

**STUDY TITLE: PREVENTION OF MALNUTRITION AMONG THE UNDER  
FIVE CHILDREN IN KASEMPA DISTRICT**

**BY**

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**UNZA**

**2011**

**A STUDY TO DETERMINE THE KNOWLEDGE, ATTITUDES  
AND PRACTICES OF CARE TAKERS IN THE PREVENTION OF  
MALNUTRITION AMONG THE UNDER FIVE CHILDREN IN  
KASEMPA DISTRICT**

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Many more thanks go to my husband who has continued to be a source of encouragement as I pursue my studies.

I wish too to thank the respondents for consenting to participate in this study.

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## DECLARATION

I, **Alfonsina Tembo**, hereby solemnly declare that the work presented in this study for a Bachelor in Nursing Sciences has not been presented wholly or in part, for any other degree and is not being currently submitted to any other degree.

Signed... *A. Tembo* .....

(Candidate)

Date... *13/06/11* .....

Approved...

(Supervisor)

*K. Banda*  
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## STATEMENT

I, Alfonsina Tembo do hereby certify that this study is entirely the results of my own independent investigations. The various sources to which I am indebted are clearly indicated in the text and references.

Signed.....*A. Tembo*.....

Date.....*13/06/11*.....

## **ABBREVIATIONS**

ACC	Administrative Committee on Coordination
AIDS	Acquired Immunodeficiency Syndrome
CSO	Central Statistical Office
DC	District Commissioner
DHO	District Health Office
FAO	Food and Agriculture Organization
FRA	Food Reserve Agency
GNC	General Nursing Council
HEPS	High Energy Protein Supplement
HIMS	Health Information Management System
HIV	Human Immunodeficiency Virus
ICN	International Conference on Nutrition
IEC	Information, Education and Communication
MDG	Millennium Development Goal
MNCH	Maternal, Neonatal and Child Health
MoH	Ministry of Health
PEM	Protein, Energy Malnutrition
PHC	Primary Health Care
PMTCT	Prevention of Mother to Child Transmission
NGOs	Non- Governmental Organizations
SCN	Sub-Committee on Nutrition
WHO	World Health Organization
ZNBC	Zambia National Broadcasting Corporation

## **DEDICATION**

To my loving and very supportive husband, Vincent, my God given handsome son, David Mwanza who was so good and sacrificed a lot while I went round collecting data and continued to study. To my nephews Joseph, Chisoni and Phaliot who relieved me of the house chores while I was studying. Many more thanks to my niece, Mailes, who became the sarogate mother to baby David.

## **ABSTRACT**

This is a quantitative descriptive cross sectional study on knowledge, attitudes and practices of care takers towards prevention of malnutrition among the under five children in Kasempa District. The study was conducted in different communities of the district.

The main objective of the study was to determine the knowledge, attitudes and practices of care takers towards the prevention of malnutrition among the under five children in Kasempa District. The study's specific objectives were to determine the care takers' knowledge in prevention of malnutrition, to ascertain the care takers' attitudes towards prevention of malnutrition, to explore practices of care takers towards prevention of malnutrition and to determine factors that influence care takers' knowledge, attitude and practices towards prevention of malnutrition among the under five children.

The study was conducted between October 2010 and December 2011. A total of 50 respondents participated and were selected using the convenient sampling. Respondents were care takers of the under five children and were aged between 15 and 40 years irrespective of their marital, socio- economic and even educational status in Kasempa district. More than 75% of these care takers were farmers and living on less than K300, 000.00 monthly incomes.

A structured questionnaire was used to collect the data for the study. The findings were that knowledge was moderate (76%) among the people with 84% of the respondents having positive attitude towards prevention of malnutrition. Furthermore, majority of the respondents 64% had acceptable practice. It was discovered that knowledge does not always improve practice or attitude. Some of the respondents with good practices had poor attitude and those with high levels of knowledge revealed negative attitude. There could be other factors that contribute to knowledge, attitudes and practices towards the prevention of malnutrition.

There is need for the health personnel, policy makers and the community to work corporately and hard towards prevention of malnutrition. As knowledge on prevention of malnutrition increases among the care takers practices should equally be good and so



instill positive attitude towards preventing malnutrition there by promoting good health for children and reduce on the child mortality rate.

## **CHAPTER ONE**

### **1.0 INTRODUCTION**

#### **1.1 BACKGROUND INFORMATION**

Malnutrition remains one of the most common causes of morbidity and mortality among children. WHO (1999) states that approximately 9% of the children below the age of five suffer from malnutrition and are at risk of death. In Zambia, 59% of the children less than five years of age were found to be stunted or chronically malnourished, 25% were under weight and 4% were wasted or acutely malnourished. Recently, there has been an increase in levels of malnutrition due to the advent of HIV/ AIDS and economic decline (CSO, 2004). The rates are higher in rural areas than urban basically because in rural areas the people lack basic knowledge on proper nutrition and lack resources such as finances, enough food supply and food management (MOH, 2004).

#### **Overview of Malnutrition**

Malnutrition is a general term that indicates a lack of some or all nutritional elements necessary for human health (Medline Plus Medical Encyclopedia in FAO, 2007). There are basically two types of malnutrition. The first and most important is protein energy malnutrition (PEM) which is the lack of enough protein (from meat and other sources) and food that provides energy (measured in calories) which all of the basic food groups provide. The second type of malnutrition, also very important, is micronutrient (vitamin and mineral) deficiency. PEM is the most lethal form of malnutrition/ hunger.

The statistic most recently cited is that of the United Nations Food and Agriculture Organization, which measures 'undernutrition' and says that 1.02 billion people over the world are undernourished. This figure is said to have increased from the estimated 854 million in 2006. The increase was attributed to three factors: 1) neglect of agriculture relevant to very poor people by governments and international agencies; 2) the current world wide economic crisis, and 3) the significant increase of food prices in the last several years. 1.02 billion people are 15% of the estimated world population of the estimated world population of 6.8 billion. Nearly all the undernourished are in developing countries.

Children are the most visible victims of undernutrition. Children who are poorly nourished suffer up to 160 days of illness each year. Geographically, more than 70% of

the malnourished children live in Asia, 26% in Africa and 4% in Latin America and the Caribbean.

In many cases, their plight began even before birth with a malnourished mother. Malnutrition among the pregnant mothers leads to 1 out of 6 infants born with low birth weight.

There are different types of malnutrition which include under nutrition and over nutrition. Common forms of malnutrition in Zambia are those resulting from under nutrition such as Protein- Energy Malnutrition (PEM), which manifests as kwashiorkor and marasmus.

The increasing body of knowledge shows evidence that nutrition and health affect children's cognitive, motor, and behavioral development both prenatally and post natally (wikipedia, the free encyclopedia). Poor nutrition, during the early years of life, leads to delayed mental and motor development, as well as increased morbidity and mortality. In the long term, early nutrition deficits are linked to impairments in intellectual performance, work capacity, negative productive outcomes and general poor health (MoH, 2009). Promotion of appropriate infant and young child feeding is important for adequate nutrition during infancy and early childhood.

The poor socio- economic status affects the children due to increasing levels of poverty which leads to increased disease burden due to malnutrition, a condition that is potentially preventable.

Kasempa, like any other district in Zambia, is not left unaffected by the problem of malnutrition. PEM is one of the top five causes of death in the under five children and about one fifth of hospital admissions have are due to malnutrition in the District.

The health sector is not quiet about the increasing rates of malnutrition. The aim of many health services is directed towards preventing malnutrition. World Health Organization (WHO, 1997) in Administrative Committee on Coordination/ Sub-Committee on Nutrition (ACC/ SCN, 1997), states that the prevalence of stunted children in any country and within subgroups should be less than 20% by the year 2020. This is ten years before 2020 when the final evaluation would probably be done to assess the situation after the many interventions.

There are so many factors that contribute to malnutrition in children. ACC/SCN (1997), states that malnutrition would rapidly be reduced if systematic action in the areas of health, food security, child and maternal health care and improved access to education

are focused on. Apart from these factors, Mallik et al (2006-2009) add that some social and cultural customs and taboos and poor child care practices at family level are factors contributing to malnutrition. Hence this study was conducted to determine the knowledge attitudes and practices of care takers towards the prevention of malnutrition among the under five year old children.

## **1.2 STATEMENT OF THE PROBLEM**

The global picture of malnutrition shows that morbidity of child malnutrition increased from 25% to 31% in 2002, by 2007 the rate had increased to 45% and 47% by 2009 (FAO, 2007).

Sub regionally, literature shows that so many people especially children are malnourished and the reflected figures were that; Angola had 5.0 million, Tanzania, 16.1 million, Mozambique 8.3 million and Zimbabwe 5.7 million malnourished people (FAO, 2007).

Malnutrition rates in Zambia still remain high, the fourth highest in the region with 5.7 malnourished people (FAO, 2007). CSO (2007) states that malnutrition rate which stands at 45% is still quite high.

Kasempa District, which is the study location, is one of the rural areas in Zambia. The rainy season always brings with it severe cases of malnutrition and increased admissions to Mukinge Mission Hospital which is the only hospital in the district.

Malnutrition among the children below the age of five should not be a problem considering all the concerted efforts made by both MoH and Non- Governmental Organizations (NGOs) in the country and Kasempa District inclusive. However, the table below, shows a 2.2% increase in magnitude in the number of children admitted to and who died from malnutrition at Mukinge Mission Hospital, in Kasempa District.

The consequence of malnutrition include childhood morbidity and mortality, poor physical and mental development and school performance and reduced adult size and capacity for physical work (WHO, 1995). Malnutrition also potentiates the effects of infection (Pilletier et al, 1993).

**Table 1: Number of children admitted to Mukinge Mission Hospital in Kasempa District between 2007 and 2008**

<b>Year</b>	<b>Total admissions</b>	<b>Total Deaths</b>	<b>Case Fatality Rate</b>
2007	334	53	15.8%
2008	172	31	18%

Source: Mukinge Mission Hospital HIMS 2006 to 2008

The Government of the Republic of Zambia is very concerned about the nutritional status of its people. Through international collaboration, the government has received and distributed food supplements and agricultural inputs to all the provinces in Zambia which include North- Western Province where Kasempa District is located. The MoH furthers the government's efforts by empowering health care providers on prevention and management of malnutrition through the provision of F75, F100, and High Energy Protein Supplement (HEPS) mealie- meal among other food supplements to children admitted with malnutrition in the institution. Furthermore, the MoH also trains and employs nutritionists who conduct cooking demonstrations and health education on proper nutrition in Maternal, Neonatal and Child Health (MNCH) units and in all under five children's clinics in the country. All these are geared towards the prevention of malnutrition.

Kasempa community has also received food aid and agriculture inputs which include groundnuts and Soya beans which have been distributed among the farmers in the district. Majority of the farmers have produced good amounts of food stuff that has been stored and sold in the district under the supervision of the Food Reserve Agency (FRA). Despite all these efforts, the number of children admitted to hospital and those that have died due to malnutrition is still on the increase hence the reason for conducting this study.

Much more effort is needed to meet the fourth Millennium Development Goal (MDG) that aims at reducing infant and child Mortality Rate by 2/3 by the year 2015. Hence, this study looked at the prevention of malnutrition among the under five children in Kasempa district.

### **1.3 FACTORS ASSOCIATED WITH THE PREVENTION OF UNDER FIVE CHILDREN MALNUTRITION IN KASEMPA DISTRICT.**

The factors are discussed from different angles which include socio- cultural and economic factors.

#### **1.3.1 SOCIO-CULTURAL AND ECONOMIC FACTORS**

##### **Age of the care taker or mother**

Young adolescent mothers are less likely to have knowledge on nutrition and care of the child. Adolescent mothers usually have little time to stay home and take care of the children thus neglect the child. Grandparents who take care of these children may be too old to provide adequate nutrition to the children.

##### **Educational level**

The educational level of the under five care takers has an impact on child nutrition. Care takers that have attended school, are more likely to have healthier children as they can easily understand the health education messages and be able to practice. Those that have gone high in education are most likely to have employment that would provide them a living so as to have enough food to feed the children. The uneducated, especially villagers easily run out of food as they are usually of a low socio- economic class. Muvi (2010), states that illiteracy is still very high especially in rural areas ([www.muvitv.com](http://www.muvitv.com))

##### **Household food security**

National food security does not resolve the problem of household level food security and improve nutrition. It is the access to food, or the household's ability to obtain food that is critical to ensuring household food security. In Kasempa policies to increase the access to food by the vulnerable household have been implemented. One way of achieving this has been the control of selling grain to the local people. For example, the effort made by the District Commissioner (DC) to ensure that at the time the stored food was sold, no black marketeer was allowed to buy more than individual families. This was to avoid exploitation of the community. Measures were put in place where food was sold by National Registration Cards and records kept so that a period of time would be observed before such a one would be allowed to buy again.

Kasempa District Council checks vehicles going out of the district for grain. This ensures that food is available for the local people. The local government, with the help of the District Commissioner, emphasized the sale of food only to authorized agencies

like the FRA. Farmers are allowed to sell a limited amount of their produce to the agencies. Batter system was discovered to be practiced by many farmers and so was discouraged.

### **Job/ Employment opportunities**

As stated above, even the food that the FRA stored could not be bought by the local villages since they have no source of income except those who do a bit of small scale fishing and mining in the newly opened mines. These provide the local people with employment. A few of these local people are able to buy food stored by FRA.

### **Cultural and traditional beliefs and practices**

Kasempa has so many indigenous people who believe in serving a husband with the best of the relish in the home and feeding the children on the least of the food usually less or non nutritious. A husband would be served kapenta or remains of a chicken while the children are fed on okra usually prepared with soda thus would have lost the nutritional value. There is also a tendency of seeking medical help only when all else has failed especially if a child is malnourished when the mother is pregnant as this is taken to be 'buse', a condition believed to be as a result of breast feeding the child with 'dirty' milk which is actually the normal milk from the pregnant mother.

### **Family size**

The size of a family determines how well the family can feed. It is much easier for parents with a small family to observe the wellbeing of every child in the home and so take measures to deal with health problems much easily than those with much bigger families. Most families allow all the children regardless of their age to eat together instead of feeding the under five child separately. The younger children are thus deprived of the food as they can not compete with older children to have enough food.

## **DISEASE RELATED FACTORS**

Diseases such as malaria, diarrhea, HIV/ AIDS, worm infestation among others all contribute to malnutrition due to anorexia, anaemias and other complications of different diseases. These diseases are still a problem in Kasempa. Getting medical help much early prevents the complications of many diseases which include malnutrition. Children with malaria are taken to health clinics too late. The implementation of Prevention of Mother to Child Transmission (PMTCT) of HIV/AIDS has an impact on the outcome of pregnancies and neonatal and child health though the extent to which

*this program is utilized is not clear as many mothers disappear soon after delivery and so follow up on the children is quite a challenge.*

## **SERVICE DELIVERY RELATED FACTORS**

### **Staffing**

The critical shortage of health personnel can not be over emphasized. Shortage of staff results in poor service delivery. The few staff can not adequately attend to the clients and neither do they have much time to health educate the care takers on how to prevent malnutrition in the under five children.

### **Distance from Health facility**

There are still so many places in Kasempa district that are very far, over 12km from the health facilities which may lead to low utilization of the health facilities. The health posts are usually used for outreach activities despite transport challenges. Community health workers are usually very helpful in the community to improve mothers' health seeking behaviors and so, sick children are usually referred to health facilities but even these efforts can not be compared to the services of trained health personnel.

### **Health care providers' attitude**

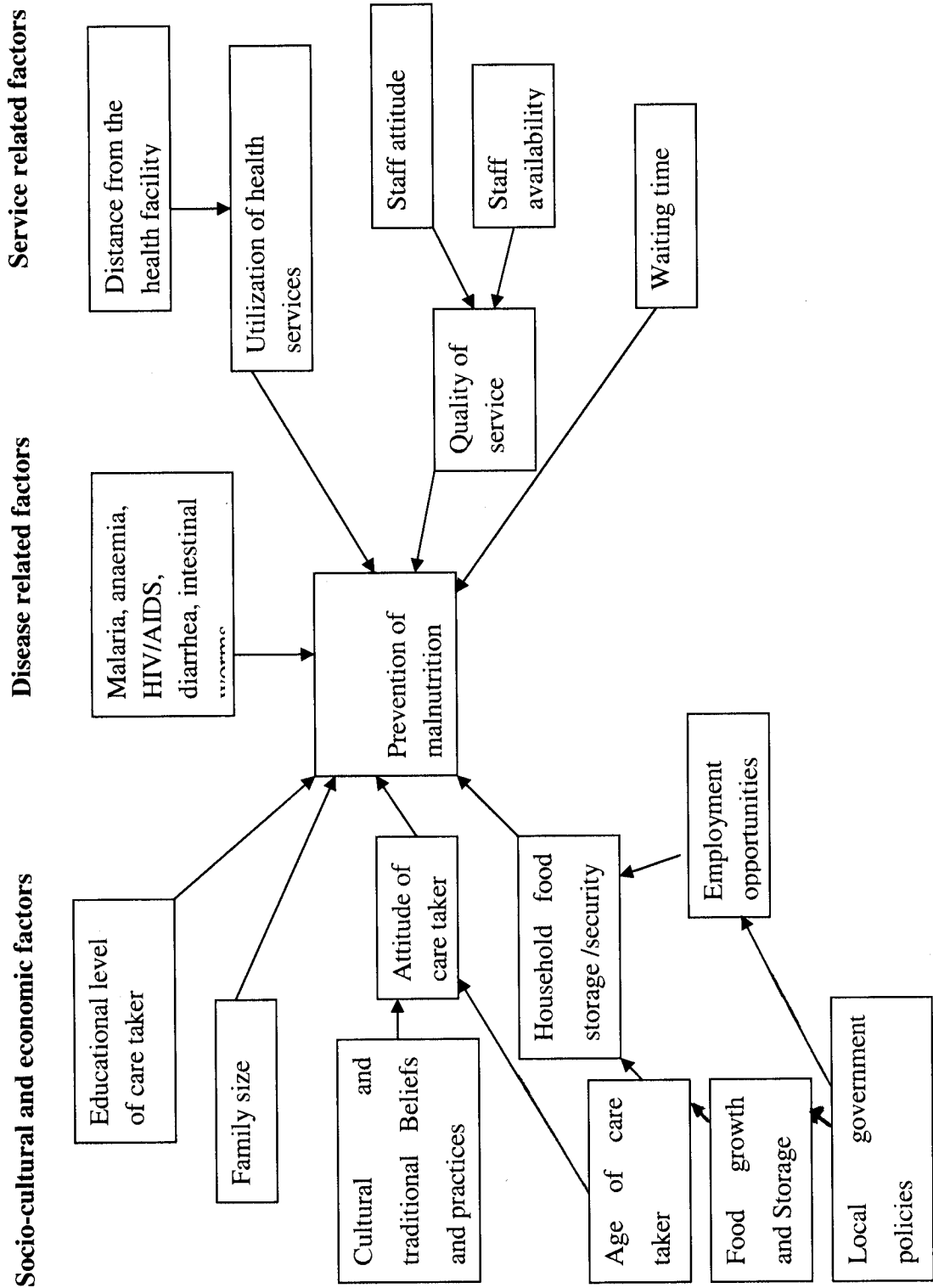
Staff attitude towards clients and work greatly influences clients' access to information on child nutrition and health. Positive attitude increases the moral for care takers to seek medical aid and to learn. Negative or bad attitude of staff keeps clients away as they would not want to be intimidated and so would not be able to access important information on child nutrition and management of malnutrition.

### **Waiting time**

Long waiting hours before service delivery causes many care taker not to shun medical aid including utilization of health services as they are often very busy too.



1.4 Factors influencing the prevention of malnutrition among under five children in Kasempa



## 1.5 JUSTIFICATION

The purpose of this study was to determine the knowledge, practice and attitude of care takers of the under five children in the prevention of malnutrition among the children under five years of age in Kasempa district. This was done because for a very long time, hundreds of children have suffered from malnutrition with consequences such as poor performance later in school for the survivors.

One of the goals in the District Action plan is always towards reduction of child morbidity and mortality and a special focus on prevention of malnutrition or its reduction. The 2010 to 2012 Action plan is to reduce malnutrition by 10%. Studies have been conducted to discuss prevention and management of malnutrition yet the situation remains almost unchanged. Studies that were global and sub regionally focused are those by ACC/ SCN (1997), "The Third report on the World Nutrition Situation of 1997" that were so detailed studies could have seen the malnutrition cases reduced.

Though there has not been a specific study conducted in Kasempa District, related studies such as the one carried out by Kapungwe, (2008) in two districts in Luapula Province are more representative of any rural settings in Zambia and Kasempa is such a one. Data from Mukinge Mission Hospital shows an increasing trend of malnutrition. The care takers, however, are already receiving health education on both management and prevention of malnutrition among the under five year olds. Hence this study focused on the care takers in the communities of Kasempa District in Prevention of malnutrition.

This study focused on knowledge, attitude and practices that help prevent childhood malnutrition and promote well nourished healthy children thereby reduce childhood morbidity and mortality to contribute to the attainment of the fourth Millennium Development Goal which aims at reducing childhood mortality by two thirds by the year 2015 (FAO, 2007).

The study may help the people of Kasempa and Zambia to pick out those practices increase the knowledge and have positive attitudes towards preventing malnutrition and thereby improve the overall health of children.

## **1.6 RESEARCH OBJECTIVES**

Research objectives are clear, concise, declarative statements that are expressed to direct a study and are focused on identification and description of the relationships among variables or both (Burns and Grove, 2009).

### **1.6.1 General Objective**

To determine the knowledge, attitude and practice towards prevention of malnutrition among the under five children in Kasempa District.

### **1.6.2 Specific objectives**

1. To determine the care takers' knowledge of prevention of malnutrition.
2. To ascertain the care takers' attitudes towards prevention of malnutrition.
3. To explore practices of care takers towards prevention of malnutrition.

## **1.7 RESEARCH HYPOTHESIS**

A hypothesis is an assumption about the relationship between two or more variables that suggest an answer to the research question (Basavanthappa, 2006).

The hypothesis for this study is that;

There is a relationship between the knowledge, attitudes and practices of care takers towards prevention of malnutrition among the under five children in Kasempa District.

## **1.8 CONCEPTUAL DEFINITIONS**

**Malnutrition** "is a nutrition disorder resulting from not having enough food or enough of the right food for a long time. Children under the age of five (5) are mostly at risk because they are growing rapidly and have a hard time fighting off disease (MoH, 2009).

**Knowledge-** Is the information, understanding and skills that you gain through education or experience (Hornby, 2005)

**Attitude** – Attitude is the way that you think and feel about somebody or something (Hornby, 2005)

**Practice-** Is to do an activity or train regularly so that you can improve your skill (Hornby, 2005).

**Care-taker-** A person such as a teacher, parent, nurse, etc., who takes care of other people (Hornby, 2005).

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**Care-taker-** A person such as a teacher, parent, nurse, etc., who takes care of other people (Hornby, 2005).

**Management-** Is the skill or act of dealing with people or situations in a successful way (Hornby, 2005).

**Table: 2 VARIABLES ANDICATING CUT OF POINTS**

Variables	Indicators	Cut off Points	Question number
Knowledge	High level	When the informant is able to define malnutrition, mention the causes and how it can be prevented. Correct responses to knowledge questions of score 27 -36	13- 25
	Moderate level	Score of 17- 26	
	Poor	Score below 17	
Attitude	Positive	Informant fully supports and participates in the prevention of malnutrition. A score of 20-30	26-31
	Negative	The informant scores between 6 and 19	
Practice	Good	The informant is able to take prompt actions such as continuing breastfeeding of	32- 55

		babies, feeding children with nutritious local food, feeding younger child alone among other practices. Score of 21- 30.	
	Acceptable	Informant scores 11- 20	
	Poor	Score below 11	

## 2.1 THE PURPOSE OF LITERATURE REVIEW

Literature review helps the researcher determine what is known and what is not known about a subject, concepts or problem and to avoid duplication of study. It also helps determine the gaps, inconsistencies and contradictions in the literature about the subject. Literature review aids the researcher to discover unanswered questions about a problem and to try to answer the questions. The researcher will recognize the strengths and weaknesses of the designs or methodology and instruments used in earlier studies. In nursing research, literature review helps the researcher promote the development of policies and policies related to nursing practice and also uncover new practice interventions or strategies for designing a practice intervention.

Literature review in this study focused on the three variables of the study and these are knowledge, attitude and practice of care takers towards the prevention of malnutrition among the under five children. Published and non published literature was used.

## 2.2 KNOWLEDGE

Malnutrition is one of the most important health and welfare problems among the infants and young children. Malnutrition has a significant health and economic consequences, the serious of which is an increased risk of death. Even if the child is

## **CHAPTER TWO**

### **2.0 LITERATURE REVIEW**

#### **2.1 INTRODUCTION**

Literature review is defined as a broad, comprehensive, in- depth, systematic and critical review of scholarly publications, unpublished scholarly print materials, audiovisual materials and personal communications (Basavanthappa, 2006). It is a key step in every research process and refers to the extensive, exhaustive and systematic examination of publications relevant to the research project (ibid).

Review of literature covers the pertinent studies that relate to the study of interest and provides the researcher with background information and knowledge of any existing similarities and differences between the present and previous studies. The process of literature review involves finding, reading, understanding and forming conclusions about the published research in particular topic.

#### **THE PURPOSE OF LITERATURE REVIEW**

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Literature review in this study focused on the three variables of the study and these are knowledge, attitude and practice of care takers towards the prevention of malnutrition among the under five children. Published and non published literature was used.

#### **2.2 KNOWLEDGE**

Malnutrition is one of the most important health and welfare problems among the infants and young children. Malnutrition has a significant health and economic consequences, the serious of which is an increased risk of death. Even if the child is

*only mildly malnourished, the mortality risk is increased (National Food and Nutrition of Zambia, 2008).*

*Despite that the world already produces enough food to feed everyone, which is 6 billion people and could feed even double that number of people, malnutrition still remains one of the biggest health problem. Children and the elderly tend to be especially susceptible. Approximately 27% of the children in developing countries are malnourished. Malnutrition is the biggest contributor to child mortality in half of the deaths. It claims about more than half of the 10 million under- five children deaths every year. On average, a child dies every 5 seconds due to hunger. That means, 700 deaths every hour, 16 000 each day and 6 million every year, making it 60% of all child deaths (WHO, 2007).*

Nutrition status of children is a manifestation of a host of factors including household access to food and the distribution of this food within the household, availability of health services and the care provided to the child. Several studies have been conducted to explore interventions that are needed to increase the household ability to address the cause of malnutrition. Interventions could focus on helping households to use their resources more effectively to improve the nutrition of their children as well as increase in household resources (Strauss, 1995).

According to a study done in an island in Indonesia, it was found that it had an abundance of malnourished children such that a quick look around any school would reveal so many malnourished children. A survey conducted at Anakaka School in the same island revealed that 202 out of 258 (78.3%) children were severely malnourished (Barrera, 1990). The study revealed that the problem stems from the poor protein diet, shortage of food in the region and the parents' lack of knowledge. Parents do not understand the causes and consequences of a poor diet. They also do not recognize the warning signs of malnutrition such as swollen feet and hands and the child's inactivity due to malnutrition. It was also noted that the parents did not know what to do if the child had signs of malnutrition. A teaching program that focused on nutrition education was developed to increase awareness of the manifestation of and interventions of malnutrition among the under five children care takers.



From the studies conducted in Philippine, maternal education emerged as a key element of the overall strategy to address child malnutrition due to their inadequate knowledge on signs of malnutrition and healthy practices of child nutrition (Barrera, 1990).

Studies conducted in Pakistan revealed that educating under five caretakers was the key to winning the fight against childhood malnutrition since most of the care takers had inadequate knowledge on management and prevention of malnutrition (Alderman, 1994).

Similar studies carried out in Jamaica revealed that most of the under five care takers did not have enough knowledge in the prevention of childhood malnutrition. It was evident that if knowledge of these care takers improved, malnutrition would no longer be a health problem among the under five children (Handa, 1999).

Sub- regionally, a study conducted in Ghana revealed that caretakers' education was a key factor in the fight against child malnutrition. This is based on their inadequate knowledge to recognize signs of malnutrition (Lavy et al, 1996). Glewwe (1999), shows that mothers' health knowledge alone appears to be the crucial skill in improving child nutrition status. It was also found that such knowledge is found not only in class but outside the classroom too, though its acquisition is facilitated by the numeracy and literacy skill obtained through formal education.

These findings have an important policy implication. Even countries where formal education is limited, it may be possible to impart nutritional knowledge with specific child nutrition education. During the same study, Glewwe (1999) identified three pathways through which school can influence child health. These are that formal education may directly transfer health knowledge to future mothers, the literacy and numeracy skills acquired in school may enhance people's capability to diagnose and treat child health problems and that increased familiarity with modern society through modern schooling may make women more receptive to modern medicine. Another study conducted in Tanzania, by Latham (1990), revealed that lack of knowledge about food was one of the causes of malnutrition in that country.

Another study conducted in Zimbabwe revealed that the more education the care takers have, the more knowledgeable they become on management of malnutrition (Christiaensen, 2001). The study identified household resources, parents' education food pricing, and maternal nutrition knowledge as key determinants of malnutrition.

Knowledge on its own can not suffice to reach the international goal of having each country's level of child malnutrition reduced by the stated 20% by the year 2020. Universal access to primary education for girls is slightly more promising. However, to reduce child malnutrition in a significant and timely manner, there should be integration of targeted child growth monitoring and maternal nutrition education and efforts to income and formal education (ibid).

Studies have as well been conducted in Zambia by a few people. Studies conducted in Luapula Province by Kapungwe (2005), revealed that most of the under five children's care takers only had basic knowledge on malnutrition. This made it difficult for care takers to prevent or even manage the malnourished children leading to high mortality.

The above cited studies are a clear indication that the educational level of care takers and the amount of knowledge they have on child malnutrition, are important factors in the fight against malnutrition. The studies revealed that most of the participants in the studies did not have adequate knowledge on malnutrition hence the challenge is still huge worldwide.

## **2.3 ATTITUDE**

The researcher did not come across studies on the care takers' attitude towards prevention of malnutrition and had continued to search, hoping to find some information by the end of the study but to no avail.

## **2.4 PRACTICE**

Protein energy malnutrition has been identified as a major health problem in India. Not only does it lead to childhood morbidity and mortality but also permanent physical and possibly mental growth impairment of children who survive from the condition.

Studies were conducted in Delhi in the year 2000 to assess the nutritional status of children who attended the Well Baby Clinic of UHC Gokupuri. Of the 1, 661 children aged between six months and two years that were assessed, 60.7% of them were malnourished. The poor practices of discarding colostrums milk before initiating breastfeeding of a new born was one of the prevalent practices. Other undesirable practices such as not exclusively breast feeding the babies, delayed weaning, diluting

top milk, use of bottles and nipples for feeding children are still widely predominant (Khokhar et al, 2003).

A study conducted by Fawzi et al (1988) in the then Zaire, and in Sudan revealed strong inverse associations between malnutrition and mortality. The high mortality was associated to inability of the care takers to identify early signs of malnutrition and so take prompt action to manage the disease.

A similar study conducted in Democratic Republic of Congo revealed that most of the children who died were not breastfed. Malnourished children who continue to breastfeed would be receiving antibodies and other immunologic substances from their mothers and this may provide some protection against death from infection. On the other hand those who are not breast fed die from infectious diseases (Fawzi, 2009).

A study done in Tanzania revealed that poor feeding habits and lack of nutrition knowledge were the major causes of malnutrition in Tanzania. Poor feeding include giving so much soft drinks to the under five children. At a very early age, children are weaned on drinks such as coke, pepsi among other drinks as a result many of the poor children never got a decent meal (Tangelder, 1999).

Bottle feeding, in place of breast feeding was revealed to be another contributing factor to child malnutrition. The study showed that the change to bottle feeding of an infant less than six months of age was very close to signing the death certificate of the child. Bottle feeding is so dangerous because mothers often use dirty or unsterilized bottles. The quality of water used to prepare the milk is poor in many places. There is no refrigeration that can take care of the left- over milk. All these are factors that make nutritious milk a lethal poison in the end. Yet many Third World mothers want to use the bottle in the belief that they do their children a favor (Tangelder, 1999).

This study was in agreement with the study results of a study conducted in Malawi which revealed that inappropriate breast feeding practices were one of the factors associated with malnutrition in Malawi (Madise, 1992).

The Government of Zambia signed their endorsement to the Alleviation of All Forms of Hunger and Malnutrition at the International Conference on Nutrition (ICN, 1992) through the adoption of the World Declaration and Plan of Action for Nutrition. Despite such a commitment, the country still has malnutrition problems.

Kasumpa conducted studies in Kawambwa and Samfya districts of Luapula Province of Zambia, to determine the probable causes of death among the children under five years of age. From these studies, malnutrition was found to rate the fourth cause of under five mortality in the two districts (Kapungwe, 2008).

Another study by Kapungwe (2008), revealed that most of the deaths could have been averted if the care takers had taken their children to the health facility on time for early treatment. The study pointed out that the care takers' inability to recognize early signs and the seriousness of illness was the major reason why there were delays in seeking professional help.

A study reported by the editor of the post news paper, entitled "malnutrition the silent emergency" published on 20<sup>th</sup> January, 2006, revealed that thousands of Zambian children die every year due to malnutrition related problems. Those who survive the condition are robbed of a good healthy body, sound intellect, and the hope for a healthful living. Malnutrition was given very limited attention by leaders at all levels despite its gigantic toll, thus the general view of it as a silent emergence. The report also revealed that the practice of the Government of Zambia against malnutrition was good enough to fight the disease and prevent child mortality due to malnutrition (The post, 2006).

The above studies clearly show that practice of care takers draw a line between life and death in the children below five years of age. Studies sited bad feeding including bottle feeding as a contributing factor to child malnutrition. The other factor was the inability of care takers to identify early signs of malnutrition and take appropriate action to manage the condition much early.

## **2.5 CONCLUSION**

The literature revealed showed that malnutrition remains a global problem and needs combined efforts to fight it. Poverty, lack of knowledge, negative attitude and poor feeding habits are among the causes of malnutrition. Child mortality resulting from malnutrition can be prevented by effectively addressing the stated concerns.

However, there were some gaps found in the literature. Some of these gaps were that most studies that were conducted in Zambia are not posted on the internet while some of the literature available is still in draft form and could not be used since it was none conclusive. This made it hard to measure the local trends over time. There was no

literature concerning the caretakers' attitude towards the prevention of malnutrition forcing the researcher to use her own opinions dependent on her findings.

This study is aimed at contributing to information needed to policy makers, implementers and communities to fight malnutrition. The information will also be added to the existing knowledge in management and prevention of childhood malnutrition.

## **CHAPTER THREE**

### **3.0 RESEARCH METHODOLOGY**

#### **3.1 INTRODUCTION**

Research methodology is the method or technique used by the researcher to collect data, to use statistical manipulation and to arrive at a logical conclusion (Burn and Grove, 2009). Every research study needs to have a clear method of data collection and the entire research process to have concise findings. The purpose of this study was to determine the factors associated with the caretakers in the management of malnutrition among the under five children in Kasempa district. Therefore, the researcher in this chapter describes the methodology that was used for this study in order to gather pertinent and adequate information to answer the research question. The chapter describes definition of the study subjects, the type of study design, sampling design, sampling plan method and the size. It also describes tools, methods and techniques of data collection, analysis of data and presentation of the findings. It also includes issues of validity and reliability, the pilot study, and finally, ethical issues.

#### **3.2 RESEARCH DESIGN**

A research design is an overall plan of the research study (Dempsey and Dempsey, 2001). It includes the research structure, and strategies of investigating or answering the research question (Basavanthappa, 2007). In this study, a non-experimental descriptive cross sectional study design was used. Cross-sectional study designs involve collection of data at one point in time. This study design is most appropriate for the researcher because of the short period of time that the researcher had to conduct the study and so data collection was done at one point in time. As a descriptive study, the researcher observed, described and documented aspects of prevention of malnutrition by the caretakers in Kasempa District.

#### **3.3 STUDY SETTING**

Research study setting is defined as “the physical location and conditions in which data collection takes place in a study” (Polit and Beck, 2006).

This study was conducted in Kasempa district which is one of the six districts in North-Western Province. It is a rural district with a geographical area of 1, 250, 000 square

kilometers. Solwezi is the Provincial headquarters for North Western Province. The district shares boundaries in its remotest parts with five (5) other districts some of which are in other provinces. Kasempa has an annual growth rate of 4.2% and total population of 72, 108 (Kasempa Action Plan, 2008-2010). The distribution of the population among the age groups with special health needs requiring promotive and preventive health services per 1000 population is as follows;

- Children below one year - 4%
- Children below five years of age - 18%
- Children between six and fifteen years - 28%
- Women of child bearing age - 22%

The District has one second level referral hospitals which is Mukinge Mission hospital and has a total of 15 health centers and 4 health posts offering primary health care services in the district. Children requiring special treatment due to malnutrition in the district are managed from Mukinge hospital with a few referrals from Mufumbwe district. The study was conducted in several communities within the Kasempa district. The type of sampling used is the convenient, purposive sampling for informants in the community. This was to ensure that different populations in remote areas are included to avoid focusing on those within the township as it would not be representative of the population in the district.

**3.4 STUDY POPULATION**

A study population refers to a total category of persons or objects that meet the criteria for the study established by the researcher, any set of persons, objects or measurements having observable characteristics in common (Basavanthappa (2007). The study population consists of the target population and the accessible population. In this study, the study population were the care takers of the under five children in Kasempa district.

**3.4.1 Target Population**

A target population is the population which the researcher is interested in and wishes to generate the results of the study (Polit and Hungler, 2001). The target population for this study were all the care takers of the under five children in Kasempa district.

**3.4.2 Accessible Population**

Accessible population refers to the portion of the target population to which the researcher has reasonable access. The accessible population might be elements within a

state, city, hospital or nursing unit (Burns and Grove, 2007). The accessible population for this study were the care takers of the under five children in Kasempa district.

### **3.5 SAMPLE SELECTION**

Sampling is the selection of some parts of an aggregate or totality on the basis of which a judgment or inference about the aggregate or totality is made (Basavanthappa, 2007).

#### **3.5.1 District selection**

The district was selected using convenience sampling which is a non-probability type of sampling method. The researcher works in the district and so is familiar with the place and it was fairly cheaper for the researcher as she conducted the study while living in her home and so did not have to incur accommodation costs. Convenience sampling or accidental sampling is sampling in which the subjects are included in the study because they happened to be in the right place at the right time (Burns and Grove, 2005).

#### **3.5.2 Sampling method for respondents**

Fifty (50) respondents were selected from different communities within Kasempa district. These included a few care takers within the township and others from places in the remote places within the district. Informants from the community were selected using the non-probability or convenient sampling method. Convenient sampling was used in this case because the respondents were interviewed depending on whether or not they had children within five years of age within the communities. The number 50 was arrived at by the school for learning purposes considering the short period in which the study was to be conducted.

A sampling method may either use an inclusion or exclusion criteria.

- i. Inclusion sampling criteria- are those characteristics that a subject or element must possess in order to be part of the target population (Burns and Grove, 2009). In this study, this it was care takers of the under five children.
- ii. Exclusion sampling criteria- are those characteristics that can cause a person to be excluded from the target population (Burns and Grove, 2009). In this study, the exclusion sampling criteria were the care takers or families that do not have children below the age of five.



### 3.6 SAMPLE SIZE

A sample size is a subset of a population selected to participate in a research study (Polit and Beck, 2006). The sample size for this study was 50 care takers that were drawn from communities within Kasempa District.

### 3.7 OPERATIONAL DEEFINITIONS

An operational definition is a specification of the operations that the researcher must perform in order to collect the required information (Polit and Hungler, 1989).

**Malnutrition** - This is a condition caused by improper balance between what an individual eats and what is required in order to stay health.

**Knowledge** - Defines malnutrition, mentions cause, and states the prevention of malnutrition.

**Attitude** - Fully supports and participates in the prevention of malnutrition.

**Practice** - Able to take prompt actions such as continuing breastfeeding of babies even when they discover they are pregnant, feeding children with appropriate local nutritious food, taking children to the children's clinic among other actions.

**Caretaker** - Someone who takes care of others and in this context, those taking care of the under five children. She/he should be emotionally, physically and spiritually ready to care for the child.

**Prevention** - Being able to give the correct food to the child below five years of age including good breast feeding practices, adequately utilizing the health facility and saying no to traditional practices that deprive adequate nutrition to the child such as serving the husband with nutritious food on account of the child.

#### 3.7.1 VARIABLES AND CUT- OFF POINTS

**Variable** - Is any quality of a person, group, or situation that varies or takes on different values (Polit and Hungler, 19 89).

**Dependent variable** - It is a variable that changes as the independent variable is manipulated by the researcher; sometimes called the criterion variable (Basavanthappa, 2007).

The dependent variable in this study is the prevention of malnutrition among the under five children in Kasempa District.

**Independent variable** - This is a variable that is purposefully manipulated or changed by the researcher; also called the manipulated variable (ibid).

The independent variables in my study are:

- Knowledge
- Attitude
- Practice

### **3.8 DATA COLLECTION TOOL**

A data collection tool is a device used to collect data (Polit and Hungler, 1999). In this study, data were collected by the investigator using a structured interview schedule. A structured interview schedule is an approach to collecting information from participants, either through self-report or observation, in which the researcher determines response categories in advance (Polit and Beck, 2006). This was the tool used as it was appropriate for this study because it is applicable to both the literate and illiterate care takers in the district. According to Basavanthappa (2007), the advantages of using this tool include that data from one interview to the next one are easily comparable, recording and coding data does not pose a problem and attention is not diverted to extraneous, irrelevant and time consuming conversation. The disadvantages include that the research assistance may not fully understand the need for consistency in the interviews and definitely the researcher and the assistant can not be able to use the same tone or gestures as they are different individuals thus chances for some biasness.

#### **3.8.1 Validity**

Validity refers to the degree to which an instrument measures what is supposed to be measured (Polit and Hungler, 2001). It constitutes internal and external validity. Internal Validity is the extent to which the effects of the study are true to reflection of reality rather than the result of extraneous variables (Burns and Grove, 2005). External validity on the other hand is defined as the degree to which the results of a study can be generalized to settings or samples other than the ones studied (Brink, 1996). There are three main types of validity which include;

- i. Content validity
- ii. Criterion – related validity
- iii. Construct validity

### **3.8.2 Content validity**

Basavanthappa (2007) describes content validity as the adequacy of the sampling of the domain being studied i.e., it represents the universe of content or the domain of a given construct. The universe content provides the framework and basis for formulating items that adequately represent the content. When the researcher is developing a tool and issues of content validity arise, the concern is whether the measurement tool and the items it contains are representative of the content which the researcher intends to measure. After the researcher has formulated components of the concept, he/she submits them to a panel of judges or experts to examine them to see whether they are realistic or valid. In this study, once the researcher formulated the components of the concept, she presented them to the supervisor for scrutiny and approval. Content validity was also ensured by conducting a pilot study in Muselepete compound in Kasempa.

### **3.8.3 Criterion – related validity**

Criterion-related validity represents the relationship between one measurement and another measurement of the same phenomena. It indicates to what degree the subject's performance on the measurement tool and the subject's actual behavior are related. The criterion is usually the second measure, which assists the same concept under study (Basavanthappa, 2007). There are two forms of criterion-related validity, namely; concurrent and predictive validity. Concurrent validity refers to the degree of correlation of two measures of the same concept administered at the same time. Predictive validity on the other hand, refers to the degree of correlation between the measure of the concept and some future measure of the same concept (ibid).

In this study, criterion validity was maintained by ensuring that questions in the questionnaire covered all the objectives in the study. Questions were asked in a logical and sequential manner.

### **3.4.4 Construct validity**

Construct validity examines the fitness between the conceptual definitions and operational definitions of variables (Burns and Grove, 2005). Construct validity involves attempting to validate a body of theory underlying the measure and testing the hypothesized relationship. The major role of construct validity is on the abstract concept that is being measured and its relationship to other concept (Basavanthappa, 2007).

To ensure validity of the instruments that were used in this study, questions were simplified in the language of the informants, made concise and brief for the investigator and informants to understand. The investigator also tested the instrument through a pilot study that was conducted in Muselepete compound.

This study covered all the variables in the structured interview questionnaire. The questions were simple to understand and interpret. Clarity was equally maintained. A pilot study was conducted and necessary changes identified during the pilot study, were made to the questionnaire. The study respondents were asked the same questions in vernacular language sequentially.

### **3.8.5 Reliability**

This refers to the extent to which the instrument yields the same results on repeated measures (Woods and Haber, 2006). The reliability of the questionnaire was assured because the supervisor reviewed the questionnaire and authorized it to be used before data collection was done. A pilot study was also conducted and this helped to ensure reliability of the study instrument.

## **3.9 DATA COLLECTION TECHNIQUES**

Data collection technique is a process used to gather information to be used in addressing the problem under study (Polit and Beck, 2006). It consists of systematically collecting information from respondents to address the objectives of the study. Data were collected through face-to-face or one- to- one interview, which was an interaction between the interviewer and the informant. Data collection was done in the care takers' home and under five clinic sessions. The interview involved the researcher explaining to the respondent the research project, the purpose, what kind of questions would be asked, assurance of confidentiality and consent was asked for and signed. Each interview lasted between 30 to 45 minutes. At the end of the interview, the researcher thanked the informants for their corporation during the interview.

### **3.10 PILOT STUDY**

A pilot study is a smaller version of a proposed study conducted to refine the methodology (Burns and Grove, 2009). The purpose of a pilot study is to investigate the feasibility of the proposed study and to detect possible flaws in the data-collection instruments (such as ambiguous instruments or wording, time limits and whether the

variables defined by operational definitions are actually observable and measurable). Pitfalls and errors that may prove costly in the actual study may be identified and avoided (Brink, 1996). The pilot study helped the researcher to test the validity, reliability and practicability of the data collection tools and techniques that were used in the actual study. Therefore, a questionnaire was formulated using the same sequence as the pilot questionnaire that was used on the actual informants on the selected study population in Kasempa district. For this study, a pilot study was conducted at Muselepete community. The interviews were carried out on five (5) conveniently selected respondents (10% of 50 actual respondents) from Muselepete. These were under five children care takers. The reason for using the non-probability convenient sampling is because it was difficult to get an adequate amount of informants that are under five care takers in their homes when one does not know which homes have children below the age of five. The care takers were interviewed after they consented to the interview.

No major modifications were made to the research instrument except the addition of the actual age and removal of a few questions that meant almost the same thing and so seemed to be repetitions.

### **3.11 ETHICAL AND CULTURAL CONSIDERATION**

Ethical and cultural consideration is a system of moral values that is concerned with the degree to which research procedures adhere to professional, legal and obligations to the study participants (Polit and Beck, 2006).

#### **The ethical principles include;**

- i. **Beneficence** – this means doing good and avoiding harm to the study participants. It involves protecting the respondents from any form of discomfort, whether physical or emotional, spiritual social and economic harm. To ensure beneficence, the interview took place in the informants' own home away from anybody else to provide privacy.
- ii. **Confidentiality and anonymity** - confidentiality is the researcher's ability to keep data sources protected, whilst anonymity is the researcher's ability to keep the respondents nameless (Brink, 1996). The researcher ensured that data that were collected are kept safe in an envelope and also no names were attached to the questionnaires.
- iii. **Justice** – this is the right to fair selection, treatment and privacy. The researcher maintained justice by explaining the process and purpose of the interview to the

informant and also giving them an opportunity to consent for the interview by signing an informed consent form.

- iv. Respect for persons (autonomy, self determination) – this includes informed voluntary consent; respondents who give voluntary consent are free from constraints and coercion of any kind. Informed consent means the respondents have full knowledge and understanding of the research project in which they are being asked to participate (Basavanthappa, 2007).

For the researcher to ensure that research ethics are applied in the study, she obtained permission to carry out the study from the School of Medicine, Head of Department of Nursing Sciences, North- Western Province Provincial Medical Officer, and District Medical Officer, Kasempa. Letters will be sent to all the above-mentioned officers before the study commences. The right of privacy was observed by obtaining direct consent for participation from the informants and measures to be taken to ensure informed consent and confidentiality. To ensure anonymity, the investigator omitted the names of the respondents and informed consent was collected from the caretakers after explaining the purpose for the study. All information collected from the informants was held in confidence as explained.

## CHAPTER FOUR

### 4.0 DATA ANALYSIS AND PRESENTATION OF FINDINGS

#### 4.1 INTRODUCTION

Data analysis is categorizing, ordering, manipulating and summarizing the data and describing them in meaningful terms (Brink, 1996). There are various methods for analyzing data and currently, research studies generally use either narrative or statistical strategies. Planning for analysis was done prior to the collection process so as to know exactly how data were to be handled throughout the study. Data were systematically analyzed so that trends and patterns could be detected.

The most powerful tool available in analyzing quantitative data is statistics. Quantitative data is classified according to the level of measurement or measurement scale into nominal, ordinal and interval scales. Quantitative data would be little more than a chaotic mass of numbers without the aid of statistics. Statistical methods enable the researcher to reduce, summarize, organize, manipulate, evaluate, interpret and communicate quantitative data effectively. This method can be divided into two broad categories namely descriptive and inferential (Brink, 1996). After data collection, responses from closed ended questions were entered on the data master sheet whilst those from open-ended questions were coded, categorized and entered on the data master sheet. Data were then processed manually with the aid of a calculator. The findings of the study were presented using frequency tables, pie charts and graphs for easy understanding and clarity.

##### 4.1.1 DATA ANALYSIS

**Definition:** Data analysis is the systematic organization and synthesis of research data, and the testing of research hypothesis using those data (Polit and Beck, 2008). Both qualitative and quantitative data were collected.

All the data were collected and edited for completeness and corrections made where need arose. Data were analyzed by ordering the information according to the research questions and were manually put on the data master sheet so as not to lose or mix them up. All the responses to open-ended questions were categorized and entered on the data master sheet too.

#### **4.1.2 Quantitative data**

Analyzed data were presented in frequency tables, cross tabulations and numerical description was done on each table.

#### **4.1.3 Qualitative data**

The researcher conducted a preliminary study which served as a pre - test prior to the actual study. The preliminary study gave the researcher an insight of the procedure to use for the data processing and analysis. The pilot study's aim was to reveal any weaknesses and error in the study questionnaire. The anomalies that were encountered were rectified. Data were edited and put on the master sheet to avoid loses and mixing them up. The researcher categorized and coded responses to open- ended questions. Data were manually analyzed and processed by the use of a master sheet and a scientific calculator.

Data that were collected were sorted, verified, coded and entered on the data master sheet.

### **4.2 PRESENTATION OF FINDINGS**

Findings of the study were expressed and presented using frequency tables, pie charts, bar charts, cross tabulations and percentages which were used to summarize the results of the study to enable the readers of the study to understand the findings. Cross tabulation of the study variables were used so as to show or reveal the relationship between the different variables. These were helpful in drawing meaningful inferences from the study. The findings of the study will be presented according to the sequence of the questions and sections in the questionnaire. The questionnaire was divided into four sections. Section A was demographic data, section B deals with knowledge, section C deals with attitude while section D deals with the practice of respondents.



SECTION A: DEMOGRAPHIC DATA

Table 4.1 (a) Respondents demographic data (n=50)

	Frequency	Percentage
<b>Age (years)</b>		
15 – 20	10	20
21 – 25	11	22
26 – 30	12	24
31 – 35	8	16
Above 35	9	18
<b>Total</b>	<b>50</b>	<b>100</b>
<b>No. Children</b>		
1 – 3	26	52
4 – 6	11	22
Above 6	13	26
<b>Total</b>	<b>50</b>	<b>100</b>
<b>Child spacing</b>		
2years	23	46
3 years	7	14
Above 3years	9	18
Less than 2years	10	20
N/A	1	2
<b>Total</b>	<b>50</b>	<b>100</b>

Table 4.1 (a) shows that less than a quarter (12) 24% of the respondents were aged 21 to 25 while (10) 20% were in the 26 to 30 age group. More than half 26(52%) respondents had 1 to 3 children, while more than a quarter 13 (26%) of the study respondents had more than six (6) children. The rest of the study respondents had 4 to 6 children. The respondents whose youngest child had a sibling of two years old were 23 (46%).

Table 4.1 (b) Respondents demographic data continued

Marital status	Frequency	Percentage
Single	8	16
Married	35	70
Divorced	4	8
Widowed	3	6

<b>Total</b>	<b>50</b>	<b>100</b>
<b>Occupational status of husband</b>		
Self employed	8	16
Unemployed	8	16
Employed	4	8
Farmer	15	30
N/A	15	30
<b>Total</b>	<b>50</b>	<b>100</b>
<b>Husband' s monthly income</b>		
Less than K300,000	31	62
K300,000- K500,000	3	6
Above K500,000 but less than K 1m	1	2
Above K 1m	2	4
N/A	13	26
<b>Total</b>	<b>50</b>	<b>100</b>

Majority 35 (70%) of the respondent were married while 4 (8%) were divorced, and 8(16%) were single mothers. More than a quarter 15 (30%) of the respondents were married to farmers. Only 4 (8%) were married to men in formal employment.

**Table 4.1 (c) Respondents demographic data continued**

<b>Occupation</b>		
Self employed	12	24
Unemployed	15	30
Employed	2	4
Farmer	21	42
<b>Total</b>	<b>50</b>	<b>100</b>
<b>Monthly income</b>		
Less than K300,000	43	86
K300,000- K500,000	3	6
Above K500,000 but less than K 1m	0	0
Above K 1m	4	8
<b>Total</b>	<b>50</b>	<b>100</b>

Over 75% of the respondents were farmers. More than three quarters 43 (86%) of the respondents had a monthly income that was less than K300, 000. 00 and 31, (62%) of

the respondents were married to men that equally got a monthly income that was less than K300, 000. 00.

**Table 4.1 (d) Respondents demographic data continued**

<b>Educational level</b>	<b>Frequency</b>	<b>Percentage</b>
Never been to school	11	22
Primary	20	40
Junior secondary	15	30
Upper secondary	4	8
Tertiary	0	0
<b>Total</b>	<b>50</b>	<b>100</b>
<b>Able to read</b>		
Yes	31	62
No	19	38
<b>Total</b>	<b>50</b>	<b>100</b>
<b>If unable to read, who reads?</b>		
Just keep literature	8	16
Husband	3	6
Friends	8	16
N/A	31	62
<b>Total</b>	<b>50</b>	<b>100</b>

Most 20 (40%) of the respondents had attained primary school education and 22% had never been to school. More than a quarter 19 (38%) of the respondents were not able to read. Furthermore 8 (16%) of the respondents just kept material that needed to be read, the rest either gave their spouses or friends to read for them.

**SECTION B: RESPONDENTS’ KNOWLEDGE ON PREVENTION OF MALNUTRITION**

**Table 4.2 Respondents’ responses on the definition of malnutrition (n=50)**

<b>Definition</b>	<b>Frequency</b>	<b>Percentage</b>
A condition of a child with inadequate food and nutrients	47	94 %
When the child is vomiting	2	4 %
Having diarrhoea	1	2 %
<b>Total</b>	<b>50</b>	<b>100%</b>

Majority of the respondents 47 (94 %) were able to define malnutrition.

**Table 4.3 Respondents’ responses on causes of malnutrition**

Causes	Frequency	Percentage
Germes	5	10 %
Breast feeding a baby when the mother is pregnant	26	52 %
Bad feeding of children	19	38 %
witchcraft	3	6 %
Inadequate feeding of the under five children	39	78 %

**Note that questions with multiple responses do not add up to 50**

Majority of the respondents 39 (78%), knew the cause of malnutrition as inadequate feeding of the under five children. Only 3 (6%) said the cause is witchcraft.

**Table 4.4: Respondents’ responses on signs and symptoms of malnutrition**

Signs and symptoms	Frequency	Percentage
Inactivity	47	94 %
Weight loss	49	98 %
Refusal to eat	45	90 %
Has fever	13	26 %
Abdominal pains	10	20 %
Passing worms	11	22 %
Swollen hands and feet	40	80 %
Sores around the mouth	17	34 %
Swollen abdomen	35	70 %
Sparse hair	46	96 %
Miserable, cracked angles of the mouth	44	88 %

**Note that questions with multiple responses do not add up to 50**

Table 4.4 reveals that majority 49 (98%) of the respondents said weight loss was a sign of malnutrition. Only 10 (20%) respondents said abdominal pains was a sign.

**Table 4.5: Responses on whether the health facility provides literature in local language pertaining to malnutrition (n=50)**

Any literature	Frequency	Percentage
Yes	0	0 %
No	50	100 %
<b>Total</b>	<b>50</b>	<b>100 %</b>

All the respondents (100%) said that the health facility did not provide literature in local language on malnutrition.

**Table 4.6: Respondents’ responses on kind of wild vegetables that can be used in cooking**

Wild vegetable that can be used in cooking	Frequency	Percentage
Musebo	34	68%
Bwengo ntanda	17	34%
Rape	0	0%
Chomolia	0	0%
Bisonga	6	12%
Jibondwe	40	80%
Sokotela	26	52%

**Note that questions with multiple responses do not add up to 50**

Majority of the respondents 40 (80%) knew that jibondwe was a wild vegetable that was used in cooking for the under five children.

**Table 4.7: Respondents’ responses on whether wild vegetables can be preserved at home**

Knowledge of wild vegetables preserved	Frequency	Percentage
Bisonga	1	2%
Mushrooms	49	98%
Sokotela	23	46%
Musebo	4	8%
Bwengo ntanda	12	24%
Nsombojojo	2	4
Rape, tupwi, mabungo	0	0%

**Note that questions with multiple responses do not add up to 50**

Majority 49 (98%) of the respondents knew that mushrooms can be preserved at home for future use, and less than half 23 (46%) of the respondents knew that sokotela was preserved too. Only 1 (2%) of the respondents said Musebo was preserved.

**Table 4.8: Respondents’ responses on whether there was need to wash vegetables before preserving**

Knowledge of wild vegetable preservation	Frequency	Percentage
Wash all the vegetables first	35	70%
Boil and sun dry	30	60%
Roast and sun dry	12	24%
Smoke to dry	6	12%
Do not know	1	2%

**Note that questions with multiple responses do not add up to 50**

Most 35 (70%) of the respondents knew how to preserve wild vegetables. Only 1 (2%) of the respondents did not.

**Table 4.9: Respondents responses on whether they were aware of vegetable preservation (n=50)**

Vegetable preservation	Frequency	Percent
Wash and other method of preservation	35	70%
Direct preservation without washing	15	30%
<b>Total</b>	<b>50</b>	<b>100%</b>

Majority of the respondents 35 (70%) said they washed the vegetables before they preserved them while the rest 15 (30%) of the respondents just preserve without washing.

**Table 4.10: Respondents’ responses on whether the village headmen contributes to prevention of malnutrition**

Headmen’s contribution	Frequency	Percentage
Advice on how best to sell their crop	37	74%
Encourage use of health facility	32	64%
Encourage use of traditional healers	4	8%
Discourage use of traditional healers	22	44%
Encourage NGOs and the government to support farmers	21	42%
Discourage the exchange of crops for second hand	21	42%
Encourage the batter system with traders from town	5	10%
Encourage people to sell all the food they produce	5	10%

**Note that questions with multiple responses do not add up to 50**

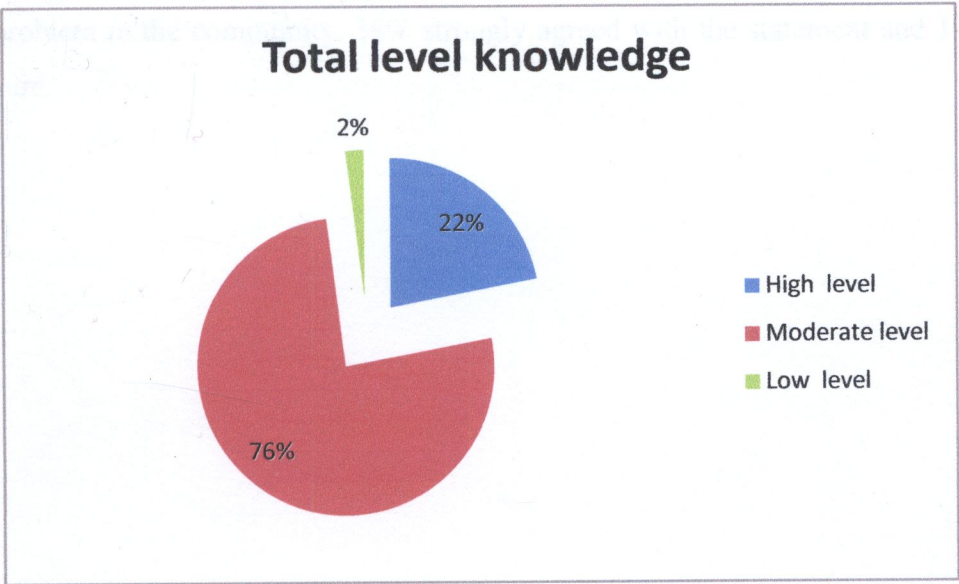
Majority of the respondents 37 (74%) knew that the village headmen gave advice on how best to sell crop so that they can have enough food. Only 4 (8%) respondents said that the village headmen encouraged people to use traditional healers.

**Table 4.11: Respondents’ responses on whether the District contributes to prevention of malnutrition (n=50)**

District’ s contribution	Frequency	Percentage
Provide seed and fertilizers to support farmers	31	62%
They do not do anything	17	34%
Control the selling of farm products	2	4%
Total	50	100%

Majority of the respondents 31 (62%) indicated that the District provided seed and fertilizers to support farmers.

**Table No. 4.12: Respondents’ total level of knowledge on prevention of malnutrition (n=50)**





Majority of the respondents 38 (96%) displayed medium level of knowledge while less than a quarter of the study respondents 11 (22%) displayed high level knowledge and 1 (2%) of the respondents displayed low level knowledge.

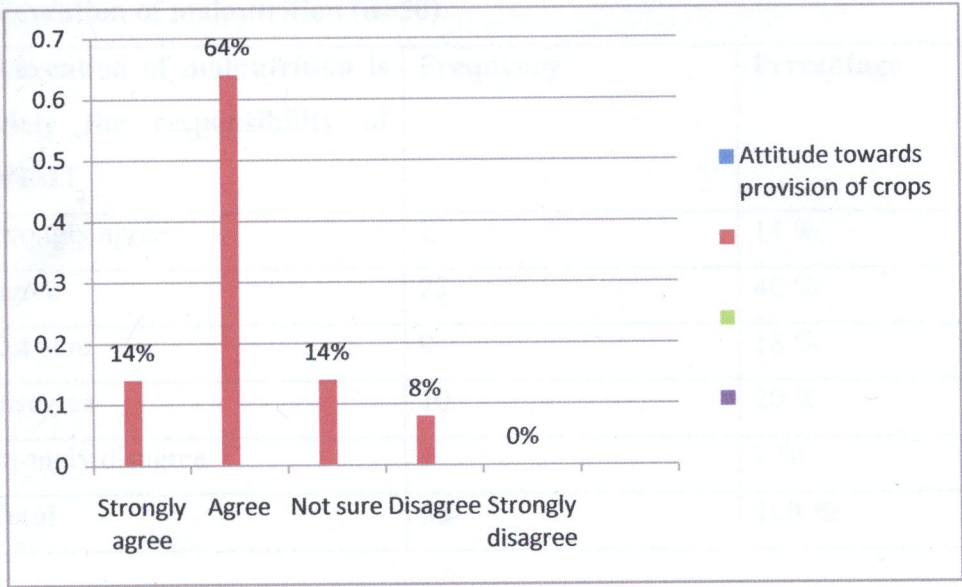
**SECTION C: RESPONDENTS' ATTITUDE TOWARDS PREVENTION OF MALNUTRITION IN THE UNDER FIVE CHILDREN**

**Table 4.13: Respondents' responses on whether malnutrition was a health problem in the community (n=50)**

Malnutrition is a very big health problem	Frequency	Percentage
Strongly agree	19	38 %
Agree	22	44 %
Not sure	7	14 %
Disagree	1	2 %
Strongly disagree	1	2 %
Total	50	100 %

Most of the respondents (44%) agreed with the statement that malnutrition was a big problem in the community, 38% strongly agreed with the statement and 14% were not sure.

**Table 4.14: Respondents responses on whether giving care takers of the under five children crops to grow could prevent malnutrition (n=50)**



Majority 32 (64%) of the respondents agreed that giving seed to care takers could help prevent malnutrition. Only 4 (8%) of the respondents disagreed and none of them strongly agreed.

**Table 4.15: Respondents’ responses on whether the family is solely responsible for prevention of malnutrition (n=50)**

Prevention of malnutrition is solely family responsibility	Frequency	Percentage
Strongly agree	7	14 %
Agree	36	72 %
Not sure	2	4 %
Disagree	5	10 %
Strongly disagree	0	0 %
Total	50	100%

More than ½ (72%) of the respondents agreed that prevention of malnutrition was a sole responsibility of the family while 5 (10%), disagreed and 4% (2), were not sure whether the family should take the sole responsibility.

**Table 4.16: Respondents’ responses on whether the DHMT is solely responsible for prevention of malnutrition (n=50)**

Prevention of malnutrition is solely the responsibility of DHMT	Frequency	Percentage
Strongly agree	7	14 %
Agree	23	46 %
Not sure	9	18 %
Disagree	10	20 %
Strongly disagree	1	2 %
Total	50	100 %

Less than half (46%) of the respondents agreed that the DHMT is solely responsible for prevention of malnutrition while 9 (18%) of the study respondents were not sure and 10 (20%) disagreed.

**Table 4.17: Respondents’ responses on whether it was the responsibility of the village headmen to prevent malnutrition (n=50)**

Prevention of malnutrition is solely the responsibility of village headmen	Frequency	Percentage
Strongly agree	3	6 %
Agree	7	14%
Not sure	15	30%
Disagree	24	48%
Strongly disagree	1	2%
Total	50	100%

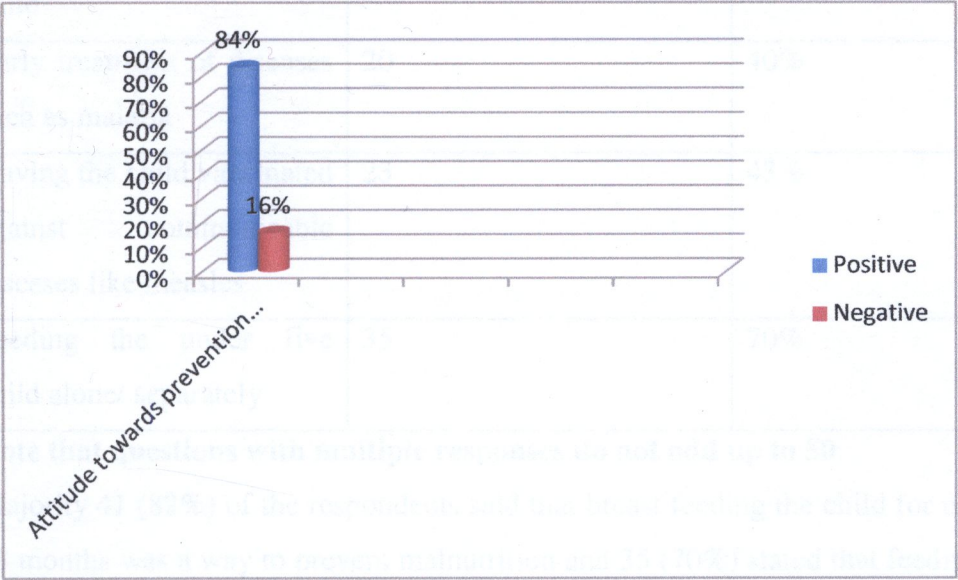
Half 25 (50%) of the respondents did not agree that the village headmen were solely responsible for prevention of malnutrition while 30% were not sure and 10 (20%) were in agreement.

**Table 4.18: Respondents’ attitude on whether the community was responsible for preventing malnutrition in the under five children (n=50)**

Prevention of malnutrition is everyone’s responsibility	Frequency	Percentage
Strongly agree	16	32%
Agree	21	42%
Not sure	11	22%
Disagree	2	4%
Strongly disagree	0	0%
Total	50	100%

Majority 37 (74%) of the respondents agreed that everyone in the community was responsible for prevention of malnutrition among the under five while 2 (4%) disagreed and 11 (22%) were not sure.

**Table 4.19: Respondents’ attitude towards prevention of malnutrition (n=50)**



Majority 42 (84%) of the respondents had a positive attitude towards prevention of malnutrition while 8 (16%) had a negative attitude.



**SECTION D: RESPONDENTS’ PRACTICE IN PREVENTION OF MALNUTRITION AMONG THE UNDER FIVE CHILDREN**

**Table 4.20: Respondents’ responses on how malnutrition can be prevented**

<b>What to do to prevent malnutrition</b>	<b>Frequency</b>	<b>Percentage</b>
Breast feeding the child for not less than 18 months	41	82%
Giving the new born baby protective herbs	18	36%
Stopping the child from breast feeding when the mother is pregnant	29	58%
Feeding the child with the three main food groups (proteins, vitamins and carbohydrates)	35	70%
Gradually weaning the child	28	56%
Early treatment of diseases such as malaria	20	40%
Having the child vaccinated against communicable diseases like measles	23	43%
Feeding the under five child alone/ separately	35	70%

**Note that questions with multiple responses do not add up to 50**

Majority 41 (82%) of the respondents said that breast feeding the child for not less than 18 months was a way to prevent malnutrition and 35 (70%) stated that feeding the child with the three main food groups (proteins, vitamins and carbohydrates) and feeding the under five child alone/ separately would prevent malnutrition. Further more, 18 (36%) of the respondents said giving the new born baby protective herbs would prevent

malnutrition while 29 (58%) said that stopping the child from breast feeding when the mother is pregnant would prevent malnutrition.

**Table 4.21: Responses on whether the respondent is a farmer (n=50)**

Practice farming	Frequency	Percentage
Yes	42	84%
No	8	16%
Total	50	100

Majority of the respondents 42 (84%) were farmers.

**Table 4.22: List of food grown by the respondents (n=50)**

Crops	Frequency	Percentage
Maize only	14	28%
Maize and sorghum	8	16%
Maize, sweet potatoes, groundnuts and beans	15	30%
Cassava, pumpkins and beans	5	10%
N/A	8	16%
Total	50	100 %

Most of the respondents 15 (30%) grew maize, sweet potatoes, beans, groundnuts and 28% grew maize.

**Table 4.23: Responses on what the care taker does to ensure food security (n=50)**

What is done for food security	Number	Percentage
Dry or sell to buy fresh food	46	92%
Does not do anything	4	8%
<b>Total</b>	<b>50</b>	<b>100 %</b>

Majority of the respondents 46 (92%) reported that they either dried or sold food stuffs.

**Table 4.24: Responses on whether the respondents own a ban for food preservation (n=50)**

Own a ban	Number	Percentage
Yes	36	72%
Store in bags	6	12%
No, do not grow much crop	8	16%
<b>Total</b>	<b>50</b>	<b>100 %</b>

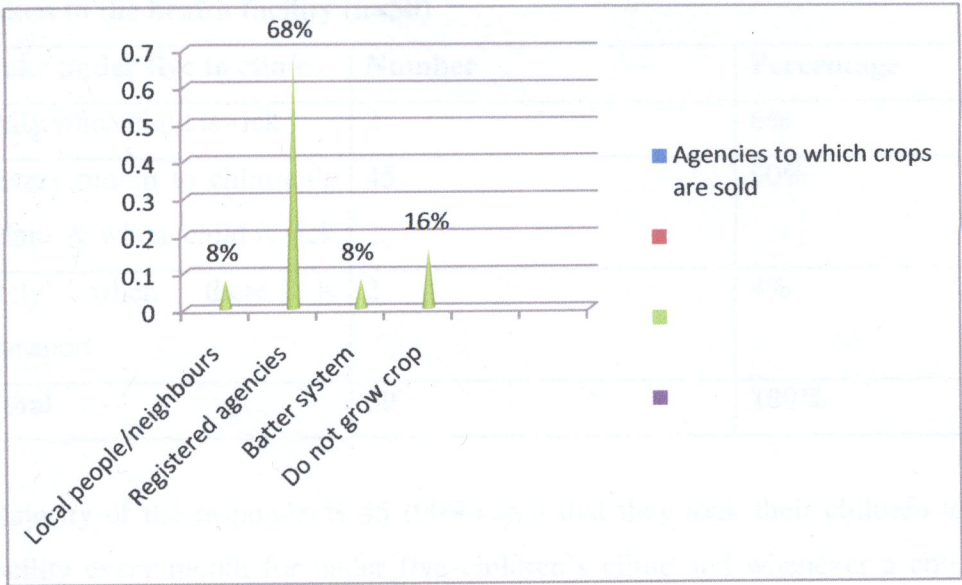
Majority 36 (72%) of the respondents stated that they owned a ban where they stored their crops.

**Table 4.25: Responses on whether the care takers sold any of the crops that they grew (n=50)**

Is any crop sold	Number	Percentage
Yes	38	76%
No	12	24%
<b>Total</b>	<b>50</b>	<b>100 %</b>

Majority 38 (76%) of the respondents said that they sold some of the crops that they grew.

Table 4.26: Agencies to which respondents sold their crops (n=50)



Majority of the respondents 34 (68%) stated that they sold their crops to registered food reserve agencies and 4 (8%) said that they exchanged their crops with things from traders.

Table 4.27: Respondents’ responses on whether under five children are taken to the health facility (n=50)

Take under five to clinic	Number	Percentage
Yes	50	100%
No	0	0%
Total	50	100%

All the respondents 50 (100%) said that they took the under five children to the clinic.



**Table 4.28: Respondents’ responses on the times when the under five children are taken to the health facility (n=50)**

Take under five to clinic	Number	Percentage
Only when child is sick	3	6%
Every month to children’s clinic & when child is sick	45	90%
Only when there is transport	2	4%
<b>Total</b>	<b>50</b>	<b>100%</b>

Majority of the respondents 45 (90%) said that they took their children to the health facility every month for under five children’s clinic and whenever a child was sick. 3(6%) of the respondents stated that they took the child to the health facility only when the child was sick and 2 (4%) said that they took the child to the health facility only when transport was available.

**Table 4.29 Respondents’ responses on time taken to reach the health facility (n=50)**

Take under five to clinic	Number	Percentage
Within 1 hour	18	36%
Not more than 2 hours	19	38%
3 hours	7	14%
More than 3 hours	6	12%
<b>Total</b>	<b>50</b>	<b>100%</b>

Majority (38%) of the respondents took less than 2 hours to reach the health facility.

**Table 4.30: Respondents’ responses on whether they received any food supplements from the health facility (n=50)**

Take under five to clinic	Number	Percentage
Yes	5	10%
No	45	90%
<b>Total</b>	<b>50</b>	<b>100%</b>

Majority of the study respondents 45 (90%) stated that they did not get any food supplements from the health facility.

**Table 4.31: Respondents’ responses on the list of food they often bought from the market (n=50)**

Type of food bought	Number	Percentage
Kapenta, vegetables and mealie- meal	7	14%
Beans, ground nuts, and fish	17	34%
Mealie- meal only	0	0%
Vegetables only	3	6%
Do not buy	23	46%
<b>Total</b>	<b>50</b>	<b>100</b>

Most (46%) of the respondents said that they did not buy any food from the market, 34% bought food staffs such as beans, groundnuts and fish, 14% bought kapenta, vegetables and mealie – meal.

**Table 4.32: Respondents’ responses on the number of meals fed to their under five child per day (n=50)**

Type of food bought	Number	Percentage
One meal per day	5	10%
Two meals per day	26	52%
Three meals per day	13	26%
More than three meals/ day	6	12%
Total	50	100

Most of the respondents (52%) fed their under five children twice in a day. 26% fed their under five children three times per day 10%) fed their under five children once in a day.

**Table 4.33: Respondents’ responses on the type of food they fed their children in the morning (n=50)**

Type of food bought	Number	Percentage
Porridge/ sweet potatoes/ cassava/ munkoyo)	21	42%
Porridge and ground nuts/ sweet potatoes and ground nuts, and any fruit	26	52%
Nothing	1	2%
Any left over food from previous meal	2	4%
Total	50	100%

Most (52%) of the respondents fed their under five children porridge and groundnuts, sweet potatoes and groundnuts and any fruit. 4% fed their under five children on any left over food from previous meals.

**Table 4.34: Respondents responses on the type of food fed to their under five children at Lunch or dinner (n=50)**

Type of food at breakfast	Number	Percentage
Nshima and vegetables	15	30%
Nshima, some fish (any protein food) and vegetables	35	70%
<b>Total</b>	<b>50</b>	<b>100%</b>

Majority of the respondents 35 (70%) fed their under five children on some form of mixed food containing at least each of the main food groups.

**Table 4.35: Respondents’ responses on how they fed their under five children (n=50)**

How the child is fed	Number	Percentage
Alone by care taker	38	76%
Feeds with other siblings	12	24%
<b>Total</b>	<b>50</b>	<b>100%</b>

Majority of the respondents 38 (76%) said that they fed the under five children by themselves, 12 (24%) reported that their under five children are fed together with other children.

**Table 4.36: Respondents’ responses on how often they fed their under five children on protein food (n=50)**

Number of times	Number	Percentage
Do not feed child on protein foods	3	6%
At least once every day	13	26%
Once every week	15	30%
Once in two weeks	8	16%
Once per month	11	22%
<b>Total</b>	<b>50</b>	<b>100%</b>

Most (30%) of the respondents reported that they fed their under five children on protein food once every week. 26% fed their under five children on protein food at least once every day. 6% said that they did not have money to buy protein food.

**Table4.37: Respondents’ responses on the type of wild vegetables they fed under five children on (n=50)**

Type of wild vegetables	Number	Percentage
Jibondwe, musebo, bitachi	49	98%
None	1	2%
<b>Total</b>	<b>50</b>	<b>100%</b>

Majority (98%) of the respondents stated that they fed their under five children on jibondwe, musebo and bbitachi. 2% did not use any wild vegetables.

**Table 4.38: Respondents’ responses on the period of time when they used wild vegetables (n=50)**

Period of time	Frequency	Percentage
Rainy season/ dry season	28	56%
All year round	22	44%
<b>Total</b>	<b>50</b>	<b>100%</b>

Most 28 (56%) of the respondents reported that they used the wild vegetables during the rainy or dry seasons only.

**Table 4.39: Respondents’ level of practice towards prevention of malnutrition (n=50)**

Practice Category	Frequency	Percentage
Good	15	30%
Acceptable	32	64%
Poor	3	6%
<b>Total</b>	<b>50</b>	<b>100%</b>

Majority (64%) of the respondents had acceptable practice, 3(6%) had poor practice and (30%) had good practice.

**Table 4. 40: Respondents’ level of knowledge on prevention of malnutrition in relation to age (n=50)**

Knowledge	Age					
	15 – 20	21 – 25	26 – 30	31 – 35	>35	Total
High level	2 (20%)	3 (27.3%)	1 (8.3%)	3 (37.5%)	2 (22.2%)	11 (22%)
Moderate level	7 (70%)	8 (72.7%)	11(91.7%)	5 (62.5%)	7 (77.8%)	38(76%)
Low level	1 (10%)	0(0%)	0(0%)	0(0%)	0(0%)	1(2%)
Total	10 (100%)	11(100%)	12 (100%)	8 (100%)	9(100%)	50(100%)

Majority of the respondents (91.7%) aged between 26 – 30 years had moderate knowledge on prevention of malnutrition and 37.5% of those aged between 31 – 35 years had high levels of knowledge. Furthermore, 10% of those aged 15 – 20 years had low knowledge levels on prevention of malnutrition.

**Table4. 41: Respondents’ level of knowledge on prevention of malnutrition in relation to educational level (n=50)**

Knowledge	Educational level				Total
	Never been to school	Primary	Junior secondary	Upper secondary	
High level	1(9.1%)	4(20%)	5(33.3)	1 (25%)	11 (22%)
Moderate level	9 (81.8)	16 (80%)	10 (66.7%)	3 (75%)	38 (76%)
Low level	1 (9.1%)	0 (0%)	0(0%)	0 (0%)	1 (2%)
Total	11 (100%)	20 (100%)	15 (100%)	4 (100%)	50 (100%)

Most (81.8%) of the respondents who had never been to school had moderate level of knowledge on prevention of malnutrition and 33% of those with junior secondary education had high levels of knowledge.

**Table 4.42: Respondents’ level of knowledge on prevention of malnutrition in relation to number of children (n=50)**

Knowledge	Number of children			Total
	1 – 3	4 – 6	>6	
High level	7 (26.6%)	2 (18.2%)	2 (15.4%)	11 (22%)
Moderate level	18 (69.2%)	9 (81.8%)	11 (84.6%)	38 (76%)
Low level	1 (3.8%)	0 (0%)	0 (0%)	1 (2%)
Total	26 (100%)	11 (100%)	13 (100%)	50 (100%)

Majority of respondents (84.6%) who had more than 6 children had moderate level of knowledge on prevention of malnutrition. 26.6% of the respondents who had 1 – 3 children had high level knowledge on prevention of malnutrition. Of the respondents that had 1 – 3 children, 3.8% had low levels of knowledge on prevention of malnutrition.

**Table 4.43: Respondents’ level of knowledge on prevention of malnutrition in relation to distance from Health facility (n=50)**

Knowledge	Time taken to reach the health facility				Total
	Within 1 hour	2 hours	3 hours	>3 hours	
High level	7 (31.8%)	3 (16.7%)	1 (25%)	0 (0%)	11 (22%)
Moderate level	15 (68.2%)	15 (83.3%)	3 (75%)	5 (83.3%)	38 (76%)
Low level	0 (0%)	0 (0%)	0 (0%)	1(16.7%)	1 (2%)
Total	22(100%)	18(100%)	4(100%)	6(100%)	50 (100%)

Majority 83.3% of the respondents who took 2 hours to reach the health facility and those who took more than 3 hours had moderate level knowledge on prevention of malnutrition. 31.8% of the respondents within 1 hour walking distance to the health facility had high levels of knowledge on prevention of malnutrition.



**Table 4.44: Respondents’ attitude towards prevention of malnutrition in relation to age (n=50)**

Attitude	Age					Total
	15 – 20	21 – 25	26 – 30	31 – 35	>35	
Positive attitude	8 (80%)	11 (100%)	9 (75%)	7 (87.5%)	7 (77.8%)	42 (84%)
Negative attitude	2 (20%)	0 (0%)	3 (25%)	1(12.5%)	2 (22.2%)	8 (16%)
<b>Total</b>	<b>10(100%)</b>	<b>11 (100%)</b>	<b>12(100%)</b>	<b>8(100%)</b>	<b>9(100%)</b>	<b>50 (100%)</b>

All 11(100%) respondents aged 21 – 25 had a positive attitude towards prevention of malnutrition whereas 25% of the respondents aged between 26 – 30 years had a negative attitude.

**Table 4. 45: Respondents’ attitude towards prevention of malnutrition in relation to educational level (n=50)**

Attitude	Educational level				Total
	Never been to school	Primary	Junior secondary	Upper secondary	
Positive attitude	10 (90.9%)	17 (85%)	11 (73.3%)	4 (100%)	42 (84%)
Negative attitude	1 (9.1%)	3 (15%)	4 (26.7%)	0 (0%)	8 (16%)
<b>Total</b>	<b>11 (100%)</b>	<b>20 (100%)</b>	<b>15 (100%)</b>	<b>4 (100%)</b>	<b>50(100%)</b>

All 4 (100%) the respondents who had upper secondary school education had a positive attitude towards prevention of malnutrition and 26.7% of those who attained junior secondary school education had a negative attitude.

**Table4. 46: Respondents’ attitude towards prevention of malnutrition in relation to the number of children (n=50)**

Attitude	Number of children			Total
	1 – 3	4 – 6	>6	
Positive attitude	23 (88.5%)	8(72.7%)	11 (84.6%)	42 (84%)
Negative attitude	3 (11.5%)	3 (27.3%)	2 (15.4%)	8 (16%)
Total	26(100%)	11(100%)	13 (100%)	50 (100%)

Most (88.5%) of the respondents who had 1 – 3 children had a positive attitude towards prevention of malnutrition whereas 27.3% of those who had 4 – 6 children had a negative attitude towards prevention of malnutrition.

**Table 4.47 Respondents’ attitude towards the prevention of malnutrition in relation to walking distance to health facility (n=50)**

Attitude	Time taken to reach the health facility				Total
	Within 1 hour	2 hours	3 hours	>3 hours	
Positive attitude	20(90.9%)	14(77.8)	3 (75%)	5(83.3%)	42(84%)
Negative attitude	2(9.1%)	4(22.2%)	1(25%)	1(16.7%)	8(16%)
Total	22(100%)	18(100%)	4(100%)	6(100%)	50(100%)

Majority 20(90.9%) of the respondents who took less than 1 hour to reach the health facility had a positive attitude towards the prevention of malnutrition and 25% of those who took 3 hours to reach the health facility had a negative attitude.

**Table 4.48: Respondents’ practices towards the prevention of malnutrition in relation to age (n=50)**

Practice	Age					Total
	15-20	21-25	26-30	31-35	>35	
Good practice	0 (0%)	3 (27.3%)	5 (41.7%)	2 (25%)	5 (55.6%)	15 (30%)
Acceptable practice	8 (80%)	8 (72.7%)	7 (58.3%)	5 (62.5%)	4 (44.4%)	32 (64%)
Poor practice	2 (20%)	0 (0%)	0 (0%)	1 (12.5%)	0 (0%)	3 (6%)
Total	10 (100 %)	11(100 %)	12(100%)	8 (100 %)	9 (100%)	50 (100 %)

Most 55.6% of the respondents who were aged more than 35 years had good practices towards the prevention of malnutrition and 80% of those aged 15 – 20 had acceptable practices. Of those aged between 15 – 20 years, 20% had poor practices towards the prevention of malnutrition.

**Table 4.49: Respondents’ practice towards the prevention of malnutrition in relation to educational level (n=50)**

Respondents’ practice	Educational level of respondent				Total
	Never been to school	Primary	Junior secondary	Upper secondary	
Good practice	3 (27.3%)	7 (35%)	4 (26.7%)	1 (25%)	15 (30%)
Acceptable practice	6 (54.5%)	12 (60 %)	11 (73.3%)	3 (75%)	32 (64%)
Poor practice	2 (18.2%)	1 (5%)	0 (0%)	0 (0%)	3 (6%)
Total	11 (100 %)	20 (100 %)	15 (100 %)	4 (100%)	50 (100 %)

Majority (75%) of the respondents who had attained upper secondary school education had acceptable practices towards the prevention of malnutrition while 35% of the respondents with primary school education had good practices. Of those who had never been to school, 18.2% had poor practices towards the prevention of malnutrition.

**Table 4.50: Respondents’ practices towards prevention of malnutrition in relation to number of children (n=50)**

Practice	Number of children			Total
	1 – 3	4 – 6	>6	
Good practice	7 (26.9%)	2 (18.2%)	6 (46.2%)	15 (30%)
Acceptable practice	17 (65.4%)	8 (72.7%)	7 (53.8%)	32 (64%)
Poor practice	2 (7.7%)	1 (9.1%)	0 (0%)	3 (6%)
Total	26 (100%)	11 (100%)	13 (100%)	50 (100%)

Majority (72.7%) of the respondents who had 4 – 6 children had acceptable practices towards the prevention of malnutrition while 46.2% of those who had more than 6 children had good practices. Furthermore, 7.7% of those who had 1 – 3 children had poor practices towards the prevention of malnutrition.

**Table 4.51 Relationship between practice towards prevention of malnutrition time taken to reach the health facility (n=50)**

Practice	Time taken to reach the health facility				Total
	Within 1 hour	2 hours	3 hours	>3 hours	
Good practice	8(36.4%)	6(33.3%)	0(0%)	1(16.7%)	15(30%)
Acceptable practice	13(59.1%)	12(66.7%)	3(75%)	4(66.7%)	32(64%)
Poor practice	1(4.5%)	0	1(25%)	1(16.7%)	3(6%)
Total	22(100%)	18(100%)	4(100%)	6(100%)	50(100%)

Majority (66.7%) of the respondents who took more than 3 hours to reach the health facility had acceptable practices towards the prevention of malnutrition while 33.3% of those who took 2 hours to reach the health facility had good practices. Of those who

took 3 hours to reach the health facility, 25% had poor practices towards the prevention of malnutrition.

**Table 4.52: Respondents’ attitude towards the prevention of malnutrition in relation to the level of knowledge (n=50)**

Knowledge	Attitude		Total
	positive attitude	negative attitude	
High level knowledge	9 (21.4%)	2(25%)	11 (22%)
Moderate knowledge	32 (76.2%)	6 (75%)	38 (76%)
Low level knowledge	1 (2.4%)	0 (0%)	1 (2%)
Total	42(100%)	8 (100%)	50 (100%)

Majority (76.2%) of the respondents who had moderate level of knowledge on the prevention of malnutrition had positive attitude where as 25% of those who had high level of knowledge had negative attitude.

**Table 4.53: Respondents’ practice in relation to level of knowledge (n=50)**

Knowledge	Practice			Total
	Good practice	Acceptable practice	Poor practice	
High level	6 (40%)	5 (15.6%)	0 (0%)	11 (22%)
Moderate level	9 (60%)	27 (84.4%)	2 (66.7%)	38 (76%)
Low level	0 (0%)	0 (0%)	1 (33.3%)	1 (2%)
Total	15 (100%)	32 (100%)	3 (100%)	50 (100%)

Majority (84.4%) of the respondents who had moderate level of knowledge on prevention of malnutrition had acceptable practices, whereas 40% of those who had high levels of knowledge had good practices. 33.3% of those with low knowledge levels had poor practices towards prevention of malnutrition.

## **CHAPTER FIVE**

### **5.0 DISCUSSION OF FINDINGS AND IMPLICATION FOR THE HEALTH CARE SYSTEM**

This study was undertaken in order to determine the knowledge, attitude and practices of care takers of the under five children in prevention of malnutrition in Kasempa District. The findings or results of the study were based on the study sample of 50 care takers in different communities during the under five children's clinic. The study sample may not be representative of the population but was used for academic purposes as earlier mentioned in previous chapters.

#### **5.1 CHARACTERISTICS OF THE SAMPLE**

The results of the study are based on a sample of 50 caretakers of under-five children. The caretakers of under-five children sampled were in the range of 15 and 40 years of age. The respondents that were aged between 21 – 25 were more 12 (24%) than any other age group and the least were the respondents aged 15 – 20 and 31 – 35 who were each 9(18%) of the sample size. Those aged 26 – 30 and above 35 constituted of 10 (20%) of the sample size as shown in table number 4.1. This shows that in Zambia, the age of care takers is fairly evenly distributed.

The majority 26(52%) of the respondents had 1 – 3 children regardless of their age which could be an indication that they were still planning for more children or probably with education on family planning and increase in utilization of family planning services, many caretakers have reduced on family size (table 4.1).

The majority of the respondents spaced their children two years apart. This is probably that it is easy for one to remember health education that is given which encourages having children spaced at least two years apart. The findings correspond with findings by CSO, (2007) in the ZDHS, which found that 69% the women that were recently married want to have another child, with 21% wanting to have a child within a 2 year period after marriage (table 4.1).

Majority 35 (70%) of the respondents were married while 8(16%) were single. The rest of the study respondents were either divorced or widowed (table 4.1). The high number of married respondents could be attributed to a strong belief that marriage is an important social cultural activity in the society and so many people are socialized to

marrying even at a very young age. Some marriages could not have any legal documents but are still considered to be marriages. The finding corresponds with CSO findings that most parents in rural Zambia treasure marriage (CSO, 2007).

With regards to occupation of the respondents' spouses only 4 (8%) of the respondents' spouses and 2 (4%) of the respondents were in formal employment while 16 (32%) of the respondents' spouses, were either self employed or unemployed. More than 15 (30%) of the respondents' spouses were farmers. Less than half 21 (42%) of the respondents were farmers while more than 15 (30%) were unemployed and 12 (24%) were self employed (table 4.1). These finding imply that there is low or poor economic status in Kasempa district and it could be a reflection of many other rural areas in Zambia. This is in correspondence with the statistics by CSO, (2007), that reveal that unemployment levels are high, above 68% in Zambia regardless of one's educational status.

Majority 43 (86%) of the respondents have a monthly income that is less than K300, 000. 00 and 31(62%) of the respondents were married to men that equally get a monthly income that is less than K300, 000. 00 (table 4.1). This is probably due to the fact that most of them are unemployed. The findings are in correspondence with CSO, (2007) findings that the mean monthly income for very few people exceeded K300, 000.00 in 2004.

Most 20 (40%) of the respondents had attained primary school education, 11 (22%) had been to school and 19 (38%) were not able to read. Furthermore 8 (16%) of the respondents just kept material that needed to be read, the rest either gave their spouses or friends to read for them (table 4.1). This result can be attributed to the shortage of secondary schools and probably the long distances to schools to which many girl children may not be able to reach. The above findings are in correspondence of the report by Muvi (2010) that more than 68% of women are illiterate especially in the rural areas of Zambia.

## **5.2 DISCUSSION OF VARIABLES**

### **5.2.1 Knowledge on prevention of malnutrition**

The care takers' knowledge on prevention of malnutrition among the under five children was assessed through questions in section B of the study questionnaire. The results of this study shows that majority of the respondents 38 (96%) had medium level

of knowledge towards the prevention of malnutrition regardless of their educational level and age while 11 (22%) of the respondents had high level knowledge and only 1 (2%) had low level knowledge. This is in correspondence with studies that were carried out in Ghana and stated that caretakers' education was a key factor in the fight against child malnutrition and that it may be possible to impart nutritional knowledge with specific child nutrition education even in countries where formal education is limited (Lavy et al, 1996).

Majority of the respondents 47 (94 %) were able to define malnutrition (table 4.2). This could have been attributed to the fact that there is no single word in the local language equivalent to malnutrition. However it could also be true that many people know malnutrition despite not knowing how it can be prevented.

Majority of the respondents 39 (78%), knew the cause of malnutrition as inadequate feeding of the under five children (table 4.3). Only 3 (6%) said the cause is witchcraft. Most 26(52%) said breast feeding the under five child while the mother was pregnant would cause malnutrition due to the cultural belief that the mother's milk is contaminated once she conceives. The 3 (6%) of the respondents who said witchcraft could cause malnutrition may be a confirmation of the saying that tradition always relates disease and sickness to witchcraft.

The level of knowledge displayed does not collaret with survey conducted at Anakaka school in Indonesia that stated that the high levels of malnutrition stemmed from lack of understanding of the of poor nutrition and its consequences (Barrera, 1990).

With regard to signs of malnutrition, majority 49 (98%) of the respondents said that weight loss was a sign of malnutrition and there was an overall high level of knowledge. Only 10 (20%) of the respondents said that abdominal pains were a sign (table 4.4).

The results of this study do not correspond with studies conducted by the same researcher (Barrera, 1990) which stated that many caretakers of the under five children fail to recognize signs of malnutrition. However, like studies carried out in Zambia, it could also be true that care takers had basic knowledge which was not sufficient in dealing with malnutrition (Kapungwe, 2008).

None of the 50 (100%) respondents said that they were given literature in local language on malnutrition at the health facility (table 4.5).

This is an indication that care takers of the under five children were denied an opportunity to gain real knowledge on malnutrition that could be gained through



reading nutritional literature even in their local language. This finding too, agrees with Glewwe, (1999) who stated that mothers' knowledge on nutrition could not only be found in a classroom but also outside.

Majority of the respondents 40 (80%) knew that jibondwe is a wild vegetable that is used in cooking for the under five children (table 4.6). This reveals that people are familiar and aware of what wild vegetables there are for them to use in cooking.

With regard to preservation of wild vegetables, majority 49 (98%) of the respondents knew that mushrooms are preserved at home for future use, and 23 (46%) knew that sokotela is preserved too (table 4.7). This is probably because it is obvious that people dry the mushrooms when there is more than enough and can even later be sold to earn some money.

Despite the knowledge of vegetable preservation, only 35 (70%) of the respondents indicated washing of the vegetables as part of the preservation process. This could be *because people often feel that they could wash the vegetables just before cooking them* to eat unless they are visibly dirty before preserving.

The findings as in table 4.10 showed that majority of the respondents 37 (78%) knew that the village headmen give advice on how best to sell crop so that they can have enough food. Only 4 (8%) of the respondents said that the village headmen encouraged people to use traditional healers. This could have been due to the recent campaigns by the chief in Kasempa district against selling all the food and even exchanging it with other items from traders and also against consulting witch finders and traditional healers for treatment instead of using the health facility. Many headmen and His Royal Highness Chief Kasempa have been actively involved in health campaigns including male involvement in maternal and child health activities.

With regard to the District's role in prevention of malnutrition as seen in table 4.11, majority 31 (62%) of the respondents indicated that the District provides seed and fertilizers to support farmers. This could have been because the data was collected at the time when people were preparing to start cultivating and seed and fertilizers were in the process of being supplemented to those that could not afford (ZNBC, 2010).

According to table 4.12, the study revealed that majority of the respondents 38 (96%) had medium level of knowledge towards prevention of malnutrition, (22%) had high levels of knowledge and 1 (2%) of the respondents had low levels of knowledge.

This denotes that majority of the people have basic knowledge on malnutrition which collates with the findings by WHO (2007) that indicated that in rural Zambia people just have the basic knowledge on malnutrition, and Kasempa is one of the rural places in Zambia.

### **5.2.2 Attitude towards prevention of malnutrition**

The respondents' attitude was assessed in section C of the questionnaire. The study revealed that majority 84% of the respondents had a positive attitude towards prevention of malnutrition among the under five children.

With regard to the statement that malnutrition was a big problem Kasempa district, the study according to table 4.13 revealed that most 22 (44%) of the study respondents agreed with the statement and (38%) strongly agreed. These results indicate that many people are aware of the problem and possibly thinking of ways and means to prevent the problem of malnutrition.

With regard to the attitude towards provision of seed to the caretakers to grow, majority of the respondents 32 (64%) agreed with the statement that giving seed to care takers could help prevent malnutrition and only 4 (8%) of the respondents disagreed with the statement as shown in table 4.14. This could imply that most people are aware and ready to take measures of supporting farming to prevent malnutrition.

Regarding who should take responsibility of preventing malnutrition the study findings were that majority 36 (72%) of the respondents agreed with the statement that prevention of malnutrition was a sole responsibility of the family, 5 (10%) disagreed and 4% (2) of the respondents were not sure (table 4.15). These findings could imply that when children suffer from malnutrition, many people put the blame on the family and feel they are not responsible.

Furthermore, table 4.16 revealed that most 23 (46%) of the respondents agreed with the statement that the DHMT was solely responsible for the prevention of malnutrition while 9 (18%) of the study respondents were not sure and 10 (20%) disagreed. This could imply that majority of the people feel all health issues are the responsibility of the health care providers and so may fail to take responsibility of their health and that of children.

The study according to table 4.17 also revealed that half (50%) of the respondents did not agree with the statement that the village headmen were solely responsible for prevention of malnutrition while (30%) were not sure and 10 (20%) were in agreement. This could be that the village headmen do not take an active role in the fight against malnutrition or the efforts they put in are not perceived by community as being efforts to prevent malnutrition.

The study showed that majority 37 (74%) of the respondents agreed with the statement that everyone in the community was responsible for prevention of malnutrition. This could indicate that the community may participate in programs that are aimed at preventing malnutrition when they are much aware of the objectives.

The study revealed that majority 42 (84%) of caretakers had a positive attitude towards prevention of malnutrition which could be an indication that there is a possibility that people can do whatever it takes to prevent malnutrition should there be any means.

There was no existing data that revealed people's attitude towards prevention of malnutrition.

### **5.2.3 Practices in prevention of malnutrition.**

The practices of the participants was assessed using questions in section D of the study questionnaire and good practice would be that the respondent was able to take prompt actions such as continuing breastfeeding of babies even when they discovered that they were pregnant, feeding children with appropriate local nutritious food, taking children to the children's clinic among other actions.

The findings of the study revealed that most of the respondents knew the different ways of preventing malnutrition. Majority 41 (82%) of the respondents said that breast feeding the child for at least 18 months was a way to prevent malnutrition and 35 (70%) stated that feeding the child with the three main food groups (proteins, vitamins and carbohydrates) and feeding the under five child alone/ separately would prevent malnutrition (table 4.20). This indicates that people's practices that help prevent malnutrition have improved.

However, in the same table, 18 (36%) of the respondents said giving the new born baby protective herbs would prevent malnutrition and 58% of the study respondents said stopping the child from breast feeding when the mother falls pregnant would prevent

malnutrition. This shows that despite the improved practices, there are still many people that have traditional practices that can be a health hazard.

With regard to farming majority of the respondents 42 (84%) said they were farmers as seen in table 4.21. This is probably because of the support farming inputs that many people received in the district. Table 4.22 revealed that most 14 (28%) of the respondents grew maize only and 15 (30%) grew mixed crops such as maize, sweet potatoes, beans, groundnuts among other crops. This is probably because only maize could be grown on a large scale and be easily sold and used for consumption while many other crops were grown on a very small scale. Majority 36 (72%) of the respondents said that they owned bans to store the crops, while 6 (12%) said that they kept the crops in grain bags (table 4.24). This is probably because not all the farmers sold their crop but usually grew enough for consumption though according to this study, table 4.25 revealed that 38 (76%) of the study respondents said that they sold some of the crops they grew. This large number could be due to the bumper harvest that was prevailing at the time the study was conducted where even peasant /subsistence farmers sold some of their crops.

Majority of the respondents 34 (68%) said that they sold their crops to registered food reserve agencies while 4 (8%) of the respondents said they exchanged their crops with things from traders (table 4.26).

The high figures of respondents who sold their crops to the registered FRA could have been attributed to the early onset of the buying of crop that was seen at the time the study was being conducted and also the many food reserve depots which were created just where people grew their crops thus reducing on transportation difficulties.

The study in table 4.23 revealed that majority 46 (92%) of the respondents either dried or sold the dried crops and bought fresh food when they needed it. Drying of crop is much easier for people than keeping it fresh as there is no electricity in the remotest places of the district.

Table 4.27 all the respondents 50 (100%) said that they took their under five children to the clinic. This is in agreement with the CSO, (2007) that state that about 95% of the population access health services. The study also revealed that majority 45 (90%) of the respondents took their children to the health facility every month for under five children's clinic and whenever the child was sick while 3(6%) only when a child was

sick with 2 (4%) going to the health facility only when transport is available. This is probably due to the provision of out reach health services.

The study showed that majority 37 (74%) of the respondents lived within 1-2 hours walking distance to the health centers while 13 (26%) lived more than 3 hours walking distance to the health facilities (table 4.29). This could be an achievement of the PHC policy application by the MoH.

With regard to whether or not the care takers received some food supplements from the health facility, the study revealed that majority of the respondents 45 (90%) did not receive any food from the health facility (table 4.30). Those that received food from the health facilities could be those on PMTCT programme of food supplementation. The non availability of food supplements could also be a contribution to failure to hold cooking demonstrations in the health centers.

Table 4.31 revealed that most (46%) of the respondents did not buy any food from the market, 34% bought food stuffs such as beans, groundnuts and fish, 14% bought kapenta, vegetables and mealie – meal. Those that did not buy anything could be respondents that lived in the remotest places of the district and so cannot access markets.

With regard to how many times the care takers fed their under five children, the study as shown in table 4.32 revealed that most (38%) of the respondents fed their under five children at least three times per day while majority (62%) fed their under five children two times per day. This correlates with the statement by WHO (2007) that most families live on only a meal per day.

Table 4.33 revealed that most (52%) of the respondents fed their under five children on mixed meals in the morning while 1 (2%) did not feed the child on anything. The rest just gave the children food containing carbohydrates. This could be due to the difficulties people face in finding nutritious food. Furthermore, the study showed that majority of the respondents 35 (70%) fed the under five children on some form of mixed food containing at least each of the main food groups for lunch or dinner. This is probably due to the availability of locally grown food such as beans and the protein rich wild food like caterpillar.

With regard to how often the respondents fed their under five children on protein food, the finding as seen in table 4.36 showed that 3 (6%) of the respondents did not feed the

under five children on any protein food while (26%) fed the children on protein food at least once everyday. These findings are in correspondence with the findings by Stanhope and Lancaster, (2004) who stated that protein rich food is expensive and many people would rather buy cheap food that is not rich in protein so as to save many but in turn suffer the consequences of not having enough proteins in food such as malnutrition. The study further revealed that majority 49 (98%) of the respondents used wild vegetables in cooking for their under five children as noted in table 4.37. This could be due to the readily availability of the wild vegetables. Further more 22 (44%) of the respondents used the wild vegetables all year round while (56%) used them in either the rainy or dry seasons only (table 4.38).

The study results showed that most (30%) of the respondents had good practice towards the prevention of malnutrition, the majority (64%) had acceptable practice and 3(6%) had poor practice. This shows that there is still great need to improve the practices in order to prevent malnutrition in the under five children.

With regard to the level of knowledge on prevention of malnutrition in relation to age, table 4.40 revealed that majority of the respondents (91.7%) aged between 26 – 30 years had moderate and 37.5% of those aged between 31 – 35 years had high levels of knowledge. Also 10% of those aged 15 – 20 years had low knowledge levels on prevention of malnutrition. These findings could mean that the extremely young (15-20) and the extremely old (35 years and above) in the child bearing age have less knowledge compared to those in the middle age of the child bearing age.

Regarding the respondents' educational level and the level of knowledge on prevention of malnutrition, the results revealed that more than 50% of the respondents despite their educational level had moderate knowledge including those that had never been to school were the majority that had moderate level of knowledge (Table 4.41). These results imply that almost everyone has basic knowledge on prevention of malnutrition irrespective educational status. This could be that the knowledge is attained from the health education offered in the health facilities. This is in correspondence with the findings of Glewwe (1999) who wrote that knowledge on malnutrition can not only be found in a classroom but outside too.

The study too in table 4.42, revealed that majority 7(26.6%) of respondents who had 1 – 3 children had high level knowledge on prevention of malnutrition compared to 2

(15.4%) of the study respondents with 4 – 6 children. Despite the number of children that the study respondents had, more than 50% had moderate level of knowledge. This implies that knowledge on prevention of malnutrition does not necessarily increase with the increase in number of children that one has.

The study revealed that 7(31%) of the respondents who lived within 1 hour walking distance to the health facility had high level knowledge on prevention of malnutrition. However, 5(83.3%) of the respondents who took more than 3 hours to reach the health facility had moderate level of knowledge compared to 15 (68.2) of the respondents who lived within 1 hour walking distance from the health facility (table 4.43).

These results imply that there is no relationship between the distance from the health facility and the level of knowledge on prevention of malnutrition. Knowledge on prevention of malnutrition does not improve when one lives nearer to a health facility.

With regard to age in relation to attitude towards prevention of malnutrition, the results were that all 11(100%) of respondents aged 21-25 years had positive attitude and at least three quarters (75%) of each age group had positive attitude towards the prevention of malnutrition (table 4.44).

There seem to be no relation between age and attitude towards prevention of malnutrition since the study results have no such pattern at all. In other words these results imply that age does not improve one's attitude towards prevention of malnutrition.

Regarding educational level in relation to attitude towards prevention of malnutrition, the study revealed that all 4 (100%) of the respondents who had upper secondary school education had positive attitude. At least more than 50% of every respondent had positive attitude despite their educational level (table 4.45). These results could imply that attitude towards prevention of malnutrition does not improve with increase in the level of education.

The study further revealed that majority (88.5%) of respondents who had 1 – 3 children had positive attitude towards the prevention of malnutrition while 27.3% of those with 4 – 6 children had negative attitude (table 4.46).

These results could indicate that attitude towards prevention of malnutrition does not become better as the number of children that one has increases. It could actually be the opposite as there could be other factors influencing attitudes towards the prevention of malnutrition.

The study results in table 4.47 showed that majority 20(90.9%) of the respondents who lived within 1 hour walking distance to the health facility had positive attitude towards prevention of malnutrition compared to 5(83.3%) of the respondents who walked more than 3 hours to reach the health facility.

These findings could indicate that the attitude towards prevention of malnutrition of the people who live near a health facility is much more positive than those who stay further from the health facility.

The study revealed that most (55.6%) of the respondents aged more than 35 years had good practice towards the prevention of malnutrition and majority (80%) of respondents aged 15 – 20 years had acceptable practices. Of the respondents aged 15 – 20 years 20% had poor practices towards prevention of malnutrition (table 4.48).

These findings could indicate that practice towards prevention of malnutrition may improve a woman older due to experience.

Regarding practice towards prevention of malnutrition in relation to educational level, the results as seen in table 4.49 revealed that majority (75%) of the respondents who had attained upper secondary school education had acceptable practices towards the prevention of malnutrition while 35% of the respondents with primary school education had good practices. Of those who had never been to school, 18.2% had poor practices towards the prevention of malnutrition. These findings could indicate that practice improves with increase in educational level.

Regarding the number of children and practice towards the prevention of malnutrition, the findings as in table 4.50 were that majority (72.7%) of the respondents who had 4 – 6 children had acceptable practices towards the prevention of malnutrition while 46.2% of those who had more than 6 children had good practices. Furthermore, 7.7% of the respondents who had 1 – 3 children had poor practices towards the prevention of malnutrition.

These results could imply that practice improves as the number of children increases. This could be due to repeated practices which bring about experience. It could also be true that this was just head knowledge which could probably be different from the actual practice.

The findings as revealed by table 4.51 showed that majority (66.7%) of the respondents who took more than 3 hours to reach the health facility had acceptable practices towards the prevention of malnutrition while 33.3% of those who took 2 hours to reach the



health facility had good practices. Of those who took 3 hours to reach the health facility, 25% had poor practices towards the prevention of malnutrition.

Generally, all the study respondents had acceptable practice with no specific pattern.

These findings indicate that practices towards the prevention of malnutrition are not better when one lives near the health facility than when they stay far away. On the other hand, it could be true that the further a mother lives from a health facility, the poorer their practices towards prevention of malnutrition.

The study too, in table 4.52 revealed that at least 75% of the respondents had moderate level of knowledge on prevention of malnutrition regardless their attitude. This indicates that, the level of knowledge does not affect the caretakers' attitude towards prevention of malnutrition.

Regarding practice and level of knowledge on prevention of malnutrition, the findings as shown in table 4.53, revealed that majority of the respondents had moderate level of knowledge on prevention of malnutrition regardless of their practices.

These findings could indicate that the respondents could just have head knowledge regarding the prevention of malnutrition quite alright but they did not practice what they knew.

## **IMPLICATION TO THE HEALTH CARE SYSTEM**

The implication of this study finding is related to the problem under study, its objectives and hypothesis. The study revealed that 76% of the respondents had moderate knowledge on prevention of malnutrition irrespective of their age, educational status and number of children that they had.

With regard to the respondents' attitude towards the prevention of malnutrition, 84% had positive attitude regardless of their age, educational status or number of children that they had. Furthermore, 30% of the respondents had good practice towards the prevention of malnutrition, and 64% had acceptable practices.

In summary, despite that majority of the respondents had moderate level of knowledge and acceptable practice towards the prevention of malnutrition among the under five children, they had positive attitude.

The knowledge, attitude and practices on prevention of malnutrition measured using a questionnaire probably did not reveal the actual attitudes and practice as some respondents could have just used head knowledge even when they practically did things

that were contrary to what they knew. These findings have implications on the different aspects of nursing care namely; practice, education, administration and research.

### **Nursing Practice**

The findings of the study showed that majority of the respondents had acceptable practices towards the prevention of malnutrition. This could have been that the health education that is given had an impact to some extent. This implies that there is still need to continue educating the caretakers on how to recognize the early signs of malnutrition and what to do when they notice these early signs such as promptly taking the child to the health facility for advice. This is because preventing infants and young children from becoming undernourished is much more effective than treating children who are already malnourished, according to a new study published in the 16 February, 2009 issue of leading medical journal The Lancet (Lancet, 2009).

### **Nursing Administration**

The study revealed that most of the respondents never got literature on malnutrition. The implication to this is that the health centers should try to solicit for literature in the local language to facilitate learning on prevention of malnutrition. The administration should budget for IEC material, and reconsider cooking demonstrations which are almost forgotten. They should also encourage gardening, and other forms of farming such as growing fish among other activities to ensure that there are adequate logistics and food for demonstrations and supplementation to prevent malnutrition among the under five children. Nursing managers should also physically supervise the nurses as they teach, demonstrate and also carry out under five children's clinic so that any available material is put to good use.

### **Nursing Education**

Since majority of the respondents had moderate level of knowledge, acceptable practice and positive attitude towards the prevention of malnutrition, health care providers need to reinforce education that will improve the knowledge and practices of caretakers. The positive attitude of the caretakers may be an indicator that with repeated sound health education, knowledge and practice towards prevention of malnutrition can improve from moderate to good and from acceptable to good respectively. IEC should be

intensified to everyone regardless of their socio-economic status and demographic factors including the educational status. Evaluation of the IEC should be done to individual mothers as the children are assessed to determine the caretakers' level of understanding. Health care providers need to learn the simplest language of the caretakers so as to reach each one of them. Health care providers should continue giving IEC to caretakers of under five children and update themselves with correct information on the topic.

Schools of nursing should passionately teach malnutrition which the General Nursing Council of Zambia (GNC) has incorporated in the nursing curriculum so that nurses continue to be effective educators.

#### **5.3.4 Nursing Research**

The findings of this study have shown that there are various factors that affect the caretakers of under-five children's knowledge, attitude and practice on the prevention of malnutrition among the under five children. These factors can be classified under socio-cultural and service provision factors. This implies that the health personnel should come up with topics for more research or even taking a very different dimension in studying malnutrition probably in a hospital setting. The DHO should fund research so as to generate factual data that can be incorporated in the existing body of knowledge in order to improve the quality of health delivery systems to effectively prevent malnutrition in the under-five children.

### **5.4 RECOMMENDATIONS**

The study has identified gaps in knowledge, attitude and practice among caretakers of under-five children on prevention of malnutrition. This is a challenge not only to health workers but also the headmen and the community at large. In order to overcome these challenges, health personnel that can influence policy making should take the following actions;

#### **5.4.1 The District Health Office (DHO)**

Kasempa District Health Office should carry out regular technical support such as quarterly to monitor malnutrition prevention programs in Kasempa district. This will enable early recognition of problems such as lack of food for demonstrations and be

able to lobby for help so as to avoid the shutting down of important programs that are essential for prevention of malnutrition.

Management should encourage community participation and intersectoral collaboration to prevent malnutrition among the under five children. The managers should take advantage of local organizations and not necessarily wait for international support. This will help the community to learn to be self reliant and take responsibility of their health which will lead to sustainability of nutritional programs and so prevent malnutrition

Managers should also lobby for production of nutritional literature in local languages. Availability of literature in the local language may encourage many care takers to read and acquire knowledge on nutrition that they could possibly apply to prevent malnutrition. Many more studies should be conducted so that conclusive methods to prevent malnutrition can be employed to radically address the issue and so prevent malnutrition.

#### **5.4.2 Health Centers**

The health care providers should intensify IEC on prevention malnutrition and provide literature when available to under-five caretakers. Repeated accurate teachings that can be evaluated may help prevent malnutrition among the under five children

Nutrition support groups should be encouraged as primary contact in the community to educate caretakers on prevention of malnutrition. This will help care takers to be aware of measures to take that promote the wellbeing of children, detect signs of malnutrition and seek medical advice which in the end will help prevent malnutrition.

Cooking demonstration for caretakers should take first priority as it may improve the practice of care takers. When care takers see how to prepare food for the under five and practice it using the locally grown food, their skill will be improved and malnutrition may be prevented.

#### **5.4.3 Community Level**

There is great need to empower the community with skills that will help prevent malnutrition among the under five children.

Communication skills and system need to improve among and between the health personnel and the community so that whatever is communicated at health facility is

what is said elsewhere otherwise the message is not conveyed to the right people. Only clear and simple communicated messages will help prevent malnutrition.

There is need for the hospital staff to organize capacity building sessions for CHW, NHCs, and nutrition supporters in the community on malnutrition. This can be done using role plays, organizing short workshops and directly observing some of the activities conducted by these groups to ensure they are effective. These sessions can include income generating programs such as making community gardens where the food can be used for both cooking demonstrations and selling to have funds to buy whatever may be needed for the under five children programs. This may be a strong way of preventing malnutrition.

There is need to involve all the influential people in the community like, political leaders, traditional healers and leaders in the fight against malnutrition. When these key people understand the health needs for the children, they will contribute greatly towards the prevention of malnutrition. Political leaders may support under five programs in their policies, traditional healers may be able to advice mothers with children that have signs of malnutrition to seek medical aid or even on good nutrition when they have a good understanding of malnutrition. Traditional leaders too may encourage practices such as farming and growing different food that is nutrition for the children and also encourage the people on storing enough food. All these efforts will help prevent malnutrition

## **5.5 DISSEMINATOIN OF FINDINGS**

Once field testing and evaluation were completed, the researcher's interventions were ready for dissemination. Dissemination of findings involves presenting the findings at professional meetings, describing the intervention in professional journals, and reporting studies, documenting its effects on outcomes (Burns and Grove, 2009).

Copies of the study findings were submitted to the School of Medicine, Department of Nursing Science, the medical library and others sent to Kasempa District Health Management, where the study was conducted. A copy was also given to Churches Health Association in Zambia who sponsored the study. A dissemination meeting was arranged for and was held in one of the lecture rooms at the Department of Nursing Sciences to give a feedback.

## **5.6 LIMITATIONS OF THE STUDY**

### **5.6.1 Funding**

The study was poorly funded making it difficult and expensive to have it done. Poor funding could not allow the investigator to conduct a large scale study.

### **5.6.2 Sample**

The sample size was limited to fifty respondents due to inadequate funding and time. As a result, generalization of the findings should be made with caution in relation to the general population.

### **5.6.3 Literature**

Most studies that have been conducted in Zambia are not posted on the internet making it hard to measure the local trends over time. There was no literature with regard to the attitude of caretakers towards the prevention of malnutrition. All efforts to find literature failed and so the researcher worked using her own opinions.

### **5.6.4 Short period of time**

The study could only be conducted within a short specified time; this made it impossible for the investigator to use data collection methods such as focus group discussion to gather more detailed information on the study problem.

## **5.7 CONCLUSION**

This study was carried out to determine the knowledge, attitude and practices of under-five caretakers on the prevention of malnutrition. The objective of the study has been met and the hypotheses have been proven. The findings or results of the study were based on the study sample of 50 care takers of the under five children in different communities of Kasempa district. Respondents were aged between 15 and 40 years irrespective of their marital, socio- economic and even educational status. More than 75% of these care takers were farmers and lived on less than K300, 000.00 monthly incomes.

The findings were that knowledge on prevention of malnutrition was moderate (76%) with 84% of the respondents having positive attitude towards prevention of malnutrition. Furthermore, majority of the respondents 64% had acceptable practices towards prevention of malnutrition. It was discovered that knowledge does not always improve practice or attitude. Majority of the respondents defined malnutrition correctly and were able to tell the causes, signs and symptoms of malnutrition. This knowledge

could have been attained through health education since none of the respondents received literature in local language on malnutrition from the health facility so that they could read on their own. Educational level, distance from the health facility apart from other factors such as the number of children that one has were discovered to have an influence towards the prevention of malnutrition among the care takers. For example, care takers that attained secondary school education had more knowledge on the prevention of malnutrition than those with lower educational levels. Equally, those that took 1 hour to reach the health facility had positive attitude and better practices towards the prevention of malnutrition than those that took 3 or more hours to reach the health facility.

More practical work is required by both the health workers and the community to improve knowledge, attitudes and practices of the care takers in the prevention of malnutrition in among the under five children and in order to reduce under five child morbidity and mortality.

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**APPENDIX 1**  
**QUESTIONNAIRE**

Serial number

***THE UNIVERSITY OF ZAMBIA***  
***SCHOOL OF MEDICINE***

***DEPARTMENT OF NURSING SCIENCES***

**STRUCTURED INTERVIEW SCHEDULE**

**STUDY TITLE: PREVENTION OF MALNUTRITION AMONG THE UNDER FIVE YEAR OLD CHILDREN IN KASEMPA DISTRICT.**

Place of interview.....

Name of interviewer.....

Date of interview.....

**INSTRUCTIONS TO THE INTERVIEWER**

- i. Please introduce yourself to the respondent.
- ii. Establish good rapport and explain the purpose of the interview.
- iii. Explain that confidentiality, anonymity and privacy will strictly be maintained.
- iv. Get written consent from the respondent but do not force them to participate if they are not willing.
- v. Ensure you do not write the respondent's name on the questionnaire.
- vi. Put a tick response in brackets besides the responses provided.
- vii. Fill in the response in blank spaces provided.
- viii. Thank the respondent at the end of the interview with them.

## SECTION A

### BIOGRAPHIC DATA

1. What is your age from your last birth day.....

2. Age category

- a. 15 to 20 [ ]
- b. 21 to 25 [ ]
- c. 26 to 30 [ ]
- d. 31 to 35 [ ]
- e. Above 35 [ ]

3. How many children do you have?

- a. 1 to 3 [ ]
- b. 4 to 6 [ ]
- c. Above 6 [ ]

4. How old was the sibling when your youngest child was born?

- a. 2 years old [ ]
- b. 3 years old [ ]
- c. Above three years [ ]
- d. Less than 2 years [ ]

5. What is your marital status?

- a. Single [ ]
- b. Married [ ]
- c. Divorced [ ]
- d. Widowed [ ]

6. If married, what is the occupational status of your husband?

- a. Self employed [ ]
- b. Unemployed [ ]

- c. Employed [ ]
- d. Farmer [ ]

7. What is your husband's monthly income?

- a. Less than K300, 000.00 [ ]
- b. Between K300, 000.00 and K500, 000.00 [ ]
- c. More than K500, 000.00 But less than K1, 000,000.00 [ ]
- d. More than K1, 000,000.00 [ ]

8. What is your occupational status

- a. Self employed [ ]
- b. Unemployed [ ]
- c. Employed [ ]
- d. Farmer [ ]

9. What is your monthly income?

- a. Less than K300, 000.00 [ ]
- b. Between K300, 000.00 and K500, 000.00 [ ]
- c. More than K500, 000.00 but less than K1, 000,000.00 [ ]
- d. More than K1, 000,000.00 [ ]

10. How far did you go in school?

- a. Never been to school [ ]
- b. Primary [ ]
- c. Junior secondary [ ]
- d. Upper secondary [ ]
- e. Tertiary [ ]

11. Do you read the literature provided at the health center yourself?

- a. Yes [ ]
- b. No [ ]

12. If no, who reads for you?

- a. I just keep the material [ ]
- b. My husband [ ]
- c. Friends [ ]

## SECTION B

### KNOWLEDGE ON PREVENTION OF MALNUTRITION

13. Have you ever heard of malnutrition?

- a. Yes [ ]
- b. No [ ]

14. If yes, where did you hear it from?

- a. Was admitted to hospital with a sick child due to malnutrition [ ]
- b. At home [ ]
- c. Through media [ ]

15. What is malnutrition?

- a. A condition of a child who does not have enough food and nutrients to eat [ ]
- b. When the child is vomiting [ ]
- c. When there are more than six children in the home [ ]
- d. Having diarrhea [ ]

16. What causes malnutrition?

- a. Some germs [ ]
- b. Breast feeding a baby when the mother is pregnant [ ]
- c. Bad feeding of children [ ]
- d. Witchcraft [ ]
- e. Inadequate feeding of the under five child [ ]

17. How can you know that a child has malnutrition?

(Tick all the correct answers below)

When the child;

- |   |     |
|---|-----|
| a. Is inactive  | [ ] |
| b. Looses weight  | [ ] |
| c. Refuses to eat   | [ ] |
| d. Has fever  | [ ] |
| e. Has an abdominal pain  | [ ] |
| f. Is passing worms   | [ ] |
| g. Has swelling of the feet and hands                             | [ ] |
| h. Has sores around the mouth                                     | [ ] |
| i. Has swelling of the abdomen                                    | [ ] |
| j. Has sparse and brown hair                                      | [ ] |
| k. Is miserable outlook and cracks at the corners<br>of the mouth | [ ] |

18. Does the health center give you anything to read  
in local language  
pertainin to malnutrition?

- |        |     |
|--------|-----|
| a. Yes | [ ] |
| b. No  | [ ] |

19. How often does the health facility provide you with  
literature on malnutrition?

- |   |     |
|---|-----|
| a. Every time we take children to the children clinic | [ ] |
| b. Every three months                                 | [ ] |
| c. Every six months                                   | [ ] |
| d. Once per year                                      | [ ] |
| e. They don't give                                    | [ ] |

20. How long do you take to walk to the health center?

- |                  |     |
|------------------|-----|
| a. Within 1 hour | [ ] |
| b. 2 hours       | [ ] |

- c. 3 hours [ ]
- d. Over 3 hours [ ]

21. List the names of vegetables that grow wild in the bush

Which you can use in feeding the under five child.

- a. Musebo [ ]
- b. Bwengo ntanda [ ]
- c. Rape [ ]
- d. Chomolia [ ]
- e. Bisonga [ ]
- f. Jibondwe [ ]
- g. Sokotela [ ]

22. Do you know how to preserve vegetables for use in preventing malnutrition in the under five children?

- a. Yes [ ]
- b. No [ ]

23. Tick the wild vegetables and fruits that are preserved at home

- a. Bisonga [ ]
- b. Musebo [ ]
- c. Bwengo ntanda [ ]
- d. Mayutu [ ]
- e. Tupwi [ ]
- f. Mabungo [ ]
- g. Mfungo [ ]
- h. Makole [ ]
- i. Nsombojojo [ ]
- j. Rape [ ]
- k. Matamba [ ]
- l. Mpundu [ ]
- m. Nsafwa [ ]

- n. Mashrooms [ ]
- o. Sokotela [ ]

24. Describe how you preserve these vegetables at home

- a. Wash all the vegetables first [ ]
- b. Boil them a little bit then put them in the sun to dry, this can be done to sokotela, mushrooms [ ]
- c. Roast them in the fire, such as done to mushrooms, then put them in the sun to dry [ ]
- d. Tie them up in the shelter above the fire to dry slowly as done in mashrooms [ ]

25. Describe how the village headmen contribute to prevention of malnutrition in the community

- a. Advise the people on how best to sell their crops [ ]
- b. Encourage the people to utilize the health facilities [ ]
- c. Encourage the use of traditional healers [ ]
- d. Discourage the use of traditional healers [ ]
- e. Encourage NGOs and the government to support farmers [ ]
- f. Discourage the exchange of crops for second hand [ ]
- g. Encourage the batter system with traders from town [ ]
- h. Encourage people to sell all the food the produce [ ]

26. Describe how the District contributes to the prevention of malnutrition in the District

- a. Provide seed and fertilizers to support farmers [ ]
- b. They do not do anything [ ]
- c. Control the selling of farm products [ ]



## SECTION C: ATTITUDES

Tick what is appropriate for you

Question #	Questions/ statements	Strongly agree	Agree	Not sure	Disagree	Strongly disagree
27	Malnutrition is a very big health problem					
28	Giving mothers/ care takers of the under five children, crops to grow is a way of preventing malnutrition					
29	Preventing malnutrition is solely the responsibility of the family					
30	Preventing malnutrition is solely the responsibility of the District Health Management Team					
31	Preventing malnutrition is solely the responsibility of the village headmen					
32	Preventing malnutrition is solely the responsibility of the everyone in the community					

## SECTION C: ATTITUDES

Tick what is appropriate for you

Question #	Questions/ statements	Strongly agree	Agree	Not sure	Disagree	Strongly disagree
27	Malnutrition is a very big health problem					
28	Giving mothers/ care takers of the under five children, crops to grow is a way of preventing malnutrition					
29	Preventing malnutrition is solely the responsibility of the family					
30	Preventing malnutrition is solely the responsibility of the District Health Management Team					
31	Preventing malnutrition is solely the responsibility of the village headmen					
32	Preventing malnutrition is solely the responsibility of the everyone in the community					

## SECTION D

### PRACTICE

33. Describe what you do to prevent malnutrition in the under five child.

- a. Breast feeding the child for Breast feeding the child for [ ]
- b. Giving the new born baby protective herbs [ ]
- c. Stopping the child from breast feeding when the mother is pregnant [ ]
- d. Feeding the child with the three main food groups, that is proteins, vitamins and carbohydrates [ ]
- e. Gradually weaning the child [ ]
- f. Early treatment of diseases such as malaria [ ]
- g. Having the child vaccinated against communicable diseases like measles [ ]
- h. Feeding the under five child alone/ separately [ ]

34. Are you a farmer?

- a. Yes [ ]
- b. No [ ]

35. List the type of food that you grow

- a. Maize only [ ]
- b. Maize and sorghum [ ]
- c. Maize, sweet potatoes, groundnuts and beans [ ]
- d. Cassava, pumpkins, Maize and beans [ ]

36. What do you do to ensure food security for the under five child?

- a. Dry some of the food for future use [ ]
- b. Sell the fresh food and buy dry food for easy storage [ ]
- c. Do not do anything [ ]

37. Do you have a ban for preserving the food after harvesting?

a. Yes

[ ]

b. No

[ ]

38. If No, give reasons why not

a. Do not grow a lot of food

[ ]

b. Stores the food in bags right from the fields

[ ]

39. Do you sell any of the food that you grow?

a. Yes

[ ]

b. No

[ ]

40. List the agencies that you sell the products to?

a. The local people in the neighborhood

[ ]

b. The Food Reserve Agency

[ ]

c. I exchange it with any products that the traders bring

[ ]

41. Do you take the under five children to the clinic/ health facility?

a. Yes

[ ]

b. No

[ ]

42. When do you take the child to the health facility?

a. Only when the child is sick

[ ]

b. Every month for under five children's clinic and whenever the child is sick

[ ]

c. Whenever there is transport to take the child for under five children's clinic

[ ]

43. How long does it take you to walk to the health facility?

- a. Within 1 hour [ ]
- b. Not more than 2 hours [ ]
- c. 3 hours [ ]
- d. Over 3 hours [ ]

44. Do you get any food for the under five children from the health center?

- a. Yes [ ]
- b. No [ ]

45. Do you buy any food from the market?

- a. Yes [ ]
- b. No [ ]

46. List the type of food that you often buy

- a. Kapenta, vegetables and mealie- meal [ ]
- b. Beans, ground nuts, and fish [ ]
- c. Mealie- meal only [ ]
- d. Vegetables only [ ]

47. How many times do you feed the child per day?

- a. Once [ ]
- b. Twice [ ]
- c. Three times [ ]
- d. More than three times [ ]

48. List the food that you feed the child on in the morning

- a. Porridge/ sweet potatoes/ cassava/ munkoyo [ ]
- b. Porridge and ground nuts/ sweet potatoes and ground nuts,

- and any fruit [ ]
- c. Nothing [ ]
- d. Any left over food from previous meal [ ]

49. List the food that you feed the child on at lunch/ dinner

- a. Nshima and vegetables [ ]
- b. Nshima, some fish (any protein food) and vegetables [ ]

50. How is the child fed?

- a. Alone and fed by mother/ care taker [ ]
- b. The child eats with other siblings [ ]
- c. The child feeds with one sibling [ ]
- d. The child eats with two other siblings [ ]
- e. The child is fed by other children [ ]

51. How often do you feed the child on meat, fish (any protein food)

- a. I don't have money to buy any of that food [ ]
- b. At least once every day [ ]
- c. Once every week [ ]
- d. Once in two weeks [ ]
- e. Once per month [ ]

52 List wild vegetables that you use while cooking

- a. Jibondwe [ ]
- b. Musebo [ ]
- c. Bitachi [ ]
- d. None [ ]

53. When are they available?

- a. Rainy season [ ]
- b. Dry season [ ]
- c. All year round [ ]

54. List the vegetables which you use to feed the under five children that are available during the dry season

- a. Jibondwe [   ]
- b. Musebo [   ]
- c. Bitachi [   ]

55. List the vegetables which you use to feed the under five children that are available during the rain season

- a. Jibondwe [   ]
- b. Musebo [   ]s
- c. Bitachi [   ]

56. List the vegetables which you use to feed the under five children that are available all year round season

- a. Jibondwe [   ]
- b. Musebo [   ]
- c. Bitachi [   ]

## APPENDIX 2: MARKING KEY

No	Question	Answer	Score
	<b>SECTION B (KNOWLEDGE)</b>		
12	Have you ever heard of malnutrition?	a. Yes	1
13	If yes, where did you hear it from?	a. Had a sick child admitted to hospital or; b. At home or; c. Through media	1
14	What is malnutrition?	a. A condition of a child who does not have enough food and nutrients to eat	1
15	What causes malnutrition?	c. Bad feeding of children e. Inadequate feeding of the under five child	2
16	How can you know that a child has malnutrition?	When the child; a. Is inactive b. Loses weight c. Refuses to eat g. Has swelling of the feet and hands i. Has swelling of the abdomen j. Has sparse and brown hair k. Is miserable outlook and cracks at the corners of the mouth	7
17	Does the health center give you anything to read pertaining to malnutrition?	a. Yes	1
18	How often does the health facility provide you with literature on malnutrition?	b. Every three months or; c. Every six months or; d. Once per year	1
19	How long do you take to walk to the health center?	a. within 1 hour or; b. within 2 hours	1



20	List the names of vegetables that grow wild in the bush which you use in feeding the under five child.	h. Musebo i. Bwengo ntanda f. Jibondwe g. Sokotela	4
21	Do you know how to preserve vegetables for use in preventing malnutrition in the under five children?	c. Yes	1
22	Tick the wild vegetables and fruits that are preserved at home	b. Musebo l. Mpundu n.mushrooms o. sokotela	4
23	Describe how you preserve these vegetables at home	a. Wash them first b. Boil them a little bit then put them in the sun to dry c. Roast them in the fire and put them in the sun to dry d.Tie them up in the shelter above the fire to dry slowly	4
24	24. Describe how the village headmen contribute to prevention of malnutrition in the community	i. Advise the people on how best to sell their crops or; d.Discourage the use of traditional healers or; e.Encourage NGOs and the government to support farmers or; f.Discourage the exchange of crops for second cloths	4
25	25. Describe how the District contributes to the prevention of malnutrition in the District	d. Provide seed and fertilizers to support farmers c. Control the selling of farm products	2
	<b>Total Score</b>		<b>36</b>

#### KEY

High level knowledge- (27 to 36)

Medium level.knowledge- (17 to 26)

**Inadequate knowledge- (Below 17)**

	<b>SECTION C (ATTITUDE)</b>		
<b>26</b>	Malnutrition is a very big health problem	Strongly agree	5
<b>27</b>	Giving mothers/ care takers of the under five children, crops to grow is a way of preventing malnutrition	Strongly agree	5
<b>28</b>	Preventing malnutrition is solely the responsibility of the family	Strongly disagree	5
<b>29</b>	Preventing malnutrition is solely the responsibility of the District Health Management Team	Strongly disagree	5
<b>30</b>	Preventing malnutrition is solely the responsibility of the village headmen	Strongly disagree	5
<b>31</b>	Preventing malnutrition is the responsibility of the everyone in the community	Strongly agree	5
	<b>Total score</b>		<b>30</b>

**Key**

**The correct response gets a score of 5**

**The incorrect response gets a score of 1**

**Maximum score for positive attitude 20 to30**

**Minimum score for negative attitude = 6 to 19**

	<b>SECTION D (PRACTICE)</b>		
<b>32</b>	Describe how you can prevent malnutrition in the under five child	a.Breast feeding the child for not less than 18 months d.Feeding the child with the three main food groups, that is proteins (body building food), vitamins and carbohydrates e.Gradually weaning the child f.Early treatment of diseases such as malaria g.Having the child vaccinated against communicable diseases like measles h. Feeding the under five child alone/ separately	6
<b>33</b>	Are you a farmer?	a. Yes	1
<b>34</b>	List the type of food that you grow	c.Maize, sweet potatoes, groundnuts and beans or; d.Cassava, pumpkins, Maize and beans	1
<b>35</b>	What do you do to ensure food security for the under five child?	d. Dry some of the food for future use or; e. Sell the fresh food and buy dry food for easy storage or;	1
<b>36</b>	Do you have a plan for preserving the food after harvesting?	c. Yes	1
<b>37</b>	If No, give reasons why not	b.Stores the food in bags right from the fields	1
<b>38</b>	Do you sell any of the food that you grow?	a. Yes	1
<b>39</b>	List the agencies that you sell the products to?	b.The Food Reserve Agency or;	1

40	Do you take the under five children to the clinic/ health facility?	c. Yes	1
41	When do you take the child to the health facility?	b. Every month for vaccination and whenever the child is sick	1
42	How long does it take you to walk to the health facility?	e. Within 1 hour or; f. Not more than 2 hours	1
43	Do you get any food for the under five children from the health center?	c. Yes	1
44	Do you buy any food from the market?	c. Yes	1
45	List the type of food that you often buy	e. Kapenta, vegetables and mealie-meal f. Beans, ground nuts, and fish	1
46	How many times do you feed the child per day?	d. More than three times	1
47	List the food that you feed the child on in the morning	b. Porridge and ground nuts/ sweet potatoes and ground nuts, and any fruit	1
48	List the food that you feed the child on at lunch/ dinner	b. Nshima, some fish (any protein/ body building food) and vegetables or any staple food in place of nshima	1
49	How is the child fed?	f. Alone and fed by mother/ care taker	1
50	How often do you feed the child on meat, fish (any protein/ body building food)	b. At least once every day	1
51	List wild vegetables that you use while cooking	e. Jibondwe or; f. Musebo or; g. Bitachi	1
52	When are they available for you to use?	a. Rainy season or; b. dry season or; c. All year round	1
53	List the vegetables which you use that are available during the dry season.	c. Bitachi	1

<b>54</b>	List the vegetables which you use to feed the under five children that are available during the rain season	d. Jibondwe e. Musebo	2
<b>55</b>	List the vegetables which you use to feed the under five children that are available all year round season	d.Any	1
	<b>Total score</b>		<b>30</b>

## **KEY**

**Good practice- (21 to 30)**

**Acceptable practice- (11 to 20)**

**Bad Practice- (Below 11)**

**APPENDIX 3: CONSENT**

Dear sir/ madam,

My names are Alfonsina Tembo, a student at the University of Zambia, School of Medicine in the Department of Nursing Science pursuing a Bachelor of Science degree in Nursing.

In partial fulfillment of the course requirements, I need to carry out a research project. The topic of study is prevention of under five children malnutrition in Kasempa District. You have been conveniently selected to participate in the study and so I wish to inform you that your participation is voluntary and you are free to withdraw at any time if you feel inconvenienced. During the study, you will be asked some questions on the same topic. Your name will not appear on the question paper thus no one will know who answered the questions for confidentiality.

Your participation in this study will have no financial or material benefits. However, the information that you will contribute may help in implementation of measures among the care takers in the prevention of malnutrition among the under five children.

I ....., understand the essence of this study and I willingly accept to participate in the study.

Signature/ thumb print of participant.....

Signature of interviewer.....

#### APPENDIX 4: BUDGET

BUDGET CATEGORY	UNITCOST ZM. K	IN QUANTITY	TOTAL ANOUNT IN ZM.KWACHA
<b>1. Stationary</b>			
Bond paper	35,000	4 reams	140, 000
Pens	20, 000	1 packet	20, 000
Pencils	500	5	2, 500
Rubbers	10, 000	4 packets	40, 000
Note book	5, 000	2	10, 000
Markers	5, 000	6	30, 000
Stapler	25, 000	1	25, 000
Staples	15, 000	1	15, 000
Perforator	40, 000	1	40, 000
Manila files	2, 000	6	12, 000
Diary	50, 000	1	50, 000
Memory stick 2G	120, 000	1	120, 000
Disks (CD- ROM)	5, 000	4	20, 000
Tippex	10, 000	2	20, 000
Research bag	80, 000	1	80, 000
Scientific calculator	120, 000	1	120, 000
<b>Subtotal</b>			<b>744 ,000</b>
<b>2. Typing services</b>			
Research proposal	3,000 / page	100 pages	300, 000
Questionnaire	3,000/ page	15 pages	45, 000
Photocopying (questionnaire and proposal)	500	850 pages	425, 000
Typing draft report	3, 000	100pages	300, 000
Typing final report	3, 000	110 pages	330, 000
photocopying	500	440 pages	220, 000
Binding final report	50, 000	5 copies	250, 000
<b>Subtotal</b>			<b>1, 850, 000</b>
<b>3. Personnel lunch allowance</b>			
Researcher	50,000 x 1	10 days	500, 000
Research assistant	50,000 x 1	10 days	500, 000
<b>Transport allowance</b>			

Researcher	50,000 x 1	10 days	500, 000
Research assistant	50,000 x 1	10 days	500, 000
<b>Subtotal</b>			<b>2, 000, 000</b>
<b>Dissemination of Information</b>			
Hall hire for dissemination	300,000	1	300,000
LCD hire	200, 000	1	200, 000
Refreshments	30, 000	20	60, 000
<b>subtotal</b>			<b>560, 000</b>
<b>Sub grand total</b>			<b>5, 154, 000</b>
<b>10% contingency</b>			515, 400
<b>Grand total</b>			<b>5, 669, 400</b>

## BUDGET JUSTIFICATION

In order for the research to be carried out efficiently and successfully, stationery, secretarial services and assistant personnel will be required.

### Stationery

Reams of paper will be needed and used for drafting the research proposal, interview schedule and research reports. These drafts will not be done once since the research is also a learning process and so may require a lot of rewriting as the supervisor guides and corrects the process. The scientific calculator will be used for data analysis. The other accessories will be needed for the routine collection of data. The researcher will also need pens and pencils for writing and coding on the questionnaire by the respondents. Rubbers will be used to erase whenever it is necessary to make changes.

### Secretarial services

Secretarial services will be needed for typing, printing and, photocopying and binding the research proposal and the research report. Final binding of the finished research report copies will also require secretarial services.

### Personnel

One or two research assistants will be needed to help the researcher due to the limited time allocated to data collection and also on account of the nature of the study being



conducted. Respondents will be sourced from different communities around the district and so the need for assistants to ensure a good population representation. Lunch allowance will be needed as most of the communities are far from the lodging place and so it may not be possible to get back for lunch. Transport will be required to move to the selected communities most of which will be more than 20 kilometers from the lodging place.

## APPENDIX 5: WORKPLAN

	Task to be performed	Responsible person	Dates	Days Required
1	Literature review	Researcher	Continuous	Continuous
2	Finalize research proposal	Researcher	12 <sup>th</sup> July, 2010 to 28 <sup>th</sup> September, 2010	78 days
3	Clearance from relevant authorities	DNS and KDHO	4 <sup>th</sup> October, 2010 to 15 <sup>th</sup> October, 2010	12 days
4	Pilot study	Researcher & research assistant	18 <sup>th</sup> to 22 <sup>nd</sup> October, 2010	5 days
5	Data collection(actual study)	Researcher & research assistant	26 <sup>th</sup> October to 19 <sup>th</sup> November, 2010	20 days
6	Data analysis	Researcher	10 <sup>th</sup> to 19 <sup>th</sup> November, 2010	28 days
7	Report writing	Researcher	22 <sup>nd</sup> to 23 <sup>rd</sup> January, 2011	14 days
8	Submission of draft research report to DNS	Researcher	24 <sup>th</sup> to 31 <sup>st</sup> January, 2011	7 days
9	Finalizing research report and binding	Researcher	28 <sup>th</sup> February to 6 <sup>th</sup> April, 2011	37 days
10	Monitoring and evaluation	Researcher & supervisor	Continuous	Continuous
11	Dissemination of finding	Researcher	21 <sup>st</sup> March to 8 <sup>th</sup> April, 2011	19 days

Tembo Alfonsina,  
University of Zambia,  
P.O. Box, 50110,  
LUSAKA.

27<sup>th</sup> October, 2010

The District Medical Officer,  
Kasempa District Health Management Office,  
KASEMPA

u.s.f: The Head of Department,  
University of Zambia,  
School of Medicine,  
Department of Nursing Sciences,  
P.O. Box 50110,  
LUSAKA.

*Alfonsina*

Dear Madam,

**RE: PERMISSION TO CONDUCT A PILOT STUDY ON THE PREVENTION OF  
MALNUTRITION AMONG THE UNDER FIVE CHILDREN IN KASEMPA DISTRICT**

I write to request your office for permission to carry out a pilot study on the above mentioned topic in Muselepete compound between 1<sup>st</sup> and 5<sup>th</sup> November, 2010. The main research will be conducted in Kasempa District.

I am a fourth year student at the University of Zambia, School of Medicine pursuing a Bachelors Degree in Nursing at the Department of Nursing Sciences. The University requires me to conduct a research in partial fulfillment of the program.

Your favorable consideration of my request will be highly appreciated.

Yours faithfully,

*A. Tembo*  
Tembo Alfonsina.

Tembo Alfonsina,  
University of Zambia,  
P.O. Box, 50110,  
LUSAKA.

27<sup>th</sup> October, 2010

The District Director of Health,  
Kasempa District Health Management Office,  
KASEMPA.

u.s.f: The Head of Department,  
The University of Zambia,  
School of Medicine,  
Department of Nursing Sciences,  
P.O. Box 50110,  
LUSAKA.

*Belgoma*

Dear Sir/ Madam,

**RE: PERMISSION TO CONDUCT A RESEARCH ON THE PREVENTION OF  
MALNUTRITION AMONG THE UNDER FIVE CHILDREN IN KASEMPA DISTRICT**

I write to request your office for permission to conduct a research on the above mentioned research topic in different communities within the District between 8<sup>th</sup> and 26<sup>th</sup> November, 2010.

I am a fourth year student at the University of Zambia, School of Medicine pursuing a Bachelors Degree in Nursing at the Department of Nursing Sciences. The University requires me to conduct a research in partial fulfillment of the program.

Your favorable consideration of my request will be highly appreciated.

Yours faithfully,

*A. Tembo*

Tembo Alfonsina.

# APPENDIX 6: GANTT CHART

Task performed	Responsible person	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar
Literature review	Researcher	↓									↑
Finalise research proposal	Researcher					↕					
Pilot study	Researcher					↕	↕				
Data collection	Researcher						↕	↕			
Data analysis	Researcher							↕			
Report writing	Researcher								↕		
Submission of draft report	Researcher									↕	
Submission of research report	Researcher								↕		
Dissemination of findings	Researcher										↕
Monitoring and evaluation	Researcher	↓									↑

