# KNOWLEDGE AND PRACTICE OF UNDER-FIVE CARE TAKERS ON EARLY SIGNS OF MALNUTRITION IN CHITAMBO COMMUNITY

*BY*

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A RESEARCH PROJECT SUBMITTED TO THE DEPARTMENT OF NURSING SCIENCES, SCHOOL OF MEDICINE, UNIVERSITY OF ZAMBIA IN PARTIAL FULFILLMENT FOR THE BACHELOR OF SCIENCE DEGREE IN NURSING

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**ABBREVIATIONS**

| | |
|---|---|
| ANC | Antenatal Care |
| CBoH | Central Board of Health |
| CHWs | Community Health Workers |
| CSO | Central Statistical Office |
| DHMT | District Health Management Team |
| FAO | Food Agriculture Organization |
| GRZ | Government of the Republic of Zambia |
| HAHC | Hospital Affiliated Health Centre |
| HIMS | Health Information Management System |
| HIV | Human Immune-Deficiency Virus |
| IEC | Information Education and Communication |
| MCH | Maternal and Child Health |
| MDGs | Millennium Development Goals |
| MOH | Ministry of Health |
| NFNC | National Food and Nutrition Commission |
| NGO | Non- Governmental Organisation |
| NHCs | Neighborhood committees |
| PAM | Program Against Malnutrition |
| PEM | Protein Energy Malnutrition |
| TBA | Traditional Birth Attendants |
| UNICEF | United Nations international Children's Fund |
| UNZA | University of Zambia |
| UTH | University Teaching Hospital |
| WFP | World Food Program |
| WHO | World Health Organization |
| ZDHS | Zambia Demographic and Health Survey |

**DECLARATION**

I, **LEVISON CHIFWAILA,** hereby declare that the work presented in this study for a Bachelor of Science Degree in Nursing has not been presented either wholly or in part, for any other degree and is not being currently submitted to any other degree.

Signed: ..... Date: 27/05/10

(Candidate)

Approved: ..... Date: 01/06/2010

(Supervising Lecturer)

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**STATEMENT**

I, **LEVISON CHIFWAILA**, do hereby certify that this study is entirely the result of my own independent investigations. The various sources to which I am indebted are clearly indicated in the text and reference.

Signed: ..... Date: 27/06/10

**DEDICATION**

This study is dedicated to my son Ndabe who missed me so much when I was pursuing my Bachelor of Science degree. You are a strong boy my son may The Almighty God help you reach your highest potential. I love you my son.

To my wife and all my family members for their moral support during my training.

To every child who died of malnutrition due to failure to prevent or manage the disease. May their souls rest in peace

Most of all to my GOD for being there for me all the time training.

**ABSTRACT**

Malnutrition continues to be a worldwide problem. Children and the elderly tend to be especially susceptible. Approximately 27 percent of children under 5 in developing world are malnourished. Malnutrition claims about more than half of the 10 million deaths each year of children under-five. The levels of malnutrition in Zambia are some of the highest in Africa with 51.9% of children less than 5 years of age undernourished (WHO, 2007).

The objective of this study was to determine the knowledge and practices of under-five caretakers on the early signs of malnutrition in Chitambo catchment area. The study was conducted at Chitambo hospital children's clinic and the health posts. Chitambo hospital is one of the first level referral hospitals in Serenje district, Central province of Zambia. A non experimental, descriptive cross sectional study design was used, and data were collected from October to December 2009 using a structured interview schedule.

A simple random sampling method was to select a sample of 50 pregnant caretakers of under-five children from within Chitambo catchment area. This data was analysed by the use of SPSS version 14.0.

The results research the revealed that there are a number of factors influencing knowledge and practice of under-five caretakers on the early signs of malnutrition. It was discovered that 85.7% of the respondents who attained primary education had good practice while 14.3% in the same level of education had bad practice. It was also reviewed 100% of the respondents with no education had good practice. The research further reviewed that 80.5% of the respondents who had medium level of knowledge had good practice while 19.5% respondents with the same education level had bad practice. The same table shows that 92% of the respondents with low level knowledge had good practice. The researcher therefore rejected the first and the second hypothesis that stated that there was an association between education level and practice and that there was an association between the respondent's knowledge on early signs of malnutrition and practice respectively.

# CHAPTER 1

## 1.0 BACKGROUND

### 1.1 INTRODUCTION

Malnutrition continues to be a worldwide problem. According to the World Health Organization (2008), hunger and malnutrition are the single gravest threats to the world's public health. Between 1999 and 2005, there were 850 million malnourished people worldwide. By 2007, there were 923 million hungry and malnourished people in the world, an increase of 80 million since 1990 (Food Agriculture Organization, 2007).

Table: 1 **Global malnutrition levels between 1999 and 2007.**

| YEAR | NUMBER OF MALNOURISHED PEOPLE |
|---|---|
| 1999 TO 2005 | 850 MILLION |
| 2007 | 923 MILLION |

Adopted from WHO, 2007

Table 1 shows an 86% increase in magnitude of malnourished people between 1999 and 2007 globally.

Despite the fact that the world already produces enough food to feed everyone (6 billion people) and could feed even double the population (12 billion people), malnutrition is still one of the world biggest health problems (FAO, 2007).
Malnutrition is a nutritional disorder resulting from not having enough food, or enough of the right food to eat for a long time.

There are basically two commonest forms of malnutrition. These are Protein-Energy Malnutrition (PEM) and micronutrient malnutrition. There are two type of PEM, namely, marasmus and kwashiorkor (Tull, 1996).

'**Marasmus**' is the name which came from the Greek word meaning "wasting'' and it mainly affects babies under one year old. The body adapts to the shortage of food by wasting of muscles and depletion of fat stores so that energy is only supplied to the vital organs which include the brain and the heart. The child, therefore, becomes very thin and weak and this condition often results in death (Tull, 1996).

**Kwashiorkor** was, once, thought to be a condition resulting from lack of proteins in the diet. It is, now, known to be poor adaptation to reduced food intake (Tull, 1996). This leads to retarded growth, chronic diarrhea and infections, retention of fluid under the skin, causing edema.

**Micronutrient malnutrition** refers to inadequate availability of some essential nutrients such as vitamins and trace elements that are required by the body in small quantities. Micronutrient deficiencies lead to a variety of diseases and impair normal functioning of the body. Deficiency in micronutrients such as Vitamin A reduces the capacity of the body to resist diseases. Deficiency in iron, iodine and vitamin A is widely prevalent and represent a major public health challenge (Tull, 1996).

Children and the elderly tend to be especially susceptible to malnutrition. Approximately 27% of children under-five in developing world are malnourished. According to the World Health Organization (WHO) (2007), malnutrition is, by far, the biggest contributor to child mortality, present in half of all cases. Malnutrition claims about more than half of the 10 million deaths each year of children under-five. On the average, a child dies every five seconds as a result of hunger - 700 every hour – 16,000 each day equivalent to 6 million (60%) of all child deaths in a year (WHO, 2007).

Table: 2 **Under-five deaths in relation to time**

| **Time** | **Number of under-five deaths** |
|---|---|
| Every five seconds | 1 |
| Every hour | 700 |
| Each day | 16,000 |
| Each year | 6,000 000 (60% of all child's death) |

Adapted from FAO, (2008)

The levels of malnutrition in Zambia are some of the highest in Africa with 52% of children less than 5 years of age undernourished (UNICEF, 2007). According to the Central Statistics Office (CSO, 2007), chronic malnutrition in Zambia stands at 59 %. The levels of malnutrition vary significantly across Zambia. In urban areas the malnutrition rate stands at 43%. Zambia's under-one mortality rate (95 deaths per 1,000 births) indicates that over 9 percent of children born in Zambia die before their first birthday. This rate is in the midrange of the sub-Saharan countries. Zambia's under-five mortality rate (119 deaths per 1,000 births) indicates that about 17 % of the children born in Zambia die before their fifth birth day. This rate places Zambia at the midrange of the sub-Saharan countries surveyed (CSO, 2007).

Since 1992, the Government of the Republic of Zambia (GRZ) has been implementing health sector reforms aimed at decentralizing health service delivery to the district and hospital levels and focusing on preventive rather than curative care. The reforms have focused on improving primary health care and implementing a basic health care package of carefully selected high-impact interventions offered through the public health system. This package has ten priority areas of which are Human Resources, Integrated Child Health and Nutrition, Integrated Reproductive, Health HIV/AIDS, STIs and Blood Safety, Tuberculosis (TB) Malaria, Epidemics Control and Public Health Surveillance, Environmental Health and Food Safety, Essential Drugs and Medical Supplies Infrastructure and Equipment. On these priority areas child nutrition is rated second (Ministry of Health 2008).

The Ministry of Health provides the technical and management oversight of all public health facilities. At the provincial and district level, Provincial Health Offices serve as an extension of the MOH at the provincial level while the District Health Management Teams (DHMTs) have the fiscal authority to manage the district health centres and health posts which are the main implementers of vertical programs such as infants and child nutrition programs. The Government-run health facilities, which provide the majority of the health care in Zambia, operate at several levels. Namely level 1 hospital is a district hospital which should cater for more than 10,000 people, level 2 hospitals is

the central and provincial hospital which should provide health services to more than 100,000 people. The third level hospital should cater for more than 500,000 people. Malnutrition control interventions are delivered at all these levels (MOH, 2008).

It is under this reform process that the malnutrition control strategy for the country is being implemented. Over the past years there has been a number of malnutrition control projects in various areas and regions through the public sector, private sector and with non-governmental organizations (NGOs) (UNICEF, 2000). This includes programs supporting and promoting, strengthening and implementing infant and young child feeding programs, promotion of optimal feeding practices for infants and children to improve their nutrition status (CSO, 2007).

## 1.2 STATEMENT OF THE PROBLEM

The global picture of malnutrition showed an improvement in 1990. But this picture reversed in 1999 as the morbidity of child malnutrition increased from 25% to 31% in 2002, by 2007 the rate had increased to 45% and to 47% by 2009 ( FAO, 2OO7).

Sub regionally, literature shows that Zambia has 5.1 million malnourished people, Angola 5.0 million, Tanzania, 16.1 million, Mozambique 8.3 million and Zimbabwe 5.7 million malnourished people (FAO, 2OO7).

Malnutrition rates in Zambia still remain high, the fourth highest in the region. Though statistics shows a decline in the morbidity rates from 53 in 2001 to 45 in 2007, the prevalence rate is still very high. This implies that there is still a critical need to address malnutrition in the country (CSO, 2007). Malnutrition among the under-five children should not be a problem considering all the concerted efforts made by both the MOH and NGOs in the country. However, this study shows that malnutrition continues to be a public health problem. At Chitambo hospital malnutrition is one of the top ten causes of admission (Chitambo Hospital Action Plan, 2009).

TABLE: 3 **Number of under-five children admitted to Chitambo hospital between 2005 and 2008**

| Year | Admissions | Rate of Increase/Reduction | |
|---|---|---|---|
| | | Number | Percentage |
| 2005 | 45 | | |
| 2006 | 50 | 5 | 11 |
| 2007 | 48 | 2 | 7 |
| 2008 | 60 | 12 | 33 |

Source: Chitambo hospital HIMS 2005 to 2008

Table 3: Shows that there was a 22% increase in the magnitude of the number of children admitted to Chitambo hospital between 2005 and 2008.

Table 4: **Number of under-five mortality due to malnutrition at Chitambo hospital between 2005 and 2008**

| Year | Number of Admissions | DEATHS | |
|---|---|---|---|
| | | Number | Percentage |
| *2005* | *45* | 15 | 33% |
| *2006* | *50* | 18 | 36% |
| *2007* | *48* | 15 | 31% |
| *2008* | *60* | 21 | 35% |

*Source: Chitambo hospital HIMS 2004 to 2009*

Table 4 shows a 2% increase in the magnitude of the number of under-five children who died at Chitambo hospital between 2005 and 2008 and 4% increase between 2007 and 2008. The latter shows an increasing trend in the mortality due to malnutrition at Chitambo hospital, hence the need for this study.

At University Teaching Hospital (UTH) the national referral hospital, there has been a reduction in under-five deaths due to malnutrition from 293 deaths in the first quarter 2009 to 136 in the second quarter of the same year. However, at Chitambo hospital mortality rate has shown an increase from 15 deaths in 2007 to 21 deaths in 2008, as illustrated in table 4 above. The causes of malnutrition can be various ranging from the probable effects of greenhouse effects on agricultural activities to inadequate knowledge of the under-five care takers on choice of food, preparation, feeding and the inability to recognise the early signs of malnutrition as well as childhood diseases such as diarrhoea and chronic diseases (MOH, 2OO8 ).

Another cause of under-five mortality due to malnutrition is because caretakers with malnourished children take their children to the hospital late and so appropriate treatment is not started early.

The above scenario can be reversed if care takers know the signs of early malnutrition and take appropriate action early enough (WHO, 2003). However, most of the under-five care takers seek medical treatment when their children are severely malnourished. This makes treatment difficult resulting to high mortality.

The Government of the Republic of Zambia including Chitambo hospital has put measures such as provision of food supplements, intensifying health education on nutrition in the community, empowering health care providers on management of malnutrition, conducting cooking demonstrations, training nutritionist. Despite all these efforts, the malnutrition levels in Zambia among under-five children, is still high including the mortality levels (MOH, 2008).

The effects of malnutrition pose an elevated risk of mortality among under-five children. If the child survives, the disease whether mild or severe, will have a significant impact on the outcome of the child for the remainder of his or her life. This is because malnutrition increases the risk of infection and infectious diseases as lack of sufficient nutrients can weaken the immune system and invite infectious disease such as active

tuberculosis (TB). T.B is the major risk factor. These illnesses will lead to growth retardation both physical and mental, and possibly death. The disease also compromises the digestive function leading to many diseases such as diarrhea that can intensify malnutrition. Lower energy and impaired function of the brain also represent the downward spiral of malnutrition as victims are less able to perform the tasks they need to in order to acquire food, earn an income, or gain an education. The child will not perform well at school as a result the child will not reach his or her full potential in life. Another bad effect is that the society will be deprived of future leaders as the children of today are the future leaders. Therefore it is not only children who are affected by the consequences of malnourishment, but the societies they live in suffer as well (WHO, 2007).

Despite a reduction in the national case morbidity and mortality the prevalence rate is still high. There is still need to do something to reduce the high mortality rate. The quest of the Zambian government is to reduce infant mortality rate by 2/3 in order to reach the MDG by 2015. Fighting malnutrition is one of the strategies that can lead to the attainment of this goal.

## 1.3 FACTORS ASSOCIATED WITH KNOWLEDGE AND PRACTICE OF UNDER FIVER CARE TAKERS ON EARLY SIGNS OF MALNUTRITION.

Factors associated with the problem will be discussed under socio-cultural and economic factors, disease related factors and service related factors.

### 1.3.1 SOCIO-CULTURAL AND ECONOMIC FACTORS

#### 1.3.1.1 **Education level**

Under-five caretakers who have attended school especially secondary or higher have higher chances of having a well nourished family because they can read a newspaper, listen to the radio, watch television and acquire more knowledge on child nutrition. The caretakers can identify the early signs of malnutrition and hence take appropriate action. While most of the under-five caretakers who have low education levels besides not being able to acquire more knowledge and understanding of balanced diet and how to prepare food to maintain its nutritive values, they mostly belong to the low socioeconomic class as they do not have any good permanent jobs to earn a living that can help them in buying enough food for the family and thus affecting the nutrition status of the family. These caretakers may not be able to identify the early signs of malnutrition and therefore not seek medical advice on time.

#### 1.3.1.2 **Poverty**

Zambia is rated among the poor countries in the world, as is indicated by the living conditions survey by CSO (2000). Most Zambians are living below the poverty datum line (less than one (1) US dollar per day). Lack of money to buy food is the main reason for hunger and under nutrition in many places. This means that most families are unable to buy enough quality food, let alone having three meals in a day and thereby contributing to the high levels of malnutrition. Mostly impoverished care takers may not have time to care for

their children as they are more concerned with looking for food as a result they are less likely to identify the early signs of malnutrition in their under-five old children. Further more even when they identify the signs of early malnutrition they are less likely to take appropriate action.

#### 1.3.1.3 **Religious Beliefs**

Religious beliefs are very important to many people and some religions have specific rules about what they should and should not be given to the under-five child. If the religious belief promotes good and adequate nutrition the children will be well nourished. However on the other hand if the religious belief does not promote good nutrition it will have a negative effect on the nutrition of children. For example, some religions prohibit eating meat or meat products Sometimes, these values are extended to children leading to inadequate intake of nutrients putting them at high risk of developing nutrient deficiencies like proteins leading to malnutrition. These caretakers will less likely identify the early signs of malnutrition and as a result not seek early treatment.

#### 1.3.1.4 **Cultural and Traditional Beliefs**

Culture is a collective noun for the symbolic and acquired aspects of human society.( Bailliere, 2005). Cultures that encourage good nutrition are valued because they help prevent malnutrition especially in children. However, some cultural and traditional beliefs prohibit that some types of foods should be eaten by certain groups of people. For example, traditionally the husband in the one to eat the best foods, and this predisposes the under-five children to malnutrition because they do not eat enough food For example, certain cultures do not allow pregnant women eating eggs saying that they will give birth to a baby with bold head. This causes under nourishment to women and the foetus, thereby giving birth to under weight babies. When pregnant women consume inadequate diets, have excessive workloads, or are frequently ill, they give birth to smaller babies with a variety of health

problems. (Tull, 1996). These cultural believe will lead to caretakers not able to recognise the signs of early malnutrition. Their concerns will be directed towards husbands. The pregnant women whole are malnourished may over look the early signs of malnutrition in their new born children. As a result they will take no action on the signs.

#### 1.3.1.5 **Size of the Family**

The number of members of a family has a direct effect on nutrition status of the family and identification of early signs o malnutrition. A small family, for example of three members can be able to afford to buy adequate food to feed the family and care for each member of the family. If the size of the family is too large that is more than 6 members for a middle income earner it may become too difficult to provide enough food to all members of the family. The nutritional status of the family becomes affected as there is not enough food to cater for all members of the family and each member receive very little attention. The under-five children are the helpless victims of malnutrition and as the caretakers have very little time for each child they will be unable to detect the early signs of malnutrition. These children may develop severe acute malnutrition.

### 1.3.2 **Disease Related Factors**

Disease and malnutrition are intimately connected through what is commonly referred to as the malnutrition infection complex. The interaction of malnutrition and infection operates as a cycle in which episodes of a disease lead to declining nutritional status, which reduces resistance to disease, thereby, increasing the vulnerability further (Central Statistics Office, 2007). Diseases closely linked to malnutrition include;

#### 1.3.2.1 **DIARRHOEA**

Diarrhoea interferes with the body's absorption of food, loss of body fluids and electorate and other nutritional reserves this can lead to malnutrition.

1.3.2.2 **WORM INFESTATION**

Worms and other intestinal parasites such as hook worms cause or increase malnutrition as they use up some of the food which is eaten.

1.3.2.4 **MALARIA**

Malaria interferes with the body's blood formation and causes severe anaemia. Malaria may make an individual to vomit and lose appetite affecting the nutritional status.

1.3.2.5. **HIV/AIDS.**

HIV/AIDS will not only mask the early signs of malnutrition but also caretakers will mistake the signs of malnutrition to that of AIDS. This may lead to caretakers not taking any action the result will be acute severe malnutrition.

## 1.3.3 SERVICE DELIVERY RELATED FACTORS

1.3.3.1 **Distance to the Health Facility.**

Distance to the health facility is one of the barriers to accessing health care. Care takers who stay far away from the health facility take hours to reach the health facility. Their children cannot manage to walk long distances and parents cannot manage to carry them all the way to the health facility as a result they are discouraged and opt to stay at home. In this case the caretakers may not have an opportunity to learn about the early signs of malnutrition, thereby unable to identify the signs. Therefore they may not take appropriate action once the signs occur. This can lead to severe malnutrition.

1.3.3.2 **Staffing**

Shortage of staff at the health facility results in poor service delivery. The skeleton work force can not adequately attend to clients nor have time to educate mothers on the early signs of malnutrition.

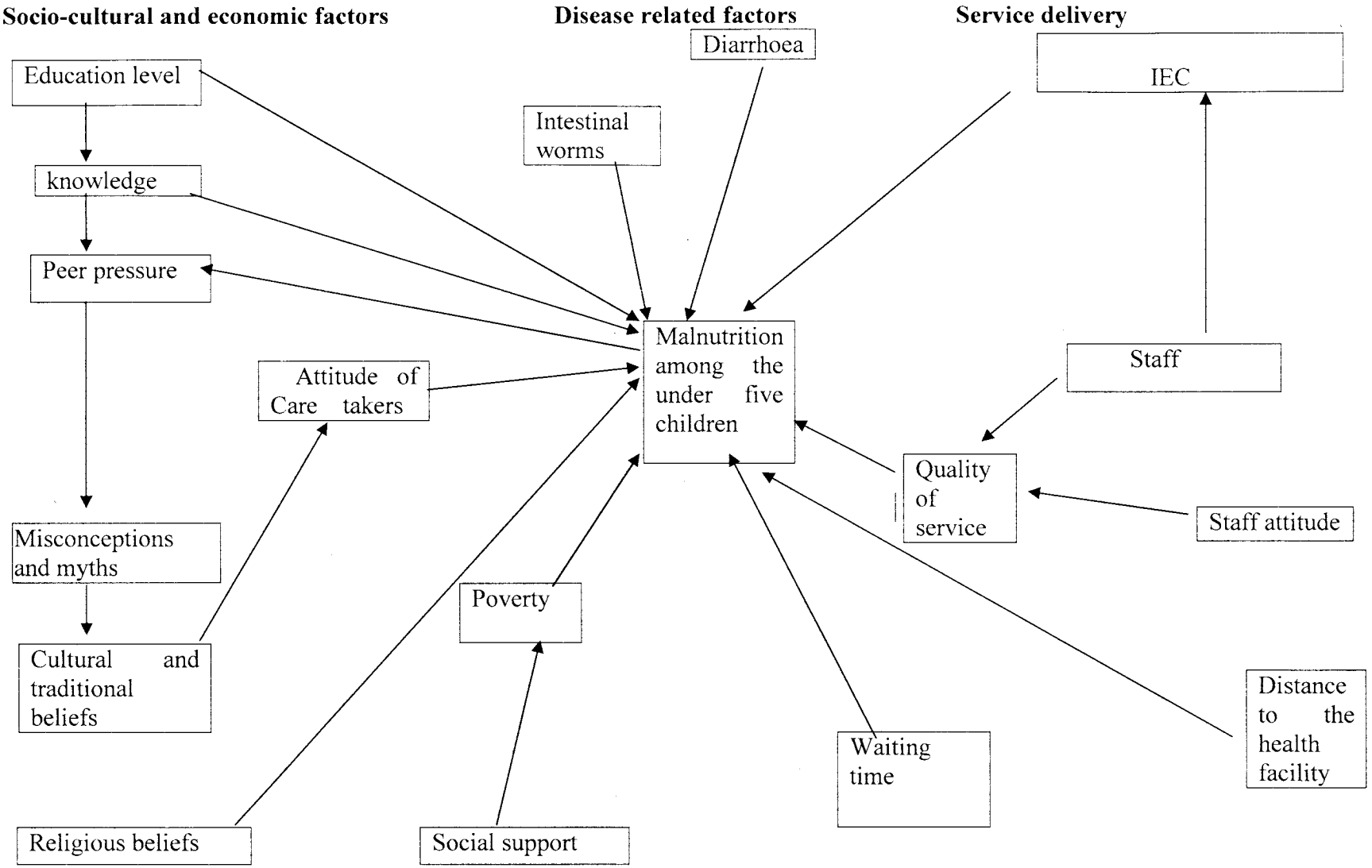
1.3.3.3 **Attitude of health care providers**

Health care providers' attitude towards their clients and work can greatly affect the clients' access to information on the early signs of malnutrition. Bad attitude of some health workers may result from pressure of work resulting from shortage of specialized workers or non availability of logistics. Bad attitude scares away clients such that they can not ask question on early signs of malnutrition. This can lead to development of acute severe malnutrition.

1.3.3.4 **Waiting Time**

If caretakers take long to receive information regarding early signs of malnutrition, they may give up and go back to their homes. The caretakers will not know early signs of malnutrition and hence take no action when their children present with these signs. This will lead to development of acute severe malnutrition.

**FIGURE 1: PROBLEM ANALYSIS DIAGRAM**



## 1.5 JUSTIFICATION

The purpose of this study is to determine knowledge and practice of the under-five care takers in Chitambo community on the signs of early malnutrition. This is because most of the under five caretakers seek medical care when their children are severely malnourished which makes treatment very difficult resulting in high mortality rate. However, If children with malnutrition are taken to the hospital early and appropriate treatment started early lives of many children could be saved (WHO, 2003).

It is very important to conduct this study because of the devastating effects of malnutrition. The study focuses on prevention, as preventing infants and young children from becoming undernourished is much more effective than treating children who are already malnourished, (Lancet. 2009). Malnutrition must be addressed in the first two years of life. This is the crucial period for a child because it is a period for physical and cognitive development.

Malnutrition affects physical growth, cognitive development, reproduction, and physical work capacity, and it consequently impacts on human performance, health and survival. Malnourished children grow up with worse health and lower educational achievements. (Raine et al, 2003).

Malnutrition also affects, generally, motor skills. The malnourished children are described as clumsy and the acquisition of Piagetian milestones is delayed in younger children. (Cravioto and Arrieta 1986).
Malnourished children were often found to have poorer school grades than matched controls (Galler et al. 1990, Richardson et al. 1973).

Several studies have been conducted on the problem of malnutrition world wide. However studies to asses the ability of under- five caretaker to identify the early signs of malnutrition has received very little attention. In Zambia such studies includes those conducted by Munamavili ( 2006) and Patricia (2004). Both of

these studies looked at malnutrition in general.

The findings of this study will be very important in making recommendations on possible focal points for child-survival program intervention aimed at reducing the high under-five mortality due to malnutrition not only in Chitambo community but, hopefully, elsewhere in Zambia.

The study will also help health care providers to appreciate the reasons why caretakers of under-five children seek medical care when their children are severely malnourished. Therefore the health care providers will use this knowledge to design and implement child health intervention such as providing appropriate Information Education and Communication (IEC) to the community.

To attain the MDG number 4, Zambia intend to reduce infant mortality by two third by 2015. It is assumed that if health institutions effectively use the finding of this study and care takers recognize and take their malnourished children to the health facility early lives of many children will be saved and hence moves towards meeting the MDG.

It is hoped that the results of the study will help to prevent the devastating effects of malnutrition, effects such as impaired physical and cognitive development which leave the children less productive in all aspects of life. This is so because the intervention will help promote prevention of malnutrition and it occurs, early treatment which will promote full recovery.

The study will also help health care providers improve and increase the information delivery system to under-five caretakers in Chitambo community so as to build a good foundation for successful response to early signs of malnutrition.

The study results will also help reduce Hospital expenditure in terms of food; electricity and laundry as Hospital days will be reduced. This is so because, basically, severely malnourished children tend to stay in hospital for a very long time. If the care takers seek medical treatment early treatment will not take long hence the children will not be on the ward for a very long time.

## 1.6 RESEARCH OBJECTIVES

### 1.6.1 General **objective**

To determine the knowledge and practice of caretakers of under five children on early signs of malnutrition in Chitambo community

### 1.6.2 **Specific Objectives**

(a) To assess the knowledge of the under five care takers on the early signs of malnutrition.

(b) To establish the practice of under five care takers on the signs of early

(c) malnutrition

(2) To identify demographic variables influencing knowledge and practice of under-five care takers.

## 1.7 RESEARCH HYPOTHYSIS

The hypotheses of this study are:

(a) There is an association between the age of Under-five care takers and knowledge on the signs of early malnutrition.

(b) The higher the knowledge on the early signs of malnutrition the better the practice.

## 1.8 DEFINITION OF TERMS

### 1.8.1 Conceptual Definitions

Malnutrition is a nutritional disorder or condition resulting from insufficient or poorly balanced diet. (FAO, 2004).

**(a) Knowledge:** Knowledge is the information, understanding and skills that you gain through education or experience. (Hornby, 2005).

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

**Under fiver care takers:** any person who looks after a child or children who are five years and below.

### 1.8.2 Operational Definition of study variables

(a) **Malnutrition:** A nutritional disorder or condition resulting from insufficient or poorly balanced diet or from defective digestion or assimilation of foods. Resulting to Protein Energy Malnutrition (PEM)

(b) **Knowledge:** Knowledge to define malnutrition; state the causes and signs and symptoms of malnutrition; outline the parts of the body where one can check for early signs of malnutrition; describe the treatment and prevention of malnutrition.

(c) **Practice:** Practice includes identification of the early signs of malnutrition. Which should include taking the child to the nearest health facility immediately early signs of malnutrition are noticed, taking the child for checking, assessment of early malnutrition monthly, taking the child for under-five clinic monthly.

## 1.9 VARIABLES AND CUT-OFF POINTS

### 1.9.1 **Dependent variable**

This is the outcome variable of interest, the variable that is hypothesized to depend on or to be caused by another variable (called the independent variable), sometimes referred to as a criterion variable (Polit and Hungler, 1995).

The dependent variables are:

- Practice

### 1.9.2 **Independent variables**

This is a variable that is believed to cause or influence the dependent variable, in experimental research, the manipulated (treatment) variable (Polit and Hungler, 1995).

The Independent variables are listed below:

- Knowledge

TABLE 5: **VARIABLES, INDICATORS AND POINTS**

The table below shows main variables and their cut of points.

| Variables | Indicators | Cut off point | Questions |
|---|---|---|---|
| Knowledge | High level | When the respondent is able to define malnutrition, mention the causes, the signs and the body parts to check for signs of malnutrition, know the treatment and prevention of malnutrition. The score is 5 to 6 points in the knowledge category | 6 to 11 |
| | Medium level | Able to score 3 to 4 in the knowledge category | |
| | Low level | 0 to 2 points in the knowledge category | |
| Practice | Good | The respondent who is able to take prompt action and manage the early signs of malnutrition, will score 3 to 5 points | 12 to 17 |
| | Bad | A score of 0 to 2 points | |

# CHAPTER TWO

## 2.0 LITERATURE REVIEW

### 2.1: INTRODUCTION

Literature review is a critical summery of research on a topic of interest, often prepared to put a research problem in context or as a basis for an implementation project.(Polit and Hungler, 2008).

Literature covers the pertinent studies that relates to the topic of interest and provides the interviewer with background knowledge of similarities and differences between the present study and the prior study. The process of literature review involves finding, reading, understanding and forming conclusions about the published research in a particular topic.

### PURPOSE OF LITERATURE REVIEW

The purpose of literature review is mainly to avoid duplication of work that has already been done, by finding out what others have learnt and reported on the particular problem. Literature review also helps in refining the problem statement and helps the researcher to become familiar with various types of methodology that might be used in the study. Literature review also helps the investigator to have a theoretical basis for carrying out the study. Literature review serves as a guide to the researcher in discussing the results of the study in terms of whether or not the results of the study agree or disagree with the other studies.

For this study, this chapter will review literature related to the two variables of the study, which are, knowledge and practice of under-five care takers on the early signs of malnutrition. Both published and non published studies have been used. The literature review has been looked at according to knowledge and practice.

## 2.2 **KNOWLEDGE**

Malnutrition is one of the most important health and welfare problems among infant and young children. Malnutrition has a significant health and economic consequences, the most 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 Commission of Zambia, 2008).

Despite the fact that the world already produces enough food to feed everyone that is 6 billion people and could feed even double population that is 12 billion people, malnutrition is still one of the world biggest health problem. Children and the elderly tend to be especially susceptible. Approximately 27 percent of children under 5 in developing world are malnourished. According to the World Health Organization, malnutrition is by far the biggest contributor to child mortality, present in half of all cases. Malnutrition claims about more than half of the 10 million deaths each year of children under-five. On the average, a child dies every 5 seconds as a result of hunger - 700 every hour - 16 000 each day - 6 million each year - 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 and utilization of health services and the care provided to the child. Several studies have been conducted to explore interventions needed to increase the household ability to address the cause of malnutrition. Interventions could focus on helping households use their resources more effectively to improve the nutrition of their children as well as increase in household resources (Strauss, 1995).

A study conducted in Sumba - an island in Indonesia (Barrera, 1990). Which had an abundance of malnourished children every where such that if one takes a quick look around any school, one would see malnourished children. A survey conducted at Anakaka school revealed that 202 out of 258 children were severely

malnourished (Barrera, 1990). The survey revealed that, the problem stems from the poor protein diet, the shortage of food in the region and the parent's lack of knowledge. They do not understand the causes and consequences of a poor diet and they do not recognize the warning signs of malnourishment which are swelling of the feet and hands and inactivity of the affected child. They study revealed that the parents neither know these early signs nor do they know what to do about these early signs. Therefore, a teaching program that focused on Nutrition education was developed to create awareness of these early signs for the caretakers and the parents of the <5 children.

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 the early signs of malnutrition (Barrera, 1990).

Studies conducted in Pakistan revealed that educating under-five caretakers was the key to winning the fight against malnutrition in childhood as most of the caretakers did not have adequate knowledge to manage or prevent malnutrition (Alderman, 1994).

Similar studies were conducted in Jamaica and the results revealed that most of the under-five caretakers did not have adequate knowledge in the prevention of malnutrition in the under-five children. It was evident that if the knowledge of the caretakers was improved, malnutrition will no longer be a health problem among the under-five children (Handa, 1999).

Sub regionally; a study conducted in Ghana revealed that caretaker education was a key factor in the fight against child malnutrition. This is based on their inadequate knowledge in recognising the early signs of malnutrition (Lavy et al, 1996). Glewwe, (1999), shows that mothers health knowledge alone appears to be the crucial skill in improving child's nutrition status. Moreover it was found that such knowledge is found outside the classroom, though its acquisition is

facilitated by the numeracy and literacy skill obtained through formal education. These findings have an important policy implication. Even in countries where formal education is limited, it may be possible to import nutritional knowledge with specific child malnutrition education, during the same study, (Glewwe, 1999) *identified three path ways through which school may influence child health.* Firstly, formal education may directly transfer health knowledge to future mothers, secondly, the literacy and numeracy skills acquired in school may enhance people's capability to diagnose and treat child health problems and thirdly, increased familiarity with modern society through modern schooling may make women more receptive to modern medicine (Glewwe,1999). Tangelder, (1990), quoting another study conducted in Tanzania, by Latham (1990) revealed that lack of knowledge about food was one of the causes of malnutrition in Tanzania

A recent study conducted in Zimbabwe revealed that the more the education caretakers have, the more knowledgeable they become on the management of malnutrition (Christiaensen, 2001). The study identified household resources, parents' education, and food pricing and maternal nutritional 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 by 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 (Christiaensen, 2001).
Nationally in Zambia, studies conducted by Kapungwe in Luapula province revealed that most of the caretakers of under-five children only had basic knowledge on malnutrition. This made it difficult for caretakers to prevent or manage malnourished children leading to high under-five mortality (Kapungwe, 2005).

The above studies show that education level of the caretakers and the knowledge they have on malnutrition are important factors in the fight against malnutrition. The studies revealed that most of the participants in study did not have adequate knowledge malnutrition hence malnutrition is still remains a world problem.

## 2.3 **PRACTICE**

Protein energy malnutrition (PEM) has been identified as a major health and nutrition problem in India. It, not only, leads to childhood morbidity and mortality but also leads to permanent impairment of physical and possibly of mental growth of those who survive.

Nutritional status of 1661 children aged 6 months to 2 years who attended the Well Baby Clinic of UHC Gokulpuri, Delhi during the year 2000 was studied. 60.7% of them were malnourished. Undesirable practices of discarding the colostrums before breast feeding the baby for the first time, not exclusively breast feeding the child till at least 4 months of age, delayed weaning, dilution of top milk, use of bottle and nipple for feeding the children are still widely prevalent (Khokhar et al, 2003).
A study conducted in Indonesia, where, most of the under-five children were malnourished, revealed that caretakers of under-five children did not know what to do about the early signs of malnutrition. Therefore a teaching program that focused on how to manage malnutrition was developed to improve the practice of the caretakers. (Khokhar et al, 2003).

A study conducted by Fawzi et al in (1988) in Zaire and Sudan reported strong inverse associations between malnutrition and mortality. The high mortality was association to inability of caretakers to identify the early signs of malnutrition and take prompt action to manage the disease.

A similar study conducted in Democratic Republic higher of Congo revealed that a most of the children who died were not breast-fed. Malnourished children who continue to breast-feed would be receiving antibodies and other immunologic

substances from their mother and this may provide some protection against death from infection. On the other hand those who were not breast fed die from infectious diseases (Fawzi, 2009).

A study in Tanzania revealed that Poor feeding habits and lack of nutrition knowledge was the major causes of malnutrition in Tanzania. Poor feeding included giving so much soft drinks to under-five children. At a very early age, children are weaned on coke, Pepsi or seven-up 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 6 months of age was very close to signing the death certificate of the child." Why is bottle feeding so dangerous? Mothers often use dirty or unsterilized bottles. The quality of water is poor in many places. There is no refrigeration that can take care of the left-over milk. All these factors make nutritious milk lethal poison. 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 was one of the factors associated with malnutrition in Malawi (Madise, 1992).

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, Zambia still has malnutrition problems.

Kasumpa conducted studies in Kawambwa and Sanfya district of Luapula province of Zambia, to determine the probable causes of death among children under the age

of five years in the two districts. Malnutrition was found to be the number four cause of under-five mortality in the two districts. (Kapumgwe, 2008).

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

A study reported by the editor of the Post Newspaper, titled 'Malnutrition the silent emergency' written on 20th January 2006, revealed that every year, thousands of Zambian children die from malnutrition-related problems. Those who survive are robbed of a healthy body, a sound intellect, and the hope for a healthful living. Despite its gigantic toll, malnutrition was given very limited attention by the leaders at all levels; hence, it was generally viewed as a silent emergency. This result revealed that the practice of the Zambian government 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 caretakers draw a line between life and death in under-five children. The studies sited bad feeding including bottle feeding as a contributing factor to child malnutrition. The other factor was the inability of caretakers to identify the early signs of malnutrition and take appropriate action to manage them early.

## 2.4 **CONCLUSION**

The literature revealed, showed that malnutrition remains was a global problem. Therefore efforts have been made globally to fight the disease. Among the causes of malnutrition is poverty, lack of knowledge on malnutrition and bad feeding practice. Child mortality resulting from malnutrition can be prevented by effectively addressing the above stated concerns.

This study will contribute information to the policy makers, implementers and communities to fight malnutrition. The information will also be added to the existing body of knowledge in in the fight against malnutrition.

# CHAPTER THREE

## 3.0 RESEARCH METHODOLOGY

### 3.1 INTRODUCTION

The purpose of the study was to determine the knowledge and practice of the under-five care takers on the early signs of malnutrition in Chitambo community of Serenje District. This chapter describes the methodology that was utilized for this study in order to gather pertinent information to answer the research question or describe the phenomena related to the research problem (Dempsey and Dempsey, 2000). The chapter also describes the research design, research setting, the study population, sample selection, sample size, data collection and data collection technique. It also looks at the pilot study, validity and reliability, ethical consideration, plan for data analysis and dissemination of finding.

### 3.2 RESEARCH DESIGN

A research design is the blueprint for conducting the study that maximizes control over factors that could interfere with the validity of the findings (Burns and Grove, 2005). In this study, a descriptive cross-sectional study design was used to determine the knowledge and practice of care takers on early signs of malnutrition. A descriptive design is a design that involves systematic collection and presentation of data to give a clear picture of a particular situation (Burns and Grove, 2005). The descriptive design is appropriate because this study is of a short duration bearing in mind the time available to conduct the study. This type of study also helped to describe what is in existence.

### 3.3 RESEARCH SETTING.

A research setting is a physical location and conditions in which data collection takes

place in a study (Polit and Beck, 2008). This study was conducted in Chitambo hospital
catchment area. Chitambo hospital is a first level referral hospital situated in chief Muchinka's area in Serenje District of Central Province. It is about 87km from Serenje
BOMA and 7 km off the Great North Road. It has an approximated area of 23km2. The
hospital has a catchment population of 21,860. (Chitambo Hospital Action Plan, 2009-2011). Within the hospital grounds there is a Hospital Affiliated Health Centre
(HAHC). The HAHC has 19 health posts which are reached during outreach programs which provide promotive, preventive and curative services monthly.
Socio-Economically Chitambo is a typical rural area with no industries. Over 90% of the population live in villages. The major occupation is subsistence farming and small scale fishing. The cash crops grown include; maize, beans, tobacco, groundnuts and cassava, Irish potatoes, sweet potatoes sorghum and millet. The area is mainly inhabited by local or indigenous Lala tribe governed by traditional chief Muchinda. There is a seasonal influx of traders into the area from all over the country to buy beans, caterpillar, potatoes and other agricultural products using the barter system. This is the time most farmers sell almost all their farm produce leaving families starving. During the rain season most local peasant farmers move from their villages to virgin lands for cultivation. They stay in makeshift shelters known as 'inkutu' in local language. This annual movement and selling of their farm produce, has a negative effect on health and social service as it deprives them of access to clean and safe water, school and health services thereby, contributing to high illiteracy levels and various health problems such as malnutrition. Culturally the best food is given to male who are the heads of their households and play the instrumental roles in their families while the mother who plays the expressive roles express to the children that she and them - the children eat the leftover food items. This practice has contributed to malnutrition in the under-five children.

According to Chitambo Action Plan, (2008), Malnutrition remained the third leading cause of child mortality at the hospital. The hospital is concerned with child and infant morbidity and mortality resulting from malnutrition. The high mortality levels are associated to the fact that care takers take their children late to the hospital to seek care. Management of malnutrition should be started on time if the lives of children are to be saved.

The hospital is contributing in the country's effort in meeting the goal number four of the MDG by 2015. According to Chitambo Action Plan, (2008) the hospital had put in place measures to reduce Case Fatality Rate of under five years' children from 360/1000 to 120/1000 by 2011. These measures included; Training members of staff in the management of severe malnutrition, conducting clinical symposium to educate members of staff on the management of severe malnutrition and training, at, least three nutrition supporters for each of the fourteen zones of the hospital. The training program consisted of theory and practical. Theory covered definitions, signs and symptoms, Pathophysiology and management of malnutrition, while practical was mainly cooking demonstrations.

The hospital also formulated a nutrition policy; the policy guides members of staff on the management of malnutrition and acted as a reminder to the health care providers at the hospital to always follow the treatment plan.
The hospital also planned to procure and distribute high protein energy diet supplement to severely malnourished children. This aided the malnourished children to recover quickly and hence reduce mortality in the under-five children due to malnutrition.

## 3.4 **STUDY POPULATION**

The study population is defined as the entire number of units under study (Burns and Grove, 2005). The study population for the current study was caretakers of under-five children in Chitambo catchment area.

3.4.1 A target population is a group of individuals who meet the sampling criteria and to which the study findings was generalized (Burns and Grove, 2005). The target population in this study were mothers and caretakers with under-five children.

3.4.2 The accessible population can be defined as the aggregate of cases that conform to designated criteria and that are accessible as subjects for a study (Burns and Grove, 2005). The accessible population was parents/ guardian/caretakers in Chitambo catchment area.

## 3.5 SAMPLE SELECTION

Sample selection is a process of selecting a number of individuals from the delineated target population in such a way that individuals in a sample represent as nearly as possible the characteristics of the entire target population (Polit and Beck, 2008).

Hospital selection was a non-probability sampling. The hospital was conveniently selected because it was the workplace for the interviewer who, therefore, is familiar with the environment.

The health posts were selected by the use of Cluster sampling. Cluster sampling is defined as selection of study units/clusters instead of selection of units individually. Clusters are often geographical units, (Polit and Hungler, 1995). A list of health posts which totalled nineteen (19) was made. The names of the health posts were written on small pieces of papers. The papers were then folded and put in a bowl. Then 10 health posts were randomly picked without replacement. Five eligible respondents were randomly picked from each of the 10 health posts until the 50 respondents were selected.

## EXCLUTION CRITERIA

Exclusion criteria are defined as the population that do not posses the required characteristics (Burns and Grove, 2005). In this study the sample excluded all caretakers in Chitambo catchment area who did not have under-five children.

## 3.6 SAMPLE SIZE

A sample size is the total number of elements of the population being studied (Polit and Beck, 2008). In this study a total of fifty (50) respondents was included in the sample. The reasons for selecting this sample size include limited time (4 weeks) as well as inadequate material and financial resources.

## 3.7 DATA COLLECTION TOOL

A data collection tool is an instrument used to collect data (Polit and Beck, 2008). In this study, data was collected by the investigator using a structured interview schedule. A structured interview schedule is when the questions are asked orally in either face-to-face. (Polit and Beck, 2008). This tool was chosen because it was user friendly and it was applicable to both illiterate and literate caretakers of under-five children.

The structured interview had both open ended and closed ended questions. It was divided into three sections. Section one (1) was looking at knowledge of under-five caretakers on early signs of malnutrition, section two (2) looks at practice of care takers on early signs of malnutrition and section three (3) the biographic data of the respondents. The advantages of using an interview schedule are that it gave room for a respondent to seek clarification for questions in the questionnaire and the researcher could ask for clarification on the answers given. The method also helped the researcher to build a good rapport with the respondents

## 3.8 DATA COLLECTION TECHNIQUES

Data collection technique is the process used to gather information to be used in addressing the problem under study, (Polit and Beck, 2008). It consists of systematically collecting information from respondents to address the objectives of the study. In this study, data was collected by structured interviews. A complete set of well-defined questions was used. A private place was arranged where caretakers of under-five children were made to sit comfortably and be interviewed. The arrangement of a room and seats was done before caretakers arrive at the health post. The caretakers who

were selected for interviews were asked if they were willing to be interviewed. Those who were willing were asked to go to the private room for an interview. While in the private room the interviewer introduced himself to respondent, and confidentiality was assured. The interviewer explained to the respondents that they were going to be asked to answer some questions that were in the questionnaire. They were told that participation was voluntary and the respondents were free to stop at any time. After the explanation the interviewer obtained an informed consent. At the end of the interview the researcher thanked the respondents and then edited the responses to make sure they were well written. The interviewer conducted at least twenty interviews per week. Each interview lasted for not more than 40 minutes. The interviewer trained three assistants for a day on how to use the questionnaire and relate to the respondents. The trained assistants helped in data collection and editing of the collected data.

## 3.9 **VALIDITY**

Validity is the degree to which an instrument measures what it is intended to measure. (Polit and Beck, 2008). Validity constitutes both external and internal validity. Internal validity concerns the extent to which conclusions can be drawn about the effects of one variable on another. The validity of instruments to be used in the study is by making questions simple, concise and brief (Polit and Beck, 2008). External validity is concerned with the extent to which research findings can be generalized beyond the sample of research (Polit and Beck, 2008). To ensure validity of instruments in this study, questions were made simple, concise and brief. Same questions were asked to each respondent in the same sequence. For respondents who did not understand English, questions were translated in vernacular language so that respondents understood the questions. The investigator measured the instrument that was used to see if it was be able to bring out the desired information by conducting a pilot study. This helped to eliminate unnecessary questions and make necessary amendments to the questions as need be.

## 3.10 **RELIABILITY**

Reliability is the degree of consistency or dependability with which an instrument measures the attribute it is designed to measure. (Polit and Beck, 2008). It is how well the instrument will produce same information each time it is used. The results from the pilot study were used as base line data to test reliability. By administering the same questionnaire to all the five respondents in the pilot study, biases were eliminated because the same questions were asked. Amendments to the instrument were made as explained above. These changes helped in eliminating biases and minimised errors during data collection.

## 3.11 **PILOT STUDY**

A pilot study is a small-scale version of a proposed study conducted to develop or refine the methodology, such as the treatment, instrument, or data collection process (Burns and Grove, 2005). The reasons for the pilot study are to acquaint the investigator with the data collection instrument, respondents and analysis of data, to identify any extraneous variables so that they could be eliminated and to provide a miniature trial run of the methodology planned for major project and an opportunity to refine or adjust methods and techniques. It also allows the investigator to find out how feasible the study would be and how valid and reliable the data collection tools are. The pilot study comprised of 5 respondents representing 10% of the 50 sampled respondents. The five respondents that are under-five caretakers in the pilot study were sampled randomly. The study was carried out in A07 which is a malnutrition ward at University Teaching Hospital (UTH) in Lusaka. This was because the ward received patients from all parts of the country. The place was also easily accessible. The ward being in a referral hospital, there were a variety of respondents. The ward gave a good representation of respondents. In this way the data collection instrument was put to a good test. The pilot study was conducted on 4$^{th}$ September, 2009. A few changes were made on the data collection tool. These included; adding 'face' on options on question 9. The question needed the respondents to identify parts of the body where caretakers can check for early signs of malnutrition was on the body parts that a caretaker can check for signs of

early malnutrition, under practice, question 14 'occasionally' was added to the options and question 17 which was an open ended question, options were added. These changes perfected the questionnaire.

## 3.12 ETHICAL AND CULTURAL CONSIDERATIONS

Ethical considerations involve a system of moral values that is concerned with the degree to which researchers adhere to professional, legal, and social obligations to the study participants (Polit and Beck, 2008). The ethical principles includes; respect for persons (autonomy-self determination), beneficence and non- malfeasance, justice, confidentiality and anonymity. These principles will be conformed to by upholding the respondents' right to self determination.

**3.12.1 Right to self determination.** This is the right to decide to take part in the study or not, no one was forced to be part of the study. Those who decide to participate had the right to withdraw from the study any time without any penalty. The respondents had the freedom of choice.

**3.12.2 Beneficence** This means doing good and avoiding harm to the study participants. It involves protecting the subject from discomfort and harm physically, emotionally, spiritually, economically or socially.

**3.12.3 Justice** This is the right to fair selection, treatment and privacy.

After giving the respondents information they were given an opportunity to make decision whether to take part in the study or not. The values, beliefs and choices of the respondents were respected. The interviewer ensured that only well and no harm was done on the respondents. This was ensured by making the respondents seat comfortably during the interview to avoid physical harm, no abusive or offensive language was used to prevent emotional harm; the outcome of the study was for the good of the community. The principle of fidelity and veracity was upheld by ensuring that the promises made such as confidentiality

and the use of the results were upheld. The respondents were kept nameless instead codes were used to uphold the principle of anonymity.

For the pilot study, a written permission was requested from UTH management. All the respondents were requested verbally for their inclusion in the study. Then a written informed consent was signed for those who decide to take part in the study. Before conducting the main study, the researcher got permission in written from Serenje District Director of Health and the Medical Officer In-Charge of Chitambo hospital respectively.

# CHAPTER FOUR

## 4.0 DATA ANALYSIS AND PRESENTATION OF FINDING

### 4.1 INTRODUCTION

In this chapter, the investigator, discuses the analysis and presentation of the findings of the study. The presented results of the study are based on the responses the investigator got from the selected sample of fifty (50) caretakers of under-five children in Chitambo catchment area.

### 4.2 DATA ANALYSIS

Data analysis is the process of categorizing, scrutinizing and cross- checking the research data (Basavanthappa, 2006).

After data collection, the questionnaires were sorted out, responses were verified, coded, categorized and plotted down on the data master sheet for easy analysis. The data was analyzed by SPSS.

The findings of the study have been presented in frequency tables, graphs and pie charts for clarity. Cross tabulation have also been used to examine the relationships between the variables.

The data has been arranged under three (3) sections as shown below. Section A, deals with demographic data of the study respondents, section B, deals with knowledge, section C deals with practice and section D will deal with cross tabulation of findings.

## 4.3.0 PRESENTATION OF FINDINGS

### 4.3.1 DEMOGRPHIC DATA

**TABLE 6: AGE OF RESPONDENTS (n=50)**

| RESPONSE | RANGE/LEVEL/OUTCOME | FREQUENCY | PERCENTAGE |
|---|---|---|---|
| AGE | 16-20 | 5 | 10 |
| | 21-25 | 9 | 18 |
| | 26-30 | 18 | 36 |
| | 31-35 | 11 | 22 |
| | 36-40 | 4 | 8 |
| | 41-45 | 2 | 4 |
| | 46-50 | 1 | 2 |
| | **Total** | **50** | **100** |

The age distribution of the respondents ranged from 16 years to 50 years. The majority (18) 36%, of the respondents were between the ages 26 – 30 years, followed by the age group between 31 and 35 years with (11) 22% respondents,

**Figure 2: SEX OF RESPONDENTS (n=50)**

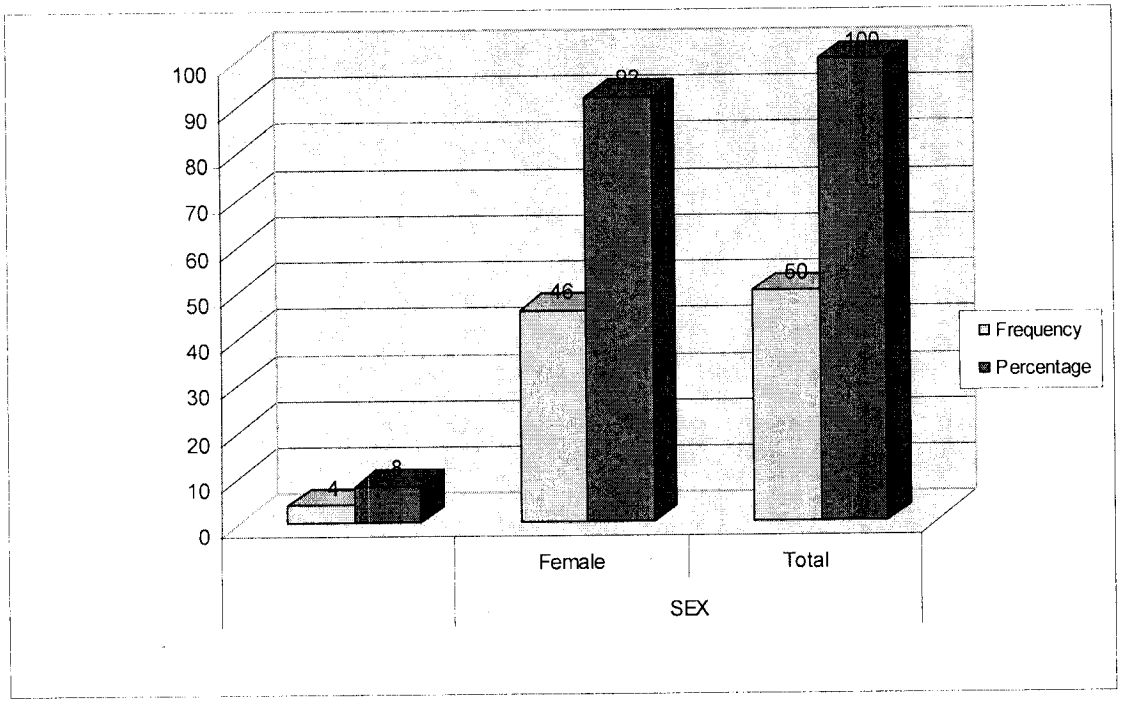
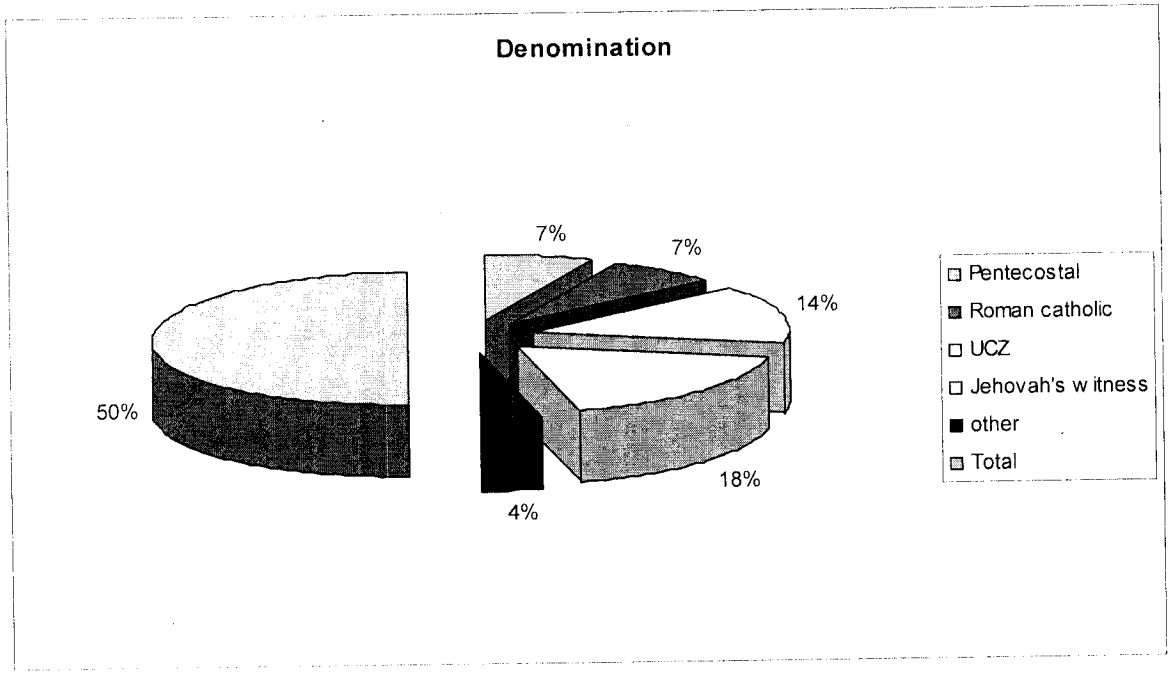


TABLE 7: **Education Level of Respondents (n=50)**

| RESPONSE | Frequency | Percent |
|---|---|---|
| Never attended school | 6 | 12 |
| Primary education | 28 | 56 |
| Secondary education | 16 | 32 |
| Tertiary education | 0 | 0 |
| **Total** | **50** | **100** |

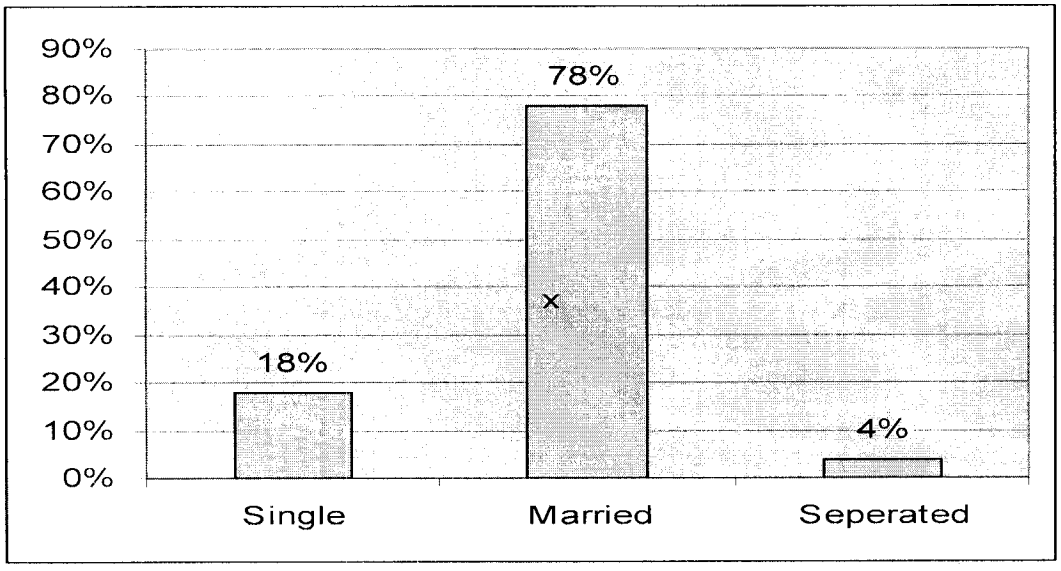
Table 4 indicates that 56% of the respondents went as far as primary education, 32% attained secondary education.

**TABLE 9: Religious denomination of respondents (n=50)**




(36%) A third half of the respondents belonged to Jehovah's Witness, 28% belonged to UCZ while Pentecostal and Roman Catholic had 14% each.

Figure 4: **Marital Status of Respondents (n=50)**




From the table above (39) 78% of the respondents were married, (9) 18% were single and (2) 4% were separated.

TABLE 8: **Occupation of Respondents (n=50)**

| RESPONSE | Frequency | Percent |
|---|---|---|
| Unemployed | 5 | 10 |
| Self employed | 17 | 34 |
| House wife | 1 | 2 |
| Formally employed | 27 | 54 |
| **Total** | **50** | **100** |

From the table above the majority 54% of the respondents were formally employed while 34% were self employed.

TABLE: 9 **Respondents monthly income (n=50)**

| RESPONSE | Frequency | Percent |
|---|---|---|
| Adequate Income | 38 | 76 |
| Inadequate Income | 12 | 24 |
| **Total** | **50** | **100** |

The table above indicates that, 76% of the respondents had adequate income to meet the family needs while 24% their monthly income was not adequate.

TABLE: 10 **Number of people in the house (n=50)**

| Number of people in the family | Frequency | Percent |
|---|---|---|
| 3 | 2 | 4 |
| 4 | 12 | 24 |
| 5 | 13 | 26 |
| 6 | 6 | 12 |
| 7 | 9 | 18 |
| 8 | 3 | 6 |
| 9 | 1 | 2 |
| 10 | 2 | 4 |
| 12 | 2 | 4 |
| **Total** | **50** | **100** |

The table above shows that, 26% of the respondents had five people in the family, 24% were four in the family, while only one respondent had nine members in the family. The highest number of members in the family was 12 with 2 respondents.

**TABLE: 11 Number of under-five children in the house? (n=50)**

| Number of under-five in the home | Frequency | Percent |
|---|---|---|
| 1 | 21 | 42 |
| 2 | 26 | 52 |
| 3 | 2 | 4 |
| 4 | 1 | 2 |
| **Total** | **50** | **100** |

From the table above 52% of the respondents had two under-five children in their home, while 42% had one, 4% of the respondents had three under-five children and one respondent had four (4) under-five children in the home.

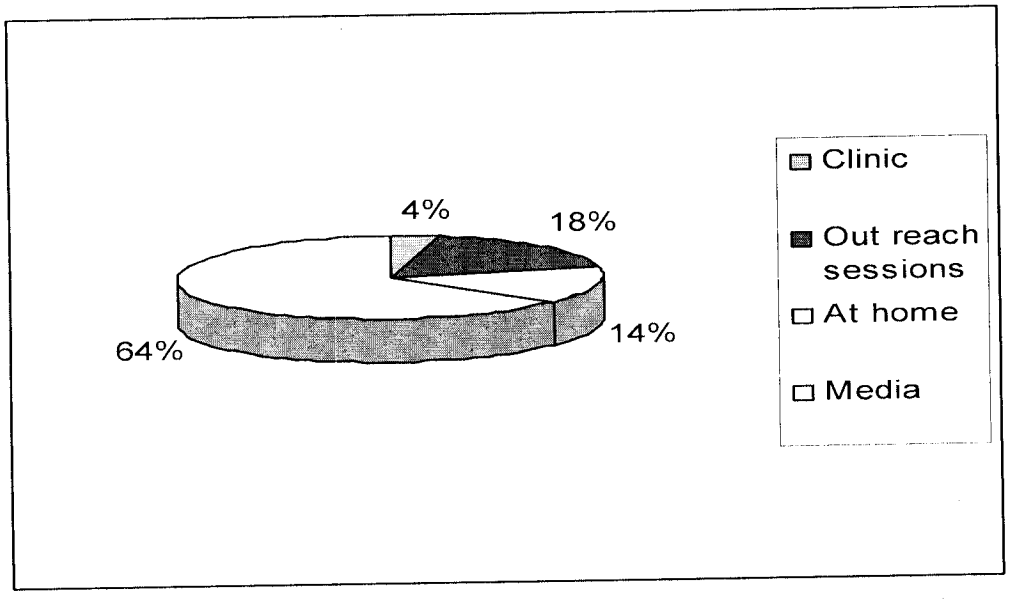
4.3.2 **KNOWLEDGE**

TABLE 12: **Distribution of respondents by having ever heard about malnutrition? (n-50)**

| Variable | Frequency | Percent |
|---|---|---|
| **Ever heard about malnutrition** | | |
| Yes | 50 | 100 |
| No | 0 | 0 |
| **Total** | **50** | **100** |

The table above shows that all the 100% respondents had heard about malnutrition

**Figure 5: Where respondent heard about malnutrition? (n-50)**




Most of the respondents 64% heard about malnutrition from the media while 18% heard from outreach session

**TABLE 13: Time taken to walk to H/C? (n-50)**

| VARIABLE | Frequency | Percent |
|---|---|---|
| **Time to walk to the health centre** | | |
| Within 30 minutes | 19 | 38 |
| 1 hour | 13 | 26 |
| 2 hours | 5 | 10 |
| Over 3 hours | 13 | 26 |
| **Total** | **50** | **100** |

It took most 38% of the respondents 30 minutes to walk to the health centre while 26 took one hour to walk to the Health Centre.

TABLE 14: **Provision of literature on malnutrition at the H/C (n-50)**

| Variable | Frequency | Percent |
|---|---|---|
| ***Does the health centre provide literature on malnutrition?*** | | |
| No | 12 | 24 |
| Yes | 38 | 76 |
| **Total** | **50** | **100** |

According to the statistics above 76% of the respondents did not receive literature on malnutrition while 24% received the literature on malnutrition from the H/C that they attended.

TABLE 15: **How often the H/C provided material on malnutrition (n-50)**

| Variable | Frequency | Percent |
|---|---|---|
| **How often material was provided** | | |
| Never give | 39 | 78 |
| Once per year | 10 | 20 |
| I don't know | 1 | 2 |
| **Total** | **50** | **100** |

The table above shows that 78% of the respondents did not receive any material on malnutrition from the Health Centre.

TABLE 16: **Respondents' definition of malnutrition (n-50)**

| Variable | Frequency | Percent |
|---|---|---|
| **Definition of malnutrition** | | |
| It is a nutritional disorder resulting from insufficient or poorly balanced diet. | 49 | 98 |
| Losing weight | 1 | 2 |
| **Total** | **50** | **100** |

According to the table above 98% respondents gave the correct definition of malnutrition while 2% respondents did not define it correctly.

Figure 17: **Respondents knowledge on the cause of malnutrition**

| Cause of malnutrition | Frequency | Percent |
|---|---|---|
| Variable | | |
| Bad feeding | 50 | 100 |
| Witchcraft | 0 | 0 |
| HIV/AIDS | 0 | 0 |
| **TOTAL** | **50** | **100** |

All the 100% respondents knew the cause of malnutrition.

TABLE 18: **Respondent's knowledge of the signs of early malnutrition**

| EARLY SIGNS OF MALNUTRITION | Frequency | Percent |
|---|---|---|
| **VARIABLES** | | |
| Body sores | 44 | 31 |
| Fever | 14 | 9.8 |
| Passing worms | 25 | 17.5 |
| Inactivity | 25 | 17.5 |
| Swelling of the feet and hands | 6 | 4.1 |
| Not eating enough food | 29 | 20.2 |

**(Multiple response questions, do not add up to 50)**

From the table above the majority 31% of the respondents stated body sores as the sign of early malnutrition. Only (6) correctly stated swelling of the feet and the hands as a sign of early malnutrition.

TABLE 19 : **Respondent's response on the part of the body to check for early signs of malnutrition?**

| VARIABLE | Frequency | Percent |
|---|---|---|
| **Part of the body** | | |
| Feet | 15 | 7.7 |
| Chest | 44 | 22.4 |
| Eyes | 23 | 11.7 |
| Mouth | 34 | 17.3 |
| Abdomen | 21 | 10.7 |
| Ears | 45 | 23 |
| Hands | 14 | 7.1 |

**(Multiple response questions, do not add up to 50)**

As shown in the table above 22.9% of the respondents stated the chest as one of the body parts to check for signs of malnutrition, 22.4% said chest while7.7% and 7.1% correctly said feet and hands respectively.

TABLE 20: **Respondent's knowledge on the Treatment of malnutrition (multiple response questions, do not add up to 50)**

| Variable | Frequency | Percent |
|---|---|---|
| **Treatment** | | |
| Mixed diet | 35 | 49.3 |
| Herbs | 1 | 1.4 |
| Take to witchdoctor | 1 | 1.4 |
| Take to H/C | 31 | 43.7 |
| Don't know | 3 | 4.2 |

Most of the respondents 49.3% mixed diet as treatment of early signs of malnutrition while 43.7% of the respondents said taking the child to the H/C was the treatment for early signs of malnutrition.

TABLE 21: **Respondent's knowledge on prevented of malnutrition**

| VARIABLE | Frequency | Percent |
|---|---|---|
| **Prevention of Malnutrition** | | |
| Take child to H/C | 40 | 25 |
| Give protective herbs | 40 | 25 |
| Seek early treatment | 40 | 25 |
| Keep child clean | 40 | 25 |

**(multiple response questions, do not add up to 50)**

From the table above each variable had 25% of the respondents stating that it was the method of preventing malnutrition.

### 4.3.3 PRACTICE TOWARDS PREVENTION AND TREATMENT OF MALNUTRITION

TABLE 22: **Respondents practice on the early signs of malnutrition (n-50)**

| ACTION | FREQUENCY | PERCENT |
|---|---|---|
| What caretakers would do when they notice early signs of malnutrition | | |
| Take child to H/C | 48 | 96 |
| Take child to traditional healer | 1 | 2 |
| Give herbs to the child | 1 | 2 |
| Take no action at all | 0 | 0 |
| **TOTAL** | **50** | **100** |

Most of the respondents 96% gave the correct response on what to do with the early signs of Malnutrition that is taking the child to the H/C while 4% either took no action or gave herbs.

TABLE 23: **How often respondents checked for signs of early malnutrition (N-50)**

| **Checking Early Signs 0f Malnutrition** | **Frequency** | **Percent** |
|---|---|---|
| **Variable** | | |
| Weekly | 12 | 24 |
| Monthly | 13 | 26 |
| Yearly | 5 | 10 |
| Not at all | 20 | 40 |
| **TOTAL** | **50** | **100** |

Most of the respondents 40% never checked their children for signs of early malnutrition. 26% of the respondents checked for the signs monthly.

TABLE 24: **Taking under-five children for children's clinic (n-50)**

| **Children's' clinic** | **Frequency** | **Percent** |
|---|---|---|
| **VARIABLE** | | |
| Monthly | 50 | 100 |
| Every two months | 0 | 0 |
| Occasionally | 0 | 0 |
| **TOTAL** | **50** | **100** |

All the respondents 100% stated that they took their under-five children monthly for children's clinic

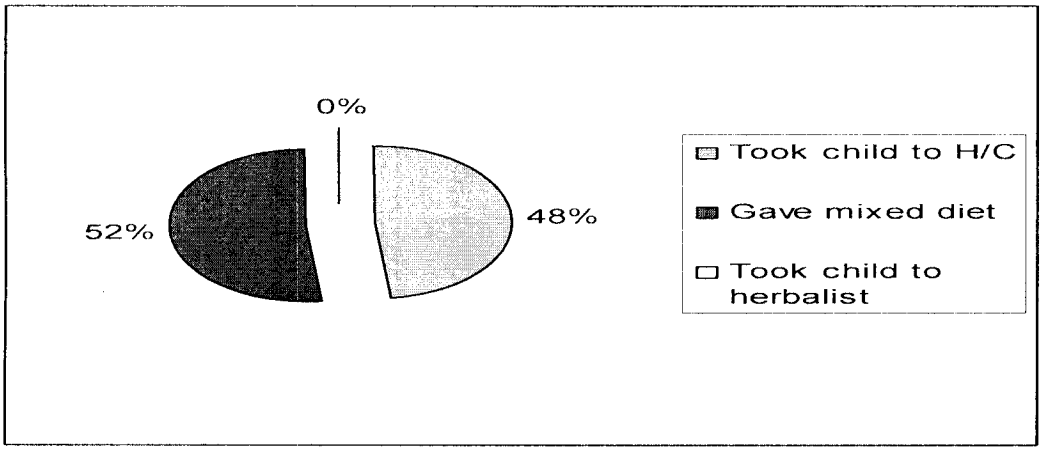
TABLE 25: **Respondents treatment of the early signs of malnutrition**

| VARIABLE | Frequency | Percent |
|---|---|---|
| **Treatment for early signs of malnutrition** | | |
| Panadol | 8 | 13 |
| Herbs | 2 | 3.3 |
| More food | 42 | 68.9 |
| Nothing | 2 | 3.3 |
| Other | 7 | 11.5 |

(multiple response questions, do not add up to 50)

The majority 68.9% of the respondents stated giving more food was how to treat signs of malnutrition while 13% said giving panadol.

Figure 7: **Respondent's response on prevention of further malnutrition (multiple response questions, do not add up to 50)**




The table above shows that 52% respondents took their children to the H/C while 48% gave mixed diet.

TABLE 26: **Respondent's response on how to improve knowledge and practice on malnutrition**

| How to improve knowledge and practice on malnutrition | Frequency | Percent |
|---|---|---|
| **VARIABLE** | | |
| H/C to teach caretakers | 50 | 100 |
| H/C provide literature | 50 | 100 |
| H/C to organize Cooking demonstration | 50 | 100 |
| H/C to provide Food supplements | 50 | 100 |

**(Multiple response questions do not add up to 50)**

All the 100% of the respondents gave the correct response on how to improve knowledge and practice on malnutrition.

Table 27: **Distribution of respondents by level of knowledge on signs of early malnutrition.**

| Level of knowledge | Frequency | Percent |
|---|---|---|
| Low | 12 | 24 |
| Medium | 36 | 72 |
| High | 2 | 4 |
| **Total** | **50** | **100** |

Majority 72% of the respondents had medium level of knowledge on early signs of malnutrition, 24% had low level of knowledge and 4% had high level of knowledge.

Table 28: **Respondents Practice**

| Practice | Frequency | Percent |
|---|---|---|
| Bad | 9 | 18 |
| Good | 41 | 82 |
| **Total** | **50** | **100** |

Out of 50 respondents (41) 82% had good practice while (9) 18% had bad practice.

### 4.3.4 THE RELATOINSHIP BETWEEN VARIABLES/ CROSS TABULATIONS

TABLE 29: **level of knowledge of respondents by age.**

| Level of Knowledge | 16-20 | 21-25 | 26-30 | 31-35 | 36-40 | 41-45 | 46-50 | Total |
|---|---|---|---|---|---|---|---|---|
| Low | 1 | 3 | 4 | 3 | 1 | 0 | 0 | 12 |
| Medium | 2 | 6 | 14 | 8 | 3 | 2 | 1 | 36 |
| High | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| **Total** | **5** | **9** | **18** | **11** | **4** | **2** | **1** | **50** |

41-

The majority 78% of the study respondents aged between 26 – 30 had medium level knowledge compared to 22% who had low level knowledge and no respondents in this age group had high level knowledge. 73% of respondent aged 36 – 35 year also had medium level knowledge compared to 27% with low level knowledge and none in this age group had high level knowledge. Two groups of 40% of respondents each in the age groups 16 to 20 had high and medium level of knowledge compared to 20% wit low level of knowledge.

TABLE 30: **level of knowledge of respondents by education.**

| **Level of knowledge** | **Level of education** | | | **Total** |
|---|---|---|---|---|
| | not attended | primary | secondary | |
| Low | 3 | 8 | 1 | 12 |
| Medium | 3 | 20 | 13 | 36 |
| High | 0 | 0 | 2 | 2 |
| **Total** | **6** | **28** | **16** | **50** |

The majority 81% of the study respondents who attained secondary level of education had medium level of knowledge compared with 71% of study respondents with primary education who had medium level of knowledge.

TABLE 31: **level of knowledge of respondents by occupation.**

| **Level of knowledge** | **Occupation** | | | | **Total** |
|---|---|---|---|---|---|
| | unemployed | self employed | formally employed | house wife | |
| Low | 1 | 4 | 1 | 6 | 12 |
| Medium | 4 | 12 | 0 | 20 | 36 |
| High | 0 | 1 | 0 | 1 | 2 |
| **Total** | **5** | **17** | **1** | **27** | **50** |

The majority (20) 74% of the respondents who were house wives had medium level of knowledge. The majority (12) 70.5% of those who were self employed had medium level of knowledge and the majority (4) 80% had medium level of knowledge.

TABLE 31: **Practice of respondents by age**

| Level Of Practice | Age of respondent | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|
| | 16-20 | 21-25 | 26-30 | 31-35 | 36-40 | 41-45 | 46-50 | |
| Bad | 1 | 2 | 4 | 2 | 0 | 0 | 0 | 9 |
| Good | 4 | 7 | 14 | 9 | 4 | 2 | 1 | 41 |
| **Total** | **5** | **9** | **18** | **11** | **4** | **2** | **1** | **50** |

The above table shows that (14) 77.8% of the respondents between the age of 26 and 30 had good practice while 22% of the respondents in the same age group had bad practice. (4) 100% of the respondents between the age of 36 – 40 had good practice while non had bad practice in the same age group.

**TABLE 32: level of practice of respondents by level of education.**

| Level of practice | *Level of education* | | | Total |
|---|---|---|---|---|
| | not attended | primary | secondary | |
| Bad | 0 | 4 | 5 | 9 |
| *Good* | *6* | *24* | *11* | *41* |
| **Total** | **6** | **28** | **16** | **50** |

he majority (24) 85.7% of the respondents who attained primary education had good ractice while (4) 14.3% in the same level of education had bad practice. (6) 100% of e respondents with no education had good practice. The table further shows that of e 16 respondents who attained secondary education the majority, (11) 69% had ood practice while (5) 31% had bad practice.

TABLE 31: **Practice of respondents by age**

| Level Of Practice | Age of respondent | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|
| | 16-20 | 21-25 | 26-30 | 31-35 | 36-40 | 41-45 | 46-50 | |
| Bad | 1 | 2 | 4 | 2 | 0 | 0 | 0 | 9 |
| Good | 4 | 7 | 14 | 9 | 4 | 2 | 1 | 41 |
| **Total** | **5** | **9** | **18** | **11** | **4** | **2** | **1** | **50** |

The above table shows that (14) 77.8% of the respondents between the age of 26 and 30 had good practice while 22% of the respondents in the same age group had bad practice. (4) 100% of the respondents between the age of 36 – 40 had good practice while non had bad practice in the same age group.

**TABLE 32: level of practice of respondents by level of education.**

| Level of practice | Level of education | | | Total |
|---|---|---|---|---|
| | not attended | primary | secondary | |
| Bad | 0 | 4 | 5 | 9 |
| Good | 6 | 24 | 11 | 41 |
| **Total** | **6** | **28** | **16** | **50** |

The majority (24) 85.7% of the respondents who attained primary education had good practice while (4) 14.3% in the same level of education had bad practice. (6) 100% of the respondents with no education had good practice. The table further shows that of the 16 respondents who attained secondary education the majority, (11) 69% had good practice while (5) 31% had bad practice.

**TABLE 33: level of practice of respondents by marital status.**

| PRACTICE | MARRITAL STATUS | | | Total |
|---|---|---|---|---|
| | Single | Married | Separated | |
| Bad | 2 | 6 | 1 | 9 |
| Good | 7 | 33 | 1 | 41 |
| **Total** | **9** | **39** | **2** | **50** |

The majority (33) 84.6% of the respondents who were married had good practice while (6) 15.4% in the same marital status had bad practice. (7) 77.8% of the respondents who were single had good practice while ( 2) 22.2% of the respondents of the same marital status had bad practice.

**TABLE 34: practice of respondents by number of under-five children in the house.**

| PRACTICE | Number of under-five children in the household | | | | Total |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | |
| Bad | 4 | 5 | 0 | 0 | 9 |
| Good | 17 | 21 | 2 | 1 | 41 |
| **Total** | **21** | **26** | **2** | **1** | **50** |

Most (21) 80.7% of the respondents who had 2 under-five children in the house had good practice while (5) 19.3(%) of the respondents who had same number of under-five children had bad practice. (4) 19% of the respondents who had only one under-five child had bad practice while the majority (17) 81% had good practice.

TABLE 35: **Level of knowledge of Respondents by practice.**

| PRACTICE | level of knowledge | | | Total |
|---|---|---|---|---|
| | low | Medium | high | |
| Bad | 1 | 7 | 1 | 9 |
| Good | 11 | 29 | 1 | 41 |
| **Total** | **12** | **36** | **2** | **50** |

The majority 80.5% of the respondents who had medium level of knowledge had good practice while 19.5% respondents with the same education level had bad practice. The same table shows that 92% of the respondents with low level knowledge had good practice while 8% of respondents with the same level of knowledge had bad practice.

# CHAPTER FIVE

## 5.0 DISCUSSION OF FINDINGS AND IMPLICATIONS FOR THE HEALTH CARE SYSTEM.

### 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 ranged between 16 and 50 years with the majority 18 (36%) aged between 26-30 years, followed by the age group between 31 and 35 with 11 (22%). The majority of the respondents were females with (92%). This proves the fact that in the Zambian society child care is the responsibility of females.

The religion of all respondents was Christianity. The dominancy of Christianity can be attributed to pre-independence era when only Christian missionaries come to Zambia. They established Christian churches and mission hospitals around the country of which Chitambo my study location was one of them (CSO, 2007). The missionaries contributed to the transformation of Zambia into Christianity. further more Zambia was declare a Christian nation in 1991(GRZ, 1991).

With regards to Education, most of the respondents 56% went up to primary education. 32% reached secondary education and 12% never attended school. This result can be attributed to the non available of secondary schools. The location of this study has no secondary school. However, there is one basic school, which is very difficult to access especially for those staying very far from the school. The other factor is that the majority of families in Zambia would prefer educating a boy child rather than the girl child. Bearing in mind that most of the study respondents were females (92%). The other factors that attributed to high poverty levels in rural Zambia where parents prefer marrying off their female children for material gain. This fact is supported by the findings of the Central Statistical Office in 2007 which indicated that most of the parents in rural Zambia marry off their daughters

at young age. WHO also noted that women and girl children are commonly discriminated against in terms of access to education and employment (WHO, 2000).

Most of the study respondents (78%) were married followed by singles (9%) and (4%) separated. The high number of married respondents could be attributed to a strong belief that marriage is an important social culture activity in the society. If one is not married, he/she is not given respect in the society. This information is a true reflection of marital status in Zambia. The finding also corresponds to CSO findings that most of the parents in rural Zambia treasure marrige (CSO, 2007).

Regarding occupation only 2% of the respondents was in formal employment, while the majority 54% were house wives. 34% were self employed. This means that the economy of the catchment area is poor. The findings under occupation corresponds to the CSO, 2007 report which revealed that unemployment levels in Zambia was very high, above 68% regardless of whether one had basic education or no education at all.

The number of under-five children per family of the respondents ranged between one and four. The majority of the respondents 52% had two children in their family. 42% had one, 4% had three and 2% had 4 under-five children in the family. This findings correspond with finding in the ZDHS, which found that 69% of all currently married women want to have another child, with 21% wanting to have a child within a 2 year period (CSO, 2007). This indicates a potential need for family planning services as well as intensifying child health services al all levels of health care provision with regard to prevention and early treatment child illnesses including malnutrition. This will promote the health and well-being of the under-five children.

## 5.2 DISCUSSION OF VARIABLES

### 5.2.1 **Knowledge**

Knowledge is the information, understanding and skills that you gain through education or experience (Hornby, 2005).

Knowledge is a key component in the prevention and management of any condition. Knowledge on malnutrition means the respondent is able to define malnutrition, state the causes, describe signs and symptoms, outline the parts of the body where one can check for early signs of malnutrition, describe the prevention and management of malnutrition. The knowledge about the early signs of malnutrition was assessed from caretakers of under-five children through questions in section B of the questionnaire (appendix 1)

The result of this study show that the the majority of the respondents 72% had medium levels of knowledge on the early signs of malnutrition, 24% had low levels of knowledge and only 4% had high levels of knowledge on the early signs of malnutrition. (Table 10 page 45)

All 100% (2) the respondents who had high level knowledge reached secondary education while none 0% of the respondents who did not attend school had high knowledge. 81% of the respondents who had secondary education had medium knowledge while 6% of the respondents with secondary education had low knowledge. This information indicates that education level has an influence on the knowledge on the signs of malnutrition. It can be assumed that the more educated one is, the more knowledgeable one will be on the recognition of the early signs of malnutrition in the under-five child. This is because the people with high education are able to read and understand the condition easily. This study finding accepts the second hypothesis of the study.

The study further revealed that all the respondents 100% heard about

malnutrition. The majority 64% of the respondents heard about malnutrition from the media. 78% of the respondents had never received any literature on malnutrition from the health facility.

The majority 98% of the respondents gave the correct definition of malnutrition while only 2% of the respondents did not know the definition of malnutrition.

All 100% of the respondents stated the cause of malnutrition correctly as bad feeding. This information indicated that, at least, caretakers have an idea about malnutrition. It, further, suggests that malnutrition was a serious and common health problem in the society.

On the knowledge of malnutrition the majority 44% identified body sores and fever as the early signs of malnutrition while 12% indicated that swelling of the feet, hands and abdomen were the early signs of malnutrition. This data shows that most of the people just have basic knowledge on malnutrition as they could not identify the early signs of malnutrition. This result is in agreement with the findings by WHO, 2007 that indicated that in rural Zambia people just have the basic knowledge on malnutrition.

When asked about the parts of the body where they can check for early signs of malnutrition, 40% said chest and eyes, 30% said chest and abdomen while 30% said feet and hands.

From the above results only 30% of the respondents were able to identify the parts of the body to check for early signs of malnutrition. This information corresponds with the study conducted by Kapungwe, 2008, which revealed that most of the under-five caretakers were unable to recognize early signs of malnutrition.

In terms of knowledge on treatment of malnutrition, the majority 49% of the respondents identified mixed diet as the treatment, 44% identified, taking the

child to health centre, 4% said they did not know the treatment of malnutrition. This result means that less than half of the respondents knew the treatment of malnutrition.

### 5.2.2 **PRACTICE**

Practice is to do an activity or train regularly so that you can improve your skill. (Hornby, 2005). In this study, practice refers to identification of the early signs of malnutrition by checking the child for the signs of malnutrition weekly, taking the child to the nearest health facility for children's clinic monthly, taking the child to the nearest health facility immediately early signs of malnutrition are noticed, taking the child to the health facility monthly for assessment of early signs of malnutrition and other under-five clinic activities such as immunization, growth monitoring and promotion.

The study showed that 96% of the study respondents took their children to the Health Center when they noticed the early signs of malnutrition, while 2% took their children to the traditional healer and 2% gave herbal medicine.

From the above description, we can see that the majority of the respondents knew what to do when they noticed the early signs of malnutrition as indicated in table 36. Seeking medical treatment for malnutrition early is vital as it is the only way to prevent further malnutrition, intellectual disability and death (WHO, 2003). Prompt action is very important; however it is dependent on the respondents' ability to recognize the early signs of malnutrition.

Regarding how often respondents checked their under-five children for signs of early malnutrition, the majority 38% said they never checked 31% said weekly and 19% checked monthly. This result agrees with the studies conducted by Kapungwe, 2008. Which indicated that caretakers of under-five children did not know how to check for signs of early malnutrition because they did not know or they never saw the need.

The ability for the caretakers to check for signs of early malnutrition is dependent on the knowledge they have on the signs.

When the respondents were asked about how often they took their under-five children for children's clinic, results reviewed that 100% took their children monthly for children's clinic. The 100% attendance has been made possible by providing both out reach and static under-five clinic services, (MOH, 2009)

This is a very good practice. However even if the caretakers take their under-five clinic monthly, they receive very little education and no literature on malnutrition. This fact has been revealed in this study. Figure 15 indicated that the majority 64% of the respondents heard about malnutrition from the media. Figure 17 shows that 76% of the respondents had never received any literature on malnutrition from the health facility not even from the outreach sessions. Therefore it is vital that the health facility educate caretakers on malnutrition.

Regarding the treatment of early signs of malnutrition, the majority 69% cited giving more food while 13% cited giving panadol as the way they treated malnutrition.

The above results show that caretakers had an idea on how to treat malnutrition. More food meant a mixed diet. Most of the respondents had only the basic knowledge on malnutrition, which is not good enough if we are to prevent child morbidity and mortality due to malnutrition (FAO, 2006).

Regarding how the caretakers prevented of further malnutrition, 52% of the respondents cited giving a mixed diet and 48% said taking the children to the Health Centre.

Prevention of further malnutrition is more beneficial than treatment as indicated Haiti study, which provided concrete evidence that preventive programs can be

highly successful on the ground with benefits that can last a lifetime. (Raine, 2003). This practice is very good, however for it to work well; respondent should adequate knowledge on the early signs of malnutrition.
In terms of how to improve knowledge and practice on early signs of malnutrition 25% said Health Center should teach caretakers, 25% said provide literature, 25% started giving food supplements and 25% said cooking demonstration.

All the above measures can obviously improve knowledge and practice. This result shows that caretakers know what they need in order to improve knowledge and practice on malnutrition. For all the above measures to be done, it will demand the commitment of both the health facility and the community. Both members needs to be creative and innovative in order to raise funds and successfully implement malnutrition eradication programs (MOH, 2009).

In relation to age and practice of respondents, 78% of the respondents between the age of 26 and 30 had good practice while 22% of the respondents within the same age group had bad practice.

From the above results, it is evident most of the respondents who were in their middle age, had good practice. This could be due to the fact that this group is able to seek knowledge, read and understand and able to put what they have learnt to practice. This age group is also assumed to be active and exposed to a lot of information on malnutrition hence the good practice.

The study further revealed that in relation of practice to level of education, 85.7% of respondents who attained primary education had good practice while 14.3% of study respondents who had the same level of education had bad practice compared to 69% of respondents with secondary education who had good practice and 31% of the respondents with the same education level with bad practice. The study also revealed that 100% of the respondents with no education had good practice.

These results show that the level of education does not affect the practice or that there is no relationship between the level of education and practice. This is because the pattern of practice was almost the same in all respondents regardless of their educational level.

With regards to marital status and practice, 84.6% of the married respondents had good practice compared to 77.8% of the single respondents who had good practice while 50% of the single respondents with good practice.

The results show that most of the married respondents had good practice compared to the separated and the single respondents. This could be due to the fact that the married respondents were being supported by their spouses.

Regarding practice and number of under-five children in the house, the results showed that the respondents who had three and four under-five children in the house each had 100% knowledge compared to the 80% of the respondents with 2 under-five children good practice and 81% of the respondents with only one under-five child with good practice.

The results show that the more the children one has the better the practice; this could be because the respondents with many children have the experience on child care and they have been exposed to a lot of information.

The results also showed that with regards to knowledge and practice, 92% of the respondents with low level knowledge had good practice, 80% of the respondents with medium knowledge had good practice while 50% of the respondents with high level knowledge had good practice.

These results show that the level of knowledge does not correspond to practice. It does not mean that when a person had high level knowledge then they have good

practice. This also means that people may have good knowledge and never put it to practice or good use.

## 5.3 IMPLICATIONS TO THE HEALTH CARE SYSTEM

The implications of this study are related to the problem under study, its objectives and hypothesis. The study reviewed that 72% of the study respondents had medium level of knowledge. This included those with secondary, primary and those with no education at all. This implies that respondents had medium levels of knowledge regarding early signs of malnutrition.

The other study finding focused on the practice of the study respondents on the early signs of malnutrition. It was reviewed that 82% of the respondents had good practice. In summary, despite having medium levels of knowledge most of the respondents had good practice. However in the actual sense, most respondents had bad practice only those respondents were able to answer questions on practice correctly meaning they knew what they were supposed to do. Even if they did not do the right things at all times. These findings now have implications on the different aspects of nursing care under; education, administration, practice and research.

### 5.3.1 PRACTICE

The findings of the study showed that most of the respondents had good practice. This was so because most of the respondents acquired knowledge while in hospital nursing their malnourished children. Mostly all the respondents whose under-five children were admitted to the hospital had bad practice. The implication to this is that there is still need to continue educating the caretakers on how to recognize early signs of malnutrition and what to do when they notice these early signs. 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).

### 5.3.2 **ADMINISTRATION**

The study revealed that most of the respondents heard about malnutrition from the media. The implication to this is that the health centre showed be proactive in educating the caretakers about malnutrition. The administration should budget for IEC material, items to use for cooking demonstration, facilitate making a garden for vegetables, fish pond and other activities to ensure that their is adequate logistics to fight malnutrition.

In terms of literature on malnutrition, most of the respondents said the never received an literature on malnutrition from the health centre. This implies that the health care system should procure and supply literature on malnutrition to caretaker if knowledge and practice on the early signs of malnutrition is to improve.

### 5.3.3 **EDUCATION**

Since the respondents had medium level of knowledge and 12% had bad practice in the early signs of malnutrition, this means, therefore, that the health care providers need to address the issue of knowledge of caretakers on malnutrition, if the knowledge levels of caretaker are to move from medium to high level knowledge and the practice to good. The health care providers need to conduct targeted Information Education and Communication (IEC). When providing IEC socio-economic and demographic factors should be considered in order to reach every caretaker of under-five children and also help caretakers internalize the education messages. The caretakers will be able to make informed decision.

The educational level of the study respondents was revealed to be low. Most of the respondents had either primary or no education at all. The implication to this is that, the health care system should package the IEC material in simplified form in order to help caretakers understand the information being provided. IEC should cover facts about malnutrition, signs and symptoms including the early signs, treatment and prevention of malnutrition.

The study also revealed that there is gender imbalance in terms of child care as most of the respondents were females. There is need therefore for health care provider to incorporate gender education in the health care programs in order to motivate male involvement in child care duties.

The study revealed that poverty was one of the problems. This result tallies with Verlag who stated that Zambians were among the poorest peoples in the world ranking 165 out of 173 on the UNDP index of human development. (Verlag, 2008). The CSO survey of 2005 also revealed that Zambia is one of the poorest nations in the world with most of its citizen living on less than one US dollar in a day (CSO, 2006). The implication is that many of the caretakers may not manage to adequately feed their children. This can result into malnutrition. Therefore the CHN should assist the community to come up with Income Generating Activities (IGA) such as gardening, to improve the financial base.

### 5.3.4 RESEARCH

The finding of the study has shown that there are various factors that affect the caretakers of under-five children knowledge and practice on the early signs of malnutrition. These factors can be classified under service provision and socio-cultural factors. This implies that the Health Canter should come up with topics for research. The DHO should fund research so as to generate factual data that can be incorporated to the existing body of knowledge in order to improve the quality of health delivery system to effectively prevent and manage malnutrition in under-five children.

## 5.4 RECOMMENDATIONS

The study has identified gaps in knowledge and practice among caretakers of under-five children on the early signs of malnutrition.

This is a challenge to health workers at the hospital. In order to overcome these challenges, personnel holding key positions have been identified to take the following action;

### 5.4.1 THE DISTRICT HEALTH OFFICE (DHO)

Serenje District Health Office should carry out regular technical support visits to the hospital to monitor malnutrition prevention programs in the hospital catchment area.

Intersectoral collaboration must be promoted by the DHO in order for other line ministries and NGOs interested in the fight against malnutrition to team up. Such organization and ministries include; PAM, WFP, Food and Nutrition Commission social welfare and ministry of agriculture. There is need to carry out more of the similar studies in other parts of the district to gather more information on malnutrition.

### 5.4.2 HOSPITAL/HEALTH CENTRE

The health care providers should intensify provision of IEC and literature on malnutrition to under-five caretakers on the early signs of malnutrition

The hospital should initiate the formation of malnutrition support groups which will educate caretakers at home on malnutrition.

The hospital should conduct scheduled cooking demonstration for caretakers to know how to prepare nutritious diet.

There is need to improve knowledge and communication skills of the health care providers through capacity building. All the health care providers should be oriented on these skills.

### 5.4.3 COMMUNITY LEVEL

There is need to empower the community with measures on how to control identify early signs of malnutrition and be able to take appropriate actions to 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.

There is need to improve communication skills among community based volunteers like CHWs, CBDs as well as NHCs.

There is need to involve all the influential people in the community like, political leaders, traditional healers and traditional leaders in the fight against malnutrition.

## 5.5 DISSEMINATION OF FINDINGS

Dissemination refers to the spread of information knowledge and other findings so that it reaches many people (Hornby, 2005). Dissemination of finding will be done through written report. Five (5) copies of written reports will be made which will be distributed to; the Department Nursing Sciences, University of Zambia Medical Library, Ministry of Health and Serenje District Health Office. The researcher will take advantage of District Integrated Meeting (DIM), which takes place in the last week of April to disseminate the findings of the research findings and also during hospital clinical symposium.

## 5.6 LIMITATIONS OF THE STUDY

### 5.6.1. Funding.

The study was poorly funded making it difficult and expensive to have the study 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. As a result of this, generalization of the findings should be made with caution in relation to the general population.

### 5.6.3. Literature

Most studies that were conducted in Zambia were not posted on the internet making it hard to measure the trends over time.

### 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**

The study sought to determine the knowledge and practice of under-five caretakers on the early signs of malnutrition. The objective of the study has been met and the hypotheses have been proven. It was discovered that 85.7% of the respondents who attained primary education had good practice while 14.3% in the same level of education had bad practice. It was also reviewed 100% of the respondents with no education had good practice. The research further reviewed that 80.5% of the respondents who had medium level of knowledge had good practice while 19.5% respondents with the same education level had bad practice. The same table shows that 92% of the respondents with low level knowledge had good practice. The researcher therefore rejected the first and the second hypothesis that stated that there was an association between education level and practice and that there was an association between the respondents' knowledge on early signs of malnutrition and practice respectively.

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**APPENDIX I**

Serial Number

## *THE UNIVERSITY OF ZAMBIA*

**SCHOOL OF MEDICINE**

## *DEPARTMENT OF NURSING SCIENCES*

**STRUCTURED INTERVIEW SCHEDULE**

**TITLE OF THE STUDY:** KNOWLEDGE AND PRACTICE OF UNDER-FIVE CARE TAKERS ON THE EARLY SIGNS OF MALNUTRITION

.

Client ID .....

Place of interview .....

Name of interviewer .....

Date of interview .....

**INSTRUCTIONS TO THE INTERVIEWER**

1. Introduce your self to the respondent
2. Establish rapport and explain purpose of interview
3. Explain to respondents that privacy, confidentiality and anonymity will be strictly maintained.
4. Get written consent from the respondent but do not force them to participate.
5. Do not write the respondent's name on the questionnaire
6. FOR Tick responses in the brackets besides the responses provided
7. Fill in the response in blank spaces provided where applicable.
8. Thank the respondent at the end of each interview.

***SECTION A:***

***KNOWLEDGE ON EARLY SIGNS OF MALNUTRITION***

*For official use*

1. *Have you heard about malnutrition before?*

   Yes [ ]

   No [ ]

2. If yes to question 1 above, where did you hear it from?

   a) At the clinic [ ]

   b) During outreach sessions [ ]

   c) At home [ ]

   d) Media

   e) other (specify) ----------

3. How long do you take to walk to the health centre?

   a) Within 30 minutes [ ]

   b) 1 hour [ ]

   c) 2 hours [ ]

   d) Over 3 hours [ ]

4. Does the health centre provide literature on malnutrition?

   a) Yes [ ]

   b) No [ ]

5. How often does the health facility give materials on malnutrition to read? (Tick your answer)

   a) Every six months [ ]

   b) Once per year [ ]

   c) I don't know [ ]

   d) They never give [ ]

6. What is malnutrition?

a) it is nutritional disorder or condition resulting from insufficient or poorly balanced diet [ ]

b) is passing loose stool several times in a day [ ]

c) having many children [ ]

d) Loosing weight [ ]

e) vomiting blood [ ]

**For official use**

7. What is the cause of malnutrition?

a) Bad feeding [ ]

b) Witchcraft [ ]

c) HIV/AIDS [ ]

d) Germs [ ]

8. What are signs of early malnutrition?

**(Tick all correct answers)**

a) Sores on the body [ ]

b) Swelling of feet and hands [ ]

c) Weight loss [ ]

d) Not eating enough food [ ]

e) Passing worms [ ]

f) Inactivity [ ]

g) Fever [ ]

h) Abdominal pains [ ]

9. Which parts of the body can you check for early signs of Malnutrition? **(Tick all correct answers)**

a) Feet [ ]
b) Chest [ ]
c) Hands [ ]
d) Eyes [ ]
e) Face [ ]
f) Abdomen [ ]
g) Mouth [ ]
h) Ears [ ]

10. What is the treatment for malnutrition?

a) Give the child food like; milk, eggs, nshima, beans.[ ]
b) Give the child herbs [ ]
c) Take the child to a witch doctor [ ]
d) Give the child panadol [ ]
e) Take the child to the health facility [ ]

11. How can malnutrition be prevented?

a) Giving the child clean water [ ]
b) Giving the child protective herbs [ ]
c) Giving the child a mixed diet, i.e a diet Comprising of energy, body building and Protective food [ ]
d) Seeking treatment early when the child is sick [ ]
e) Keeping the child clean [ ]

**SECTION B** **For official use**

**PRACTICE**

12 What did you do when you noticed some early signs of malnutrition on the child?

a. Take the child to the health facility [ ]
b. Take the child to the traditional healer [ ]
c. Give the child some herbs [ ]
d. Take no action [ ]
e. Other specify----------

13. How often do you check your child for signs of early Malnutrition? (Tick your answer)

a) Not at all [ ]
b) Weekly [ ]
c) Monthly [ ]
d) Yearly [ ]

Other specify ----------

14. How often do you take your under five child to children's clinic? **(Tick your answer)**

a) Monthly [ ]
b) Every two months [ ]
c) Every three months [ ]
d) Occasionally [ ]

15. How did you treat the early signs of malnutrition?

a) Gave Panadol [ ]
b) I took the child to the herbalist [ ]
c) Did not do anything hoped the child would recover [ ]
d) I gave the child herbs [ ]
e) I gave the child more food [ ]
f) Other (specify)----------

16 How did you prevent further malnutrition?

a) Take the child to the clinic [ ]

b) Give the child body building, energy giving and protective food [ ]

c) Gave the child herbal medicine. [ ]

d) Took the child to the herbalist [ ]

e) Gave the child fansidar [ ]

**For official use**

17 Please give suggestions on how malnutrition knowledge and prevention can be improved.

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**SECTION C**

**DEMOGRAPHIC DATA**

18. How old were you on your last birthday?

---

19. What is your gender?

---

20. What is your highest level of education?

a) have not attended school [ ]

a) Primary school [ ]

b) Secondary school [ ]

c) College [ ]

d) University [ ]

21. To what religious denomination do you belong to?

a) Seventh Day Adventist [ ]

b) Pentecostal church [ ]

c) Roman catholic [ ]

d) United church in Zambia [ ]

e) Jehovah's witness [ ]

f) Other (specify) ----------

22. What is your marital status?

a) Single [ ]

b) Married [ ]

c) Widowed [ ]

d) Separated [ ]

e) Divorced [ ]

23. What is your occupation?

a) unemployed [ ]

b) Self employed [ ]

c) Formally employed [ ]

d) House wife [ ]

e) Other (specify) _____

24. Does your monthly income adequately meet your family needs?

a) yes [ ]

b) not [ ]

25. How many are you in the house? ----------

26. How old is your youngest child --------months

27. How many under-five children do you have? ----------

**END OF INTERVIEW**

**THANK YOU FOR SPARING YOUR TIME TO ANSWER THESE QUESTIONS.**

## APPENDIX II

## INFORMED CONSENT

Dear participant,

My name is Levison Chifwaila, I am a student at the University of Zambia School of Medicine in the Department of Nursing sciences. I am pursuing a Bachelor of Science degree in Nursing.

In partial fulfilment of the degree program, I am required to undertake a research project. My study topic is on '*Knowledge and practices of under-five caretakers on the early signs of malnutrition*'. The main objective of the study is to determine the knowledge and practice of under-five caretakers on the early signs of malnutrition.

You have been randomly selected to participate in this study and I wish to inform you that participation in this study is voluntary and you are free to withdraw at any stage of the study if you so wish. You will be asked some questions about early signs of malnutrition. Any information you give me will be kept confidential and no name will be written on the interview schedule.

You will not receive direct benefits from the study or monetary gain. This information you give will help develop better understanding of the problem malnutrition in the community and will be used by health planners and other organizations that have child malnutrition on their agenda.

If you have any queries, please contact me on Telephone Numbers-0977 571 685

I (name) .....on ..... September, 2009, declare that i understand the purpose of this study and I am willing to participate in the study.

Signature/ thumb print of respondent.....

Signature of interview.....

APPEDIX III

THE UNIVERSITY OF ZAMBIA

**SCHOOL OF MEDICINE**

**DEPARTMENT OF NURSING SIECNCES**

Telephone: 252641
Telegrams: UNZA, LUSAKA
Telex: UNZALU ZA 44370
Fax: + 260-1-250753

P. O. Box 50110
Lusaka
Zambia
E-mail: pbn@coppernet.zm

8th September, 2009

The Medical Superintendent
University Teaching Hospital
P. O. Box 50001Rw
Lusaka.

UFS: The Head - Department of Nursing sciences

UNIVERSITY OF ZAMBIA DEPT OF POST BASIC NURSING SCHOOL OF MEDICINE 0 SEP 2009

**RE: PERMISSION TO CONDUCT A PILOT STUDY.**

I am a fourth year student pursuing a Bachelor of Science Degree in Nursing. In partial fulfilment for the award of this Degree, I am required to carry out a research project. I am therefore requesting for permission to conduct a pilot study (five mothers) at your institution in ward A07 in the month of September, 2009. The purpose of the pilot study is to test the data collection instrument (Attached).

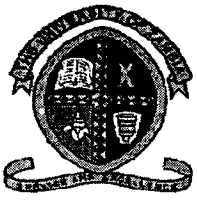
The purpose of my study is to determine the early signs of malnutrition knowledge and practice among under-five caretakers. My supervisor and the course coordinator have approved the procedures of my study. If you need further information please contact the Head of Department of Nursing Sciences on telephone number 211-252453.

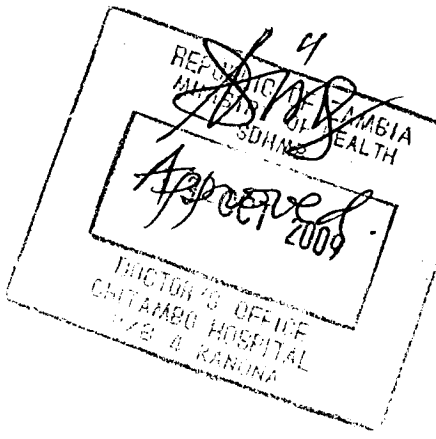
Your favourable consideration of this request will be highly appreciated.

Yours faithfully,

**Levison Chifwaila**
**4th year BSc NRS student**

APPENDIX IV






**THE UNIVERSITY OF ZAMBIA**
**SCHOOL OF MEDICINE**
**DEPARTMENT OF NURSING SIENCES**

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P. O. Box 50110
Lusaka
Zambia
E-mail: pbn@coppernet.zm

8th September, 2009

The District Director of Health,
Serenje DHMT,
P.O. Box 850095
Serenje.

UFS: The Head - Department of Post Basic Nursing.

Dear Sir / Madam,

**RE: PERMISSION TO UNDERTAKE A RESEARCH STUDY**

I am a fourth year student pursuing a Bachelor of Science Degree in Nursing. In partial fulfilment for the award of this Degree, I am required to carry out a research project. The purpose of my study is to determine the early signs of malnutrition knowledge and practice among under-five caretakers. My supervisor and the course coordinator have approved the procedures of my study. If you need further information please contact the Head of Department of Nursing Sciences on telephone number 211-252453.

I am therefore requesting for permission to conduct my study in the District at Chitambo Hospital. I intend to interview under-five caretakers who live within Chitambo catchment area at the children's clinic. I hope to conduct my data collection between 12th October and 2nd November, 2009. My questionnaire is attached.

Your favourable consideration of this request will be highly appreciated.
Yours faithfully,

**Levison Chifwaila**
**4th year BSc NRS student**

**APPENDIX V**

**RESEARCH PROJECT WORK PLAN 26 APRIL, 2009 TO FEBRUARY, 2010**

| **Task to be performed** | **Responsible person** | **Dates** | **Time required** |
|---|---|---|---|
| Literature review | Researcher & Supervisor | Continuous | Continuous |
| Compiling research proposal | Researcher | 26th April 2009 to 30th June 2009 | 9 Weeks |
| Clearance from school | Researcher | 2nd July 2009 to 31st July 2009 | 6 Weeks |
| Pilot study and adjustments to the data collection tool | Researcher | 22nd August 2009 to 27th August 2009 | 5 days |
| Data collection (main study) | Researcher | 28th August 2009 to 9th September 2009 | 10 days |
| Data Analysis | Researcher | 10th September 2009 to 8th October 2009 | 4 Weeks |
| Report Writing | Researcher | 9th October 2009 to 14th December 2009 | 5 Weeks |
| Draft Report to PBN | Researcher | 17th December 2009 to 31st December 2009 | 2 Weeks |
| Finalization of Report | Researcher | 1st January 2010 to 8th February 2010 | 5 Weeks |
| Monitoring & evaluation | Researcher & Supervisor | Continuous | Continuous |

## APPENDIX VI

## THE GANNT CHART SHOWING VARIOUS TASKS TO BE UNDERTAKEN FROM 26TH APRIL, 2009 TO 31st JANUARY, 2010

| MONTHS | | JUN | JULY | AUG | SEPT | AUG | SEPT | OCT | NOV | DEC | JAN |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Task to be performed** | **Person responsible** | | | | | | | | | | |
| Literature review | Researcher & Supervisor | | | | | | | | | | |
| Compiling research proposal | Researcher | | | | | | | | | | |
| Clearance from school | Researcher | | | | | | | | | | |
| Pilot study | Researcher | | | | | | | | | | |
| Data collection | Researcher | | | | | | | | | | |
| Data Analysis | Researcher | | | | | | | | | | |
| Report Writing | Researcher | | | | | | | | | | |
| Draft Report to PBN | Researcher | | | | | | | | | | |
| Finalization of Report | Researcher | | | | | | | | | | |
| Monitoring &evaluation | Researcher & Supervisor | | | | | | | | | | |

**APPENDIX VII**

**BUDGET**

| No. | ITEM | UNIT COST (ZMK) | QUANTITY | TOTAL (ZMK) |
|---|---|---|---|---|
| | **STATIONARY** | | | |
| 1 | Ream of paper | 35, 000 | 4 Reams | 140, 000 |
| | Ball pens | 20, 000 | 1 packet | 20, 000 |
| | Pencils | 500 | 5 | 2, 500 |
| | Eraser | 9, 000 | 5 Packet | 45,000 |
| | Note books | 5, 000 | 2 | 10, 000 |
| | Flash disk (USB) | 180, 000 | 1 | 180, 000 |
| | Stapler | 20, 000 | 1 | 20, 000 |
| | Staples | 15, 000 | 1 Box | 15, 000 |
| | Scientific calculator | 120, 000 | 1 | 120, 000 |
| | Perforator | 40, 000 | 1 | 40, 000 |
| | Spiral binders | 20, 000 | 1 | 20, 000 |
| | Front and back hard covers | 25, 000 | 2 | 50, 000 |
| | Flip chart | 50, 000 | 1 | 50, 000 |
| | Markers | 5,000 | 4 | 20, 000 |
| | **Subtotal** | | | **732, 500** |
| 2 | **SECRETARIAL SERVICES** | | | |
| | Typing research proposal | 3, 000 | 110 pages | 330, 000 |
| | Typing research questionnaire | 3, 000 | 110 pages | 30, 000 |
| | Typing draft report | 3, 000 | 10 pages | 360, 000 |
| | Typing final report | 3, 000 | 120 pages | 360, 000 |
| | Binding final report | 30, 000 | 120 pages | 150, 000 |
| | Photocopying | 500 | 800 copies | 400,000 |
| | **Subtotal** | | | **2, 347 500** |
| 3 | **PERSONNEL** | | | |
| | Research bags | 1 | 150, 000 | 150, 000 |

| | | | | |
|---|---|---|---|---|
| | Refreshment<br>Principal researcher<br>Assistant | 10, 000<br>50, 000<br>25,000 | 30 days<br>20 days<br>20days | 300, 000<br>1, 000, 000<br>500, 000 |
| | **Subtotal** | | | **3,897, 500** |
| 4 | **DISSEMINATION WORKSHOP** | | | **2, 000, 000** |
| | **Sub grand total** | | | **5, 897, 500** |
| | **Contingency fund 10%** | | | **589, 750** |
| | **GRAND TOTAL** | | | **K 6, 487, 250** |

## JUSTIFICATION FOR THE BUDGET

### STATIONERY

The reams of paper will be used for making photocopies of the questionnaire according to the respective numbers of respondents with extra copies just in case of any mistakes on the part of the participant. The research bag is necessary, as it will facilitate the safe keeping of the Questionnaires. The scientific calculator will be needed for data analysis. The researcher needs the other accessories, as he will be collecting data; these include pens, notebooks, staplers, staples, erasers, pencils and a perforator.

### PERSONNEL

Data collection will be done throughout the day hence the inclusion of lunch allowance in the budget. The researcher also needs transport money to commute from the residential area to the health posts.

### SECRETARIAL SERVICES

There is need to have the research proposal and questionnaires typed and photocopied. Additionally, the researcher needs a flash disk to enable him save the typed work and any relevant literature.

### DISSEMINATION OF RESULTS

The researcher will have to disseminate the findings hence the need for the
funds for logistics.

Finally the contingency, which is 10% of the total budget, is meant to cater for any unforeseen eventualities, extra costs and inflation of prices.

My case study will be conducted in Serenje district which is one of the districts in central province of Zambia. The district has a total population of 160,158 people with an annual growth rate of 0.7 %( SERENJE District Health Action Plan (DHAP) , 2009). The district has two first level referral hospitals and these are Serenje district and Chitambo hospital. To supplement the two hospitals, there are 19 health centres and 3 health posts offering primary health care services in the district.

All the health institutions in Serenje District including Chitambo hospital offer nutrition services, both preventive and curative. Chitambo hospital caters for a population of about 12,515.