOALS AND OBJECTIVES OF THE STUDY

1.3.1 GOAL OF THE STUDY

The goal of this study is to explore the perceptions of mothers of children diagnosed with malnutrition in Botswana, specifically at Sekgoma Memorial Hospital, Serowe.

1.3.2 OBJECTIVES OF THE STUDY

The objectives of this study are as follows:

- To provide a broad theoretical framework on malnutrition as a paediatric condition.
- To explore how malnutrition is perceived by mothers of children diagnosed with this condition.
- To describe factors contributing to malnutrition among children admitted at Sekgoma Memorial Hospital.
- To formulate recommendations that would assist in preventative social work intervention strategies, and service delivery to those already diagnosed with child malnutrition based on the findings.

The research methodology is presented here to facilitate understanding of the whole study.

1.4. RESEARCH METHODOLOGY

1.4. 1 RESEARCH QUESTION

According to Leedy and Ormrod (2005:54), hypotheses are tentative intelligent guesses about how a research problem may be resolved, while research questions do not offer any speculative answers. The authors further state that a hypothesis is essential to experimental research, whereas research questions are more common in many forms of qualitative research. From another point of view Maree (2007: 3) states that research questions are needed for two reasons, which are;

- To direct the research to appropriate literacy resources. Research questions tell what literature to read and how to narrow down bibliographic search.

- To provide focus for data collection. Research question prevents drifting from original purpose and keeps researcher focused on their staring interest.

For this study, the researcher used a research question and not a hypothesis, because the approach that was used is a qualitative one, and also because the researcher does not have any guesses about how the research problem may be resolved, but wants to explore and interpret the perceptions of mothers about child malnutrition. The research question that the findings will try to answer is: **How is malnutrition as a childhood condition perceived by mothers of children diagnosed with this condition in Botswana?**

1.4.2 RESEARCH APPROACH

This study adopted the qualitative research approach. Fouché and Delport (2005:73) state that at present there are two well-known and recognized approaches to research, namely the qualitative and the quantitative paradigms. These two methodological paradigms differ incisively from each other. The aforementioned authors point out that qualitative research paradigm broadly refers to research that elicits participant accounts of meaning, experience or perceptions. It also produces descriptive data in the participant's own written or spoken words. It thus involves identifying the participant's beliefs and values that underlie the phenomena. Leedy and Ormrod (2005: 133) similarly explain that qualitative approaches focus on phenomena that occur in a natural setting, and that these involve studying those phenomena in all their complexity. Qualitative researchers dig deep to get a complete understanding of the phenomenon they are studying. According to the aforementioned authors, the qualitative approach can serve to describe, interpret, verify, or evaluate.

The researcher has decided to use the qualitative research method because of the following reasons;

- Qualitative approach is warm and addresses the meaning, experiences, and perceptions of people, so the perceptions of mothers about

malnutrition can be known using this warm approach. The researcher did a qualitative research since her intention was to gain understanding of the perceptions of mothers towards child malnutrition.

- Qualitative approach is relevant, because it is idiographic (understand the meaning that people attach to everyday lives), and the researcher wants to understand the meaning that mothers attach to child malnutrition. The researcher will be able to know what mothers know about child malnutrition and their experiences of it, and will be able to explain child malnutrition in the way mothers do.
- Qualitative approach allows for descriptive data through participants' own written or spoken words. The researcher is of the opinion that the perceptions of mothers on child malnutrition can be known through descriptive data in the mothers' own spoken words.

1.4.3 TYPE OF RESEARCH

According to Bless, Higson-Smith and Kagee (2006:44), there are two types of research; namely basic and applied research. Applied research is associated with the researcher's motivation to assist in solving a particular problem facing a particular community. Applied research is often achieved by applying basic research findings to particular communities' challenges. In this way, applied research may assist the community to overcome the problem or design interventions that would help to resolve it. Fouché and de Vos (2005: 105) also state that research may be labelled as either basic or applied. Applied research is the scientific planning or induced change in a troublesome situation.

The researcher used applied research in this study, because the researcher is of the view that this research "can inform human decision-making procedures about practical problems" (Leedy and Ormrod, 2005:43). The researcher is of the opinion that child malnutrition is a practical problem that needs to be overcome in order to reduce child mortality.

1.4.4 RESEARCH DESIGN AND METHODOLOGY

Mouton (2001:55) defines a research design as a plan or blueprint of how one intends conducting one's study. Kumar (2001:20) further explains that the main function of a research design is to explain how the researcher will find answers to the research questions. The researcher chose case study as research design, as Stake in Fouché (2005:272) states that the sole criterion of selecting the case study is "the opportunity to learn". . Fouché (2005: 272) further states: " Where multiple cases are involved, it is referred to as a collective case study"

A collective case study was chosen for this study. According to Fouché (2005: 272): "the collective case study furthers the understanding of the researcher about a social issue or population being studied. The interest in the individual case is secondary to the researcher's interest in a group of cases". A collection or a group of cases (mothers with children with malnutrition) was used to further the researcher's understanding of a social issue, namely the perceptions of mothers of children diagnosed with malnutrition regarding child malnutrition as a childhood condition.

1.4.4.1 DATA COLLECTION METHODS

According to Fouché (2005:272) the exploration and description of the case takes place through detailed in-depth data collection methods, involving multiple sources of information that are rich in content. These may include interviews, documents, observations or archival records. As such the researcher needs access to, and confidence of participants. According to Struwig and Stead (2001:98), data collection methods in qualitative research are interviews, focus group interviews, observation, and unobtrusive measures.

The researcher explored the perceptions of mothers regarding malnutrition; this was done through semi-structured interviews. Struwig and Stead (2001:98) state that a semi-structured interview is a combination of structured and unstructured

interview. Predetermined questions are posed to each participant in a systematic and consistent manner but the participants are also given the opportunity to discuss issues beyond the questions confinements. Similarly, Nieuwenhuis (2007:87) explains that the semi-structured interview is commonly used in research projects to corroborate data emerging from other data sources. It usually requires a participant to answer a set of predetermined questions. It allows for probing and clarification of answers.

The researcher gathered information by using facilitation and communication skills which are listening, observing, probing, questioning, confronting and summarizing. The interviews were done individually to promote confidentiality and to give respondents an opportunity to be able to freely express themselves. The researcher chose this kind of interview because perceptions are a broad area and there is a possibility that the questions asked may not cover all the important information, but semi-structured interviews allows for flexibility in scope and depth in order to gather important information.

1.4.4.2 DATA ANALYSIS

Blanche, Durrheim and Stead (2006:52) state that the aim of data analysis is to transform information (data) into an answer to the original research question. According to Mouton (2001:108) data analysis involves breaking up the data into manageable themes, patterns, trends, and relationships.
For this study, the researcher analyzed data using Creswell's model, with the following steps as stipulated in De Vos (2005:334):

- **Planning for recording of data**

According to De Vos (2005:334), the researcher should plan the recording of data in a systematic manner that is appropriate to the setting, participants, or both, and that will facilitate analysis, before data commences. For purposes of this study, the researcher made sure that the tape recorder was available and in good order to record all interviews, and there were plenty of spare batteries for

the tape recorder. Arrangements were made for interviews to be conducted in the paediatric counselling rooms where it is quiet and private.

- **Data collection and preliminary analyses**

De Vos (2005:334) states that data analysis in a qualitative inquiry necessitates the use of a twofold approach. The first aspect involves data analysis at the research site during data collection, while the second aspect involves data analysis away from site, following a period of data collection. The researcher used this twofold approach to do an in-depth evaluation of the information. The researcher tried to make sense of some of the data while still at the field.

- **Managing or organizing data**

This is the first step in data analysis away from site (De Vos 2005:336). This is the stage where researchers organize their data into folders, index cards, or computer files, and where they convert their files to appropriate text units, for analysis either by hand or computer. For this study, this is a stage where the researcher listened to the tape recorder and transcribed the interviews verbatim and also assigned a number to each participant to be used in the research report, to maintain anonymity. The researcher did the transcribing herself, so that she could listen carefully and become acquainted with data.

- **Reading and writing memos**

In Creswell's model, as indicated by De Vos (2005:337), the researcher gets the feeling of the whole database during this step. During this step the researcher thoroughly read the transcripts in order to compare the information from the interviews and combine it into an integrated unit before breaking it up into parts for analysis.

- **Generating categories, themes and patterns**

According to De Vos (2005:337), the analytic process demands a heightened awareness of the data and openness to the subtle, tacit undercurrents of social life. The author further states that this is the most intellectually challenging phase of data analysis, because the researcher has to identify salient themes, recurring ideas, language or patterns, and has to put them together to integrate the entire work. During this phase the researcher identified themes and categories. Data

obtained from participants was broken down into themes and sub-themes. The themes and sub-themes will be discussed, using direct quotes from participants to strengthen the discussion of these themes.

- **Coding the data**

De Vos (2005:338) stipulates that after generating categories and themes, the researcher subsequently applies some coding scheme to those categories and themes, and diligently and thoroughly marks passages in the data, using quotes. The researcher coded the themes and categories, using coloured paper and highlighter pens.

- **Testing emergent understandings**

During the testing of emergent understanding phase, the researcher begins the process of searching through the data to challenge his/her understanding, searches for negative instances of patterns, and incorporates these into larger constructs as necessary (De Vos 2005:338). For this study, the researcher inspected every word of the transcribed interviews and considered its meaning and its relevance to the study.

- **Searching for alternative explanations**

According to De Vos, (2005:339), as the researcher discovers categories and patterns in the data, he/she should engage in critically challenging the very patterns that seem so apparent. The researcher should search for the possibility of other explanations for this data and the linkages among them. In this study, the researcher searched and identified alternative explanation, where some participants had given contradictory answers to questions.

- **Representing, visualizing (writing the report)**

The last phase is indicated as representation and visualization of data, according to De Vos (2005:339). At this phase, the researcher presents the data. The researcher is at this final phase of interpretation of data. The findings were verified with literature, which researcher strived towards as far as relevant literature could be found.

1.4.5. PILOT STUDY

According to Blanche *et al.* (2006:490), pilot studies are used to identify possible problems with proposed research, using a small sample of respondents before the main study is conducted. The rationale of a pilot study is to save time and money in the main study. It allows space for revising, reworking, completely overhauling or potentially abandoning the project. Similarly, Strydom (2005:205) states that a pilot study is one way in which the prospective researcher can orientate himself to the project he has in mind. The pilot study for this research was conducted under the following themes:

- FEASIBILITY OF STUDY

Strydom (2005:208) is of the view that, apart from relevant literature and interviews with experts, it is also necessary to obtain an overview of the actual, practical situation where the prospective investigation will be carried out. The researcher must address the goals and objectives, resources, research population, procedures of data collection, and possible errors that may occur.

As mentioned before, child malnutrition is prevalent in Botswana, and the researcher has mentioned that there are a considerable number of admissions of children with malnutrition in the paediatric medical ward at Sekgoma Memorial Hospital, so participants were available to the researcher. Practical arrangements were made to access the participants. The researcher had permission from the Ministry of Health in Botswana and from the chief medical officer at Sekgoma Memorial Hospital to conduct the study.

This study was feasible, because the researcher had time to conduct it as she has been granted study leave. The researcher is sponsored by the Government of Botswana, who coverered all the expenses related to the research.

- TESTING OF INTERVIEW SCHEDULE

According to Leedy and Ormrod (2005:188) when planning the interview, the researcher tries hard to develop clear and concise questions. However, questions may be ambiguous or misleading or may yield uninterpretable or otherwise useless responses. To save time, one can fine-tune the questions before data collection. The researcher tested the interview schedule with mothers of children with malnutrition at Sekgoma Memorial Hospital in May 2009. Two lodger mothers were identified, who were not part of the main study and the interview schedule was tested to see if it will generate the necessary data, which it did.

1.4.6. DESCRIPTION OF THE POPULATION, SAMPLE, AND SAMPLING METHODS

- DESCRIPTION OF THE RESEARCH UNIVERSE AND POPULATION

For the purposes of this study, the researcher's universe was all mothers of children diagnosed with child malnutrition in Botswana, while the population was the mothers of children diagnosed with malnutrition and admitted to the paediatric medical ward in Sekgoma Memorial Hospital.

Strydom (2005:193) states that universe refers to all potential subjects who possess the attributes in which the researcher is interested. Population on the other hand, is a term that sets boundaries on the study units. It refers to individuals in the universe who posses specific characteristics.

- SAMPLE

The researcher drew the sample from the population, which are mothers of children diagnosed with malnutrition admitted at Sekgoma Memorial Hospital Paediatric Ward. A sample of twelve mothers was selected using probability sampling. According to Strydom (2005:192), a sample is a small portion of the

total set of objects, events, or persons, which together comprise the subject of the study. Similarly, Kumar (2007:164) defines a sample as a few selected from a larger group (population).

- SAMPLING METHOD

The researcher used probability sampling for this research, even though non-probability sampling is usually used in qualitative research. The reason for this decision is that a list of Paediatric Ward admissions is available on a daily basis at Sekgoma Memorial Hospital, specifying the diagnosis or reason for admission. Thus the population is known and a sample can be selected based on probability sampling. The kind of probability sampling that the researcher used is systematic sampling. Strydom (2005:201) describes systematic sampling as a sampling method where only the first case is selected randomly, and all subsequent cases are selected according to a particular interval, example each fifth case. According to Leedy and Ormrod (2005:203), systematic sampling involves selecting individuals according to a predetermined sequence. In this study, the researcher selected the first patient with malnutrition from the patient list from the Paediatric Ward randomly and thereafter each second patient with malnutrition, was chosen daily from the Paediatric Ward admission list. The mothers of these children were then contacted to hear if they would be interested in voluntarily partaking in this study. If they showed interest, an appointment was made with each to discuss the letter of informed consent individually. Each participant who then voluntarily agreed to partake, signed the letter of informed consent and was given a copy. This was done until 12 participants were selected and thereafter an appointment for an individual interview was arranged.

1.5 ETHICAL ISSUES

Strydom (2005:57) defines ethics as a set of moral principles suggested by an individual or a group and which subsequently is widely accepted, and which offers rules and behavioural expectations about the most correct conduct

towards experimental subjects and respondents, employers, sponsors, other researchers, assistants and students. According to Babbie and Mouton (2001: 520), ethical issues are general agreements among researchers about what is proper and what is improper in the conduct of scientific inquiry. In this study, the following ethical aspects were taken into consideration:

- AVOIDANCE OF HARM

According to Strydom (2005:58), subjects can be harmed in a physical or emotional manner, and the ethical obligation rests with the researcher to protect subjects from such harm, and respondents should be thoroughly informed beforehand about the potential impact of the investigation. Babbie and Mouton (2001:522) also state that social research should never injure the people being studied, regardless of whether they volunteer for the study or not. The authors furthermore state that harm may include revealing information that would embarrass them or endanger their homes, lives, friendships, and jobs.

In this study, possible harm to participants was reduced by thoroughly informing the participants about the study and its objectives. The participants knew what to expect. Participants were made aware of the potential impact of the study. They were given full information, and an opportunity to decide if they wanted to continue with the study or to withdraw. Interviews were handled in a sensitive manner, to minimize the psychological impact on the participants.

- INFORMED CONSENT

According to Babbie and Mouton (2001:521), social research often requires people to reveal personal information about themselves, so they should not be forced to participate. Strydom (2005:59) states that obtaining consent implies that all possible or adequate information on the goal of investigation, the procedures which will be followed during the investigation, disadvantages and dangers that the respondents may be exposed to, and the credibility of the researcher, should

be handed to potential subjects. The author also states that nobody should ever be coerced into participating in a research project, because participation must always be voluntary.

In this study, the researcher did not force anybody to be a participant in the study. The participants were provided with adequate information pertaining to the study, such as the goal and the procedure to be followed, so that they can give their informed consent to participate. The participants were given a letter of consent to sign. The letter was translated into their language (Setswana) for them to understand it better. The researcher requested permission from participants to use a tape recorder. Participants were informed that, if they are not comfortable during the interview, they should feel free to say so, and if they wish, they will be allowed to withdraw from the research, without any fear.

- DECEPTION OF SUBJECTS

Babbie and Mouton (2001:525) state that researchers sometimes do not tell subjects that they are doing research, and that researchers sometimes admit that they are doing research but do not say why they are doing it and for whom, and this boils down to deception of the participants. Strydom (2005:60) describes deception of subjects as deliberately misrepresenting facts in order to make another person believe something that is not true.

In this study, participants were provided with adequate information about the purpose and procedure of the study. Before the recording of every interview, the participants were briefed about the purpose and procedure of the study.

- VIOLATION OF PRIVACY/ANONYMITY/CONFIDENTIALITY

According to Babbie and Mouton (2001:523), anonymity and confidentiality assist to protect the identity of subjects in research. Anonymity means that a

respondent may be considered anonymous when the researcher cannot identify a given response with a given respondent. Confidentiality, on the other hand, means that the researcher can identify a given persons' response but essentially promises not to do so publicly. Strydom (2005:62) also states that the privacy of subjects can be insured when proper, scientific sampling is used, and that the researcher has an obligation to jealously guard the information that is confided in him/her.

For purposes of this study, anonymity could not be observed due to data collection method that was used, but the researcher ensured privacy and confidentiality of participants. Participants' names were not recorded. Instead, the researcher labelled the tapes in numbers. The identifying particulars of participants were not used in the research report.

- ACTIONS AND COMPETENCE OF RESEARCHERS

According to Strydom (2005:63), researchers are ethically obliged to ensure that they are competent and adequately skilled to undertake the proposed investigation. Kumar (2007:214) states that the researcher's educational background, training, and competence in research allows for subjectivity and not bias.

The researcher is competent to conduct this study, because she has done research during her first degree, and has also successfully completed a module on research methodology at masters' level. The researcher is an experienced social worker, so she was able to conduct the research without bias. The study was conducted under the guidance of a supervisor assigned by the University of Pretoria, Department of Social work and Criminology.

- DEBRIEFING

"Debriefing entails interviews to discover any problems generated by the research experience, so that those problems can be corrected" (Babbie: 2006:67). Strydom (2005:67) states that debriefing sessions after the study give participants the opportunity to work through their experience and its aftermath, and debriefing sessions are one way in which the researcher can assist subjects in minimizing possible harm which may have been done in spite of precautions.

In this study, participants were debriefed immediately after the data collection session by researcher. This helped them to deal with emotional issues that might have been triggered by their participation in the interview. Arrangements were made with the Social Work Department at the hospital to attend to any participant who needed further intervention and they were referred accordingly.

- COOPERATION WITH STAKEHOLDERS

Strydom (2005:65) is of the opinion that when a researcher has to rely financially on a sponsor, both parties need to clarify ethical issues beforehand, the sponsor should not act prescriptively towards the researcher; the identity of the sponsor should not remain undisclosed in order to concur with the expectations of the sponsor; and that the real goal of the investigation should not be camouflaged. Kumar (2007:216) states that sometimes there maybe direct or indirect controls exercised by sponsoring organizations; that they may select methodology, prohibit the publication of findings, or impose other restriction on the research that may stand in the way of obtaining and disseminating accurate information, and this is unethical.

For this study, the researcher signed a training bond with the Botswana Government. The agreement states that, although the candidate is sponsored by the government, the purpose of the study is improving her qualifications for duties she is performing in the public service, so this protects the researcher from being manipulated by the sponsor.

- RELEASE OR PUBLICATION OF THE FINDINGS

Kumar (2007:215) states that to report findings in a way that changes or slants them to serve one's own purpose is unethical. Strydom (2005:65) is of the opinion that findings of the study must be introduced to the public in a written form, otherwise even a highly scientific investigation will mean very little, and will not be viewed as research if not published. The information must be formulated and conveyed clearly and unambiguously to avoid misappropriation by subjects, the general public, and even colleagues. In their report, the researchers should mention their shortcomings and limitations.

Participants in this study were informed that research findings will be available in the form of a dissertation in the library of University of Pretoria, and at Sekgoma Memorial Hospital Administration and Ministry of Health, Botswana. A manuscript will be prepared for publication in a professional journal for the general public and colleagues to read.

1.6 DEFINITION OF KEY CONCEPTS

The following are definitions of the key concepts used in the study:

1.6.1 MALNUTRITION

Booi (2001:11) defines malnutrition as a condition that develops as a result of either too much or too little, or deficiency of vitamins.

Social Work Dictionary (2003:259) defines malnutrition as a physical condition, usually but not necessarily evidenced by emaciation, due to an insufficiency of needed food element. For purposes of this study, malnutrition referred to a lack of energy giving food and protein (under nutrition) which is protein-energy malnutrition.

1.6.2 PROTEIN-ENERGY MALNUTRITION

According to Baron (2008:1085) protein-energy malnutrition is a deficiency of energy and protein. It may be primary due to inadequate food intake or secondary as a result of other illnesses. Protein-energy malnutrition has been described as two distinct syndromes; kwashiorkor caused by a deficiency in protein in the presence of adequate energy, and marasmus caused by combined protein and energy deficiency. Hass and Levin (2006:63) define protein-energy malnutrition as a deficiency disease of energy and protein. Protein deficiency, or kwashiorkor, in its severe state leads to death. Marasmus is another deficiency disease associated with calorie or food deficiency, comes from starvation diet, and results in the complete loss of energy and wasting of tissue.

The researcher defined protein-energy malnutrition as a deficiency disease of energy and protein which manifests in the form of marasmus, kwashiorkor or marasmic-kwashiorkor.

1.6.3 MOTHER

Oxford English Mini Dictionary (2007:360) defines a mother as a female parent or someone who looks after children kindly and protectively. According to Wikipedia, the free encyclopaedia (2008:1) a mother is a biological and /or social female parent of an offspring.

For the purposes of this research, the researcher defined a mother as someone who provides for the physical, emotional, and social needs of a child under their care. This person can be a biological mother or someone who is looking after the child on behalf of the mother.

1.6.4 PERCEPTION

According to the *Social Work Dictionary* (2003:321) perceptions are the psychic impressions made by the five senses (sight, sound, smell, taste and touch) and a way these impressions are interpreted cognitively and emotionally, based on ones' life experiences. Shale (2004:17) defines perceptions as a manner in which human beings interpret aspects, influenced by previous experiences.

For purposes of this study the researcher defined perceptions as meanings and interpretations that people attach to a phenomenon in order to deal with it.

1.7 DIVISION OF RESEARCH REPORT

The research report was divided as follows;

Table 1. Division of the research report

Chapter	**Contents**
Chapter one	General introduction
Chapter two	Theoretical framework on child malnutrition as a childhood condition
Chapter three	Research methodology and Empirical findings
Chapter four	Summary, conclusions and recommendations

1.8 LIMITATIONS OF THE STUDY

This study was only done at Sekgoma Memorial Hospital in Serowe, Botswana, and due to the small number of participants the results may not be generalised.

The next chapter which is chapter two will provide a broad theoretical framework on malnutrition as a paediatric condition.

CHAPTER 2: LITERATURE REVIEW: MALNUTRITION IN CHILDREN

2.1. INTRODUCTION

Malnutrition is one of the serious childhood problems that affect children under five (5) years of age, and is common in developing countries. In its severe state malnutrition can cause death. Whitney and Rolfes (2008:196) state that most 33,000 children who die each day are malnourished. According to Martorell (1999:288) the problem of malnutrition in poor societies is best viewed as "a syndrome of developmental impairment," which includes growth failure; delayed motor, cognitive and behavioural development; diminished immunocompetence; and increased morbidity and mortality. In agreement are Mahgoub, Nnyepi and Bandeke (2006:1) who state that malnutrition affects physical growth, morbidity, mortality, cognitive development, reproduction, and physical work capacity, and it consequently impacts on human performance, health and survival. Malnutrition has psychosocial and physical effects on children and psychosocial effects on their families and the community at large, because of these psychosocial effects, there is need for social work therapeutic and preventative intervention.

The Republic of South Africa (RSA), Department of Health (1997:84) indicates that nutrition is a basic human right, and necessary for the attainment of a person's physical and intellectual potential. "Adequate nutrition is a basic need that remains unmet for vast numbers of children throughout the world, despite the general improvement in food production, health conditions, available education and social services" (Saloojee & Pettifor 2001:117). Despite the fact that The Republic of Botswana, Ministry of Finance and Development Planning (2003:314) state that good health as a major determinant of quality life should be a right for all irrespective of their socio-economic and cultural background, in a study done by Mahgoub *et al.* (2006:7) it was revealed that malnutrition is a problem in Botswana that affects 5.5% (wasting), 38.7% (stunting), and 15.6% (underweight) of children under 3 years.

Saloojee and Pettifor (2001:117) state that under nutrition is a form of malnutrition that results from not eating enough, another name for this type of malnutrition is protein-energy malnutrition (PEM). “Protein-energy malnutrition (PEM) is a deficiency of protein, energy, or both, including kwashiorkor, marasmus, and instances in which they overlap” (Whitney & Rolfes 2008:196). Whitney and Rolfes (2008:196) further state that protein-energy malnutrition is one of the most prevalent and devastating forms of malnutrition in the world, afflicting one of every four children worldwide. According to Berkow, Beers, Bogin and Fleacher (1999:1288) from the worldwide perspective, malnutrition is one of the leading causes of death and poor health among children. Soloojee and Pettifor (2001:118) explain that rural children have a higher prevalence of malnutrition than urban children and that more severe kwashiorkor and marasmus syndromes make up one in four percent of the pre-school population in poverty stricken areas. They add that with the increased prevalence of HIV disease in young children marasmus and wasting are becoming more common. Of a similar view are Cockburn, Carachi, Goel and Young (1996: 470) who mention that extreme poverty of people, their ignorance and illiteracy, the constant child bearing by women, correlate with malnutrition.

Literature shows that child malnutrition is a problem in developing countries, Botswana included. This chapter will therefore focus on protein- energy malnutrition (PEM) as a nutritional disorder in children. The researcher is therefore going to discuss child malnutrition (kwashiorkor, marasmus); its description, causes, symptoms, treatment, prevention, its psychosocial implications on the patient, family, and community and social work intervention (therapy and prevention). Child malnutrition in developing countries as well as child malnutrition in Botswana will be covered in this chapter.

2.2. CHILD MALNUTRITION IN DEVELOPING COUNTRIES

Smith and Haddad (2000: 44) are of the opinion that although the percentage of children who are malnourished has declined in many countries of the developing world in recent years, the absolute number of malnourished children is rising in some regions, particularly in Sub-Saharan Africa. According to Bomela (2007:61) the most common form of malnutrition in developing countries is under nutrition, in terms of which food intake is inadequate to meet the energy needs of the body. In developing countries, inadequate food intake is the usual cause of specific nutrition-related disease, and is a major force behind increased rates of infections, infant mortality, reduced productivity, and shortened life spans.

Fukagawa (2008:669) argues that protein- energy malnutrition (PEM) is the most important nutritional disease in developing countries, especially because of its impact on childhood mortality and growth and development. “Chronic malnutrition has been a persistent problem for young children in Sub-Saharan Africa. A high percentage of these children fail to reach the normal international standard height for their age; that is, they are “stunted.” The region has now the world’s highest rate of stunting among children-43% and has shown little improvement over the last 15 years” (Teller & Alva, 2008:1).

According to Marek *et al.* (1999:382) malnutrition remains one of the main causes of child mortality as 56% of all under-five deaths is indirectly associated with some form of malnutrition in low and middle income countries. Similarly, Navaratnarajah (2004:2) states that child malnutrition is one of the leading causes of morbidity and mortality in many developing countries and it is also the largest contributor to the global burden of diseases through its association with infectious diseases. Thompson and Manore (2005:223) highlight that seventy percent of all childhood deaths in developing countries result from malnutrition, pneumonia, diarrhoea, measles or malaria. The above mentioned authors state that it is important to emphasise that malnutrition interacts with these other

illnesses and diseases, leading to much higher death rates. According to Smith and Haddad (2000: vii) about 167 million children under five years of age, almost one third of the developing world's children are malnourished. If they survive childhood, many of these children will suffer from poorer cognitive development and lower productivity. As adults, their ability to assure good nutrition for their children could be compromised, perpetuating a vicious cycle.

Boyle and Holben (2006:421) stipulate that almost one-third of all the children in developing countries are stunted, suffering from chronic under nutrition. The aforementioned authors further state that the death rate for children from 1 to 5 ranges from 20 to 30 times higher in developing countries than in developed countries. Fukagawa (2008:670) states that about 31% of children less than five years of age in developing countries are moderately to severely underweight, 39% are stunted, and 11% are wasted. According to Smith and Haddad (2000: 45) if the current trends continue, the prevalence of child malnutrition in the year 2020 is projected to remain high. The absolute number of malnourished children in Sub-Saharan Africa is expected to be higher in 2020 than in 1995.

Furthermore, Boyle and Holben (2006:424) state that the under-5 mortality rate reflects the nutritional health and health knowledge of mothers; the level of immunization and oral rehydration therapy use; the availability of maternal and health services; income and food availability for the family; availability of clean water and sanitation; and the overall safety of the child's environment. Boyle and Holben (2006:424) and Matla (2008:30) are of the opinion that lack of dietary diversity is a particularly severe problem among poor population in the developing countries, because their diets are predominantly based on starchy staples and often include little or no animal products and few fresh fruits and vegetables.

The researcher agrees that malnutrition is a problem in developing countries and it needs to be addressed. The effects of child malnutrition can be devastating and

permanent, and much still needs to be done in developing countries to deal with this preventable yet deadly disease.

2.3. CHILD MALNUTRITION IN BOTSWANA

“Child malnutrition measured by stunting, wasting, and under-weight is a serious problem in Botswana” (Thankaran & Suchindran 1999:1). The aforementioned authors state that the determinants of malnutrition cover biological, social, cultural, economic, and morbidity factors: age, weight, birth weight, breastfeeding duration, gender of the family head, residence, house type, toilet facility, education of mother and father, child caretaker; intake levels of milk and dairy products, staple foods and cereals and beverages; and incidence of cough and diarrhoea. The influence of these factors can be used in the development of strategies of intervention for reducing child malnutrition. According to Food and Nutrition Unit Ministry of Health (2007:2) Food and Nutrition Unit uses the Botswana National Surveillance System (BNNSS) to monitor nutritional status of children under the age of five attending child welfare clinic. Indicators used to classify children are normal growth, moderate malnutrition, severe malnutrition and growth failure.

According to the Ministry of Finance and Development Planning (2003:315) food nutrition is the foundation of survival, health, educability, productivity and national development. The provision of Food and Nutrition Services in the country has been among the priority strategies of Primary Health Care (PHC). Despite this, “moderate protein energy malnutrition (PEM) among children aged 0-5 years, as indicated by low weight for age, decreased from 15% in 1995 to 7-9% between 2000/2001. However, the prevalence of severe malnutrition rate increased from 0.5% in 1996 to about 2% during the year 2000” (Ministry of Finance and Development Planning (2003:316). However, according to the Ministry of Finance and Development Planning, 2003:316) inter and intra districts variations exist in malnutrition prevalence rates. Districts with remote area dwellers and

settlements, notably Kgalagadi North and Ghanzi have persistently shown highest malnutrition prevalence levels.

In a study done by Mahgoub *et al.* (2006:7) results on the nutritional status of children under 3 years of age, the level of malnutrition based on the three indicators (weight for height, height for age and weight for age), showed that the level of malnutrition among children under the age of three years of age was 5.5% (wasting), 38.7 %(stunting) and 15.6% (underweight). According to Food and Nutrition Unit Ministry of Health (2007:2) moderate malnutrition remained relatively stable at 3.9% in 2006 and 3.8% in 2007. The average prevalence of severe malnutrition also remained stable at 0.8% in 2007 compared to 0.9% in 2006.

Below is the summary of the Trend in attendance Rate, Ration Coverage and Nutritional Status of the Under Fives: 2004 to 2007.

Table 2: Summary of the Trend in attendance Rate, Ratio Coverage and Nutritional Status

VARIABLE	**2004**	**2005**	**2006**	**2007**
Moderate Malnutrition (%)	4.9	4.3	3.9	3.8
Severe Malnutrition (%)	1.0	0.9	0.9	0.8
Total Malnutrition (%)	5.9	5.2	4.8	4.6
Growth Failure (%)	8.5	6.7	5.2	4.3
Ration coverage (%)	72.7	75.1	63.3	71.1

Attendance (%)	75.5	79.5	87.0	92.7

Source: Food and Nutrition Unit Ministry of Health (2007:6)

Literature shows that malnutrition is a problem in Botswana. As a social worker the researcher has observed that even though majority of under-fives are supplied with food rations (as in the above table) in Botswana, malnutrition is still a problem. This in the researcher's opinion shows that more has to be done to address this problem, like knowing and addressing the perceptions of mothers towards malnutrition and establishing all other factors leading to this state of affairs.

2.4. DESCRIPTION, MANIFESTATIONS AND CONSEQUENCES OF CHILD MALNUTRITION

2.4.1 DESCRIPTION OF CHILD MALNUTRITION

According to Whitney and Rolfes (2008:563) a child with any of several nutritional deficiencies may be irritable, aggressive, and disagreeable, or sad and withdrawn. Such a child maybe labelled "hypoactive," "depressed," or "unlikable," when in fact these traits may be due to simple, even marginal malnutrition. The above mentioned authors further mention that any departure from normal healthy appearance and behaviour is a sign of possible poor nutrition. According to Martorell (1999:288) the problem of malnutrition in poor societies is best viewed as "a syndrome of developmental impairment," caused by a complex of multifactorial factors. Martorell (1999:288) points out that the word "syndrome" implies that there is a group of signs and symptoms that occur together and that serve to characterise the problem of malnutrition. At the extreme of severity is severe, clinical malnutrition, illustrated by kwashiorkor and marasmus and the less severe forms of malnutrition are mild and moderate forms of malnutrition which are more common than severe clinical malnutrition.

According to Boyle and Holben (2006:418) PEM includes kwashiorkor, a protein-deficiency disease; marasmus, a deficiency disease caused by inadequate food intake; and the states in which these two extremes overlap. Similarly, Cockburn *et al.* (1996:472) state that child malnutrition can result in marasmus or kwashiorkor. Marasmus results when the child eats diet that lacks calories and this disease is uncommon in children that are breastfed, while kwashiorkor usually develops in the second and third years when the child eats diet that is adequate in calorie but severely deficient in protein. This usually happens after the child is weaned from the breast (Cockburn *et al.,* 1996:472). Coovadia and Wittenburg (1998:200) are of the same opinion as the aforementioned authors by stating that under nutrition in children is determined by the quantity and type of protein and energy available; and that accordingly the most important global nutritional disorder is protein-energy malnutrition (PEM), which can be in the form of kwashiorkor, marasmus or marasmic kwashiorkor. PEM occurs in children of age group six months to five years. The aforementioned authors further explain that kwashiorkor is a severe characteristic form of PEM while marasmic kwashiorkor is used to describe the wasted intermediate forms of PEM. Lee and Nieman (2003:346) state that children suffering from PEM are likely to develop infections, nutrient deficiencies, and diarrhoea. Navaratnarajah (2004:2) points out that malnutrition not only affect a child's ability to grow intellectually, but also reduce their resistance to infection, "Malnutrition is frequently part of a vicious cycle that includes poverty and infection" (Saloojee & Pettifor, 2001:118).

Mahgoub *et al.* (2006:1) point out that a well nourished child is one whose weight and height measurements compare very well with the standard normal distribution of heights and weights of healthy children of the same age and sex. According to Lee and Nieman (2003:346) in the context of classifying the severity of PEM, wasting has been suggested as a term for a deficit in weight for height and the term stunting has been suggested for a deficit in the height for age. The aforementioned authors further state that patients with PEM can be placed in one of the four categories: normal; wasted but not stunted(indicating acute PEM)

wasted and stunted(indicating acute and chronic PEM) or stunted but not wasted(indicating past PEM with adequate nutrition at present). Whitney and Rolfes (2008:197) agree with Boyle and Holben (2006:418) that children who are thin for their height may be suffering from acute PEM (recent severe food deprivation), whereas children who are short for their age have experienced chronic PEM (long-term food deprivation). The aforementioned authors further state that if stunting occurs during the first five years of life, the physical and cognitive impairments are usually irreversible. The researcher has observed that some children who are admitted in hospital for malnutrition are thin for their height, while other children are short for their age which indicates that both acute and chronic PEM are a problem in Botswana.

2.4.2 MANIFESTATION OF CHILD MALNUTRITION

Navaratnarajah (2004:2) states that malnutrition manifests in various forms, including stunting, underweight, wasting, blindness (due to vitamin A deficiency) anaemia (secondary to iron deficiency), reduced cognitive development (as a result of iodine deficiency).

Whitney and Rolfes (2008:563) listed the following as the physical signs of malnutrition.

Table 3 Physical signs of Child Malnutrition

	Well-Nourished	**Malnourished**	**Possible Nutrient Deficiencies**
Hair	Shiny, firm in scalp	Dull, brittle, dry, loose; falls out	PEM
Eyes	Bright, clear pink membranes; adjust easily to light	Pale membranes; redness; adjust slowly to darkness	Vitamin A, the B vitamins, zinc and iron
Teeth and gums	No pain or caries,	Missing,	Minerals and

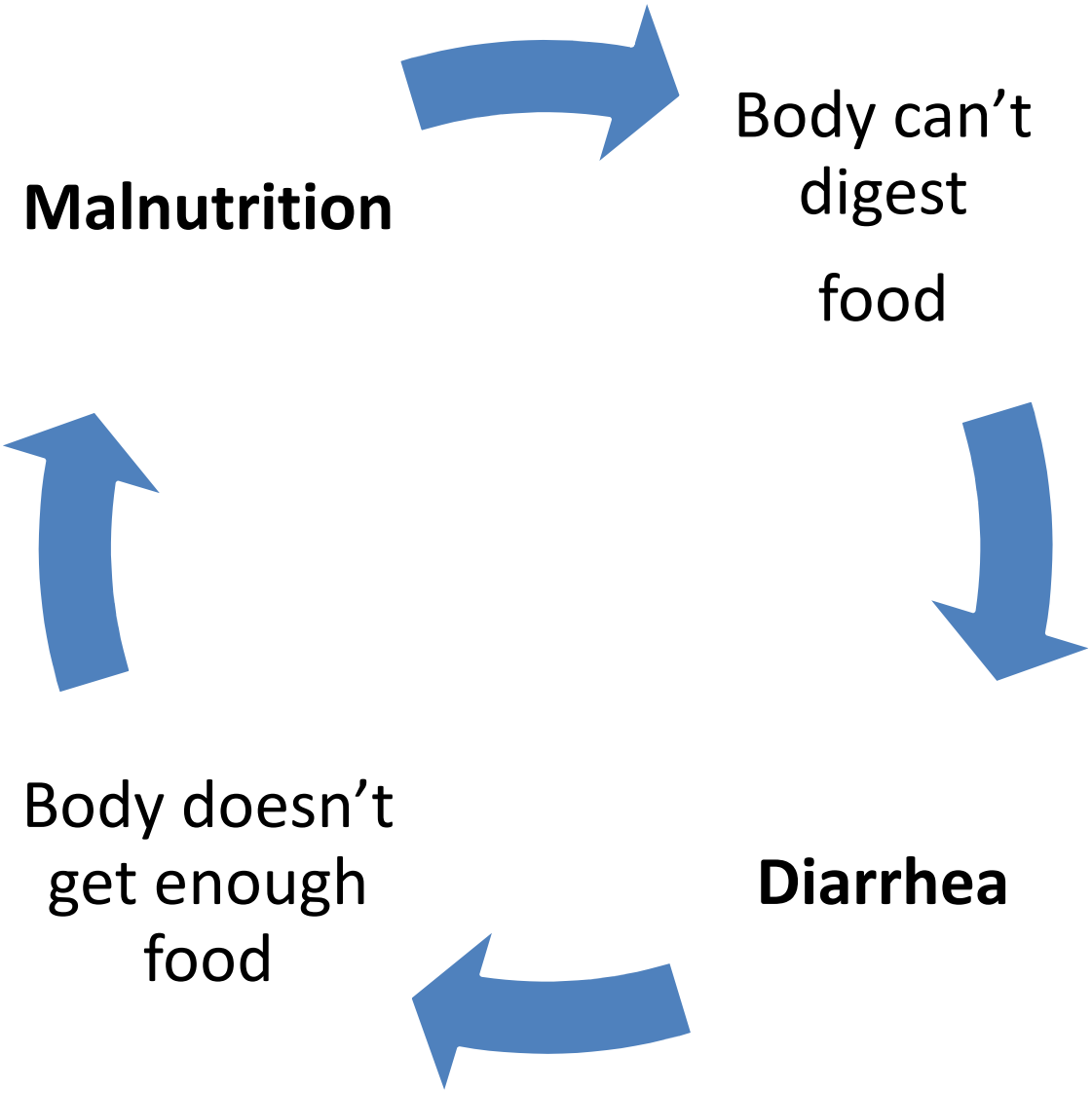
	gums firm, teeth bright	discoloured, decayed teeth; gums easily bleed and are swollen and spongy	vitamin C
Face	Clear complexion without dryness or scaliness	Off-colour, scaly, flaky, cracked skin	PEM, vitamin A, and iron
Glands	No lumps	Swollen at the front neck, cheeks	PEM and iodine
Tongue	Red, bumpy, rough	Sore, smooth, purplish, swollen	B vitamins
Skin	Smooth, firm, good colour	Dry, rough, spotty; "sandpaper" feel or sores; lack of fat under skin	PEM, essential fatty acids, vitamin A, B vitamins, and vitamin C
Nails	Firm, pink	Spoon-shaped, brittle, ridged	Iron
Internal systems	Regular heart rhythm, heart rate and blood pressure; no impairment of digestive function, reflexes, or mental status	Abnormal heart rate, heart rhythm, or blood pressure; enlarged liver, spleen; abnormal digestion; burning, tingling of hands, feet; loss of balance, coordination; mental confusion, irritability, fatigue	PEM and minerals
Muscles and	Muscle tone;	"Wasted"	PEM, minerals,

bones	posture, long bone development appropriate for age	appearance of muscles; swollen bumps on skull ends of bones; small bumps on rips; bowed legs or knock-knees	vitamin D

Source: Whitney and Rolfes (2008:563)

Coovadia and Wittenburg (1998:200) are of the opinion that children with mild protein energy malnutrition do not always show the signs of marasmus or kwashiorkor but they are susceptible to effects of infections such as gastro-enteritis, respiratory disease or infectious fevers such as measles and tuberculosis. According to Baron (2008: 1085) protein-energy malnutrition affects every organ system. The most obvious results are loss of body weight, adipose stores, and skeletal muscle mass. Matla (2004:21) agrees by stating that inadequate dietary intake and illness are the most significant causes of malnutrition and tend to create a vicious cycle. The aforementioned author further explains that poor nutritional status reduces immune responses and thus increases susceptibility to infections, thereby clearly indicating the interaction between dietary inadequacy and infections. Conversely, the presence of infectious disease reduces dietary intake through the loss of appetite and impairs nutrition utilization through reduced digestion and absorption. Considering all the above description and manifestations of malnutrition, one can define malnutrition as the consequences of a combination of an inadequate intake of protein energy, micronutrients, under nutrition and frequent infections. Below is the vicious circle of malnutrition adapted from Boyle and Holben (2006:418).

Table 4: Vicious circle of malnutrition



According to Thompson and Manore (2005:220) the two diseases that can result from protein energy malnutrition are marasmus and kwashiorkor, Whitney and Rolfes (2008:197) agrees with this classificatin of PEM, but add that there can also be a combination of the two which is marasmic-kwashiorkor. The three above mentioned clinical syndromes are discussed below:

2.4.2.1 KWASHIOKOR

Whitney and Rolfes (2008:198) point out that kwashiorkor sets in between eighteen months and two years. Kwashiorkor usually develops as a result of protein deficiency or, it can be precipitated by an illness such as measles or other infection. Thompson and Manore (2005:221) state that kwashiorkor often develops in developing countries where infants are weaned early due to the arrival of a subsequent baby. This disease is seen in young children (one to three years of age) who no longer drink breast milk. These children are fed on low protein cereal diet. Kwashiorkor develops quickly and causes swollenness especially in the belly.

Several authors (Cockburn *et al.,*1998:198.; Coovadia & Wittenberg,; 1996:472; Saloojee & Pettifor, 2001:125; Thompson & Manore, 2005:221) agree on most of the symptoms and consequences of protein-energy malnutrition (kwashiorkor) as listed and discussed below:

- SYMPTOMS OF KWASHIORKOR

The above mentioned authors state the following as symptoms of kwashiorkor;

-Failure to thrive / Growth failure

The child fails to grow and has a small weight for age. Growth failure can be shown by low weight and decreased length for age.

-Oedema.

The authors further explain that the oedema can be slight, generalised or gross depending on the state of hydration and availability of salt and water in the diet. When the child suffers from oedema, there is too much water being retained in the tissues, so that they look swollen. The swelling of the arms, legs, face and abdomen sometimes hides the fact that the child is underweight; the child may weigh a lot but it is the retained water which adds to the weight.

-Hair changes

(Cockburn *et al.,*1998:198; Coovadia & Wittenberg; 1996:472; Saloojee & Pettifor, 2001:125; Thompson & Manore 2005:221) mention that the child's hair may change to dry, coarse, reddish-brown hair. The hair loses its colour and condition, becoming light, thin, straight, soft, and fine and it is easily pulled out. Dry brittle hair that changes colour, straightens, and falls out quickly may also be observed.

-Dermatoses

The aforementioned authors reveal that the skin shows areas of darkening, especially at groins, elbows, knees and outer thighs. In gross cases their appearance is similar to a burn. Sores may develop especially in the buttocks.

-Diarrhoea

According to (Cockburn *et al.,* 1998:198; Coovadia & Wittenberg, 1996:472; Saloojee & Pettifor, 2001:125; Thompson & Manore, 2005:221) in advanced cases diarrhoea is severe with foul smelling, watery stools and dehydration.

-Anaemia

Furthermore the above mentioned authors state that anaemia is always present. Anaemia develops because there is lack of protein needed to build blood cells.

-Muscle wasting

It is further stated by (Cockburn *et al.,* 1998:198; Coovadia & Wittenberg, 1996:472; Saloojee & Pettifor, 2001:125; Thompson & Manore, 2005:221) that muscle wasting causes weakness resulting in inability of the child to run, walk, sit or hold up head. The wasting of muscles is seen especially round the chest.

-Mental and neurological changes

In addition to the above, (Cockburn *et al.,* 1998:198; Coovadia & Wittenberg, 1996:472; Saloojee & Pettifor, 2001:125; Thompson & Manore, 2005:221) state that mental and neurological changes, apathy and irritability are always present, the child is constantly unhappy with no play activity. The child is absolutely uninterested in anything. By the time the child reaches this stage he is very ill.

It is evident from the above symptoms that kwashiorkor is a serious condition that needs serious attention from all the sectors to ensure that it is prevented. Timely

treatment is also important once a child has kwashiorkor death is almost certain if there is no treatment.

- CONSEQUENCES OF KWASHIORKOR

The following are stated as the consequencies of kwashiorkor by (Cockburn *et al.,* 1998:198; Coovadia & Wittenberg, 1996:472; Saloojee & Pettifor, 2001:125; Thompson & Manore, 2005:221):

-Some weight loss and muscle wasting, with some retention of body fat
-Retarded growth and development; less severe than with marasmus
-Oedema, which results in extreme distension of the belly and is caused by fluid and electrolyte imbalances
-Fatty degeneration of the liver
-Loss of appetite, sadness, irritability, apathy
-Development of sores and other skin problems; skin pigmentation changes.

In addition to the above, Thompson and Manore (2005:222) stipulate that because of their weakened immune systems, many children with kwashiorkor die from diseases they contract in their weakened state.

It is clear that the consequences of kwashiorkor can be severe on the affected child. This challenges all members of the multi disciplinary team to be vigilant in addressing this condition, specifically at prevention level. Social workers should use their communication skills to ensure that mothers are educated on this condition for them to ensure that it is prevented, as this will guarantee healthy children in the communities hence ensuring a healthy society.

2.4.2.2 MARASMUS

Marasmus is a disease that results from grossly inadequate intake of energy giving food, and other nutrients. It is most common in young children (six to eighteen months of age). The children are fed cereals that are inadequate in energy, protein and most nutrients (Thompson & Manore, 2005:220). According to Whitney and Rolfes (2008:197) marasmus reflects a severe deprivation of food over a long period of time (chronic PEM) which is characterised by short height for age (stunting) or recent severe food restriction (acute PEM) which is characterised by thinness for height (wasting). "Marasmus occurs in children from six to eighteen months of age when they are given food that supply scant energy and protein of low quality. Such food can barely sustain life, or support life. Consequently, marasmic children look like old people- just skin and bones" (Whitney & Rolfes 2008:197).

Several authors (Cockburn *et al*., 1996:472; Coovadia & Wittenberg, 1998:198; Saloojee & Pettifor, 2001:125; Thompson & Manore, 2005:221;) agree on most of the symptoms and consequences of protein-energy malnutrition (marasmus) as discussed below;

- SYMPTOMS OF MARASMUS

-Wasting and emaciation

Wasting and emaciation which reflects extreme energy deprivation, is observed. The child is thin and very much underweight for his age.

-Failure to thrive

According to (Cockburn *et al.,* 1998:198; Coovadia & Wittenberg, 1996:472 Saloojee & Pettifor, 2001:125; Thompson & Manore, 2005:221) a child with marasmus fails to grow and has a small weight for age; growth failure can be shown by low weight and decreased length for age. Irritability, crying, hunger and apathy can also be observed.

Furthermore the above mentioned authors mention that the child has frequent diarrhoea and sometimes vomiting. Loss of fat causes the child skin to hang in

folds over buttocks. There is loose skin on the body, legs and arms; the shapes of bones show, with poor or no muscles. (Cockburn *et al.,* 1998:198; Coovadia & Wittenberg, 1996:472; Saloojee & Pettifor, 2001:125; Thompson & Manore, 2005:221)

Based on the above information, the researcher concludes that it may be difficult to distinguish between some of the symptoms of marasmus and kwashiorkor so it is important for the doctor to do a thorough clinical assessment to distinguish between the two and not for health workers to depend on presenting symptoms. It is also important to note that most of the times these deficiency diseases occur together as marasmic-kwashiokor. The researcher's notion is that the important thing would be to have doctors sharing the correct diagnosis with the caregiver for her/him to know what the child is suffering from, followed by detailed information on the treatment procedure and prevention.

- CONSEQUENCES OF MARASMUS

The following consequences of marasmus are stated by(Cockburn *et al*., 1996:472; Coovadia & Wittenberg, 1998:198; Saloojee & Pettifor, 2001:125; Thompson & Manore, 2005:221):
Wasting and weakening of muscles, including the heart muscle; stunted brain development and learning impairment; depressed metabolism and little insulation from body fat, causing a dangerously low body temperature; stunted physical growth and development, deterioration of the intestinal lining, which further inhibits absorption of nutrients; anaemia (abnormally low levels of haemoglobin in the blood); severely weakened immune system and fluid and electrolyte imbalances.

Whitney and Rolfes (2008:198) add that without adequate nutrition, muscles, including the heart waste and weaken. Because the brain normally grows to almost its full size within the first two years of life, marasmus impairs brain

development and learning ability. Whitney and Rolfes (2008:198) further explain that reduced synthesis of key hormones slows metabolism and lowers body temperature, because there is no fat under the skin to insulate against cold, the child becomes prone to cold. Thompson and Manore (2005:222) warn that if marasmus is left untreated, death from dehydration, heart failure, or infection will result.

It is only through active participation from the caregiver or mother that the above consequences could be avoided through prevention of marasmus.

2.4.2.3 MARASMIC- KWASHIOKOR

According to Whitney and Rolfes (2008:198) a combination of marasmus and kwashiorkor is characterised by the oedema of kwashiorkor with the wasting of marasmus. Most often the child suffers the effects of both malnutrition and infections. “The combination of infections, fever, fluid imbalances, and anaemia often leads to heart failure and occasionally sudden death. Infections combined with malnutrition are responsible for two-thirds of the death of young people in developing countries. Measles which might make a healthy child sick for a week or two, kills a child with PEM within two or three days” (Whitney & Rolfes ,2008:199).

The above information on the manifestation of protein-energy malnutrition has made the researcher aware that even though marasmus is the deficiency disease, caused by too little food and kwashiorkor is caused by too little protein, in reality these deficiencies frequently occur together. Therefore, it is important for health workers to know essential features of both. The other thing that is important is for children who are malnourished to get a proper diagnosis from a medical doctor because malnutrition can cause death if not treated. The mothers as caregivers of these children need to be educated on the correct facts regarding the conditions to enable them to try their level best to protect their children.

2.5. CAUSES OF MALNUTRITION

Coovadia and Wittenberg (1998:191) argue that “Intake of protein and energy below the minimal requirements for growth and health is the basic underlying cause of protein-energy malnutrition”. According to Martorell (1999:289) the complex of multifactorial factors that cause child malnutrition includes three classes of underlying causes at household and family levels, which are known simply as food(i.e., insufficient access to food), health(i.e., poor water/sanitation and inadequate health services) and care(inadequate maternal and child-care practices). These in turn lead to deficient nutrition intakes and to infections and diseases, which are the immediate causes of child malnutrition. From another point of view Berkow *et al.* (1999:1288) point the main causes of malnutrition as improper or inadequate food intake or an inability to absorb or metabolize nutrients. It may occur when requirements for essential nutrients are increased, like during illness, stress or injury.

Fukagawa (2008:669) gives a more detailed picture of the causes of PEM by stating that the causes may be primary, that is, as a result of inadequate food intake and secondary, as a result of other diseases that can lead to poor nutrient absorption or use. Furthermore the above mentioned author divides the causes of protein-energy malnutrition into primary, biological factors and environmental factors as listed below:

Primary

According to Fukagawa (2008:669) primary malnutrition result from insufficient food intake (protein, energy or micronutrients) ingestion of proteins of poor quality; poverty, ignorance, low food supply, or insufficient household food security

Biologic factors

Maternal malnutrition prior to and/or during pregnancy and infectious diseases are the biological factors that cause child malnutrition.(Fukagawa ,2008:669).

Environmental

Fukagawa (2008:669) is of the opinion that overcrowded and/or unsanitary life conditions can cause malnutrition because diarrhoea and vomiting are caused by germs from dirty foods, dirty dishes, dirty house and compound, and dirty drinking water. Agricultural, climatic, or man-made catastrophe (civil war, civil disorder or forced migration) can lead to malnutrition and lastly poor food storage.

On a different note, there seems to be a broader way to look at the causes of malnutrition as indicated by UNICEF in Bomela (1999:2) that perceptions of the child malnutrition problem has changed significantly in recent years, from being seen as a problem of protein, then calories, it is now being seen to be caused as much by frequent infection and poor feeding practices as lack of food itself. And that it is the conspiracy between infection and malnutrition, which pulls many children into the downward spiral of poor growth and early death. In summary the aforementioned author mention that malnutrition can be caused by under nutrition, childhood infections and socioeconomic factors or a combination of these.

According to Bomela (1999:5) many and interrelated determinants are involved in why malnutrition develops and those determinants are discussed as follows:

- **Low birth weight**

Mlamba (2001:18, 51) elaborates that low birth weight is a major cause of illness and death among children and that their nutritional status is likely to be compromised. As they become ill and loose appetite or nutrients (through diarrhoea) this leads to inadequate dietary intake.

- **Duration of breastfeeding or poor breast feeding patterns and supplements**

According to Beecham (in Booi ,2001:28) disease occurs after weaning the child from breast and they are given diet that is deficient in proteins. While Boyle and

Holben (2006:434) state that weaning the child from the breast before the first year and giving them food that they cannot digest can lead to malnutrition.

- **Infection/ No readily accessible safe water and poor sanitation.**

According to Whitney and Rolfes (2008:198) in PEM, antibodies to fight off invading bacteria are degraded to provide amino acids for other uses, leaving the malnourished child vulnerable to infections. Blood proteins, including haemoglobin are no longer synthesised, so the child becomes anaemic and weak. Dysentery, an infection of the digestive tract causes diarrhoea, further depleting the body nutrients and fluids. Fukaguwa (2008:669) believes lack of clean water and lack of toilets can make children to catch infections like diarrhoea which can lead to malnutrition.

- **Child rearing practices**

According to Mlamba (2001:16) a mother's economic and domestic activities may take a woman's time, leaving little time for mother to take care of the children. Even if there is adequate food, children may still be malnourished due to limited quantity of food and poor quality of food as well as inappropriate frequency of feeding. Mothers may devote little time to feeding toddlers, thus, often children's meals are tied to adult meals. Children may be weaned to a high carbohydrate diet that lacks sufficient calories and other nutrients.

- **Household food security**

Mlamba (2001:15) states that insufficient food in the household will lead to inadequate dietary intake. Insufficient food may arise because of the households' inability to produce their own food or buy the required food due to unemployment or underemployment.

- **Poverty**

According to Booi (2001:34) poverty is one of the contributing factors to the development of malnutrition. This author further indicates that mothers with

children with kwashiorkor are either single, poorly educated, unemployed, and have a low income. Coovadia and Wittenburg (1998:189) add that malnutrition occurs in families of low-socio economic status and broken homes where there is poverty, large numbers of children and lack of sophistication and education. On the contrary, Truswell (2002:290) argues that malnutrition is not only a result of poverty, even ignorance on nutrition can result in malnutrition.

Coovadia and Wittenberg (1998:189-190) list the following as the child at risk of PEM;
-child not breastfed and in poor social circumstances;
-is a twin;
-has diarrhoea, pneumonia, infectious disease, or tuberculosis;
-has a mother who is poor, in poor health, incompetent, or has many children;
-has a father who is alcoholic or out of work;
-has lost one parent or both due to death or desertion;
-has a working mother and there is inadequate child minding;
-is in a home without piped water supply or other sources of clean water.

It is evident that malnutrition can be caused by a variety of factors. In trying to prevent malnutrition all these factors have to be attended to.

2.6. TREATMENT OF CHILD MALNUTRITION

Matla (2008:11) is of the opinion that “Multiple and interrelated determinants are involved in the development of malnutrition and a similar series of approaches (multifaceted and multi-sectoral) are needed to deal with it.” Coovadia and Wittenberg (1998:202) state that any child with mild protein- energy (PEM) should be checked and treated for infection, the social and economic circumstances assessed, and advice and assistance given as soon as possible. Sometimes these children may present with growth retardation or under weight, but may not be ill enough to be admitted in hospital and thus should be provided

with protein and energy foods, specific supplements which are cheap and available like milk powder at local clinics. Mothers should be advised to supplement staples by milk, egg, fish or vegetable proteins such as beans, lentils, peas or peanuts. The above mentioned authors stress that if milk is available it is the best form of protein supplement for a basic cereal diet. As an addition to the above Cockburn *et al.* (1996:473) show that mothers of PEM should be given advice and practical demonstrations on diet. Where possible the children should be given food supplements for free. According to Baron (2008: 1086) the treatment of severe protein-malnutrition is a slow process requiring great care. Initial efforts should be directed at correcting fluid and electrolyte abnormalities and infections, the second phase of treatment is directed at repletion of protein, energy and micronutrients.

Boyle and Holben (2006:432) states that most children who die of malnutrition do not starve to death, they die because their health has been compromised by dehydration from infections causing diarrhoea. There has not been an easy way to stop the infection-diarrhoea cycle and save the lives of children, and now the introduction of oral rehydration therapy (ORT) is preventing an estimated 1 million deaths each year.

According to Saloojee and Pettifor (2001:127) WHO produced a standardized protocol manual to help health workers in the management of severely malnourished children and reduce mortality associated with this condition. The management of severe malnutrition is divided into three phases, these are as follows:

- Initial treatment: life- threatening problems are identified and treated, specific deficiencies are corrected, metabolic abnormalities are reversed, and feeding is commenced;
- Rehabilitation: intensive feeding is started to recover lost weight, emotional and physical stimulation are provided, the mother or caregiver is

trained to continue care at home, and preparations for the discharge of the child are made; and

- Follow up: following discharge, the child and the child's family are followed up to prevent relapse and assure the continued physical, mental, and emotional development of the child.

According to the researcher the social worker as part of the multidisciplinary team has an important role to play in the treatment of PEM. The social worker can follow up the family and refer to other relevant health care professionals if they notice any problem that they cannot deal with. Another role could be to educate the mothers on how to handle their children to ensure that they do not relapse.

2.6.1 TREATMENT OF KWASHIORKOR

According to Thompson and Manore (2005:222) kwashiorkor can be reversed if adequate protein and energy are given on time. Whitney and Rolfes (2008:199) are of the opinion that the life of a child with kwashiorkor maybe saved with nutrition intervention. In severe cases, there may be fluid and mineral loss due to diarrhoea, these need to be replaced during the first 24 to 48 hours to help raise the blood pressure and strengthen the heartbeat. After that, protein and food energy may be given in small quantities, with intake gradually increased as tolerated. Cockburn *et al.* (1996:473) state that any child with fully developed kwashiorkor is dangerously ill and should be admitted in hospital. The child may require intravenous fluid therapy due to dehydration and if there is severe anaemia slow transfusion and haematinic may need to be done.

Coovadia and Wittenberg (1998:202) elaborate more on treatment of severe PEM/kwashiorkor and stresses that kwashiorkor children should be hospitalised because of the danger of death from dehydration, electrolyte disturbances, hypoglycaemia and infection.

The aforementioned authors mention that treatment can be done in the following phases:

- Resuscitation and metabolic management.
- The child is given oral rehydration solution (ORS) orally or intravenously for the first 24 hours. In the presence of shock or severe anaemia, plasma or blood should be given. During this period no food or milk should be given.
- Mild asymptomatic hypoglycaemia should be treated with 25 percent dextrose water orally. When severe, dextrose should be given intravenously in the form of 50 percent solution.
- Infection: if the child has open skin lesions, overt infection or is critically ill, antibiotics should be given intravenously immediately.
- Diet and supplements after resuscitation: food is usually given after the second day of resuscitation, starting with small frequent feeds of skim of full cream milk. Cereal and other foods are gradually introduced after three or four days until the child is on a full diet by the seven to ten days after hospital admission.
- Vitamin supplementation: vitamin A can be given to reduce infections. Folic acid and iron can be given for anaemic patients.
- Rehabilitation: play therapy and love restore the child's natural interest and learning abilities.

Saloojee and Pettifor (2001:127) have a similar treatment plan but they go a step further to mention that after discharge the child and their family should be followed up to prevent relapse and assure the continued physical, mental, and emotional development of the child. According to Fukagawa (2008:678) premature termination of treatment increases the recurrence of malnutrition. The aforementioned author further advises that if body composition cannot be assessed, dietary therapy must continue for a month after the patient with

oedematous PEM reaches an adequate weight for height without oedema and overall performances are adequate.

The researcher has observed that the diagnosis of malnutrition can be distressing for some mothers, as it may lead to hospitalization of the children and lodging for the mothers. Hospitalization of children with malnutrition requires their mothers to lodge so that they can help take care of their children, because most of them are usually very ill, and therefore they need more care. This treatment can take some time, a month or even more. The opinion of the researcher is that this is a period when mothers have to emotionally deal with the child's illness and the psychosocial implications of being admitted to hospital. The social worker's support is crucial at this time until treatment is completed. The social worker can explain the hospital procedures and treatment to the mother and provide support on a continuous basis.

2.6.2 TREATMENT OF MARASMUS

Thompson and Manore (2005:221) point out that treating marasmus involves carefully correcting fluid and electrolyte imbalances. Proteins and carbohydrates are provided once the body's condition has stabilised and fat is introduced later as the protein levels in the blood must improve to the point where they can carry fat so that it can be metabolised in the body. According to Boyle and Holben (2006:418) kwashiorkor and marasmus may overlap so in most cases the child is not treated for a single condition but for marasmic-kwashiokor. Generally, according to Saloojee and Pettifor (2001:127) WHO produced the aforementioned standardized protocol manual to help health workers in the management of severely malnourished children. As the researcher mentioned before, it is important for children who are malnourished to get a proper diagnosis because kwashiorkor and marasmus may overlap so diagnosis from a medical doctor can help to avoid child mortality. As mentioned earlier on, the social worker needs to be actively involved in the whole treatment process to ensure that relapse is avoided.

2.7. PREVENTION OF CHILD MALNUTRITION

Bomela (1999:2) states that "Whilst diseases such as whooping cough, measles and tuberculosis can be prevented and controlled through immunisations, other problems like diarrhoea and malnutrition require public policies of large scale interventions to improve the nutritional status of children under five. According to the Ministry of Finance and Development Planning (2003:316) adequate and safe infant feeding practices especially breastfeeding; contribute to prevention/reduction and control of childhood illnesses and malnutrition. The Republic of South Africa (RSA), Department of Health (1997:16) emphasizes the principle of community participation that communities and individuals need to be involved as respected partners in planning and implementation of health promotion programmes. "Improving nutrition and nutrition related practices necessitates a multidisciplinary public health approach, which has to extend beyond the traditional teams comprising medical and supplementary health professionals; It has to involve mothers and the community itself, with important inputs coming from, among others, agriculturists, sociologists and educationalists" (Coovadia & Wittenberg 1998:165).

According to Saloojee and Pettifor (2001:119) strategies of preventing malnutrition include the following:

- Promoting exclusive breastfeeding for the first 4-6 months of life, and its continuation into the second year;
- Improving complementary feeding of children aged 6-24 months;
- Preventing childhood infections, such as diarrhoea and measles;
- Improving the availability of food in the household;
- Providing environmental sanitation and personal hygiene;
- Making health services available;

Matla (2008: 19) is of the same opinion with Saloojee and Pettifor (2001:119) that the availability of health services, sanitation and clean water, but most

importantly immunization against childhood diseases, reduces the risk of malnutrition.

- Improving the status and education of women in society.

According to Matla (2008:17) an important cause of poverty, disease and malnutrition is inadequate educational services. Limited and sub-standard education greatly reduces life chances. “Low educational levels among women correlate strongly with the incidence of malnutrition among children. This is because poor education not only limits the chances of women being able to acquire wage employment or improved productive skills-both of which will generate resources for improved nutrition, but also limit their knowledge of a healthy family”(Matla 2008:18).

Coovadia and Wittenberg (1998:2005-2006) from another angle mention the following as preventative measures that can be used at both clinic and community level;

-Identification of risk

All children at high risk of malnutrition should have regular follow up and growth monitoring. If the child is not growing well the health workers should improve nutritional intake and support the social circumstances.

-Nutritional assessment at all contact opportunities

“Doctors, nurses and all members of the health team working at clinics, community, and hospital out-patient departments should include nutritional assessment in the clinical examination of every child who presents with infections” (Coovadia & Wittenberg 1998:2005).

The aforementioned authors further mention the following preventative measures that can be applicable to local authority or national level;

- Promotion of adequate wage structure for unskilled workers;
- Encouragement of production of protective foods like meat, milk, eggs, fish and high protein vegetables;

- Food subsidies: Lowering price for basic and essential protective food for the poor;
- Health education: media should be used to give advice on nutrition;
- Notification of nutritional diseases: This can help in identification of families at risk so that they can be helped.

Cockburn *et al.* (1996:473) add that simple dietary instruction to mothers in under-fives clinics serve as preventative and curative and that no opportunity should be lost, in or out of hospital, for teaching the mother the principles and methods of preparation of a good diet.

According to Matla (2008:16) child care is also important in the prevention of malnutrition. "Children can still be malnourished even when there is adequate food in the house, and a family lives in a safe and healthy environment, and has access to health care services. Care is manifested in ways a child is fed, nurtured, taught and guided. Nutritionally, care encompasses all measures and behaviours that translate available food and health resources into child growth and development (Bellamy in Matla, 2008:16).

Mason and Sanders (2008: 1) are of the view that community based programmes and health services can reduce malnutrition, usually without food distribution. This has been seen in Tanzania through the Iringa and Child Health Development programmes during the 1980-90's, and the Community Nutrition Project in Senegal in 1996. Boyle and Holben (2006:431) state that there are four actions that can be taken to reduce child malnutrition. The actions are discussed below:

- GROWTH MONITORING

  Boyle and Holben (2006:431) are of the view that mothers should be taught to weigh their children every month and chart the child's growth. By doing so, mothers can learn to detect early stages of hidden malnutrition and act on time to prevent child retardation in the mind and body.

- ORAL REHYDRATION THERAPHY (ORT)

  Boyle and Holben (2006:431) point out that most children who die of malnutrition do not starve to death- they die because their health has been compromised by dehydration and infections causing diarrhoea. The spread of ORT can prevent dehydration and deaths.

- PROMOTION OF BREASTFEEDING

  According to Boyle and Holben (2006:431) the promotion of breastfeeding among mothers has many benefits. Breast milk is hygienic, readily available, and nutritionally sound, and it provides infants with immunologic protection specific for their environment. In developing countries, its advantage over formula feeding can mean the difference between life and death. It is important to note that even though breast milk has benefits, HIV has necessitated the use of infant formula to prevent mother to child transmission of HIV. To emphasize the above stated point, The Department of HIV/AIDS Prevention and Care (2006:2) state that for the first six months of life, Botswana infant and young child feeding guidelines recommend exclusive formula feeding or breast feeding, depending on the status of the mother.

- IMMUNIZATIONS

  Truswell (2002:296) states that measles, diphtheria, pertussis, tetanus, tuberculosis, poliomyelitis, are infections that predisposes to and aggravate malnutrition. Boyle and Holben (2006:431) further state that immunizations could prevent most of the two million deaths each year from measles, diphtheria, tetanus, whooping cough, poliomyelitis, and tuberculosis. Immunization could also prevent malnutrition, blindness, deafness and polio.

The researcher, therefore, is of the opinion that the most important things for prevention of child malnutrition is availability of nutritious food which can be encouraged by empowering families to produce their own food even if it is on a small scale; prevention of childhood infections and ensuring that the mothers and

the communities know principles and methods of a good diet through education. This can be achieved through multidisciplinary team work approach.

2.8. PSYCHOSOCIAL IMPLICATIONS OF CHILD MALNUTRITION

Malnutrition has psychosocial effects on children, their families and the community at large. These are discussed as follows:

2.8.1 PSYCHOSOCIAL IMPLICATIONS OF CHILD MALNUTRITION ON THE PATIENT.

According to Booi (2001:32) malnutrition is dangerous and can cause death and permanent retardation and disability which has psychosocial implications on its victims and significant others. The psychosocial implications of malnutrition on a child are discussed below:

- **Physical changes**

According to Coovadia and Witternberg (1998:200) a child with malnutrition can have stunted growth. The child is shorter than expected height of the same age. The above mentioned authors further state that stunting is reversible if malnutrition is corrected and food intake is adequate. Saloojee and Pettifor (2001:125) are of the opinion that stunted growth may cause a delay in motor or mental development and decreased work capacity.

The researcher is of the opinion that if the growth is not corrected it will negatively affect the child later in life as he will look shorter and smaller than his age mates. This can be frustrating and can lead to low self esteem.

- **Functioning/intelligence**

Coovadia and Witternberg (1998:200) states that with protein-energy malnutrition (PEM) a child's capacity for exploring, learning and gaining experience is reduced because of apathy and weakness. Children who have had protein-

energy malnutrition (PEM) may have impaired aptitudes and do less well in school than their peers. In agreement is Booi (2001: 33) who states that studies show that children who were victims of kwashiorkor and marasmus had low scores than the children who were not victims of malnutrition. Martorell (1999:288) also points out that survivors of malnutrition in early childhood suffer functional disadvantages as adults, including diminished intellectual performance, low work capacity, and increased risk of delivery complications.

The researcher is of the opinion that intelligence is one of the important factors of child development and impacting on it is to rob a child of their future. This will affect the child for the rest of their lives, their future families and community.

- **Social isolation**

Booi (2001:49) states that the child may feel isolated from his/her siblings, friends and playful world. According to Coovadia and Wittenberg (1998:71) a child's social needs are fully met through their interaction with peers and the broader community and many social skills are learnt from the family and hospitalization can delay this. According to the above mentioned authors, being in hospital denies the child interaction with his peers, family and the community. The researcher is of the opinion that this can lead to the child being a socially isolated person when they grow up, this will in turn impact on their relationships with their family and the community at large.

- **Anger and anxiety**

According to Cowles (2000:34) institutional settings, such as hospitals tend to strip a person of their usual supports, that is, things on which people have come to depend. Such customary supports may include family, friends, familiar places and furnishings, familiar locations of things one relies on, familiar daily routines, activities and favourite food. As a result patients and their mothers can experience an uncomfortable sense of loss of control over their own lives. Booi (2001:48-49) stipulates that the child's sickness means entering a strange,

frightening, sad and uncomfortable world, the child does not understand illness and it creates a very traumatic condition that they do not understand. The inability to interact with the world freely may bring feelings of anger and anxiety. The child's anxiety may also come about because of change of environment. Hospitalisation may be a new experience for the child and the mother, with new people and painful treatment procedures.

The researcher has observed that some children and /or their mothers have difficulties in adapting to hospitalisation and tend to withdraw or become hostile, as a way of coping with the situation. Some may even try to leave or succeed in leaving.

- **Emotional needs**

Coovadia and Wittenberg (1998:71) states that a child's emotional needs are best met by the parents and the family. These are security, love and affection and companionship. Hospitalisation denies the child the opportunity to adequately have these needs.

The researcher agrees that hospitalisation denies the child the opportunity to adequately have these needs met because as literature has shown; being in hospital denies the child interaction with his peers and family.

2.8.2 PSYCHOSOCIAL IMPLICATIONS OF CHILD MALNUTRITION ON THE FAMILY.

Booi (2001: 52) stipulates that it is evident that if one member in the family is ill, the whole family will be affected. This proves that the family functions as a system, with each member interacting with the other for the family to run smoothly. Malnutrition has the following psychosocial implications on a family:

- **Role changes**

According to Booi (2001:49) when a child is ill with a malnutrition disease the family may focus on the sick child and this might interfere with the role functioning of the whole family. In case of a single mother who is admitted with a sick child the other children may be left with no care giver. Sometimes another child has to play the role of mother. The smooth functioning of the family will be disturbed thus causing anxiety in the family. Sekudu (1996:42) also states that an unplanned situation like hospitalisation leaves a mother in a situation where she has to abandon her other children at home without arrangements of their care during her absence.

According to the researcher, family tasks that were done by the mother may need to be done by other family members while she is taking care of the sick child. The husband, children or relatives may need to take over the mother's roles together with theirs which can be difficult and emotionally taxing for the family.

- **Relationships**

Booi (2001:49) states that when a child in the family is ill, the mother gives more attention to the sick child and neglects the siblings and husband. The healthy children may feel jealous at all the attention that is being given to the sick child and the feeling of being unloved may arise and this can cause hatred towards the sick child.

As a hospital social worker the researcher has observed that when a child is severely ill and has to be admitted the mother must neglect the rest of the family while she takes care of the sick child, this can cause other family members to suffer during her absence. The husband may have to cope alone without the wife and the children may also miss the motherly love.

- **Emotional distress**

Booi (2001:57) stipulates that the family of the child who is ill may experience feelings of blame, depression, guilt and shame. If the mother is a single parent the child's illness maybe overwhelming as she has no partner to turn to for support.

According to the researcher, the family members may have feelings of blame and guilt because their family member is ill. They may blame each other for the child's illness which can bring unhappiness and strain their relationship. This can also affect the school performance of siblings if they are always worried about the sick child and they long for their mother if she is hospitalised with the child.

- **Financial/economic changes**

According to Sekudu (1996:43) hospitalisation of the mother affects the mother's employment as they end up in hospital without prior arrangements which jeopardizes their employment. Cowles (2000:34) is of the opinion that hospitalisation, (in this case, of mother as a lodger) can bring a fear of job loss due to time off from work, and worry about accumulating debt due to loss of income.

The researcher has come across instances where a mother of a child with malnutrition may not be able to go to work because she has to take care of the sick child, at hospital,(working as a maid, shop assistant, labourer, self employed) so her financial contribution to the family will stop. If the mother is a single parent then the family will be left with no income which can change the status of the family to that of destitution.

2.8.3 PSYCHOSOCIAL IMPLICATIONS OF CHILD MALNUTRITION ON THE COMMUNITY.

Malnutrition does not only have psychosocial implications on the patient and family, even the community is affected as discussed below:

- **Social roles**

According to Smith and Haddad (2000: vii) malnourished children who survive childhood will suffer from poorer cognitive development and lower productivity. As adults, their ability to assure good nutrition for their children could be compromised, perpetuating a vicious cycle.

The researcher is of the opinion that a mother who is taking care of sick child may not be able to fulfil her social roles among others of going to church, funerals and weddings. This affects the community as every community member's contribution to the community is important. From another angle, the malnourished children can grow up to be unproductive adults who fail to fulfil their social roles. This could be a vicious cycle which could affect the community for a long time.

- **Financial/ work changes**

Whitney and Rolfes (2008:707) are of the opinion that the consequences of nutrient deficiencies are felt not only by individuals, but by entire nations. The above mentioned authors explain that when people suffer from mental retardation, growth failure, blindness, infections, and other consequences of malnutrition, the economy of their country declines as productivity decreases and health care costs increase. In agreement are Saloojee and Pettifor (2001:125) who are of the opinion that children with malnutrition may become stunted and remaining stunted can cause a delay in motor and mental development and decreased work capacity. From the above discussions it becomes clear that malnourished children may not grow to be intelligent and strong enough to make a good work force that can develop the country.

The researcher has also observed that sometimes the mother of the admitted child may have to leave paid employment or being self employed (e.g. farming) to look after the sick child and this makes her unable to contribute to the

community's economy. If the mother is married the husband may be less productive because he may be worried about the sick child and also miss his wife.

2.9. SOCIAL WORK INTERVENTION IN CHILD MALNUTRITION

According to Sekudu (2001:176) in rendering social work intervention, social workers operate within the scope of the multidisciplinary team, where all members of the team are concerned with having the patient provided with a comprehensive service. On the other hand, Marino *et al.* (2001:91) states that social work intervention is an important part of the treatment strategy because of the emphasis the profession places on the person-in-environment perspective. Social work intervention in childhood malnutrition will be discussed under the following headings:

2.9.1 THERAPEUTIC SOCIAL WORK INTERVENTION

It is noted by DuBois and Milley (1996:343) that social workers cooperate with interdisciplinary colleagues to identify and modify social, psychological and environmental factors that contribute to health problems or that influence the use of health services. Similarly, Marino, Weinma and Soudelier (2001:95) state that social workers have a role to play in investigating the environmental and social issues, providing appropriate support and education, initiating immediate community involvement, and securing long term follow up, and this can significantly affect the diagnostic and intervention process. According to Booi (2001:62) the social worker has to assist and work with families throughout, from diagnosis, hospitalisation process, treatment and discharge and after discharge being supportive to the patient, mother, and family at home. After discharge the mother has to be linked to the community available resources to prevent the recurrence of the disease.

- Diagnostic stage

According to Cowles (2000:35) there may be a problem of patients and/ their family members concerning their coping with diagnosis, prognosis, or treatment plan. The most difficult adjustment is when diagnosis, prognosis or treatment plan indicates a likelihood of impending death. Booi (2001:63) states that during the diagnosis of child malnutrition disease the mother is in a state of crisis and the social worker has to help initiate and encourage an adaptive process by helping the mother to deal effectively with the situation. DuBois and Miley (1996:341) point out that illness often disrupts people's equilibrium and capacity to cope. This disruption of equilibrium is a crisis and the social worker's intervention is needed.

According to the researcher, the role of the social worker at this stage is to provide crisis intervention. The social worker can help the mother to identify her support system, come up with alternatives of solving her problems and implement them (for mothers of hospitalised and non hospitalised children). If the mother lodger has left other children at home with no caregiver the systemic ecological model can be used to help her seek help from other family members. If the child is not hospitalised the social worker should do follow up at home to provide ongoing supportive counselling, guidance and health education on causes and prevention of malnutrition. World Health Organisation (2006:5) states that whenever possible community and home -based approaches to nutrition and psychosocial stimulation should be promoted. Children with malnutrition with no medical complications should be treated in their homes. According to Marino *et al.* (2001:91) social workers have skills to explore factors contributing to the child's illness and present these issues to the treatment team and this can be done at this stage.

- Hospitalization and /treatment stage

Sekudu (2001: 177) states that social work in health care is an application of social work knowledge, attitudes and values to health care that can be practised in collaboration with medicine and other professions. The researcher is of the

opinion that during the treatment stage the social worker's role is of significant importance because of her skills and knowledge. The social worker at this stage can intervene by providing the following services:

- **Emotional support**

Marino *et al.* (2001:91) state that the social worker should provide the parents and children with emotional support to help them to adjust to sometimes intimidating hospital procedures. The social worker does this by acknowledging the fears and stresses parents have about their child's condition. The social worker can also advocate for the parent's needs and make the medical staff aware of their concerns. The aforementioned authors are also of the view that the social worker can provide the parents with emotional support and education on parenting skills and child development and can link the family with community resources that serve as other sources of education and support. According to Booi (2001:65) during the treatment phase the mother is faced with an ongoing discomfort, fear for the child's painful treatment procedure and the social worker should help her cope with the psychosocial implications caused by illness.

- **Social support**

Marino *et al.* (2001:91) recommends that the medical social worker should involve parents of sick children in support groups. Likewise Booi (2001:66) states that support groups help mothers to identify common problems and share experiences. This can function as a source of support amongst them by sharing ideas, experiences and means and ways of helping them cope with the psycho-social implications of the illness. The above mentioned author also explains that the social worker should provide supportive services to the mothers and their families and help them to identify their support system (family friends, relatives, colleagues). If there are children at home they too should be supported.

The researcher agrees that support from the social worker and other support systems can help the mother and family to cope with the child's illness and be able to take care of the child. The child can also be supported through play therapy once they are better.

- **Counselling**

It is true that "counselling complements medical treatment" (DuBois & Miley 2001:341). According to Booi (2001:68) throughout the illness process the social worker should provide counselling services to the mother of the sick child and other family members to help them cope with the situation. The medical social worker also engages the mother and family in counselling and group work sessions that prepare them for discharge. Counselling also helps the mother in case the prognosis becomes poor and the child becomes disabled or dies. If the result is death then the mother and the family should be taken through the mourning process through bereavement counselling.

- **Education**

Booi (2001:23) stipulates that the social worker as a multi disciplinary team member has an important role to play in educating mothers about malnutrition, making them aware of the symptoms and preventive measures for malnutrition. Marino *et al*. (2001:95) add that it is important for social workers to educate mothers on parenting skills and child development and to link them to community resources that serve as other sources of education.

The researcher is of the opinion that the significant role of the social worker at the treatment stage should not be overlooked. The social worker as part of the multidisciplinary team should work in collaboration with other team members to help mothers and their children to cope with, and understand treatment. The social worker should know her/his role clearly and not confuse it with that of other professionals.

- Ending phase

This is the preparation of discharge or the death of a sick child. If discharged the social worker should do the following:

- **Referral**

During discharge the social worker should link the patient and the mother to the community resources through referral. According to Zastrow (2004:554) social workers must link families with other community resources (broker); to be an effective broker, social worker needs knowledge on other community services including the programmes provided, eligibility requirements, and admissions procedures.

- **Follow up**

Saloojee and Pettifor (2001:127) encourage follow up to prevent relapse and assure continued physical, mental and emotional development of the child. The researcher is of the opinion that the medical social worker should do follow ups after discharge to find out how the child is doing and how the mother and other family members are coping and taking care of the patient at home. This can also help the social worker to find out if community resources are being used as expected and also if they are meeting the needs of the patient and his/her family.

2.9.2 PREVENTATIVE SOCIAL WORK INTERVENTION

Schinke and Cole (1998:359) state that preventing problems is more humane, economic, effective and more enjoyable for professionals and clients than the consequences of those problems, and that social work is a field confronted with rich opportunities for prevention. The following can be preventative social work interventions for malnutrition:

- **Supporting prevention efforts**

According to Booi (2001:23) the social worker as part of the primary health care team can play a role to improve the nutritional status in the communities. The social worker can be a member of the campaign for breast feeding. As mentioned before, it is important to note that even though breast milk has benefits, HIV has necessitated the use of infant formula to prevent mother to child transmission of HIV. To emphasize the above stated point, The Department of HIV/AIDS Prevention and Care (2006:2) state that for the first six months of

life, Botswana infant and young child feeding guidelines recommend exclusive formula feeding or breast feeding, depending on the status of the mother.

The researcher is of the opinion that the social worker should educate mothers on the correlation between breastfeeding and HIV, and encourage mothers and communities to start their own gardens as a source of nutritional food. World Health Organisation (2006:4) states that breast feeding mothers need care, encouragement and psychosocial support to continue breast feeding.

- **Creating supportive condition**

World Health Organisation (2006:4) encourages that psychosocial support and education regarding appropriate feeding practices should be provided to caregivers. Coovadia and Wittenberg (1998:201) is of the view that therapeutic interventions for malnutrition should not only include food, but improvements in other essential components of life, such as residential environment, employment and education.

- **Health education**

According to Dennil, King and Swanepoel (1999:149) health education influence behaviour and produce changes in knowledge, attitudes and skills required to improve and maintain health. Booi (2001:62) states that social workers and other primary health care team members can provide mothers with nutritional education, education on signs symptoms and implications of malnutrition during antenatal clinic visits. This will equip mothers with necessary information that can help mothers in preventing malnutrition. The community should also be educated on malnutrition and proper nutritional food. The social worker should use social work values, principles and techniques in reaching out to the community. Ministry of Finance and Development Planning(2003:315) states that health promotion

and education aim in helping individuals and the community to achieve optimum state of health through their own actions and initiatives.

The researcher is in agreement that social work is a field confronted with rich opportunities for prevention of diseases. The social worker has different skills that can be useful in the prevention of malnutrition including those of communication. Social worker's knowledge in investigating the environmental and social issues, providing appropriate support and education, initiating immediate community involvement, and doing follow up makes them valuable members of the multidisciplinary team.

2.10. SUMMARY

Child malnutrition is a problem that can be associated with lack of proper nutrition, infections and poor child rearing practices. Malnutrition has negative psychosocial implications on the child, family and community and as such, all health care team members must prevent it as much as possible. Collaborative efforts of multi professional teams maximise the ability to address psychosocial complexities of medical problems, malnutrition included. Hospital social workers operate within the scope of the multidisciplinary team, to provide a comprehensive service. Social work intervention is an important part of the treatment strategy because of the emphasis the profession places on the person-in-environment perspective.

The medical social worker's intervention is important both as a preventative and therapeutic measure. The major role of the social worker in child malnutrition therapy is to help the patient, family and community to deal with the psychosocial implications of child malnutrition. The skills and knowledge base of the social worker makes her/him a valuable member of the multidisciplinary team for the provision of a comprehensive care.

The following chapter presents empirical findings of this study.

CHAPTER 3: EMPIRICAL FINDINGS

3.1 INTRODUCTION

This chapter presents the findings of this study undertaken with mothers who have children with malnutrition in Sekgoma Memorial Hospital in Botswana. Sekgoma Memorial Hospital is a district hospital which services Serowe and the surrounding villages. The findings of the study are presented in this chapter, using themes and sub-themes as found in the analysis and interpretation of data and are also substantiated with literature. The chapter contains a brief overview of the research design and method, the research findings and a summary of the findings.

3.2. RESEARCH DESIGN AND METHODS

Mouton (2001:55) defines a research design as a plan or blueprint of how one intends conducting one's study. Kumar (2001:20) further explains that the main function of a research design is to explain how the research will find answers to the research questions. The research methodology that was used in this study is discussed in detail in chapter one and briefly discussed here to facilitate understanding of this chapter.

The researcher used a qualitative approach in order to gain first-hand holistic understanding of the phenomenon being investigated. Applied research was used because it is associated with the researcher's motivation to assist in solving a particular problem facing a particular community. Case studies, specifically collective case studies were chosen as a research design. In this study, the research population was the mothers of children diagnosed with malnutrition and admitted at Sekgoma Memorial Hospital, Botswana. The researcher used systematic sampling. The first case was selected randomly and each second case on the admission list of children admitted for malnutrition were selected until

the required number of twelve was reached, and their mothers were asked to participate in the study.

The aim of this study was to explore the perceptions of mothers of children diagnosed with malnutrition in Botswana, specifically at Sekgoma Memorial Hospital, Serowe.

The objectives of the research were as follows:

- To provide a broad theoretical framework on malnutrition as a paediatric condition.

- To explore how malnutrition is understood by mothers of children diagnosed with this condition.

- To describe factors contributing to malnutrition among children admitted at Sekgoma Memorial Hospital.

- To formulate recommendations that would assist in preventative social work, intervention strategies, and service delivery to those already diagnosed with child malnutrition based on the findings.

3.2.1 Methods of data collection

The empirical data was gathered by means of a one to one interview using a semi-structured interview schedule. The letter for informed consent was utilized before the interview for participants to give their consent, including the permission to use a tape recorder during the interview. Twelve (12) mothers of children who were admitted and diagnosed with malnutrition at Sekgoma Memorial Hospital in Serowe, Botswana were interviewed during the process of data collection.

3.2.2 Methods of data analysis

Blanche, Durrheim and Stead (2006:52) state that the aim of data analysis is to transform information (data) into an answer to the original research question. According to Mouton (2001:108), data analysis involves breaking up the data into manageable themes, patterns, trends, and relationships. For this study, the researcher analyzed data using Creswell's model, with the following steps as stipulated in De Vos (2005:334):

- **Planning for recording of data**

According to De Vos (2005:334), the researcher should plan the recording of data in a systematic manner that is appropriate to the setting, participants, or both, and that will facilitate analysis, before data commences. For purposes of this study, the researcher made sure that the tape recorder was available and in good order to record all interviews, and there were plenty of spare batteries for the tape recorder. Arrangements were made for interviews to be conducted in the paediatric counselling rooms where it is quiet and private.

- **Data collection and preliminary analyses**

De Vos (2005:334) states that data analysis in a qualitative inquiry necessitates the use of a twofold approach. The first aspect involves data analysis at the research site during data collection, while the second aspect involves data analysis away from site, following a period of data collection. The researcher used this twofold approach to do an in-depth evaluation of the information. The researcher tried to make sense of some of the data while still at the field.

- **Managing or organizing data**

This is the first step in data analysis away from site (De Vos 2005:336). This is the stage where researchers organize their data into folders, index cards, or computer files, and where they convert their files to appropriate text units, for analysis either by hand or computer. For this study, this is a stage where the researcher listened to the tape recorder and transcribed the interviews verbatim and also assigned a number to each participant to be used in the research report, to maintain anonymity. The researcher did the transcribing herself, so that she could listen carefully and become acquainted with data.

- **Reading and writing memos**

In Creswell's model, as indicated by De Vos (2005:337), the researcher gets the feeling of the whole database during this step. During this step the researcher thoroughly read the transcripts in order to compare the information from the interviews and combine it into an integrated unit before breaking it up into parts for analysis.

- **Generating categories, themes and patterns**

According to De Vos (2005:337), the analytic process demands a heightened awareness of the data and openness to the subtle, tacit undercurrents of social life. The author further states that this is the most intellectually challenging phase of data analysis, because the researcher has to identify salient themes, recurring ideas, language or patterns, and has to put them together to integrate the entire work. During this phase the researcher identified themes and categories. Data obtained from participants was broken down into themes and sub-themes. The themes and sub-themes will be discussed, using direct quotes from participants to strengthen the discussion of these themes.

- **Coding the data**

De Vos (2005:338) stipulates that after generating categories and themes, the researcher subsequently applies some coding scheme to those categories and themes, and diligently and thoroughly marks passages in the data, using quotes. The researcher coded the themes and categories, using coloured paper and highlighter pens.

- **Testing emergent understandings**

During the testing of emergent understanding phase, the researcher begins the process of searching through the data to challenge his/her understanding, searches for negative instances of patterns, and incorporates these into larger constructs as necessary (De Vos 2005:338). For this study, the researcher inspected every word of the transcribed interviews and considered its meaning and its relevance to the study.

- **Searching for alternative explanations**

According to De Vos, (2005:339), as the researcher discovers categories and patterns in the data, he/she should engage in critically challenging the very patterns that seem so apparent. The researcher should search for the possibility of other explanations for this data and the linkages among them. In this study, the researcher searched and identified alternative explanation, where some participants had given contradictory answers to questions.

- **Representing, visualizing (writing the report)**

The last phase is indicated as representation and visualization of data, according to De Vos (2005:339). At this phase, the researcher presents the data. The researcher is at this final phase of interpretation of data. The findings were verified with literature, which researcher strived towards as far as relevant literature could be found.

3.2.3 Trustworthiness

Marshall and Rossman (in De Vos 2005:345) observe that all research must respond to canons that stand as criteria against which the trustworthiness of the project can be evaluated. Rassouw (in Delport and Fouché 2005:353) adds:".. credibility in qualitative research is a concept equivalent to internal validity in quantitative studies, and it refers to the degree to which findings, and by implication the methods that are used to generate the findings, can be trusted." "The key is to provide readers with enough evidence so that they believe the recounted events and accept the interpretations as plausible" (Neuman in Delport and Fouché 2005:353). The researcher interpreted the data as accurately as possible and tried, to guard against any possible bias. The researcher relied on applicable literature to substantiate the findings of this study.

De Vos (2005:346) further proposes four alternative constructs that more accurately reflect the assumptions of the qualitative paradigm as follows:

- "Credibility: The goal is to demonstrate that the inquiry was conducted in such a manner as to ensure that the subject was accurately identified and

described. The author further states that the strength of the qualitative study aims to explore a problem or describe a setting, a process, a social group or a pattern of interaction will be its validity". The researcher ensured that she is well prepared for the interviews and that data was collected and tape recorded in a quiet place, so that the data could be transcribed accurately. Researcher listened to the transcribed interviews over and over to identify themes and sub themes.

- Transferability: This is an alternative to validity or generalisability, in which the burden of demonstrating the applicability of one set of findings to another context, rest more with the investigator who would make the transfer than the original investigator. Even though "qualitative study's transferability or generalisability to other settings may be problematic" (De Vos, 2005:346). The researcher strived towards ensuring that the research report contains an accurate description of the research findings and substantiated these findings with verbatim quotes and scientific literature. Dependability: An alternative to reliability in which the researcher account for changing conditions in the phenomenon chosen for the study as well as changes in the design created by increasingly refined understanding of the setting. De Vos (2005:346) further states that 'the positivist notions assume an unchanging world'. This is problematic because the social world is always being constructed. The perception of participants towards child malnutrition may change; as such the researcher interviewed 12 respondents and felt at that point saturation had been reached. Conformability: This according to De Vos (2005:347) captures objectivity. Lincoln and Guba (in De Vos 2005:347) stress the need to ask whether the findings of the study could be confirmed by another. The researcher interpreted the data and tried, to guard against any possible bias. The researcher relied on literature to substantiate the findings.

3.3 ETHICAL ASPECTS

The relevant ethical aspects, as discussed in chapter one of this report, were taken into consideration when conducting this study. Possible harm to participants was reduced by thoroughly informing the participants about the study and its objectives, using a letter of informed consent which each participant signed. Here participants were provided with adequate information on the purpose and procedure of the study, in the language which they felt most comfortable with, namely Setswana. Participants were also given the opportunity for questions and only to give voluntary informed consent if they agreed to participate.

The interviews were handled in a sensitive manner to minimize the potential harm to participants. Confidentiality was assured and during each interview and anonymity was maintained by not using the names of the participants in the report, but assign numbers to each participant. The tapes and transcribed interviews were labelled in numbers, without using any identifying particulars of the participants. Only the researcher knew which participants were linked to which number. These were stored in a safe place during research and will be stored for 12 years at the Department of Social Work and Criminology, University of Pretoria as required by the university.

3.4 RESEARCH FINDINGS

Subsequently, the findings of this research will be presented according to themes and sub themes which the researcher generated from the data and will be strengthened by verbatim quotes from the interviews and substantiated with literature.

The researcher identified themes and sub themes and had to put them together to integrate the entire work. The findings are presented in themes and

subthemes that were extracted from data that was collected during the semi-structured interviews. All the interviews were conducted in Setswana and thus the researcher translated the responses into English in this chapter to facilitate to facilitate understanding of the findings.

3.4.1 Themes and sub-themes

The participants' information and experiences have been analyzed in line with the themes used in the interview schedule. Data obtained from participants was broken down into themes and sub-themes. The themes and sub themes are discussed and verbatim quotes from the interviews are used to strengthen these findings. This is also integrated with literature as part of analysis and interpretation.

The following themes and sub –themes were identified from the data:

Table 5: Themes and sub-themes

THEMES	SUB-THEMES
Knowledge of child malnutrition	• Knowledge on the signs and symptoms of child malnutrition • Knowledge on the reason for hospital admission.
Nutrition	• Feeding practices of mothers.
Cultural factors	• traditional beliefs related to the diagnosis • Traditional treatment.
Socio-economic factors involved in child malnutrition	• mother education • Employment status of mother.

Emotional factors resulting from child malnutrition	• Emotions during diagnosis • Emotions during hospitalization • Emotions during treatment

3.4.1.1 Theme 1: Knowledge of child malnutrition

This section was intended to find out how knowledgeable participants were about child malnutrition. The ability to see and understand the truth about the situation shows how they perceive it.

Sub- theme 1.1: Knowledge of signs and symptoms of child malnutrition

Table 6 Knowledge of signs and symptoms of child malnutrition

Question	***Do you know the symptoms of child malnutrition?***
Participants' responses	• *" Ga ke di itse"* • *(I do not know them).* • *"Nnyaa"* • *(No).* • *"Ee mma ke a diitse, ke gore ngwana wa teng gaa gole sentle"* • *(Yes I know the symptoms; the affected child does not grow well).* • *"Nna ke gore bongwanake ga ba ise nko ba tlhaele dikotla, e ne yo ke wa ntlha"* • *(As for me my children have never been malnourished, this is the first one).* • *"Ngwana o a bo a le mothoho a sena mmele*

	ele marapo hela" • *(The child is thin, it's all bones).* • *" O dimpa ditona, tlhogo le yone e tona a bo a nna mosesane mo mmeleng"* • *(The child has a big stomach, a big head with a thin body).* • *" Ke go latlhegelwa ke mmele"* • *(It is being too thin).*

These quotes of participants reflect:

- Lack of knowledge on malnutrition
- Lack of knowledge on the signs and symptoms of child malnutrition
- Insufficient description of a malnourished child.

The signs and symptoms of malnutrition are mentioned below by various authors. These are discussed from the medical perspective.

Saloojee and Pettifor, (2001:125); Thompson and Manore (2005:221) agree on most of the symptoms of protein-energy malnutrition (kwashiorkor and marasmus) as follows: **Dermatoses:** The skin shows areas of darkening, especially at groins, elbows, knees and outer thighs. In gross cases their appearance is similar to a burn. Sores may develop especially in the buttocks. **Diarrhoea:** in advanced cases diarrhoea is severe with foul smelling, watery stools and dehydration; **Anaemia:** Anaemia is always present. Anaemia develops because there is lack of protein needed to build blood cells. **Muscle wasting:** muscle wasting causes weakness resulting in inability of the child to run, walk, sit or hold up head. The wasting of muscles is seen especially around the chest. **Mental and neurological changes** are also observed. **Wasting and**

emaciation: Wasting and emaciation, which reflects extreme energy deprivation is observed. The child is thin and very much underweight for his age. **Failure to thrive**: the child fails to grow and has a small weight for age. Growth failure can be shown by low weight and decreased length for age. **Irritability, crying, hunger and apathy;** there is lack of activity; the child does not want to play or to move around. The child gives a low sad whimpering from time to time. **Loss of fat** causes the child's skin to hang in folds over buttocks. There is loose skin on the body, legs and arms; the shapes of bones show, with poor or no muscle.

It was not expected by the researcher that these participants would have the medical knowledge to mention these signs and symptoms exactly to her as is in the interviews. Researcher had expected that the medical team at the hospital Paediatric Ward had explained the signs and symptoms of to them in the layman's terms on making the diagnosis of the child as should be done. Thus the expectation that participants would at least show some basic knowledge and understanding of some of the signs and symptoms, using layman's terms, but still showing an understanding of the disease their child is suffering from.

In the interview participants could not clearly state the signs and symptoms of child malnutrition. Those who said they knew the signs only mentioned one or two signs such as weight loss. Participants were also not able to understand the link between these signs their children showed and a malnutritious disease, thus showing a lack of insight in the disease.

The researcher is of the opinion that lack of knowledge on malnutrition shows that the team members in the pediatric ward at the hospital did not educate these participants on the disease with which their child was admitted and diagnosed, namely malnutrition. One must however, also keep in mind that most of these participants have a low level of education or are illiterate. Thus this empathizes how important it is for the team to educate mothers on the signs and symptoms of malnutrition, using layman's terms. This could help in preventing and reducing re-admissions of their children in the future, since the mothers would be able to

identify the signs on time and take action before the child becomes very ill. Thus the importance of the educative role of the multidisciplinary team is highlighted, striving towards prevention, by teaching mothers how to prevent the reoccurrence of this disease.

The researcher is of the opinion that the hospital multi-disciplinary team is not doing enough to educate mothers on child malnutrition and preventative measures. Researcher has observed that mothers are just told of the child's diagnosis, with no explanation or discussion of what this condition is. No follow-up is made to find out the extent of their parent's knowledge or to educate them in this regard. Bomela (2007:198) stipulates that major efforts need to be made to improve the health knowledge of mothers towards child malnutrition in order to combat this condition.

The researcher is of the opinion that the social worker as a member of the multidisciplinary team has an important role to play in educating mothers on child malnutrition and the means of prevention. This is not done in the hospital by the medical team where the researcher is employed, because of the assumption that mothers have adequate knowledge on the condition of child malnutrition. The importance of the social workers role in providing education to mothers was confirmed in a study by Booi (2001:23), who stipulated that the social worker as a multi-disciplinary team member has an important role to play in educating women about malnutrition, making them aware of the symptoms and preventive measures. Marino *et al*. (2001:95) added that it is important for social workers to educate mothers on parenting skills and child development, and to link them to community resources that serve as other sources of education. This they recommended could be done on an individual basis or through a treatment group. The purpose of utilising group work is that it can address mothers' needs for support, education, therapy, growth, and socialization. Support groups for mothers with children suffering from malnutrition are also another important means of helping these mothers. By using support groups, the social worker can

facilitate the process where mothers can support each other; and be guided and educated during group work sessions by hospital multi-disciplinary committee members like nurses and dieticians providing education. According to Ross and Deverell (2004:235) the systemic- ecological model incorporates factors in the person's family, occupational environment, as well as other support systems such as friends and neighbours, towards which social workers should strive.

Sub-theme 1:2 Knowledge of the reason for hospital admission

The aim of this question was to establish if participants were aware of their children's diagnosis and what causes this condition, as well as how it can be and prevented.

Table 7: Knowledge of reason for hospital admission

Question 1	***Why is your child admitted in hospital/ what is the diagnosis?***
Participants' responses	• *"They never told me the diagnosis; they only told me that the child has malnutrition."* • *"No. They told me about malnutrition; it is only that I had forgotten about that, they said his weight is too low."* • *"They never told me; they told me that the child has malnutrition."* • *"I was never told of the diagnosis; "Yes, they told me that the child has malnutrition and that they suspect that the child is not eating well"* • *"I was told that the child has malnutrition".* • *"I was told my child has pneumonia; this is not the first time this child is admitted but since the first admission I was told he has malnutrition".* • *"They did not tell me but the child is HIV*

	positive; they said that her weight is low". • *"They told me the child is HIV positive.* • *They told me the child has malnutrition and that they are going to feed her in hospital until she is better."* • *"They never told me about the diagnosis; they asked me what I was feeding the baby on and I told them there is shortage of milk at our area clinic"* • *"They said the child has an infection in one of the lungs.* • *"They did not tell me the diagnosis.*

These responses reflect:

- That some participants (2) were knowledgeable that the child is admitted for child malnutrition
- Lack of knowledge on the child's diagnosis
- Denial of diagnosis
- Contradictory information about child's diagnosis.

According to Nnyepi (2006: 9) perception is influenced by past experiences, memories, motivation, expectations and suggestions. Some participants in this study had contradictory statements when asked about their children's diagnosis. Participants in this study seemed to expect a different diagnosis from the one they were told and did not seem to understand. Contrary to these findings, in a study conducted by Booi (2001:90) on kwashiorkor in children of single mothers, it was revealed that most mothers did not know the diagnosis of their children before admission to hospital. But, after admission the mothers got to know more about the diagnosis. It is important for mothers to know and understand their children's diagnosis, because as Navaratnarajah (2004:2) pointed out, malnutrition not only affects a child's ability to grow intellectually, but also

reduces their resistance to infection. “Malnutrition is frequently part of a vicious cycle that includes poverty and infection”. (Saloojee & Pettifor 2001:118).

The importance of understanding the diagnosis of your child was shown by Booi (2001: 58) who stated that before diagnosis mothers of children with malnutrition were worried about knowing what is wrong with their children, but after diagnosis they denied this diagnosis and start blaming others or themselves. To clarify this, Zastrow (2004:551) pointed out that it is the physician’s responsibility to explain a particular medical condition to a client, but it is the social worker’s responsibility to discuss the implications of the medical condition with the client and family.

The findings of this study show that the majority of participants (10) did not know the reason why their children were admitted to hospital, nor what the diagnosis of their child was. Only two (2 participants) rightly stated that their child was admitted for malnutrition. The majority of participants attributed their children’s illness to something else such as diarrhea. They did not mention malnutrition as the primary diagnosis. Some participants denied ever being told of their children’s diagnosis. When a direct follow-up question was asked, “*were you ever told that your child has malnutrition?”* The answer was “yes”, this made their answers contradictory. This showed that most participants did not consider malnutrition as the diagnosis, but that they had expected a different diagnosis.

Discussion of theme 1

It is clear that participants did not have insight as to what malnutrition is. The multi-disciplinary team did not explain the signs, symptoms, causes or means of prevention of child malnutrition to the mother of the child patients. In addition, the findings indicate that even those participants, who stated the diagnosis correctly, did not seem to fully understand what malnutrition is. Others seemed to think malnutrition means something else. This is an indication that participants lacked the knowledge and understanding of malnutrition and that it makes a child

susceptible to other diseases. It would seem that they did not believe that malnutrition is a disease; they saw it as something else.

Considering the above findings, the researcher is of the opinion that mothers did not fully understand malnutrition, or its signs and symptoms, because if they did, they would not deny the diagnosis of their children. The researcher is of the opinion that at the time of diagnosis, the social worker should be available to educate the mother and help them to understand the diagnosis. This will enhance prevention and protect the child from relapsing, because the mother will know what she is dealing with. Zastrow (2005:551) suggested that the social worker has to address the implications of the medical condition. This is very crucial for the patients' adherence to treatment to avoid relapses.

The researcher believes this is a crucial stage in the period of the child's illness, because some mothers may lose confidence in the medical team if they do not understand the diagnosis, and therefore may not co-operate with the multidisciplinary team. This task of the social worker is to provide emotional support to the patient, mother and the family, to develop the knowledge insight of the mother and the family on the disease and to determine their perception and needs regarding malnutrition. After the assessment, the social worker will be better positioned to plan an intervention strategy that is responsive to their needs and specifically focus on education and long term prevention. During the time of diagnosis, some mothers may be in a state of crisis and the social worker can use the crisis intervention model to facilitate the adaptive process so that the mother can adjust to and effectively deal with the situation.

Participants did not seem to take the diagnosis of malnutrition seriously; this was even observed in their non-verbal communication, where some participants laughed inappropriately; the facial expressions of some showed disbelief, while others used a less serious tone of voice. This shows that participants in this study did not understand malnutrition as a serious illness that can result in admission to hospital instead they understood malnutrition as a secondary

diagnosis that doctors observe after another diagnosis is made.

The researcher notes that even though participants in this study did not perceive malnutrition as a serious disease, malnutrition is one of the serious childhood problems that affect children less than 5 years of age. Thus the knowledge of mothers thus needs to be improved to ensure that their child does not become malnourished. This is also noted by Berkow *et al.* (1999: 1288) who indicated that malnutrition is one of the leading causes of death and poor health among children. The researcher is of the opinion that it is the government's task to target mothers, families and communities to educate them on malnutrition as a condition and its consequences for the child and the community at large. Martorell (1999: 228) points out that malnutrition is best viewed as a 'syndrome of developmental impairment, which includes growth failure, delayed motor, cognitive, and behavioral development, diminished immune competence, and increased morbidity and mortality. Educating mothers to view malnutrition in this way will assist the mothers to look out for all the signs and be able to take action before it is too late.

3.4.1 Theme 2: Nutrition

The aim of this question was to find out what the feeding practices of participants towards their children were. This assisted in finding out if the participants were aware of what to feed their children, so as to prevent malnutrition. Furthermore, the researcher also wanted to determine if the participants were aware that their feeding practices had a contribution to the illness of their child.

Sub- theme 2.1: Feeding practices of participants

Table 8: Feeding practices of participants

Question	**What do you feed your child?**
Participants' responses	• "*Sorghum and Tsabana" (Tsabana* is sorghum

	meal which has been enriched with soya beans; this weaning meal is given to children at the clinic) *(baby is 9 months).* • *"I give him full cream milk diluted with water and seasoned with salt" (baby is 4 months).* • *"I breast feed him and give him soft porridge because I don't produce enough milk" (baby is 4 months).* • *I give the baby infant formula from the clinic but in instances where there is shortage of milk at the clinic I give her full cream milk" (baby is 2 months).* • *"I give the baby soft porridge,"(responses of two mothers;(babies 2 years and 3 years)* • *In the morning I give him tea, in the afternoon soft porridge and in the evening porridge" (6 months).* • *"I give the baby soft porridge and meat (if available) and tsabana" (1year 2 months).* • *"I really do not know what to give this child so I give her soft porridge, potatoes and full cream milk" (9 months).* • *"I give the baby porridge and Setswana relish" (2 years).* • *The baby drinks cow's milk" (responses from 2 mothers (babies, 4 months and 9 months).*

The most common form of malnutrition in children is protein energy malnutrition (PEM). Children who are malnourished are prone to infections and nutrient deficiencies. This is confirmed by Lee and Nieman (2003:346) who point out that children suffering from protein energy malnutrition (PEM) are likely to develop infections, nutrient deficiencies, and diarrhea. Coovadia and Wittenburg (1998:200) on the other hand stress that under nutrition in children is determined by the quantity and type of protein-energy available.

In addition Mlamba (2001:116) is of the opinion that children may be malnourished due to limited quality of food and poor quality as well as inappropriate frequency of feeding. Furthermore, children's meals are tied to adult meals, and children may be weaned to a high carbohydrate diet that lacks sufficient calories and other nutrients. Similarly Matla (2008:30) stipulates that lack of dietary diversity is a particular severe problem among the poor populations in the developing world, because their diets are predominantly based on starchy staples, and often include little or no animal products and few fresh fruits and vegetables. In addition to the above points, Boyle and Holben (2006:43) point out that breastfeeding among mothers has many benefits, because breast milk is hygienic, readily available and nutritionally sound, as it provides infants with immunologic protection specific for their environment. According to Mlamba (2001:16) a mother's economic and domestic activities may take a woman's time, leaving little time for mother to take care of the children. Even if there is adequate food, children may still be malnourished due to limited quantity of food and poor quality of food as well as inappropriate frequency of feeding. Children may be weaned to a high carbohydrate diet that lacks sufficient calories and other nutrients.

The participants in this study gave their children food that was not balanced or at the worst food and/ or milk that was not appropriate for their age. One mother of

a 4 months old baby said: "I *give him full cream milk diluted with water and seasoned with salt".* In all the participants interviewed, none of them were able to link poor feeding practices with malnutrition. Only one baby in this study was breastfed, but the participant reported not to be practicing exclusive breastfeeding, but mixed feeding, by giving the child soft porridge. "I *breast feed him and give him soft porridge because I don't produce enough milk" (baby is 4 months).* It is important to note that even though breast milk has benefits, HIV-infection in mothers has necessitated the use of infant formula to prevent mother-to-child transmission of HIV. To emphasize the above stated point, the Department of HIV/AIDS Prevention and Care in Botswana (2006:2), states that for the first six months of life, Botswana infant and young child feeding guidelines recommend exclusive formula-feeding or breast-feeding, depending on the HIV status of the mother. From the interviews it was also found that participants did not know that feeding their children with an unbalanced diet every day is the cause of their child's condition.

The researcher is of the opinion that feeding practices of participants in this study were so poor because of the poverty stricken conditions they live in. These participants feed their children mostly on carbohydrates. Participants regard Botswana's staple food, sorghum, very highly and as being nutritious for their children, but what they do not realize is that this meal only contains carbohydrates. The researcher is of the view that if these participants had been educated about the type of food they should feed their children, the nutritional value of each food type and the correct mixture of different food groups to ensure a balanced meal, they would try to prevent malnutrition. According to Fukagawa (2008: 669) the primary cause of protein-energy malnutrition in children is insufficient food intake, lack of ingestion of protein of poor quality, poverty, ignorance and low food supply. The researcher therefore notes that mothers do not know the causes of malnutrition, nor the nutritional value of different foods, making it difficult to prevent malnutrition. Thus mothers need to be educated.

Discussion of theme 2

As discussed above, the findings show that participants in this study had poor nutrition practices. The researcher is of the view that in order to improve feeding practices of mothers in Botswana there is need for the government to promote back yard food gardens in communities especially the unemployed, families at the child bearing stage in the life cycle, and people staying in rural areas where there is enough land.

The multi-sectoral approach can be used here by involving the agriculture department to help the community with their expertise to manage the food gardens, taking into consideration that most villages in Botswana have adequate water supply. The food garden should not only be for vegetables as it is currently the practice with a few families, but should diversify to include all food groups especially protein products like beans, nuts, peas and lentils that are grown locally. The role of the social worker as educator regarding the prevention of malnutrition and broker to link the mothers, who need help in starting backyard gardens to the agriculturist in the area, is of importance.

3.4.1.3 THEME 3: CULTURAL FACTORS

This section was intended to capture the cultural and traditional beliefs related to the indigenous diagnosis and treatment. This would help to establish if the participants have traditional beliefs, which have a bearing on how they understand child malnutrition.

Sub-theme 3.1: Traditional beliefs related to the diagnosis.

Table 9: Traditional beliefs related to the diagnosis

Question	***According to your culture what is your child suffering from?***
Participants' responses	• *"I suspect he has children's ailments which can not be healed in hospital; I suspect the*

	fontanel (phogwana).” • *“The problem with this child is that he is suffering from ‘Thibamo’, thibamo usually affects the lungs and this child has sores in the lungs.”* • *“This is not malnutrition, it is ‘Ntsana’, that is why the child is scratching her eyes.”* • *“I do not know, but the traditional doctor that I took her to was treating her for stomach ache.”* • *“If there was any Setswana illness I would have seen it.”* • *“This is ‘Thibamo’ I only brought him here because he was having difficulty in breathing and I only wanted the hospital to help me with that.”* • “*The child has ‘Thibamo’.”* • *“I don’t know”.*

These responses show that the majority of participants saw malnutrition within the traditional context as an indigenous condition (9 participants) while only 3 participants showed no traditional beliefs in this regard.

According to literature, cultural issues can play a role in the understanding of a disease. The participants in this study had traditional Setswana names for malnutrition, as indicated in their responses above. Ferrero (2001:22) defines culture as everything that people have, think, and do as members of a society. Thus, all cultures comprise material objects, ideas, values, and attitudes; and patterned ways of behaving. According to Ross and Deverell (2004:235), the ecological environment encompasses cultural factors. Some cultures have indigenous health providers such as traditional healers, herbalists, religious

leaders or even relatives from extended families to help individuals and families with health related problems in times of crisis. Furthermore, Van Rensburg (2004:521) stipulates that when faced with illness, people are confronted by complex therapeutic choices. These choices are based on the types of healers that are available and the explanatory model that the sick person adheres to. In Botswana traditional health providers include traditional healers, herbalists, and spiritual healers/ religious healers and sangomas. Most people utilize these healers first before going to a hospital.

From interviews it was found out that most participants (9) had a diagnosis made by a traditional healer for their children, and only a small number (3) stated that they did not go for an indigenous diagnosis. It is also evident that some mothers come to the hospital for emergency services, then after that they want to take the children to a traditional healer for what they call "children's ailments". One participant said *"This is 'Thibamo' I only brought him here because he was having difficulty in breathing and I only wanted the hospital to help me with that".* From the above findings it is clear that mothers in this study interpret malnutrition as an indigenous Setswana child ailment that can be healed with tradition remedies. This is most probably why the participants did not see malnutrition as a valid diagnosis in the previous theme.

Discussion of sub theme 3.1

The researcher is of the view that if most participants interpret malnutrition as a child's ailment that can be healed traditionally with indigenous medicine, then this must be the reason why some mothers take their children from hospital against medical advice. If mothers interpret malnutrition as an indigenous Setswana ailment, then they would want this ailment to be treated traditionally. The fact that some participants explained that they come to hospital for emergencies only, also explain why mothers bring children to hospital willingly, then after a while would want to take them from hospital against medical advice.

According to the researcher, for this problem to be addressed, there is a need for health education on malnutrition for the community at large. This community education initiative must be done with sensitivity, where the belief system of the community members is taken into consideration as indicated by Dennill *et al.* (1999:36), that for health education to be accepted, it must be culturally sensitive and suitable to the needs of the community. Furthermore, health education should not be given by health professionals only, but through the multi-disciplinary and inter- sectoral approach.

The researcher is of the opinion that the multidisciplinary team should educate traditional healers on child malnutrition, so that they can treat the condition more appropriately and help in educating the community at large. In so doing mothers can have the correct interpretation for malnutrition. Traditional healers are better placed to educate the community, since in most cases they are the most influential people in society and are always accessible to the community members when faced with illness. Their accessibility puts them in a better position to share information with the community. They just need to be educated about the facts regarding symptoms, causes and prevention of child malnutrition.

Sub- theme 3.2: Traditional treatment

The focus of this section was to determine the traditional treatment that participants sought or believed in to treat the condition of their child. The researcher was able learn about the belief system of the participants regarding their children's illness.

Table 10: Traditional treatment

Question	***Did you ever seek help from traditional healers for your child's illness?***
Participants' responses	• "*I have never taken the child to any traditional healer.*" • *"We have never taken the child there because*

	the child is still in hospital." • *'We will take him there after being discharged from hospital."* • *"I took him to the traditional healer but he failed to tell me what is wrong with the child."* • *"No, I am still in hospital."* • *"I took her to a traditional healer but she did not improve."* • *"After discharge I will take her to my aunt who knows how to heal the fontanel".*

From the above responses it was interesting that the majority of the participants (6) stated that they have never consulted traditional healers before seeking medical treatment, while 2 participants had. Four participants were planning to consult with the traditional healers after seeking medical treatment. Thus some participants still consult traditional healers when their children get ill.

The Ministry of Health (1995: 13), stipulated that the traditional health is still an integral part of the Setswana cultural values and traditional beliefs. Furthermore, it is a fact that many Batswana still consult traditional health practitioners. It is in this light that the Ministry of Health has adopted a policy of engendering good working relations between scientific medical practice and traditional practice. According to Podise (2005:132), Batswana continue to use traditional medicine for various ailments that they experience and there is need to synchronize the services offered by the traditional healers and those offered in the western health facilities. Participants who were lodger mothers, staying in at the hospital to be with their children, when told what their child's diagnosis was, still wanted to go to traditional healers after discharge. According to Booi (2001:121) the majority of mothers with children with kwashiorkor, still hold on to their traditional beliefs and they still contact traditional healers to help their children. Even if they have found

that traditional healers have not made their children better, they still have a strong belief in them.

Discussion of sub theme 3

The researcher has observed that some mothers of children with malnutrition will consult a traditional healer at some point during the illness, specifically because it takes some time to reverse malnutrition. In extreme cases, mothers take children from hospital against medical advice, to take them to traditional healers. When traditional healers fail to heal the children, then they are taken back to hospital, sometimes in a worse condition than before, and some even die.

Therefore, the researcher is of the opinion that it is time that traditional healers are educated indirectly and incorporated into the multidisciplinary health team to help in the identification, education and treatment of malnutrition. The role of the social worker here will be that of an innovator and facilitator, and the tasks will be to initiate this education and incorporation of traditional healers into the health care team using community development skills and also to facilitate the process by providing information, decision making and action. This indirect service will benefit the children and their families as it would change mothers' and community knowledge towards child malnutrition and improve the service provided to them.

3.4.1.4 Theme 4: Socio-economic factors involved in child malnutrition.

Sub themes identified under this theme are the education level and employment status of the participants. The aim of this section was to find out if the educational level and employment of participants had any effect on the way they understood child malnutrition and if there was any connection between educational level of participants and the fact that their child has malnutrition.

Sub- theme 4.1: Educational level of participants

Table 11: Education level of participants

Question	***Have you been to school? To what level did you go to school?***
Participants' responses	• *"I am a student at NIIT (Tertiary institution)".* • *'I have never been to school".* • *"I went to school up to standard 7".* • *"I left school due to pregnancy doing Form1".*

Thus it is interesting that one of the participants had tertiary level of education, while the majority had lower level of education, namely early secondary level of education. Only 3 participants had not attended school and were illiterate. This illustrates that the majority of participants in this study had lower levels of education.

Matla (2008:18) points out that low educational level among women correlate strongly with the incidence of malnutrition among children. This is because poor education not only limits the chances of women being able to acquire wage employment or improved productive skills, both of which will generate resources for improved nutrition, but also limits their knowledge of the nutritional and hygienic needs of the family.

Molotja (2008:79) is of the notion that the educational level of mothers may determine the type of jobs one would hold, as well as the level of income earned. Low income may lead to the mother not being able to properly provide for their families, some may even have to rely on the government for social security grants. From another perspective Bomela (1999:26) is of the view that there are inconsistencies in the effect of maternal education on child's nutritional status. She noted that some studies have revealed that while education had a positive effect in the richer segments of their study populations, it had no effect on the poorer segments. The author further notes that if insufficient physical resources are available to a woman, it is unlikely that education could make much difference. Matla (2008:18) revealed that poor education not only limits the

chances of women being able to acquire wage employment or improved productive skills, but also limits their knowledge of the nutritional and hygienic needs of the family.

Sub- theme 4.2: Employment status of participants

Discussions revealed that none of the participants in the study were employed. Only one reported that she was self-employed. She stated the following: *"Ke motho yoo ratholang bojalwa, ha gongwe ha ke tshwere sengwenyana ke kgona go mo rekela (I am a traditional beer brewer, so when I have some money I buy necessary foodstuffs for the child)".* Three of the participants were on the social welfare programme, but they reported that the food was basic. One of those participants stated: "*The baby is given food ration, but social workers give her wrong food because he is given sorghum, maize meal, sugar, potatoes and butternuts."*

The researcher is of the view that unemployment is a critical factor when it comes to providing children with the necessary food. In their study on factors affecting the prevalence of malnutrition among children 3 years of age in Botswana, Mahgoub *et al. (2006:5)* pointed out that maternal education is associated with nutritional status. Furthermore they found that efforts for redressing under nutrition issues in Botswana should focus on factors associated with development outcomes such as maternal income, maternal education, and creation of employment or economic engagements that do not compromise important child care practices like breastfeeding. Even though breastfeeding is encouraged, mothers should also be educated on Prevention of Mothers-to-Child Transmission of HIV, so that they make informed decisions on breastfeeding.

Discussions of theme 4

Empowerment programs in Botswana like Citizens Entrepreneurial Development Agency (CEDA) and Young Farmers Fund should be made user friendly to people who are illiterate and rural area dwellers like the majority of participants in

this study. According to Ross and Deverell (2004:291), empowerment demands the knowledge and understanding to be able to make correct decisions. The role that the social worker can play in this case is that of educator and facilitator, empowering women to be engaged in economic activities. Another role of the social worker here would be that of a broker, by linking the mothers and their families with other community resources like CEDA. The researcher suggests that women should be encouraged and empowered to engage in economic activities.

3.4.1.5 Theme 5: Emotional factors resulting from child malnutrition.

This section was concerned with establishing the emotions of participants during their child's illness; at the time of diagnosis, during hospitalization and during treatment. This helped in determining how mothers understood the seriousness of their children's condition.

Table 12: Participants emotions

Question	***How did you feel when you were told your child has malnutrition?***
Participants' responses	• *"I do not feel well because usually my baby has a big body".* • *"I do not feel well, how can my child have malnutrition while eating every day?"* • *"I feel okay".* • *"At first I was hurt but I have accepted now".* • *"I do not feel well, malnutrition can be dangerous, I do not enjoy life because of this child, I have thought after enrolling in ARV program he will be okay, but it seems he is getting worse".* • *"I am unhappy".*

Thus, the responses of the participants showed the following emotions.

- Indifference by participants(2)
- Feelings of unhappiness(7)
- Feelings of acceptance(3)
- Not feeling well (1)

The researcher is of the opinion that the child's illness was emotionally stressful to the participants.

Sub- theme 5.1: Emotions regarding: diagnosis

A child's illness usually affects the mother emotionally. The researcher has observed that the diagnosis of malnutrition can be distressing for mothers, as it may lead to hospitalization of the child. Hospitalization of children with malnutrition requires that their mothers have to lodge at the hospital, so that they can help take care of their children, because most of them are usually very ill, and therefore they need more care. DuBois and Miley (1996: 341) stipulate that illness often disrupts people's equilibrium and capacity to cope. This disruption of equilibrium is a crisis and the social worker's intervention is needed.

According to Ross and Deverell (2004:238) when parents bring children to hospital, they are exposing a part of themselves. They are likely to be feeling hurt, vulnerable or annoyed by things going on around them. Hornby (1994:6) states that parents need professionals to help them express and clarify their feelings and to help them in understanding their reactions and those of others around them. Cowles (2000:35) states that there may be a problem of patients and their family members concerning their coping with diagnosis, prognosis, or treatment plan. Booi (2001:63) states that during the diagnosis of child malnutrition disease, the mother is in a state of crisis and the social worker has to help initiate and encourage an adaptive process by helping the mother to deal effectively with the situation. DuBois and Miley (1996:341) point out that illness often disrupts people's equilibrium and capacity to cope. This disruption of

equilibrium is a crisis and the social worker's intervention is needed.

Participants experienced mixed feelings regarding the diagnosis. Some were indifferent, others were unhappy while others accepted the situation. The fact that their children were ill and hospitalized was experienced as stress factors, but the diagnosis of their child was not as stressful, as they did not understand what malnutrition is. For mothers to be stressed by hospitalization and not the diagnosis of their children means that they did not understand what they were dealing with. This calls for education and intervention to help them to understand malnutrition and its effects so that they could express appropriate feelings towards the situation. Mothers, who are stressed by hospitalization and their child's illness, need support. Some mothers may be confused or unable to describe their feelings, and it is the role of the social worker to help them express, ventilate and clarify their feelings and to help them understand their reactions and those of others around them (Hornby, 1994:6).

Sub- theme 5.2: Emotions regarding: hospitalization

The findings showed that the participants were unhappy about the fact that their children were hospitalized. The children's illness and hospitalization were upsetting to most participants. One Participant said "*I do not enjoy life because of this child, I have thought after enrolling in ARV program he will be okay, but it seems he is getting worse".*

According to Lau and Tse (1993: 14) parents of hospitalized children are usually nervous and anxious. They go through emotions of shock and disbelief; anger; depression and sadness and adaptation and adjustment. The aforementioned authors further state that the parents of hospitalized children often adopt a defensive behavior of overprotection. Marino *et al.* (2001:91) state that the social worker should provide the parents and children with emotional support to help

them to adjust to sometimes intimidating hospital procedures. The social worker does this by acknowledging the fears and stresses parents have about their child's condition. The social worker can also advocate for the parent's needs and make the medical staff aware of their concerns. The aforementioned authors are also of the view that the social worker can provide the parents with emotional support and education on parenting skills and child development.

Sub- theme 5.3: Emotions regarding: treatment

In this study the interviews revealed that participants did not understand malnutrition and the treatment and as such the participants were uncomfortable with treatment procedures, hospitalization and this brought about feelings of nervousness and anxiety.

Booi (2001:65) was of the opinion that during the treatment phase the mother is faced with an ongoing discomfort, fear for the child's painful treatment procedure and the social worker should help her cope with the psychosocial implications caused by illness. This treatment can take some time, a month or even more. The opinion of the researcher is that this is a period when mothers have to emotionally deal with the child's illness and the psychosocial implications of being admitted to hospital. The social worker's support is crucial at this time until treatment is completed. The social worker can explain the hospital procedures and treatment to the mother and provide support on a continuous basis. It is true that "counselling complements medical treatment" (DuBois & Miley 2001:341). According to Booi (2001:68) throughout the illness process the social worker should provide counselling services to the mother of the sick child and other family members, to help them cope with the situation. The medical social worker also engages the mother and family in counselling and group work sessions that prepare them for discharge. Counselling also helps the mother in case the prognosis becomes poor and the child becomes disabled or dies. If the result is death then the mother and the family should be taken through the mourning process through bereavement counselling.

Marino *et al*. (2001:91) recommends that the social worker should involve parents of sick children in support groups to help mothers to identify common problems and share experiences. This can function as a source of support amongst them by sharing ideas, experiences, means and ways of helping them cope with the psycho-social implications of the illness. Furthermore, these authors also explain that the social worker should provide supportive services to the mothers and their families and help them to identify their support system (family friends, relatives, colleagues).

Discussion of theme 5

The study showed that the child's illness was emotionally stressing for the participants and hospitalization was upsetting to most participants. Interviews also revealed that participants did not understand malnutrition and the treatment and as such the participants were uncomfortable with treatment procedures, hospitalization and this brought about feelings of nervousness and anxiety. The researcher is of the opinion that support systems can help the mother and family to cope with the child's illness and be able to take care of the child during treatment. The significant role of the social worker at the treatment stage should not be overlooked. The social worker as part of the multidisciplinary team should work in collaboration with other team members to help mothers and their children to cope with, and understand treatment.

The other roles of the social worker will be to provide emotional support, social support, counseling, education, and referral and follow up in supporting the mothers and their families. Marino *et al.* (2001:91) are of the view that the social worker can provide the parents with emotional support and education on parenting skills and child development and can link the family with community resources that serve as other sources of education and support. Through counselling the social worker can help the mother in case the prognosis becomes poor and the child becomes disabled or dies. If the result is death then the

mother and the family should be taken through the mourning process through bereavement counselling.

3.4.2 Synopsis of the themes and sub themes

Theme 1: knowledge on child malnutrition

This section was intended to find out how knowledgeable mothers were about child malnutrition. The theme had two sub themes; knowledge on the signs and symptoms of child malnutrition and knowledge on the reason for hospital admission.

Sub theme 1.1: Knowledge of the signs and symptoms of child malnutrition

Findings indicated that that the preponderance of participants could not clearly state the signs and symptoms of child malnutrition. Mothers were not able to link the signs and symptoms with malnutrition; instead, they mentioned the signs very vaguely. This showed that mothers had limited or no knowledge about malnutrition and that the hospital team had not educated them regarding this condition.

Sub-theme 1.2 Knowledge on the reason for hospital admission

It was found that participants did not know their children's diagnosis. It was also revealed that mothers did not perceive /believe that malnutrition is a serious problem that can result in admission for treatment in a hospital, they expected a different diagnosis. They perceived malnutrition as a secondary diagnosis.

Theme 3: Cultural factors

This section was intended to capture the cultural and traditional beliefs related to the diagnosis and traditional treatment. The aim of this section was to find out if mothers had any traditional beliefs that were related to the illness.

Sub- theme 3.1: Traditional beliefs related to the diagnosis

The majority of participants had an indigenous Setswana diagnosis for their children's condition. Mothers stated the signs and symptoms of malnutrition as those of 'Thibamo', 'Phogwana' (fontanel), or 'Ntsana'.

Sub-theme 3.2: Traditional treatment

Data showed that that the majority of participants in this study did not know their child's condition; they interpreted it as a Setswana ailment that can be treated traditionally. Majority of participants still hold on to their traditional beliefs, they still contact traditional healers to treat their children and they still have a strong belief in them. The perception that participants had about child malnutrition is aligned to their culture and traditional beliefs.

Theme 4: Socio-economic factors involved in child malnutrition

The aim of this section was to find out if the educational level of participants had any effect on their insight of child malnutrition. The study revealed that the majority of the mothers in this study had lower levels of education which might have been contributing factors to their lack of knowledge about child malnutrition.

Theme 5: Emotional factors resulting from child malnutrition

This section was concerned with establishing participants' emotions during their children's illness: at the time of diagnosis, during hospitalisation, and during treatment. This helped in determining how participants interpreted and understood their children's condition as shown by how they react to it emotionally.

Sub- theme 5.1: Emotions regarding: diagnosis

Findings revealed that participants experienced mixed feelings. Some were indifferent, others were unhappy while others accepted the situation. Most were negatively affected by their children's diagnosis. The diagnosis of illness in a child can be distressing for a mother especially if they do not understand it or interpret it wrongly.

Sub-theme 5.2: Emotions re: hospitalisation

Participants in this study were unhappy about the fact that their children were hospitalised. The children's illness and hospitalisation were upsetting to most participants especially that most of them perceived malnutrition as an ailment that can be treated traditionally. According to them their long stay in hospital was unwarranted as they only came to seek emergency services and go back home.

Sub-theme 5.3: Emotions regarding: treatment

Participants did not understand malnutrition and its treatment and as such they were uncomfortable with treatment procedures and this brought about nervousness and anxiety.

3.5 Summary

The chapter addressed the findings of the empirical study that was conducted by means of one to one interviews and guided by the semi-structured interview schedule. The findings, namely the themes and sub themes were supported with verbatim quotes from the interviews and were substantiated with the literature. The participants were from Serowe and other surrounding villages like Mabuo, Tshimoyapula, Mmashoro and Mogorosi in Botswana.

Findings from this study showed that participants had limited knowledge on malnutrition as a condition, the signs and symptoms and the causes, prevention and treatment of child malnutrition. This lack of knowledge caused participants to have wrong perceptions about child malnutrition. Generally, especially from a traditional perspective, child malnutrition is not perceived as a real disease that can cause hospitalization. Factors that were identified to be contributing to malnutrition among children at Sekgoma Memorial Hospital in Serowe, were found to be lack of knowledge about malnutrition, wrong perceptions of malnutrition by participants, low levels of education, unemployment, and cultural factors like taking a child to a traditional healer instead of a medical health facility.

The themes and sub-themes according to which the findings were discussed were summarized as follows: **Theme 1**: Knowledge on child malnutrition the theme had two sub-themes; Knowledge of signs and symptoms of child malnutrition and Knowledge on the reason for hospital admission. **Theme 2:** Nutrition with a sub- theme: Feeding practices of participants. **Theme 3:** cultural factors; sub-themes under this theme were traditional beliefs related to the diagnosis and Traditional treatment. **Theme 4:** Socio-economic factors involved in child malnutrition**.** Sub-themes under this theme were participant's education and employment status of participants. **Theme 5**: Emotional factors affecting child malnutrition. Sub-themes identified under this sub-theme were: Emotions re: diagnosis, Emotions re: hospitalization and Emotions re: treatment.

The following chapter will focus on summary, conclusions and recommendations.

CHAPTER 4: SUMMARY, CONCLUTIONS AND RECOMMENDATIONS.

4.1 INTRODUCTION

In this chapter the researcher discusses an overview of the study, specifically regarding the aim, objectives and research question. The conclusions and recommendations that would assist in the preventative social work intervention strategies, and service delivery to those already diagnosed with child malnutrition are made.

4.2. SUMMARY

The goal and objectives for this study are as follows:

4.2.1 GOAL

To explore the perceptions of mothers of children diagnosed with malnutrition in Botswana, specifically at Sekgoma Memorial Hospital, Serowe.

The goal of the study was reached, in that the researcher was able to find out what the perceptions of mothers of children diagnosed with malnutrition are as presented in chapter 3.

4.2.2 OBJECTIVES

The goals and objectives of this study are as follows:

- **To provide a broad theoretical framework on malnutrition as a paediatric condition.**

  This objective was achieved in chapter 2. The following aspects were discussed: Child malnutrition in developing countries; child malnutrition in Botswana; description of child malnutrition; causes of child malnutrition;

symptoms of child malnutrition; treatment of child malnutrition; prevention of child malnutrition; psychosocial implications of child malnutrition on the patient, family, and community and social work intervention (therapy and prevention).

- **To explore how malnutrition is perceived by mothers of children diagnosed with this condition.**

  This objective was realised. The participants' information and experiences have been analyzed in line with the themes used in the interview schedule to uncover how mothers understand and perceive child malnutrition. Data obtained from participants was broken down into the following themes and sub-themes.

  Theme 1: Knowledge on child malnutrition the theme had two sub-themes; Knowledge of signs and symptoms of child malnutrition and Knowledge on the reason for hospital admission.

  Theme 2: Nutrition with a sub- theme: Feeding practices of participants.

  Theme 3: cultural factors; sub-themes under this theme were traditional beliefs related to the diagnosis and Traditional treatment.

  Theme 4: Socio-economic factors involved in child malnutrition**.** Sub-themes under this theme were participant's education and employment status of participants.

  Theme 5: Emotional factors affecting child malnutrition. Sub-themes identified under this sub-theme were: Emotions re: diagnosis, Emotions re: hospitalization and Emotions re: hospitalization and Emotions re: treatment.

- **To describe factors contributing to malnutrition among children admitted at Sekgoma Memorial Hospital.**

  The researcher was able to achieve this objective. These factors were identified in chapter 3 and are as follows: In theme 1: Knowledge on child malnutrition; lack of knowledge about malnutrition and wrong perceptions of malnutrition by mothers were identified as factors that contribute

towards child malnutrition. Theme 3: cultural factors; practices such as taking a child to a traditional healer instead of a medical health facility were identified as factors that contribute towards child malnutrition. Theme 4: Socio-economic factors involved in child malnutrition. Under the above mentioned theme it was revealed that a low level of education and illiteracy, as well as poverty and unemployment in mothers can contributed towards child malnutrition; unemployment and result poverty is a critical factor when it comes to providing children with the necessary nutritious food.

- **To formulate recommendations that would assist in preventative social work, intervention strategies, and service delivery to those already diagnosed with child malnutrition based on the findings.**
  This objective was also realised by identifying gaps in service delivery and making recommendations for social work interventions in this chapter.

4.2.3 Research question

The research question that the findings tried to answer was: **How is malnutrition as a childhood condition perceived by mothers of children diagnosed with this condition in Botswana?**

This question was answered by the findings from chapter 3. Findings revealed that mothers in this study do not perceive child malnutrition as a serious problem that can result in admission for treatment in a hospital; they perceive malnutrition as a secondary diagnosis. Mothers had a Setswana diagnosis for their children which included “Thibamo”, “Phogwana”, and “Ntsana”; interpreted as a Setswana ailment that can be treated traditionally.

4.3 CONCLUSIONS

The following conclusions are drawn from the literature study and the empirical findings:

- Malnutrition is one of the serious childhood problems that affect children under five (5) years of age, and is common in developing countries, Botswana included. In its severe state malnutrition can cause death.

- The most common form of malnutrition in developing countries is under nutrition, i.e. when food intake is inadequate to meet the energy needs of the body.

- Protein- energy malnutrition (PEM) is the most important nutritional disease in developing countries, especially because of its impact on childhood mortality and growth and development.

- Children may be malnourished due to limited quality of food and poor quality as well as inappropriate frequency of feeding.

- The effects of child malnutrition can be devastating and permanent, and much still needs to be done in developing countries to deal with this preventable yet deadly disease.

- Child malnutrition measured by stunting, wasting, and under-weight is a problem in Botswana because some mothers do not perceive the condition as a serious problem that can result in admission for treatment in a hospital, they interpret child malnutrition as a Setswana ailment that can be treated traditionally.

- Participants in this study showed insufficient knowledge of the symptoms, causes or prevention of child malnutrition. This lack of knowledge contributed to mothers' wrong perceptions about child malnutrition.

- Even though participants in this study practiced incorrect feeding practices such as feeding children on food that lacked correct nutrients or at the worst food and/ or milk that was not appropriate for their age, they did not perceive that as a factor that could contribute to malnutrition amongst children.

- Participants in this study did not perceive malnutrition as a serious problem that can result in admission; instead they perceived malnutrition as a secondary diagnosis to the primary diagnosis of some other disease such as diarrhea or a Setswana ailment that can be treated traditionally.

- The majority of participants in this study had an indigenous Setswana diagnosis for their children like “Thibamo”, “Phogwana”, and “Ntsana”. They interpreted child malnutrition as a Setswana ailment that can be treated by a traditional healer or with their own home remedies.

- The main factors identified in this study that contribute to malnutrition among children in Sekgoma Memorial Hospital were found to be:

    - Lack of knowledge about child malnutrition, on the part of participants;

    - Wrong perception of child malnutrition by participants;

    - Low educational levels and unemployment of participants: illiteracy and unemployment are critical factors when it comes to providing children with the necessary nutritious food.

    - Cultural factors like taking a child to a traditional healer instead of a medical health facility, as participants interpreted child

malnutrition as a Setswana ailment that can be treated by a traditional healer.

- It was revealed that participants' social functioning is disrupted by their children's illness and hospitalisation; the diagnosis of malnutrition can be distressing for mothers, as it may lead to hospitalization of the children, which requires that their mothers have to lodge at the hospital so that they can help take care of their children. This may disrupts people's equilibrium and capacity to cope. This disruption of equilibrium is a crisis and thus a need for support from the multi-disciplinary members.

- There is a need for proper nutrition education for example on different food groups, types of food that fall into each category, cheaper ways of providing a balanced meal, self sufficiency by growing food gardens and education on malnutrition as a childhood condition for mothers in Botswana. This education can be provided by multidisciplinary health team.

- Malnutrition has negative psychosocial implications on the child, family and community, and as such, all health care team members must prevent it as much as possible.

- Social work intervention is an important part of the treatment strategy, because of the emphasis the profession places on the person-in-environment perspective.

- The intervention of the social worker in the hospital is important both as a preventative and therapeutic measure. The major role of the social worker in child malnutrition is to educate the family and community on the prevention of child malnutrition and to help the patient, family and community deal with the psychosocial implications of child malnutrition.

4.6 RECOMMENDATIONS

Based on findings of the study the following recommendations are made:

4.6.1 RECOMMENDATIONS FROM EMPIRICAL STUDY

- The consequences of child malnutrition can be severe on the affected child. This challenges all members of the multi-disciplinary team to be vigilant in addressing this condition, specifically at prevention level, which can be done at community level, by the health team.

- It is recommended that medical practitioners should explain the malnutrition diagnosis to the parent or caregiver of the child for her/him to know what the child is suffering from, followed by detailed information on what the diagnosis entails, symptoms, the treatment procedure and prevention measures in detail.

- Major efforts need to be made to improve the general child health knowledge of mothers, specifically child malnutrition in order to combat this condition. The multi-disciplinary health team has an important role to play by educating mothers on child malnutrition. They can target mothers during ante natal visits and during the under five clinic visits.

- Perception is something that can not be changed in a short period of time, thus a recommendation is that there should be specialized health care workers at the community level (clinics) to deal with the prevention of child malnutrition at community level through education and campaigns.

- The researcher is of the view that in order to improve mothers' feeding/nutrition practices in Botswana there is a need for the government to encourage back yard food gardens by providing seeds to unemployed mothers with under five children, especially those in rural areas where

there is enough land. The clinics should liaise with the Department of agricultural to provide seeds.

- To address the problem of child malnutrition there is a need for the multi-disciplinary health team to provide health education on malnutrition for the community at large. This team should consist of a social worker, a nurse, and a dietician. This community education initiative must be done with sensitivity, where the belief system of the community members is taken into consideration.

- Health education should not be given by health professionals alone, but through the multi-disciplinary and inter sectoral approach. Nongovernmental organizations, community based organizations, business people, youth groups, and the Department of Agriculture should be involved.

- Community members like traditional healers are better placed to educate the community, since in most cases they are some of the influential people in society and they are always accessible to the community members when faced with illness. Their accessibility puts them in a better position to share information with the community. They just need to be educated on the correct facts. Thus, the multidisciplinary health team from the hospital needs to educate them.

- Education on child malnutrition and preventative measures should not only be done at health facilities, the multidisciplinary health committee should target child-friendly community activities like weddings, “matso” (introducing the child to the community after 4 months of birth), “bojale le bogwera” (initiation schools), children’s baptisms, and day care centre schools’ parents and teachers associations, by distributing educational material on child malnutrition at such occasions.

- The multi-disciplinary health team from the hospital should collaborate to support mothers and families of children who are malnourished. Through

this effort different skills, knowledge, experience and expertise should be collaborated when educating and mobilising resources for the benefit of the child.

- The researcher recommends that women should be encouraged and empowered to engage in economic activities. Empowerment programs in Botswana like Citizens Entrepreneurial Development Agency (CEDA) and Young Farmers Fund should be made user friendly to people who are illiterate and rural area dwellers like women in this study.

4.6.2 RECOMMENDATIONS FOR THE SOCIAL WORK PROFESSION

- Social workers in hospitals in conjunction with dieticians should form support groups and educational groups with mothers to educate them on child malnutrition and prevention measures. The purpose of forming support groups will include mothers' needs for support, education, and socialization.

- There is need for all social workers in hospitals in Botswana to be specialized in health care in order to deal with medical problems like child malnutrition effectively. This can only be done by means of postgraduate training.

- Social workers in hospitals should be knowledgeable of medical conditions that they are dealing with, in their hospital ward/ unit, in order to educate the clients on the psychological implications of the medical condition.

- The intervention of the social worker in the hospital is important both as a preventative and therapeutic measure. The role of the social worker in the hospital with regards to child malnutrition is to help the patient and family to deal with the psychosocial implications of child malnutrition, to educate them on this condition and teach them ways of preventing the disease.

- The social worker in the hospital has to assess the needs and work with families of a child admitted with malnutrition from diagnosis, hospitalisation process, treatment and discharge and post discharge, being supportive to the patient, mother, and family at home. After discharge, the mother has to be linked to the community social workers, and nurses and other resources to prevent the recurrence of the disease.

- Social workers in hospitals should assess all malnutrition cases admitted to the hospital after diagnosis, in order to establish the mothers' knowledge and perceptions towards this condition; during admission to provide support and education; before discharge for discharge planning and after discharge for follow up support and prevention.

- Social workers in hospitals should be there during the time of diagnosis, as some mothers may be in a state of emotional crisis regarding this unexpected diagnosis and the admission of their child. The social worker can use the crisis intervention model to facilitate the adaptive process so that the mother can effectively deal with the situation.

- The social worker's support is crucial during the time of admission until treatment is completed. The social worker should explain the hospital procedures, diagnosis and treatment to the mother and provide support on a continuous basis.

- Social workers should educate mothers on the correlation between mixed breastfeeding and HIV and child malnutrition.

- Social workers in Botswana should act as brokers by linking the mothers and their families with other community resources and government economic programs like CEDA.

- Social workers in hospitals as part of the multi-disciplinary health team should use their skills in community work to educate the community surrounding the

hospital and mothers on child malnutrition and prevention measures. They should target the illiterate and unemployed more.

- Social workers in hospitals, as part of the multi-disciplinary health team should use their skill in community work to educate the community and mothers on child malnutrition. They should liaise with community social workers and work with village development committees in educating and empowering the community in prevention and growing food gardens.

- Women with low levels of education and literacy should be taken into consideration regarding limitations like being unable to read and write, when educating them about health issues like malnutrition. Demonstrations can be done on methods of food preparations, breastfeeding, gardening and other important areas.

- Social worker's role in dealing with the mothers' emotions is important. These include providing emotional support, counseling, education, referral and follow up services to the mothers and their families. The social worker should provide the parents and children with emotional support to help them to adjust to the sometimes intimidating hospital procedures. The social worker does this by acknowledging the strange hospital environment and the fears and stress parents have about their child's condition.

4.6.3 RECOMMENDATIONS FOR GOVERNMENT

- Government need to put in place policies and approaches that improve agricultural production so to increase food production in households and to reduce food prizes by having locally grown food.

- Botswana has a lot of underground water, thus, government should put in place projects like sinking boreholes or building dams in communities to encourage irrigation in order to increase food production in Botswana.

- There is need for the Department of Agriculture in Botswana to come up with new strategies to motivate people to improve food productivity, including motivating the community to be involved in projects like backyard food gardens and school gardens.

- Government should subsidize commodities like beans and milk to cushion the effects of the raising food commodity prices on the poor.

- Government's efforts of redressing child malnutrition should focus on assisting with grants for maternal income and female education.

- Government should have grants for unemployed mothers who are willing to be engaged in income generating projects in order to combat poverty, so as to reduce malnutrition in households.

- Botswana government should be committed to building partnerships between communities, schools, nongovernmental organisations, community based organisations, the private sector and traditional healers in order to combat child malnutrition.

- Government should embark on nutrition education to promote behaviour change, so that mothers can give children nutritional foods.

- The school feeding schemes that are currently available should be regularly monitored and evaluated so that they become effective.

4.6.4 RECOMMENDATIONS FOR FURTHER RESEARCH

The goal of this study was to explore the perceptions of mothers of children diagnosed with malnutrition in Botswana, specifically at Sekgoma Memorial Hospital, Serowe. The findings triggered the necessity of further research in the following area:

- There is need for a larger study that can be done nationally, to include other districts in Botswana.

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ANNEXURES

ANNEXURE A: Letters of ethical approval and title registration

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Faculty of Humanities
Research Proposal and Ethics Committee

1 June 2009

Dear Prof Lombard

Project:	**Malnutrition in children: The perceptions of mothers in Botswana**
Researcher:	**GP Ditebo**
Supervisor:	**Dr J Sekudu**
Department:	**Social Work and Criminology**
Reference number:	**28140347**

Thank you for the well written application you submitted to the Research Proposal and Ethics Committee, Faculty of Humanities.

I have pleasure in informing you that the Research Proposal and Ethics Committee formally **approved** the above study on 28 May 2009. The approval is subject to the candidate abiding by the principles and parameters set out in her application and research proposal in the actual execution of the research.

The Committee requests you to convey this approval to Ms Ditebo.

We wish you success with the project.

Sincerely

Prof. Brenda Louw
Chair: Research Proposal and Ethics Committee
Faculty of Humanities
UNIVERSITY OF PRETORIA
e-mail: brenda.louw@up.ac.za

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Our Ref: Ms P Woest / 28140347
Tel: 012 420 2736
Fax: 012 420 2698
E-mail: petru.woest@up.ac.za

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Faculty of Humanities

8 June 2009

Mrs GP Ditebo
PO Box 1072
SEROWE
Botswana

Dear Mrs Ditebo

TITLE REGISTRATION: FIELD OF STUDY – MSW: HEALTH CARE

I have pleasure in informing you that the following has been approved:

TITLE: **Malnutrition in children: The perceptions of mothers in Botswana**

SUPERVISOR: **Dr J Sekudu**

I would like to draw your attention to the following:

1. **ENROLMENT PERIOD**
   (a) You must be enrolled as a student for at least one academic year before submission of your dissertation/essay.
   (b) Your enrolment as a student must be renewed annually before 31 March, until you have complied with all the requirements for the degree. You will only be able to have supervision if you provide a proof of registration to your supervisor.

2. **APPROVAL FOR SUBMISSION**
   On completion of your dissertation/essay enough copies for each examiner as well as the prescribed examination enrolment form which includes a statement by your director of studies that he/she approves of the submission of your dissertation/essay, as well as a statement, signed by you in the presence of a Commissioner of Oaths, must be submitted to Student Administration.

3. **NOTIFICATION BEFORE SUBMISSION**
   You are required to notify me at least three months in advance of your intention to submit your dissertation/essay.

4. **INSTRUCTIONS REGARDING THE PREPARATION OF THE DISSERTATION/ESSAY AND THE SUMMARY APPEAR ON THE REVERSE SIDE OF THIS LETTER.**

Yours sincerely

for **DEAN: FACULTY OF HUMANITIES**

ANNEXURE: B: Letters of request:

Box 1072
Serowe
17 March 2009

Health Research Unit
Ministry of Health
Gaborone

Dear Sir/Madam

RE: Request to conduct study

I request permission to peruse through the files and interview mothers whose children are admitted at Sekgoma Memorial Hospital suffering from malnutrition. The study to be conducted is **Malnutrition in children: the perceptions of mothers in Botswana.**

The aim of the study is to explore the perceptions of mothers of children with malnutrition as a childhood condition in Botswana.

Yours Faithfully

G.P. Ditebo
Senior Social worker: Sekgoma Memorial Hospital.

Box 1072

Serowe

March 2009

Chief Medical Officer
Sekgoma memorial Hospital
Box 120
Serowe

Dear Sir/Madam

RE: Request to conduct study

I request permission to peruse through the files and interview mothers whose children are admitted at Sekgoma Memorial Hospital suffering from malnutrition. The study to be conducted is **Malnutrition in children: the perceptions of mothers in Botswana.**

The aim of the study is to explore the perceptions of mothers of children with malnutrition as a childhood condition in Botswana.

Yours Faithfully

G.P. Ditebo
Senior Social worker: Sekgoma Memorial Hospital.

ANNEXURE: C: Letters of approval

The research should be conducted as outlined in the approved proposal. Any changes to the approved proposal must be submitted to the Health Research and Development Division in the Ministry of Health for consideration and approval.

Furthermore, you are requested to submit at least one hardcopy and an electronic copy of the report to the Health Research, Ministry of Health within 3 months of completion of the study. Approval is for academic fulfillment only. Copies should also be submitted to all other relevant authorities.

If you have any questions please do not hesitate to contact Mr. P. Khulumani at pkhulumani@gov.bw, Tel +267-3914467 or Mary Kasule at mkasule@gov.bw or marykasule@gmail.com Tel: +267-3632466

Continuing Review
In order to continue work on this study (including data analysis) beyond the expiry date, submit a Continuing Review Form for Approval at least three (3) months prior to the protocol's expiration date. The Continuing Review Form can be obtained from the Health Research Division Office (HRDD), Office No. 9A 11 or Ministry of Health website: www.moh.gov.bw or can be requested via e-mail from Mr. Kgomotso Motlhanka, e-mail address: kmotlhanka@gov.bw As a courtesy, the HRDD will send you a reminder email about eight (8) weeks before the lapse date, but failure to receive it does not affect your responsibility to submit a timely Continuing Report form

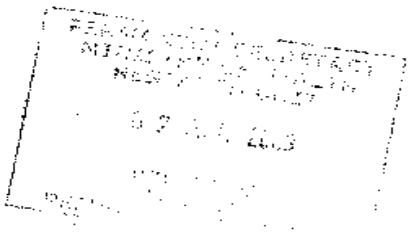
Amendments
During the approval period, if you propose any change to the protocol such as its funding source, recruiting materials, or consent documents, you must seek HRDC approval before implementing it. Please summarize the proposed change and the rationale for it in the amendment form available from the Health Research Division Office (HRDD), Office No. 9A 11 or Ministry of Health website: www.moh.gov.bw or can be requested via e- mail from Mr. Kgomotso Motlhanka, e-mail address: kmotlhanka@gov.bw . In addition submit three copies of an updated version of your original protocol application showing all proposed changes in bold or "track changes".

Reporting
Other events which must be reported promptly in writing to the HRDC include:
- Suspension or termination of the protocol by you or the grantor
- Unexpected problems involving risk to subjects or others
- Adverse events, including unanticipated or anticipated but severe physical harm to subjects.

Do not hesitate to contact us if you have any questions. Thank you for your cooperation and your commitment to the protection of human subjects in research.

Yours faithfully

P. Khulumani
For Permanent Secretary



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Telephone: 4611000/4630333
Telegrams: Ngaka
Fax: 4631096/4600664
Reference:
SMH P & P D9 1 (70

Republic of Botswana

Sekgoma Memorial Hospital
P O Box 120
Serowe
Botswana

7 April 2009

Mrs G. P. Ditebo
University of Pretoria House
Jacaranda, Hartfield
Pretoria

Dear Mrs Ditebo

PERMISSION – YOURSELF

You have been granted permission to collect data in our facility as part of your training.

Yours faithfully

Dr Kayuru
CHIEF MEDICAL OFFICER

SEKGOMA MEMORIAL HOSPITAL
CHIEF MEDICAL OFFICER
★ 0 8 APR 2009 ★
REGISTRY
P.O. BOX 120 SEROWE
BOTSWANA

ANNEXURE: D. Informed consent form

INFORMED CONSENT FORM- ENGLISH

Researcher's Name: Gaeboloke Precious Ditebo

Address: P.O. Box 1072, Serowe, Botswana.

Name of institution: University of Pretoria

Title of study: Malnutrition in Children: The perceptions of Mothers in Botswana.

Purpose of the study: To explore the perceptions of mothers of children diagnosed with malnutrition in Serowe, Botswana.

Procedures: As a participant in this study I am expected to answer questions that the researcher will ask me using an interview schedule. I will be provided with the necessary information for me to understand what the study is all about before the researcher could ask me questions pertaining to the study.

Risks and Discomfort: I am aware that the information that I have to provide to the researcher might be emotionally disturbing but I have been promised to be provided with support to address my emotions.

Benefits: There will be no financial benefit for me as the participant, but I believe the information that I will provide will assist the researcher and other professionals to improve the services that we are receiving at the hospital. The other benefit could be that the professionals will be able to develop prevention strategies based on the findings, to combat malnutrition.

Participant's Rights: participation in this study is voluntary and I have the right to withdraw from the study at any time, should I find it unbearable to continue with the interview.

Confidentiality and anonymity: My identifying particulars will not be used in the research report and the researcher will ensure that the information that I provide will not be divulged at all.

Person to contact: Gaeboloke Precious Ditebo

Box 1072 Serowe

Cell number 71445660/ 002677637707756

Declaration

I, ……., understand my rights as a research participant, and I voluntarily consent to participate in this study. I understand what the study is about and how and why it is being conducted.

----------	----------	----------
Date	Place	Participant's signature
----------	----------	----------
Date	Place	Researcher's signature
----------	----------	----------
Date	Place	Supervisor's signature

ANNEXURE E: Semi-structured interview schedule on child malnutrition

SEMI-STRUCTURED INTERVIEW SCHEDULE ON CHILD MALNUTRITION

1. Why is your child admitted in hospital?
2. Were you told the diagnosis of your child?
3. How do you feel about your child having malnutrition?
4. Do you agree with the diagnosis and if not what do you think your child is suffering from?
5. According to your culture or knowledge which illness is being indicated by the signs and symptoms your child has?
6. Did you ever seek help from traditional healers for your child's illness?
7. What help do you need to keep your child healthy?

DIPOTSO MABAPI LE NGWANA YO O TLHAETSENG DIKOTLA

1. Ngwana wa gago o robaleditswe eng mo kokelong?
2. A ba bongaka ba go boleletse gore ngwana wa gago o lwala eng?
3. O ikutlwa jang mabapi le gore ngwana wa gago o tlhaela dikotla?
4. A o dumelana le gore ngwana wa gago o tlhaela dikotla; fa o sa dumelane, wena o dumela ngwana wa gago a lwala eng?
5. Ka fa o itseng ngwao ya gago ka teng, kgotsa ka segalona, dikai tse di itshupang mo ngwaneng wa gago ke tsa bolwetse bofe?
6. A o kile wa kopa thuso kwa dingakeng tsa setso mabapi le bolwetse jwa ngwana wagago?
7. O tlhoka thuso ya mothale ofe go dira gore ngwana wa gago a nne a itekanetse?