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ANNEXES

Annex 1 Questionnaire of respondents

Annex 2 Letter of request to carry out the study

Annex 3 Letter of grant for permission to carry out research Study

ABBREVIATIONS USED

AMSEA----African Micro Nutrient Small Enterprise Activity

CBOH-----Central Board of Health

LCIZ-----Living Condition in Zambia

PEM-----Protein Energy Malnutrition

PHC-----Primary Health Care

UNICEF---United Nations International Children's' Emergence Fund

WHO ----World Health Organization

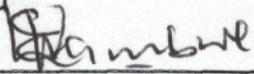
ZDHS ---Zambia Demographic Health Survey

STATEMENT

I hereby certify that this is my own **DECLARATION** result of my own independent investigation. The various sources to which I have referred

I, WINFRIDAH.K.KWESHA hereby declare that the work presented in this study for a Bachelor of Science degree in Nursing has not been presented wholly or in part for any other degree and is not being currently submitted for any other degree.

Signed  Date 5/3/02
Student

Approved by  Date 5/3/02
Supervising Lecturer



DEDICATION

To my husband (Geoffrey) and children (Jr. Geoffrey, Christine, Jonathan) who willingly and patiently accepted my long absence from home.

ACKNOWLEDGEMENT

I acknowledge with appreciation the support of my sponsors, Ministry of health for the scholarship to undertake the degree of Bachelor of Science in Nursing.

I wish to acknowledge the contribution made by all members of the faculty towards my study, especially so to Ms.E.Lambwe, the supervising lecturer in Nursing research for her encouragement and helpful comments in reviewing the research study at various stages of its development.

My other thanks go to management and staff of Mbala General Hospital, District Health Management for allowing me to carry out the study.

A special note of appreciation goes to Mr Kanene for assisting in secretarial services without whom this work would have remained a nightmare and my fellow students who made my life easy at school.

I am deeply indebted to my respondents for the appreciation and support during data collection.

I am grateful for the understanding and support of my husband, children, brothers and sisters and my parents who have been patient while I was at school.

Lastly, it is important to recognise that the success and value of this research owes as much to the thoughts and efforts of many other researchers over the years as it does to my own.

ABSTRACT

The study was undertaken in Mbala urban district in three health institutions, namely Mbala General Hospital (Children's ward), Tulemane Clinic, and Urban Clinic.

Mbala District has been experiencing a steady increase of number of children with malnutrition from 1997 to 1999 (643 to 798.1). One wonders whether there is a relationship between the high number of children with malnutrition and parents' knowledge and practices.

In view of this background that the study was designed to assess parents' knowledge and practices toward malnutrition among the under five children. A descriptive study design was used. Stratified random sampling was used and a sample size of 60 respondents was selected for the study.

The study had the following specific objectives; to assess the knowledge parents have about child nutrition, to identify the types of food parents give their under five children and weaning methods, identify whether cultural beliefs, practices and taboos are associated with malnutrition, to identify any other factors (other than the ones mentioned above) that contribute to development of malnutrition and to make recommendations to health providers at the health facilities and parties concerned on how to effectively improve nutritional status of children under five years in Mbala District.

The data was collected by use of a structured interview schedule from 21st July to 30th September 2001. A pilot study was conducted in the first week of the study to test the data collection tool, which was a questionnaire. After analysis of data from the pilot study, necessary changes were made by modifying some questions.

Data collected was analysed manually and cross tabulated with the help of a calculator. The study findings revealed that 63.3% of the respondents had moderate knowledge on malnutrition. This was attributed to low level of education in rural areas.

The results revealed that only 10% of the respondents had high knowledge on signs and symptoms of malnutrition. This was attributed to insufficient information on malnutrition as a disease. It was found that majority 75% of the

respondents had very low knowledge on the essential foods given to under five children. This could be attributed to low level of education in rural areas.

The study revealed that 38.3% of the respondents had low level of knowledge on the prevention of malnutrition among the under five children. This could be attributed to inadequate information of preventing malnutrition.

The study results revealed that only 30% of the respondents held traditional / religious beliefs in with holding of certain foodstuffs for under five children.

The major recommendations in view of the findings of the study focused on;

- Government to improve the objectives for agricultural policies and production to food consumption among poor households, generate sustainable livelihoods, and improve the nutritional content of food, access to land, agricultural inputs and knowledge and income.
- Government to collaborate with private sectors or industry to combat malnutrition.
- Health institutions to increase public awareness on malnutrition among under five children and incorporate in ICU programmes, cooking demonstrations on preparation of essential foodstuff.
- Introduction of nutritional wards at hospitals
- Involvement of communities in nutrition programmes at grass root level.
- Encourage communities to produce traditional nutritious foods to expand production and consumption of traditional foods, which serve as staples and are well adapted to the local environment and provide year- round supplies.

CHAPTER ONE

1.0 INTRODUCTION

1.1 PROFILE OF MBALA

Mbala District is one of the twelve districts in Northern Province. It lies in the Northern part of Zambia, sharing borders with the Republic of Tanzania in the North, Mpulungu district in the west, Kasama district in the south, Mungwi district in the southeast and Nakonde district in the east. Its topography is mostly mountainous. It is the third largest district in the province and it serves the population of 167,671 for the year 2001 extrapolated at 3.2% growth rate, (CSO, 2000). The district lies on a plateau. The climate is tropical with rainfalls in the months of October to May. There are numerous rivers and seasonal streams. The district has access to two lakes, Lake Chila within the Mbala Township and Lake Tanganyika. The latter is of major economic value as it provides abundant fish.

COMMUNICATION

Communication to the District is mainly by road. The main road from Mpulungu via Mbala to Copperbelt and Lusaka is tarred. The roads within the District linking one health facility to the other are gravel and bush roads. These roads become almost impassable in the rainy season, making access to health and other services difficult. The only dependable transports during rainy season are four-wheel drive vehicles. The District has Air services, which were opened to civilians in 1998 at Samora Machel Air Base. In times of need Air services are usually accessed for health programs.

Communication to other neighbouring districts apart from Kasama and Mpulungu is by gravel roads.

The district has radio communication system to four health facilities. It has telephone in the District Health office, the General Hospital, urban clinic and Tulemane clinic. The district is also externally inter-linked to telephone and fax facilities. The inadequate communication network delays communication between health facilities leading to delayed health service provision.

ECONOMIC STATUS OF MBALA

The development process in Mbala District has been quite slow especially after closure of most companies in the event of liquidation. The trekking of traders to other towns especially Lusaka has also left Mbala district economically poor. The economic activities under taken in the district include commercial and subsistence farming, cattle ranching and fishing. The main cash crops are beans maize, cassava, rice, finger millet and potatoes.

SOCIAL STATUS OF MBALA

The Mambwe and Lungu speaking people predominantly occupy the district. Other languages spoken include Bemba and Namwanga. The district has a few Fipa and Swahili speaking people along the Zambia-Tanzania border north and east of Mbala. The five-gazetted chiefs govern these tribes. The stated tribes have different cultural and traditional beliefs and practices, which positively and negatively influence the delivery of health services especially child nutrition, which in a way is associated with increased cases of malnutrition among the under fives. The chiefs therefore can play a major role in influencing behavioural change by promoting utilisation of children health services and other health services among their people.

DEMOGRAPHIC POPULATION DISTRIBUTION

Mbala's demographic population distribution is shown in table 1 below.

(Source CSO, 2000).

| TARGET POPULATION | TARGET POPULATION | 2000 | 2001 | 2002 | 2003 |
|--|-------------------|---------|---------|---------|---------|
| District Population | 100% | 152.759 | 157.647 | 162.692 | 167.898 |
| Female Population | 52% | 72.272 | 73.010 | 73.754 | 74.507 |
| Male Population | 48% | 66.713 | 67.393 | 68.081 | 68.775 |
| Under 1 year | 4% | 5.559 | 5.516 | 5.873 | 5.731 |
| Under 5 years | 20% | 27.797 | 28.081 | 28.367 | 28.656 |
| Under 15 years | 49% | 68.103 | 68.797 | 69.499 | 70.208 |
| 14-45 years women in child bearing age | 22% | 30.577 | 30.389 | 31.204 | 31.522 |
| Expected pregnancies | 5.4% | 7.505 | 7.582 | 7.659 | 7.737 |
| Expected deliveries | 5.2% | 7.227 | 7.301 | 7.375 | 7.451 |
| Expected live births | 4.94% | 6.880 | 6.950 | 7.021 | 7.092 |

The district population is further distributed to rural health centre catchment areas for effective provision and management of health services.

HEALTH SERVICE CARE SYSTEM

The district is serviced by 16 health facilities including one General Hospital (2nd level hospital), which also serves as a first level referral health facility in the district. There are 13 government health centres, one mission rural health centre and two clinics under the Defence forces (ZAF and ZNS).

There are 192 health posts where health centre staff goes to provide outreach health services covering promotive, preventive and curative services.

The district has 76 actively practising community health workers, 20 community based doctors (CBDs) and 98 trained traditional birth attendants (TTBA). All these are involved in promoting and providing health care services to the community.

The district has 13 health centre committees and two health boards (Hospital and District Health Boards). These are involved in promoting primary health care services through disseminating or health information to the community.

Considering the distribution of the district population in relation to health service points, 60% of the population have access to either an outreach or static health service within 12 to 29 kilometres radius.

TOP TEN CAUSES OF ADMISSIONS IN MBALA

The top ten causes of admission among under five children in Mbala are indicated in Table 2 below.

Table 2: The top ten causes of Admission

| DISEASE | >5 | <5 | TOTAL | DEATH >5 | DEATH <5 | CFR |
|-------------------------------------|-------|-------|-------|----------|----------|-------|
| Tuberculosis | 4 | 179 | 183 | 1 | 27 | 15.3% |
| Anaemia | 416 | 116 | 532 | 56 | 23 | 14.8% |
| Cardiovascular | 0 | 57 | 57 | 0 | 8 | 14% |
| Malnutrition | 168 | 20 | 188 | 17 | 0 | 9% |
| Diarrhoea | 492 | 314 | 806 | 33 | 12 | 5.6% |
| Respiratory Infection Pneumonia | 647 | 663 | 1,310 | 40 | 26 | 5% |
| Malaria | 2,997 | 2,326 | 5,323 | 98 | 92 | 3.5% |
| Trauma & Injuries | 114 | 540 | 654 | 5 | 12 | 2.6% |
| Respiratory Infection non-Pneumonia | 485 | 362 | 847 | 7 | 8 | 1.8% |
| Skin Disease | 49 | 82 | 131 | 0 | 2 | 1.5% |

Data Source: Mbala District Action Plan 2000.

In view of the above stated disease burden, Mbala District Health Management Team has put in place interventions to try and provide quality health care in order to promote health, alleviate suffering and conserve life e.g., monitoring child growth, information education and communication in child care and nutrition.

DISABILITY ADJUSTED LIFE YEARS LOST (DALY'S LOST)

The disease burden has also been measured by looking at Disability Adjusted Life Years (DALY's) cost effective plans and interventions have been drawn to tackle the most preventable diseases in the district based on the DALY's lost. Mbala's DALY's lost plan is shown in table 3 below.

TABLE 3: DISABILITY ADJUSTED LIFE YEARS LOST

| DISEASE | DALY'S LOST | | |
|--|-------------|-------|---------|
| | 1997 | 1998 | 1999 |
| Malaria | 2,699 | 1,469 | 6,766.3 |
| Respiratory Infection Non Pneumonia | 1,375 | 415 | 2,206.3 |
| Diarrhoea | 775 | 910 | 1,508 |
| Anaemia | 503 | 1,340 | 2,799.2 |
| Malnutrition | 643 | 665 | 798.1 |
| Injuries/Poisoning | 150 | 160 | 642 |
| Skin disease | 16 | 15 | 28 |
| Measles | 72 | 232 | 2.4 |
| Tuberculosis | 986 | 457 | 1,785 |
| Worms | 69 | 76 | 429.4 |

SOURCE: Mbala District Action Plan, 2000.

1.2 PROFILE OF MALNUTRITION

Child malnutrition remains high in some region of the world, particularly in Asia and Sub Saharan African countries where Zambia is situated. It has been estimated that more than half of the children in low-income countries are anaemic as a result of malnutrition. Further more between 600 million and 700 million children are currently struggling to survive, (UNICEF, 2000). Malnutrition is a factor in an estimated 54% of all childhood deaths globally, (WHO, 2000).

To address the specific causes of malnutrition, UNICEF and other international agencies (e.g. WHO), emphasises on the support of communities in their own assessment and analysis of the problems they face before appropriate actions can be taken at all levels. UNICEF calls this strategy the 'Triple A' approach (for Assessment, Analysis and Action).

UNICEF has put in measures to combat and prevent malnutrition. These include nutritional rehabilitation of severely malnourished children such as those found in emergency situations, food supplementation and fortification to reduce micronutrient deficiencies, young child growth monitoring health and nutrition education and training, breast feeding training and improved child care and feeding practices. UNICEF is supporting community based growth monitoring and promotion programmes in six pilot centres in Mbala District.

Micronutrients including iodine, iron and vitamin A have remarkable power in protecting the health status of children. For example adequate salt iodisation protects millions of children against mental and physical disabilities, adequate vitamin A intake can cut by half a child's risk of dying of measles and iron supplement foods can prevent children from persistent anaemia due to inadequate intake of foods rich in iron.

The most common type of malnutrition in Zambia is protein-energy malnutrition (PEM) especially among the under five children due to inadequate intake of both calories and proteins. Protein-energy malnutrition presents either as kwashiorkor or marasmus or a mixture of the two namely marasmic-kwashiorkor. Marasmus is common among very young children that are given very small quantities of food that also contain very small amounts of protein. A child with marasmus looks wasted and thin due to loss of sub cutaneous tissue. The child is alert, has a staring look with prominent eyes following the movement of the examiner.

Where as a child with kwashiorkor looks miserable and apathetic. The child is unhappy, not interested in his surroundings, and has poor appetite, pale sparse hair with weak roots and pale thin peeling skin. Oedema is another important feature in kwashiorkor, it may be localised to the lower limbs or generalised. Kwashiorkor is frequently found among young children weaned on foods that contain virtually little or no available protein.

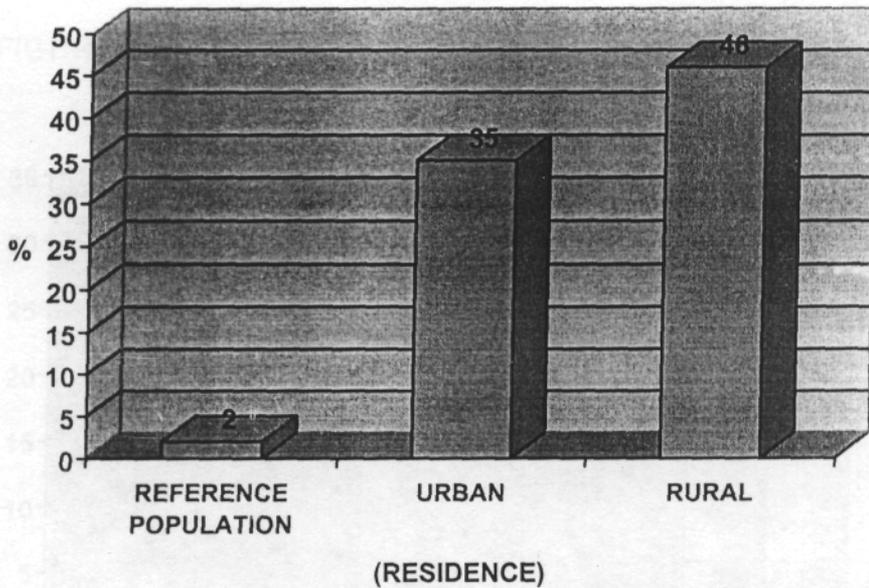
Other forms of malnutrition include: -

- Dietary deficiencies as a result of lack of some essential micronutrient (vitamins and minerals).
- Obesity – over nutrition
- Stunting – under nutrition (due to chronic food shortage – chronic malnutrition).

1.3 STATEMENT OF THE PROBLEM

Zambia is among the sub-Saharan countries in Africa with very high rates of malnutrition and protein-energy malnutrition is the most common nutritional problem. The rural areas (45%) have higher rates of under nutrition than urban areas (35%). This fact has been illustrated in figure 1 on the following page.

FIGURE 1: UNDER WEIGHT AMONG CHILDREN UNDER 5 YEARS BY RESIDENCE ZAMBIA

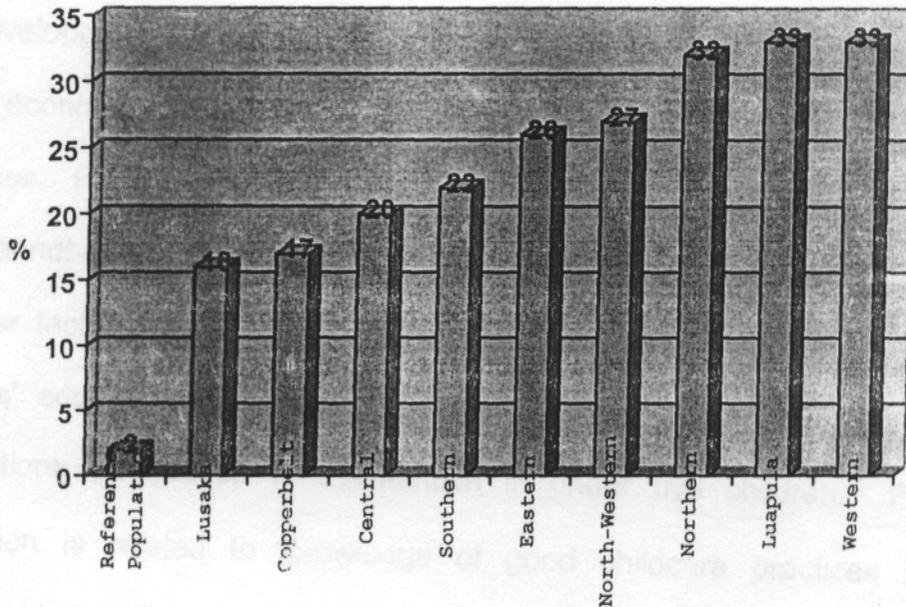


SOURCE: ZDHS, (1996).

It has also been estimated that one in four rural children are under weight, while 7% are wasted (severe malnutrition).

Malnutrition appears to be serious and wide spread in the Western, Luapula, Northern, North western and Eastern provinces with highest prevalence in the agricultural marginal rural areas, peri urban localities and shanty areas of major cities. See figure 2 on the following page.

FIGURE 2: UNDER WEIGHT AMONG CHILDREN UNDER 5 YEARS BY PROVINCE, ZAMBIA



SOURCE: ZDHS (1996)

Malnutrition has significant health and economic consequences, the most serious of which is an increased risk of death. Other outcomes include an increased risk of illness and a lower level of cognitive development, which results in lower educational attainment, (WHO, 2000).

Mbala, a town in northern province of Zambia has also not been spared by malnutrition. There is a high prevalence of malnutrition among children under five. The number of children with malnutrition has been increasing steadily from 1997 to 1999 (from 643 to 798 cases) one wonders whether there is a relationship between the high numbers of children with malnutrition and parents' knowledge and practices.

It is against this background that this study has been designed. The study assumes that there are several factors that may influence parents' knowledge and practices towards malnutrition in Mbala district. For instance cultural factors, cultural beliefs and taboos pertaining to child nutrition, such as food and abrupt weaning for example if the mother is pregnant may contribute to the development of malnutrition in children.

Socio economic status of the parents may also affect their knowledge and practices. Poor families cannot afford to feed their children regularly, since they cannot afford to buy foodstuffs containing all the required nutrients.

Another factor that is likely to affect parents' knowledge and practices is parents' educational level. Educational level of parents may affect their perceptions on causes of malnutrition in under five children. Parental education is related to knowledge of good childcare practices and to household wealth. For instance in Zambia, it has been observed that malnutrition is two times higher among children of parents with no education than among children of parents with secondary or high education (ZDHS, 1996). As the level of parental education increases, the level of childhood malnutrition decreases.

Households are food secure when food is available both in terms of quantity for adequate energy intake and quality for adequate intake of nutrients. They have access to these food supplies, which are determined by a household endowments (e.g. land, labour, capital and other resources) and how these are transformed into food entitlements, which include the various means for procuring food (e.g. produced, purchased, gathered, exchanged and gift).

Food suppliers are equitably distributed to ensure that the poor and vulnerable (i.e. women and children) have access to the food they want.

There is a problem of food security in Mbala. Ministry of Agriculture & Fisheries are working hand in hand with other sectors to tackle this problem. Most of the food is sold to traders from Copper-belt and Lusaka, leaving households starving.

Inadequate food security may influence parents' knowledge and practices because of;

- Deterioration of purchasing power of the Zambian currency caused by poor economy, low income and high inflation rates.
- Low agricultural productivity, caused partially by limited access to agricultural service inputs and resources.
- Heavy rains that destroy crops or drought.
- Lack of education on the importance of quality diet.
- Inadequate food consumption pattern, with little variety in food preparation. For example having one main meal a day with children inclusive.
- Most households sell their food to traders from copper-belt and Lusaka.

The other factor that may affect parents' knowledge and practices towards malnutrition are the natural factors or disasters such as the heavy rains which affected most parts of Zambia, Mbala inclusive, left some families without food. Hence the rate of malnutrition is likely to be high. In addition the rainy season affects the nutritional status of people in the rural areas, as this period coincides with low food stocks, high incidence of infections (malaria, diarrhoea etc) and increased labour requirements for agricultural production leading to

less attention and care given to children, hence the development of malnutrition.

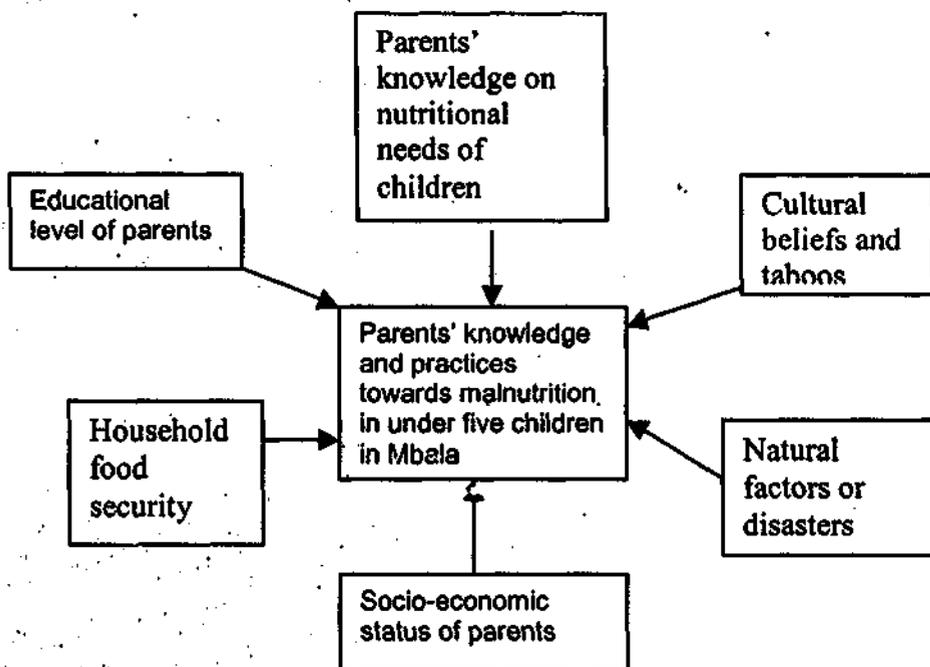
Finally, the other factor that may influence parents' knowledge and practices towards malnutrition is knowledge on nutritional needs of children. Parents may not bring their children to the under-five clinics because they have to travel long distances to the health facilities.

Lack of attendance to under five clinics means lack of knowledge on childcare by parents and inadequate supervision of the under five children by health providers on nutritional issues. This means that children have a high chance of developing malnutrition.

The factors that may influence parents' knowledge and practices towards malnutrition are illustrated in the figure below.

1.4 DIAGRAM ANALYSIS OF THE PROBLEM

FIGURE 3.



1.5 JUSTIFICATION OF THE STUDY

Many studies have been conducted on under five malnutrition and have come up with different factors and differing conclusions. The incidence of malnutrition remains high in some parts of Zambia, Mbala district inclusive.

This is the reason why this study was designed to find out the knowledge and practices of parents towards malnutrition in under five children. Considering the fact that malnutrition is preventable.

The study will help to establish a data base on children's nutritional status, and to make recommendations to the District Health Management Team and health centre staff so that they design interventions to improve the knowledge and practices of parents on children's nutrition.

1.6 OBJECTIVES OF THE STUDY

1.6.1 GENERAL OBJECTIVE

The study was intended to assess the parents' knowledge and practices towards malnutrition in under five children in Mbala district.

1.6.2 SPECIFIC OBJECTIVES

1. To assess the knowledge parents have about children nutrition.
2. To identify the types of food parents give their under five children and weaning methods.
3. To identify whether cultural beliefs, practices and taboos are associated with malnutrition.
4. To identify any other factors (other than the ones above) that contributes to development of malnutrition.

5. To make recommendations to health providers at the health facilities and parties concerned on how they could effectively improve nutritional status of children under five years in Mbala District.

1.7 HYPOTHESES

1. Parents who are knowledgeable about children's nutrition will have well-nourished children.
2. Inadequate food security in homes with large families can lead to the development of malnutrition in children.
3. Parents' negative beliefs and customs contribute to poor feeding practices.

1.8 STUDY VARIABLES

1. **A variable:** Is a characteristic or attribute of a person or object that varies (i.e. takes on different values) within the population under study (e.g. body temperature, age, heart rate), Polit and Hungler, (1995).
2. **Dependent variable:** Is the outcome variable of interest; the variable that is hypothesised to depend on or be caused by another variable (called the independent variable); sometimes referred to as the criterion variable, Polit and Hungler, (1995).
 - This is a variable used to describe or to measure a problem under study
 - ⇒ Under five malnutrition
3. **Independent variable:** Is the variable that is believed to cause or influence the dependent variable, Polit and Hungler, (1995).
 - These are the variables used to describe or measure the factor that are assumed to cause or influence the problem under study.

1. Food security
2. Educational level of parents
3. Level of knowledge on child nutrition
4. Cultural belief and taboo on child nutrition
5. Social economic status of parents
6. Natural factors or disasters.

TABLE 4.

1.8.1 VARIABLES, INDICATORS AND CUT-OFF POINTS

| VARIABLE | INDICATOR | CUT OFF POINT |
|-----------|-----------|---------------|
| Knowledge | High | Above 80% |
| | Moderate | 40-80% |
| | Low | Below 40% |
| Practice | Very Good | Above 60% |
| | Good | 40-60% |
| | Bad | Below 40% |

1.9 OPERATIONAL DEFINITIONS

MALNUTRITION

The condition caused by an improper balance between what an individual eats and what he requires to maintain health.

NUTRITION

Is the sum of the processes involved in taking in food nutrients, assimilating and using them to maintain body tissue and provide energy; a foundation for life and health.

PROTEIN ENERGY MALNUTRITION

Refers to the kind of malnutrition, which results from insufficient intake of energy protein and other nutrients.

MARASMUS

Severe wasting in infants, when body weight is below 75% of that expected for age caused by lack of enough food in the body.

KWASHIORKOR

A form of malnutrition due to a diet deficient in protein and energy producing foods, common in children between ages of one and three years.

WEANING

Refers to the process by which an infant gradually becomes accustomed to full adult diet.

FOOD SECURITY

Access all times to sufficient food for an active and healthy life.

CHILD NUTRITION

Giving of adequate and proper nutrients to children.

KNOWLEDGE

Refers to information needed and acquired by parents in relation to child feeding.

GOOD FEEDING PRACTICES

This refers to feeding that promotes growth in children.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 INTRODUCTION

In view of the burden of under five malnutrition in Zambia, many studies have been done, varying factors have been established and different possible interventions attempted. However, the problem still stands. The current country malnutrition status shows an upward trend, (ZDHS, 1996).

Malnutrition is a primary cause of morbidity and mortality and a complicating factor for other illnesses. In utero caloric deprivation results in some Small for Gestational Age (SGA) births. Subsequent protein-calorie and micronutrient malnutrition results in moderate to severe stunting in 50% of children with concomitant deficiencies in cognitive development. Susceptibility to infectious diseases is increased. Acute and chronic infections may further exacerbate a child's nutritional deficiencies and often result in a child's death. Anorexia and inaccessible tertiary care make nutritional resuscitation difficult or impossible.

In addition to unavailability of food and chronic parasitic infestations, protein-calorie malnutrition and micronutrients deficiencies sometimes result from cultural food practices. Use of foods with low protein and calorie content as weaning foods, early displacement of infants from the breast (often because of the belief that infants should not be nursed if the mother is pregnant), and failure to initiate breast feeding or early cessation of it are common causes of

primary malnutrition. Parent education, family planning, and birth spacing are among the most effective strategies to prevent malnutrition, (Behrman, 2000).

Child nutrition is a critical factor affecting child survival. Malnutrition is often the common cause of childhood deaths. Malnutrition affects the immunity and impairs growth and cognitive development of children, where by reducing the learning capacity and may even cause permanent disability like blindness, (WHO, 1999).

Malnutrition is one of the most important health and welfare problems among infants and young children in Zambia. It is a result of both inadequate food intake and poor environmental sanitation. Inadequate food intake is a consequence of insufficient food available at the household level and/or improper feeding practices. Improper feeding practices include both quality and quantity of foods offered to young children, as well as the timing of their introduction. (ZDHS, 1996).

2.2 GLOBAL PERSPECTIVE

Nutrition is an issue of major concern throughout the world today. Malnutrition is a factor in an estimated 54% of all childhood deaths globally. Great disparity exists among nations in the health status of children, (WHO, 2000).

According to UNICEF, (2001), on the state of the world's children, 30% or more under five year-olds suffer from severe or moderate stunting malnutrition.

In India, the survey by WHO (2000), revealed that more than half of all under 4 year-olds are still moderately or severely malnourished, 30% new borns are significantly under weight. Malnutrition has been identified as the main factor

retarding improvement in child development and hindering further reduction in infant mortality. The major nutritional disorders are deficiencies of iron, vitamin A and iodine. Micro nutrient deficiencies influence child survival and the health and development of surviving children, including cognitive development, (WHO, 2000)

Bellamy, (1998), revealed that half of South Asia's children are malnourished, and in Africa, one in every three children is under weight. And in several countries on the continent the nutritional status of children is worsening.

According to Mandelbum, (1992), the first line of defence against malnutrition is breast-feeding. Infants who are breast-fed for less than 6 months are five to ten times more likely to die before their first birthday than infants who are breast-fed longer.

The study also revealed that weaning periods presents another nutritional risk as local weaning practices influence the type of food offered to the child. The malnutrition syndromes most common at this stage are kwashiorkor and marasmus, now known as Protein Energy Malnutrition (PEM). Children suffering from PEM are at risk for more severe episodes of childhood illness that often result in death. Those who survive Protein Energy Malnutrition can experience growth retardation and less likely to achieve expected growth had there been no protein energy malnutrition.

The report stated that prevalence of childhood malnutrition increases during times of war and famine, but is never eliminated. Its causes are multi factorial and include social factors such as poverty and education, cultural taboos

about pregnancy, breast-feeding and weaning practices and many other factors such as illnesses.

According to Jailer, (1999); 15% of children die before the age of 5, and 50% of deaths worldwide die each year due to malnutrition. The study also revealed that, while war, torture and sexual violence threaten children's health, poverty is the most dangerous and wide spread to children. Societies may react strongly to the most apparent forms and instances of violence against children; they fail to take the measures needed to effectively reduce the prevailing levels of poverty afflicting the world's children.

Ramalingaswami, (1995), in the survey on New Global perspective of overcoming malnutrition carried out in South America, revealed that there was a high prevalence and an increasing number of malnourished children under five years of age in parts of Africa, Asia, Latin America and the Caribbean, 191 million.

The study also revealed that the World Declaration identified the root causes of malnutrition as poverty, deprivation social inequality, lack of education and growth of population out of proportion to the natural resource endowment. It recognised that nutritional well being was an essential prerequisite to effective learning and a key objective of human development.

Huffman and Martin, (1994) in their studies in Bangladesh India and Papua New Guinea on child nutrition, birth spacing and child mortality showed that in developing countries, 184 million children representing one third of the under

five population are malnourished. Malnourished children have higher rates of morbidity and mortality than those who are well nourished. Malnutrition is related to decreases in cellular immunity and increased incidence and/or duration of illness.

2.3 REGIONAL PERSPECTIVE

The report according to Ritche, (1983) on Nutrition and families, revealed that malnutrition among young children is a wide spread problem in most countries of the African region. The cause of this malnutrition maybe shortage of food or it may be a diet with one or more nutrients missing. In turn these direct causes may be the result of economic, social, cultural, agricultural or climatic factors, which causes a child to eat little or too little of certain kinds of food.

The study also revealed that the indirect causes may also be a parasite infection from the food eaten, or an infection, which combined with a rather poor diet pushes a child over the borderline from being slightly under nourished into a state of severe malnutrition.

The problems of malnutrition differ from country to country, so do the situation, which cause this problem and also their most practical solution.

Studies by SUSTAIN project, (1999), on reducing child malnutrition, revealed that vitamin A deficiency and Iron deficiency anaemia are major causes of health problem and morbidity or mortality in Malawi. The African Micro Nutrient Small Enterprise Activity (AMSEA) project provides technical assistance in the areas of production, fortification, product formulation,

management and development to increase the availability and visibility of low-cost weaning food, to prevent malnutrition in under fives.

A report by UNICEF, (1992), on malnutrition in Ethiopia indicated that 38% of under-five children were malnourished, rate higher in rural than in urban areas regardless of whether they are agarians or pastoral. Although the food available in Ethiopia is not enough to meet the calorie requirements of its population, the deteriorating nutritional status of children was partly attributed to the late introduction of solid foods and to infection in children.

According to Parignan's study, (2000), in the Eastern Democratic Republic of Congo, revealed that prevalence of malnutrition was higher among children in the rural non-refugee population than among those in the urban non-refugee population, or in the refugee population living in temporary settlements.

In addition, the report revealed evidence that nutritional status was worsening in rural non-refugee population as compared to baseline data collected in 1989. Children living in the main town or in the refugee camp benefited the most from common nutritional relief, while those in the rural non-refugee areas were ignored.

Koita, (1993)'s nutritional study to enhance the design and implementation of a child nutrition program in rural Mali, revealed that the people there were more concerned about obtaining enough to eat (quantity) than their quality. For example, the importance of fruits in nutrition was ignored by all the persons interviewed.

Holley, (1990), conducted a study on knowledge, attitudes and feeding practices in Malis. The results indicated that 34% of infants received breast milk as a first food, and 94.6% gave water to infants aged under 5 months. Complementary feeding occurred at 9-10 months. And about 50% of women in the study had heard nutrition messages.

Duffed and Young, (1999), on the nutrition situation of children in Rwanda, revealed that, there is an estimate prevalence of 11% children with acute wasting and/or with oedema, which includes 7.3% severe malnutrition among children, aged 3-59 months.

Kinfu, (1999), on child under nutrition in Ethiopia revealed that 59% of children in the country were exposed to long-term or chronic under nutrition (stunted) and 4% were suffering from acute problems (wasted) while the same proportion were both stunted and wasted.

The study also revealed that, the risks of under nutrition in the country clustered within areas of residence, and that significant differentials in childhood under nutrition exist among households and among the demographic and socio-economic characteristics of the children.

According to UNICEF, (1993), the prevalence of child malnutrition in Africa can be explained in the light of the following causes: -

- Late introduction of solid food, infection in children and non-availability of enough food.

- Complementary food that are inadequate in both quantity and quality. These foods are frequently contaminated causing diarrhoea, which can lead to further deterioration of nutrition status.
- Avoidance of certain types of food.
- Poor feeding practices.

Ibekwe and Ashworth (1994), on Management of Protein Energy Malnutrition in Nigeria, revealed that malnutrition was still very common in Nigeria, and in 1980-1991, 36% of children aged 0-4 months were reported to be under weight and 12% severely so. Moderate or severe wasting was present in 16% of children aged 12-23 months, while 60% of children aged 12-23 months were stunted.

According to Elsamani, (1988), an Association of Malnutrition and diarrhoea in children under five years in rural Sudan, poor feeding practices are detrimental to child nutrition. Delayed introduction of complementary foods beyond recommended age of six months, infrequent and unsupervised feeding resulted in malnutrition.

2.4 NATIONAL PERSPECTIVE

Zambia is among the Sub Saharan countries in Africa with very high rates of malnutrition, and PEM is the most common nutritional problem. The rural areas (46%) have higher rates of malnutrition than urban areas (35%), (ZDHS, 1996).

The analysis survey by ZDHS (1996) revealed that malnutrition is closely related to low incomes, to household food insecurity and to poverty. The analysis indicates that much of the under nutrition (weight-for-age) is explained by shortness rather than thinness. This suggests that the principal source of child malnutrition in Zambia is the result of chronic, long-term food inadequacies, episodes of infection and inadequate knowledge, rather than acute and short-term bouts of food shortage and disease.

In Kasama, a similar study was done on determinants of action against malnutrition among children under five years (Nangawe et al, 1998). The study revealed that rural areas have higher rates of under nutrition than urban areas with 46% and 35% stunting rates respectively. 1 in 4 rural children are under weight, while 7% are wasted. Cultural perception, beliefs and practices were based on local understanding of causes and effects of under five malnutrition.

The study also revealed that interventions that would make an impact on Protein Energy Malnutrition (PEM) include screening and treatment of infections, measures to prevent interruption of breast-feeding, strategies to increase frequency of child feeding in a day and measures to enhance household food security.

The national health reform program is taking malnutrition seriously. Key nutrition interventions are included in its reform plan. Zambia integrates the nutrition interventions into its essential health care package called nutrition minimum package. The minimum package aim to achieve the following:

- Exclusive breast-feeding for the first six months of life.
- Appropriate complementary feeding starting at about 6 months of age, in addition to continued breast-feeding until aged 24 months.
- Adequate nutritional management during and after illness.
- Iron folate tablets by all pregnant women.
- Regular use of iodised salt by all families.
- Information, education and communication on childcare, growth monitoring and nutrition.

Neighbourhood Health Committees (N.H.C.) assists to implement primary health care programmes, which include the minimum package interventions. These committees are community-based organisation comprised of concerned opinion leaders and health workers and their part of task is to adopt guidelines to the needs of their community (CBOH, BASIC, 1996).

Steel (1995), conducted a project on Nutrition in the Zambian child. The study revealed that chronic malnutrition (stunting) is the most common type of malnutrition in children younger than 5 years, (40-46% in rural areas, 33% in urban areas). The report revealed that there is insufficient information on infant and childcare and feeding practices and factors influencing household decision-making.

The team recommended that health officials raise awareness among policy makers on the importance of preventing malnutrition. They advised on conducting formative qualitative research on child care and feeding practices in the home in order to develop a strategy for information, education and communications on practical and acceptance feeding recommendations.

Health officials to expand growth monitoring into communities. Motivate communities to improve child health and nutrition using findings of growth monitoring.

According to Ross, (1996), on Nutrition policy dialogue in Zambia, the study revealed that during the last 10 years child nutritional status in Zambia has been deteriorating, and deaths of children aged under 5 have been climbing. As indicated by the age pattern of malnutrition, growth faltering during infancy is the greatest nutritional problem.

The study also revealed that nutrition interventions should focus on promoting exclusive breast feeding up to 6 months and appropriate supplementary feeding thereafter. At the National level, a strategy should be developed that focus on training of managers, health workers, and community mobilisers on improved infant feeding.

The project also recommended the development of a coherent national food and nutrition policy based on sound analysis of problems and feasible solutions should be a priority. Future surveys of the food security, Health and Nutrition information system should examine deficiencies of vitamin A and Iron.

Mutambo (1989)'s survey on socio-economic implications of child morbidity and mortality in Zambia, malnutrition was identified as a major causative factor of hospital deaths (40.3%) for children under the age of 5, and for hospital admissions.

The snap survey conducted in Lusaka (21-27th November 1997), revealed that 60% of 156 sick children admitted to UTH who were considered for a study were found to be malnourished coming from peri urban compounds and 36.5% reported cases to be suffering from malnutrition during the same month.

The results of the workshop revealed such factors as low food production, poor family spacing, poor sanitation and poor budgeting as contributing factors to the cause of malnutrition but it did not cite the time of the year (months) when malnutrition cases are high at the hospital and when they are low. It did not also look at the level of knowledge of the caretaker has on malnutrition, source of income etc.

In Zambia, the Health Reform Policies have put emphasis to provide Zambians with equity of access to cost effective quality care as close to the family as possible (Health policies, 1992). To achieve the above vision, the government of Zambia has adopted primary health care strategy as the most appropriate tool.

2.5 CONCLUSION

Literature review revealed that nutrition is an issue of major concern throughout the world today. Zambia like many Sub-Saharan African countries suffers from high rates of under five malnutrition.

Good food is needed for a child to grow and develop well physically, mentally and socially and stay healthy.

A question that remains un answered is whether the parent's knowledge and practices towards malnutrition is fully established and factors influencing child nutrition well tackled. There is also need to explain the persistent high levels of malnutrition among the under five children.

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 RESEARCH DESIGN

Research design is the overall plan for collecting and analysing data, including specifications for enhancing the internal and external validity of the study. The design provides answers to the research questions or for testing the research hypothesis. It spells out the basic strategies that the researcher adopts to develop information that is accurate and interpretable, Polit and Hungler, (1995).

The researcher used a descriptive research design, Polit and Hungler, (1995), defines descriptive research as "studies that have as their main objective the accurate portrayal of the characteristics of individuals, situations, or groups and the frequency with which certain phenomena occur".

The Researcher used a qualitative type of descriptive research because it involves identification and exploration of the level of knowledge and the types of practices parents have in relation to child nutrition in Mbala District.

The purpose of descriptive study is to observe, describe and document aspects of a situation as it naturally occurs. It assisted the researcher to describe the relationship among the variables and to assemble new information about unstudied phenomena.

The descriptive research design has the following advantages.

1. Involves the systematic collection and analysis of more subjective narrative data.
2. Uses procedures in which there tends to be a minimum of researcher-imposed control.
3. It is often a source of stimulating insights.

3.2 RESEARCH SETTING

The study was conducted in Mbala District in three areas namely Mbala General Hospital (Children's' ward), Tulemane clinic, and Urban clinic. Mbala is a rural district in the Northern province with a population of 167,671 (CSO 2000), 36, and 662 are children under five years of age, (24%).

Currently the district is serviced by 13 health facilities, one general hospital (2nd level hospital) which also serves as a first referral facility in the district.

There are nine government clinics, one mission clinic and two special clinics under defence force (i.e. ZAF and ZNS). There are 192 outreach health posts in far remote places where health teams go to provide outreach health services covering promotive, preventive, and curative services.

3.3 STUDY POPULATION

The study population comprised of parents of childbearing age in Mbala Urban District. The study units were parents with under five children.

3.4 SAMPLE SIZE

A sample is a subset of a population selected to participate in a research study, Polit and Hungler (1995). The sample size were 60 parents with under five children.

3.5 SAMPLE SELECTION

Sampling is the process of selecting a portion of the population to represent the entire population, Polit and Hungler, (1995).

Stratified random sampling was used to select the participants from each stratum.

Polit and Hungler, (1995), defines stratified random sampling as the random selection of subjects from two or more strata of the population independently.

3.6 DATA COLLECTION TECHNIQUE.

Data collection is the gathering of information needed to address a research problem. Data was collected through a structured interview schedule.

Structured interview is an interview where the instrument used for data collection is the interview schedule. Interview schedule is the formal instrument used in structured self-report studies, that specifies the wording of all questions to be asked to respondents, Polit and Hungler (1995).

A questionnaire was constructed and designed in such a way that it solicited appropriate information pertaining to the study. It had both open and closed ended questions. The questions were written in English, but were translated into Mambwe and Bemba respectively, during interviews for those parents who did not understand English.

Bless and Higson, (1995) defines a questionnaire as a set of questions with fixed wording and sequence of presentation, as well as more or less precise indication of how to answer each question.

The use of an interview was chosen for the following reasons;

1. Interview is suitable for illiterate and literate respondents.
2. There is high response rate rather than written questionnaire.
3. In-depth responses can be obtained.
4. Responses can be obtained from a wide range of subjects.
5. Non-verbal behaviour and mannerisms can be observed during the interview.

3.7 PLAN FOR DATA ANALYSIS

All data collected was entered on a data master sheet and appropriate statistical inferences were used, i.e. whether relationship observed in a sample is likely to occur in a larger population.

3.8 ETHICAL CONSIDERATION

Ethics are a system of moral values that is concerned with the degree to which research procedures adhere to professional, legal and social obligations to the research subjects, Polit D.F and Hungler B.D. (1995).

Permission was sought from the District Health Management Team Director and from the responsible people where the study was conducted. The purpose and nature of the study was explained as well as how the results will be used.

Prior to the interview the respondents were asked as to whether they would accept to be interviewed or not.

The researcher ensured confidentiality and anonymity. Serial numbers of the questionnaire and not their names were used. Respondents were informed of the potential dissemination of results at the end of the study.

3.9 PILOT STUDY

Treece and Treece (1986), defines a pilot study as a mini study conducted before the major study in order to make revisions and find flaws in the methodology. It included every step expected in the major study.

The purpose of the pilot study was to obtain information for improving the project or assessing its feasibility. The pilot study may reveal that revisions are needed in one or more aspects of the project.

The study was conducted one week before the actual study. The pilot subjects were chosen from the same population as subjects for the major study. The purpose was to assess whether the questions were appropriate, properly phrased and could be answered concisely.

When the data from the test run was collected and scrutinised, researcher was able to make the revisions and refinements in the questionnaire to eliminate or reduce problems encountered during the pilot study. In the questionnaire no major alterations were made.

CHAPTER 4

4.0 PRESENTATION AND ANALYSIS OF DATA

4.1 INTRODUCTION

The findings presented in this chapter were obtained from 60 respondents who were interviewed in three health institutions Mbala General Hospital (childrens' ward), Tulemane Clinic, and Urban Clinic.

DATA ANALYSIS

Raw data was edited for accuracy and completeness. Responses for open-ended questions were categorized and assigned suitable codes to bring related data together. Data was analysed manually and entered on a data master sheet.

This made it easy to draw frequency tables and cross tabulation of different variables. A pocket calculator was used as well.

4.2 PRESENTATION OF FINDINGS

DEMOGRAPHIC DATA

FIGURE 4: SEX OF RESPONDENTS

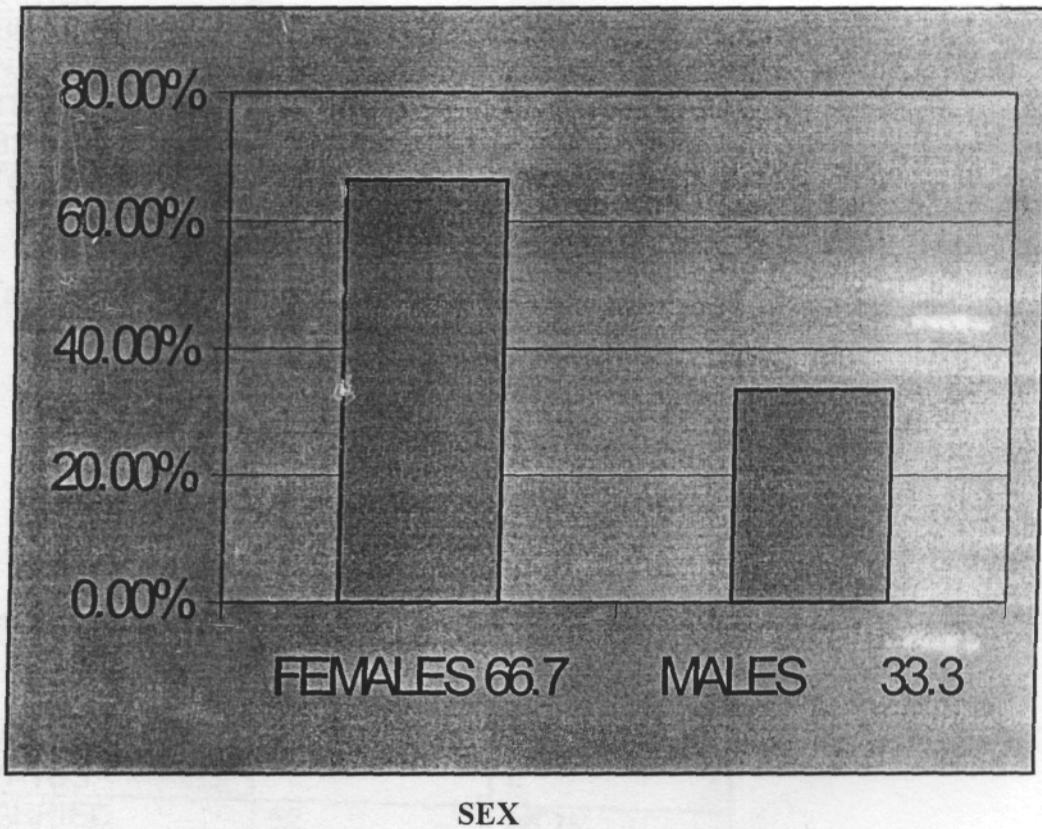


Figure 4 indicates that majority of the respondents 66.7% were females while 33.3% were males.

TABLE 5: AGE GROUP OF RESPONDENTS.

| AGE IN YEARS | FREQUENCY | PERCENTAGE |
|--------------|-----------|------------|
| 15-29 | 40 | 66.7% |
| 30-44 | 17 | 28.3% |
| 45-59 | 2 | 3.3% |
| 60 AND ABOVE | 1 | 1.7% |
| TOTAL | 60 | 100% |

Table 5 shows that majority of the respondents 66.7% were aged between 15-29 years.

TABLE 6: TRIBE OF RESPONDENTS.

| TRIBE | FREQUENCY | PERCENTAGE |
|----------|-----------|------------|
| MAMBWE | 36 | 60% |
| LUNGU | 9 | 15% |
| BEMBA | 9 | 15% |
| NAMWANGA | 4 | 6.6% |
| TUMBUKA | 1 | 1.7% |
| BISA | 1 | 1.7% |
| TOTAL | 60 | 100% |

Table 6 shows that majority of the respondents were Mambwe.

TABLE 7: MARITAL STATUS OF RESPONDENTS.

| MARITAL STATUS | FREQUENCY | PERCENTAGE |
|----------------|-----------|------------|
| MARRIED | 52 | 86.7% |
| SINGLE | 2 | 3.3% |
| DIVORCED | 5 | 8.3% |
| WIDOWER | 1 | 1.7% |
| TOTAL | 60 | 100% |

Table 7 shows that majority of the respondents 86.7% were married.

TABLE 8: EDUCATION LEVEL OF RESPONDENTS.

| EDUCATION LEVEL | FREQUENCY | PERCENTAGE |
|-----------------|-----------|------------|
| NO SCHOOLING | 6 | 10% |
| PRIMARY | 38 | 63.3% |
| SECONDARY | 13 | 21.7% |
| COLLEGE | 3 | 5% |
| TOTALS | 60 | 100% |

Table 8 shows that majority of the respondents 63.3% had primary education while 10% did not attain any education.

TABLE 9: OCCUPATION OF RESPONDENTS.

| OCCUPATION | FREQUENCY | PERCENTAGE |
|--------------------|-----------|------------|
| SUBSISTENCE FARMER | 27 | 45% |
| MARKETER | 4 | 6.7% |
| HOUSE WIFE | 16 | 26.7% |
| PROFESSIONAL | 4 | 6.7% |
| OTHERS | 9 | 15% |
| TOTALS | 60 | 100% |

Table 9 shows that majority of the respondents 45% were subsistence farmers.

TABLE 10: MONTHLY EARNINGS OF RESPONDENTS.

| MONTHLY EARNINGS | FREQUENCY | PERCENTAGE |
|-----------------------------|-----------|------------|
| BELOW K 50,000.00 | 19 | 31.7% |
| K50,000.00- K100,000.00 | 25 | 41.7% |
| K101,000.00- K200,000.00 | 10 | 16.6% |
| K201,000.00 AND, ABOVE | 3 | 5% |
| NONE | 3 | 5% |
| TOTALS | 60 | 100% |

Table 10 shows that majority of the respondents 41.7% earn between K51, 000.00-K100, 000.00, 5% had no source of income and only 5% earn above K201, 000.00.

FIGURE 5: RESPONDENTS' SOURCE OF INFORMATION ON NUTRITION

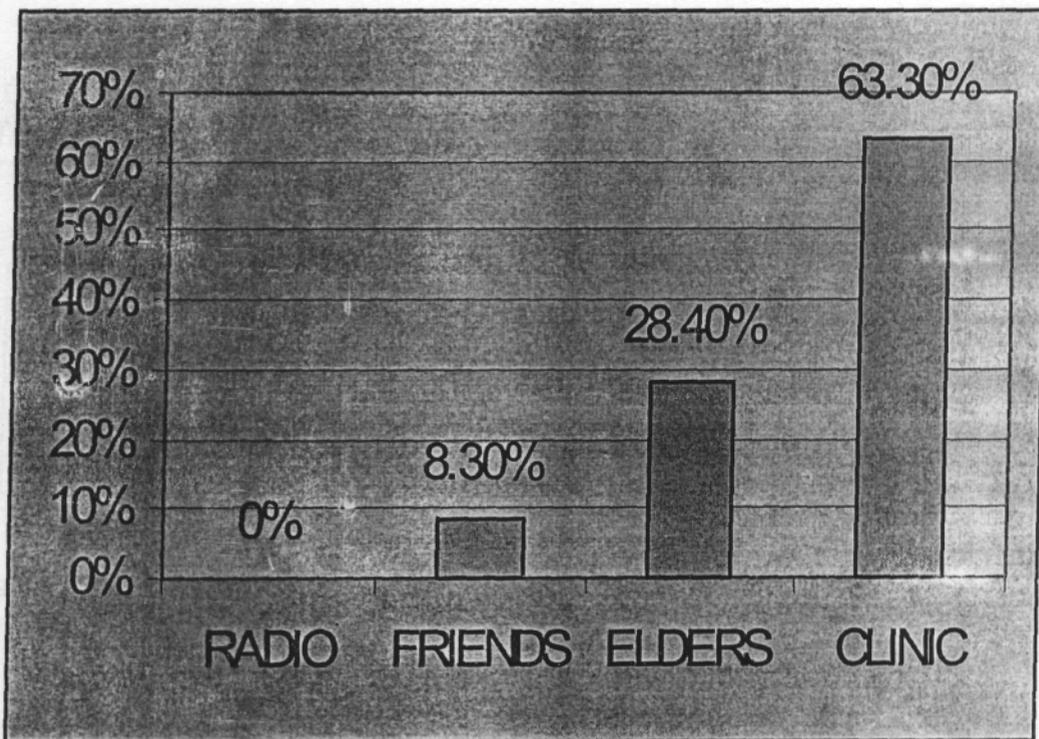


Figure 5 indicates that most of the respondents 63.3% receive information on nutrition issues from the clinic.

TABLE 11: RESPONDENTS' KNOWLEDGE ON ESSENTIAL FOODS.

| KNOWLEDGE ON ESSENTIAL FOODS | FREQUENCY | PERCENTAGE |
|------------------------------|-----------|------------|
| LOW | 45 | 75% |
| MODERATE | 4 | 6.7% |
| HIGH | 11 | 18.3% |
| TOTALS | 60 | 100% |

Table 11 shows that majority of the respondents 75% had low level of knowledge on essential foods.

TABLE 12: RESPONDENTS' KNOWLEDGE ON SPECIFIC FOODS GIVEN TO UNDER FIVE CHILDREN.

| SPECIFIC FOODS | FREQUENCY | PERCENTAGE |
|----------------|-----------|------------|
| LOW | 1 | 1.7% |
| MODERATE | 48 | 80% |
| HIGH | 11 | 18.3% |
| TOTALS | 60 | 100% |

Table 12 shows that majority of the respondents 80% had moderate knowledge on specific foods given to under five children.

FIGURE 6: RESPONDENTS' KNOWLEDGE ON MALNUTRITION

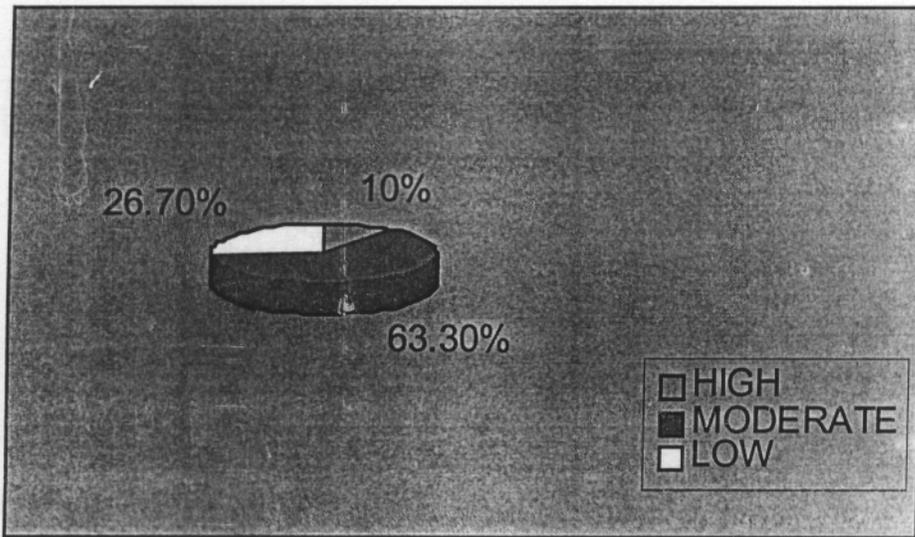


Figure 6 shows that majority of the respondents 63.3% had moderate knowledge on malnutrition.

FIGURE 7: RESPONDENTS' KNOWLEDGE ON PREVENTION OF MALNUTRITION

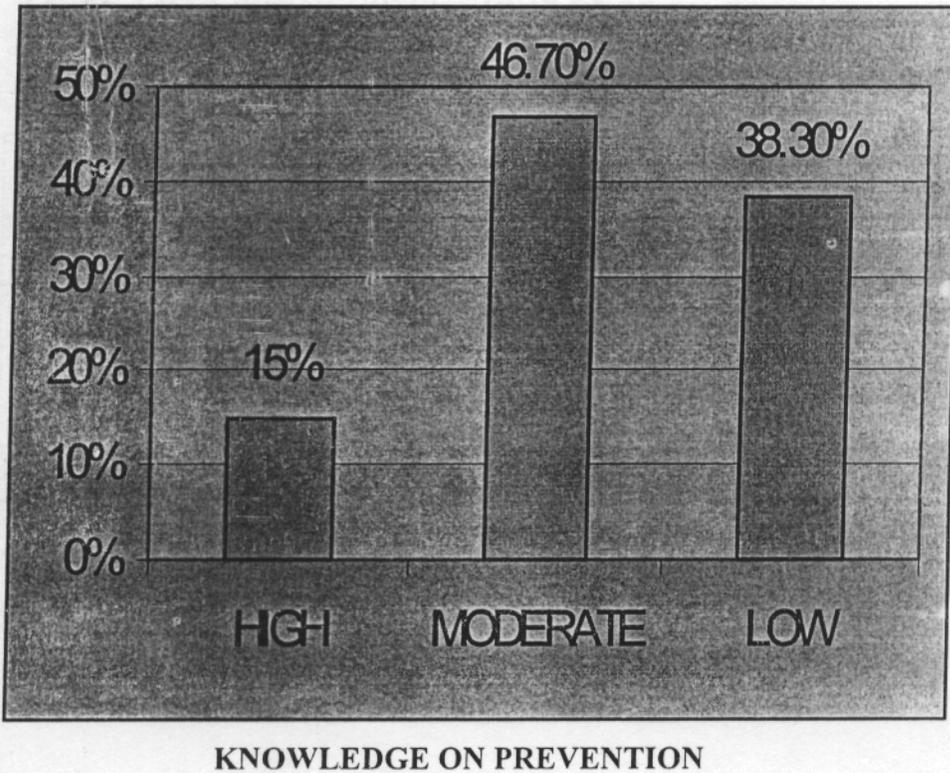


Figure 7 demonstrates that most of the respondents 46.7% had moderate knowledge on the prevention of malnutrition among under five children.

TABLE 13: RESPONDENTS' KNOWLEDGE ON MALNUTRITION IN RELATION TO SEX.

| SEX | KNOWLEDGE | | | TOTALS |
|--------|-----------|------------|------------|------------|
| | HIGH | MODERATE | LOW | |
| MALE | 6 (6.7%) | 13 (21.7%) | 3 (5%) | 20 (33.3%) |
| FEMALE | 2 (3.3%) | 24 (40%) | 14 (23.3%) | 40 (66.7%) |
| TOTALS | 6 (10%) | 37 (61.7%) | 17 (28.3%) | 60 (100%) |

Tables 13 demonstrate that most of the respondents 66.7% were females and were the ones with moderate knowledge on malnutrition.

TABLE 14: RESPONDENTS' KNOWLEDGE ON ESSENTIAL FOODS IN RELATION TO AGE.

| AGE | KNOWLEDGE | | | TOTALS |
|--------------|------------|----------|------------|-----------|
| | HIGH | MODERATE | LOW | |
| 15-29 | 7 (11.7%) | 2 (3.3%) | 30 (50%) | 39 (65%) |
| 30-44 | 4 (6.7%) | 1 (1.7%) | 13 (21.6%) | 18 (30%) |
| 45-59 | - | 1 (1.7%) | 1 (1.7%) | 2 (3.3%) |
| 60 AND ABOVE | - | - | 1 (1.7%) | 1 (1.7%) |
| TOTALS | 11 (18.3%) | 4 (6.7%) | 45 (75%) | 60 (100%) |

Table 14 shows that majority of the respondents 65% were aged between 15-29 years and were the ones who had low knowledge on essential foods.

TABLE 15: LEVEL OF EDUCATION IN RELATION TO LEVEL OF KNOWLEDGE ON ESSENTIAL FOODS FOR UNDER FIVE CHILDREN.

| LEVEL OF EDUCATION. | LEVEL OF KNOWLEDGE | | | TOTAL |
|---------------------|--------------------|----------|----------|-----------|
| | HIGH | MODERATE | LOW | |
| NO SCHOOLING | - | - | 6 (10%) | 6 (10%) |
| PRIMARY | 4 (6.7%) | 1 (1.7%) | 34 (56%) | 39 (65%) |
| SECONDAR Y | 5 (8.3%) | 3 (5%) | 4 (6.7%) | 12 (20%) |
| COLLEGE | 2 (3.3%) | - | 1 (1.7%) | 3 (5%) |
| TOTALS | 11 (18.3%) | 4 (6.7%) | 45 (75%) | 60 (100%) |

Table 15 shows that majority of the respondents 56.7% with primary educational level had low level of knowledge on essential foods.

TABLE 16: RESPONDENTS' EDUCATION LEVEL IN RELATION TO KNOWLEDGE ON MALNUTRITION.

| LEVEL OF EDUCATION | KNOWLEDGE | | | TOTALS |
|--------------------|-----------|------------|------------|-----------|
| | HIGH | MODERATE | LOW | |
| NO SCHOOLING | - | 3 (5%) | 3 (5%) | 6 (10%) |
| PRIMARY | 2 (3.3%) | 26 (43.3%) | 11 (18.3%) | 39 (65%) |
| SECONDAR Y | 3 (5%) | 7 (11.7%) | 2 (3.3%) | 12 (20%) |
| COLLEGE | 1 (1.7%) | 2 (3.3%) | - | 3 (5%) |
| TOTALS | 6 (10%) | 38 (63.3%) | 16 (26%) | 60 (100%) |

Table 16 shows that majority of the respondents 43.3% with primary education had moderate knowledge on malnutrition.

TABLE 17: RESPONDENTS' KNOWLEDGE ON PREVENTION OF MALNUTRITION IN RELATION TO OCCUPATION.

| OCCUPATION | KNOWLEDGE | | | TOTALS |
|--------------------|-----------|------------|------------|------------|
| | HIGH | MODERATE | LOW | |
| SUBSISTENCE FARMER | 1 (1.7%) | 14 (23.3%) | 12 (20%) | 27 (45%) |
| MARKETER | - | 3 (5%) | 1 (1.7%) | 4 (6.7%) |
| HOUSE WIFE | 1 (1.7%) | 8 (13.3%) | 7 (11.7%) | 16 (26.6%) |
| PROFESSIONAL | 3 (5%) | 1 (1.7%) | - | 4 (6.7%) |
| OTHERS | 3 (5%) | 4 (6.7%) | 2 (3.3%) | 9 (15%) |
| TOTALS | 8 (13.3%) | 30 (50%) | 22 (36.7%) | 60 (100%) |

Table 17 illustrates that most of the respondents were subsistence farmers 45% and had low knowledge on prevention of malnutrition while the few professionals 5% had high knowledge.

FIGURE 8: RESPONDENTS' PRACTICE TOWARDS NUTRITION AND MALNUTRITION

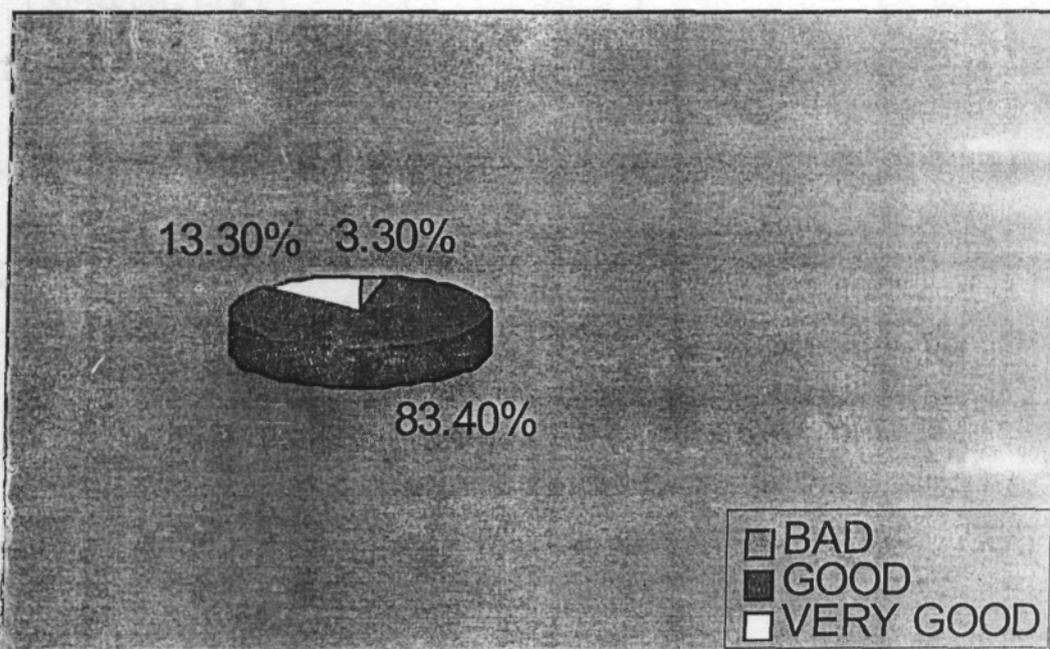


Figure 8 demonstrates that most of the respondents 83.4% had good practice on child nutrition for under five children.

TABLE 18: RESPONDENTS' PRACTICE OF FEEDING PATTERNS.

| FEEDING PATTERN | FREQUENCY | PERCENTAGE |
|---------------------------|-----------|------------|
| FREQUENCY OF FEEDS | | |
| ONCE | 1 | 1.7% |
| TWICE | 1 | 1.7% |
| THRICE | 36 | 60% |
| FOUR TIMES AND ABOVE | 22 | 36.6% |
| TOTAL | 60 | 100% |
| | | |
| EATING PATTERN | | |
| CHILDREN WITH ADULT | 17 | 28.3% |
| CHILDREN ALONE | 43 | 71.7% |
| TOTALS | 60 | 100% |
| | | |
| SERVING FOOD | | |
| CHILDREN FIRST | 57 | 95% |
| FEMALE ADULT | - | - |
| MALE ADULT | 3 | 5% |
| TOTAL | 60 | 100% |

Table 18 shows that majority of the respondents 60% feed their under five 3 times per day. Most of the respondents 71.7% children eat alone and 95% serve children first.

FIGURE 9: RESPONDENTS' WEANING PATTERN

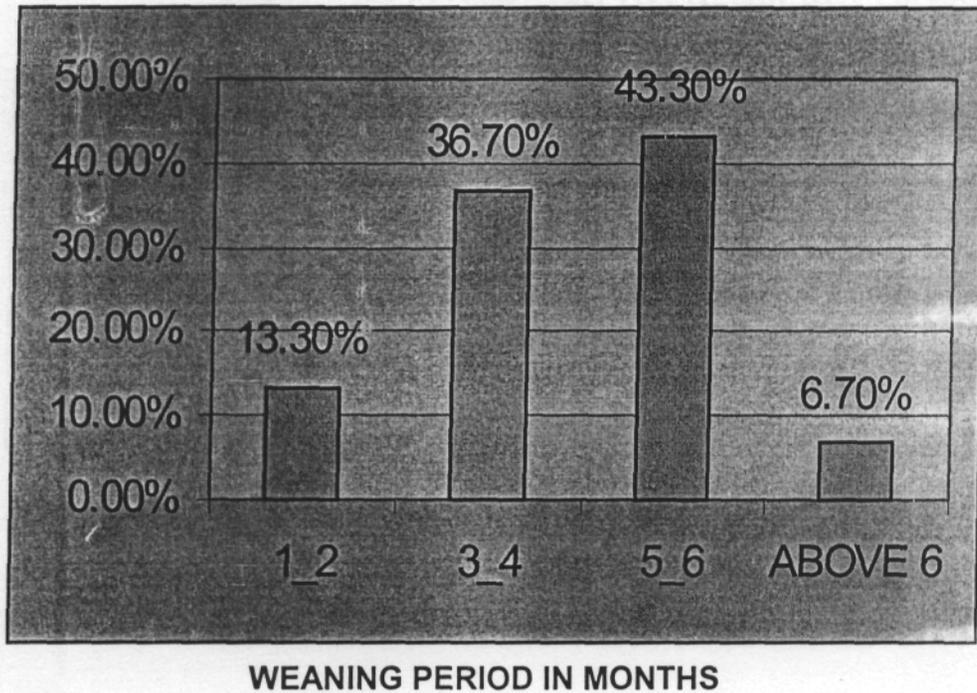


Figure 9 shows that majority of the respondents 43.3% start weaning between 5 and 6 months.

TABLE 19: RESPONDENTS' ATTENDANCE PATTERNS TO CHILDREN' CLINIC.

| ATTENDANCE PATTERNS BY RESPONDENTS TO CHILDREN'S CLINIC | FREQUENCY | PERCENTAGE |
|---|-----------|------------|
| EVERY MONTH | 58 | 96.7% |
| EVERY TWO MONTH | - | - |
| EVERY THREE MONTHS | - | - |
| OCCASIONALLY | 2 | 3.3% |
| TOTALS | 60 | 100% |
| IMMUNISATION COVERAGE | | |
| FULLY IMMUNISED | 46 | 76.7% |
| NOT IMMUNISED | 14 | 23.3% |
| TOTALS | 60 | 100% |

Table 19 shows that majority 96.7% of the respondents attend children' clinic every month and 76.7% had their under fives fully immunised while 23.3% were still receiving the vaccines.

TABLE 20: FAMILY SIZE IN RELATION TO FREQUENCY OF FEEDING.

| FREQUENCY OF FEEDING | FAMILY SIZE | | | TOTALS |
|----------------------|-------------|------------|--------------|------------|
| | 1-5 | 6-10 | 11 AND ABOVE | |
| ONCE | - | 1 (1.7%) | - | 1 (1.7%) |
| TWICE | 1 (1.7%) | - | 1 (1.7%) | 2 (3.3%) |
| THRICE | 15 (25%) | 18 (30%) | 2 (3.3%) | 35 (58.3%) |
| FOUR TIMES AND ABOVE | 11 (18.3%) | 11 (18.3%) | - | 22 (36.7%) |
| TOTALS | 27 (45%) | 30 (50%) | 3 (5%) | 60 (100%) |

Table 20 shows that majority of the respondents 50% with family size between 6 and 10 feed their children 3 times per day, while 36.7% of the respondents manage to feed their children four times and above.

TABLE 21: RESPONDENTS' WEANING PRACTICE IN RELATION TO EDUCATION LEVEL.

| EDUCATION LEVEL | WEANING PERIOD IN MONTHS | | | | TOTAL |
|-----------------|--------------------------|------------|-----------|-------------|-----------|
| | 1-2 | 3-4 | 5-6 | 6 AND ABOVE | |
| NO SCHOOLING | 1 (1.7%) | 3 (5%) | 1 (1.7%) | 1 (1.7%) | 6 (10%) |
| PRIMARY | 6 (10%) | 17 (28.3%) | 15 (25%) | 1 (1.7%) | 39 (65%) |
| SECONDARY | 1 (1.7%) | 3 (5%) | 8 (13.3%) | - | 12 (20%) |
| COLLEGE | - | 2 (3.3%) | - | 1 (1.7%) | 3 (5%) |
| TOTALS | 8 (13.3%) | 25 (41.7%) | 24 (40%) | 3 (5%) | 60 (100%) |

Table 21 shows that majority of the respondents 65% with primary education were the ones who start weaning between 3 and 4 months.

TABLE 22: RESPONDENTS' PRACTICE OF BREAST-FEEDING DURATION IN RELATION TO OCCUPATION.

| OCCUPATION | DURATION OF BREAST FEEDING IN MONTHS | | | | TOTAL |
|--------------------|--------------------------------------|------|-----------|------------|------------|
| | 0-6 | 7-12 | 13-18 | 19-24 | |
| SUBSISTENCE FARMER | - | - | 8 (13.3%) | 19 (31.7%) | 27 (45%) |
| MARKETER | - | - | 2 (3.3%) | 2 (3.3%) | 4 (6.7%) |
| HOUSE WIFE | - | - | 4 (6.7%) | 12 (20%) | 16 (26.6%) |
| PROFESSIONAL | - | - | 1 (1.7%) | 3 (5%) | 4 (6.7%) |
| OTHERS | - | - | 3 (5%) | 6 (10%) | 9 (15%) |
| TOTALS | - | - | 18 (30%) | 42 (70%) | 60 (100%) |

Table 22 shows that majority of the respondents 70% breast-feeds their children for 19-24 months and most of them were subsistence farmers 31.7%.

TABLE 23: RESPONDENTS ATTENDANCE TO CHILDREN'S CLINIC IN RELATION TO SOURCE OF INFORMATION ON NUTRITION ISSUES.

| ATTENDANCE TO CHILDREN'S CLINIC | RESPONDENTS' ATTENDANCE TO CHILDREN'S CLINIC IN RELATION TO SOURCE OF INFORMATION ON NUTRITION ISSUES. | | | | TOTAL |
|---------------------------------|--|----------|-------|-----------|-----------|
| | CLINIC | FRIENDS | RADIO | ELDERS | |
| EVERY MONTH | 37 (61.6%) | 5 (8.3%) | - | 16(26.6%) | 96.7% |
| EVERY TWO MONTHS | - | - | - | - | - |
| EVERY THREE MONTHS | - | - | - | - | - |
| OCCASIONALLY | 1 (1.7%) | - | - | 1 (1.7%) | 2 (3.3%) |
| TOTALS | 38 (63.3%) | 5 (8.3%) | - | 17(28.3%) | 60 (100%) |

Table 23 shows that majority of the respondents 96.7% who receive information on nutrition issues from the clinic, friends, and elders attend children's clinic regularly and a few attend occasionally.

5.0 DISCUSSION OF FINDINGS.

5.1 INTRODUCTION

The study was aimed at determining the parents' knowledge and practice towards malnutrition among under five children in Mbala urban district. The study was prompted by the increasing number of children with malnutrition in the under five age group.

The data was collected in three health institutions namely Mbala General Hospital (Children's Clinic), Tulemane Clinic, and Urban Clinic. The sample consisted of 60 randomly selected parents with under five children visiting the health institutions. The results are based on the analysis of the responses from 60 respondents.

5.2 DEMOGRAPHIC DATA

The study was carried out on parents of childbearing age with under five children. Out of the total sample of 60 respondents, figure 4 showed that the majority (66.7%) of the respondents were females while 33.3% were males. This low percentage of male respondents could be attributed to the inadequate interest of males in the children 's clinic, and inadequate involvement of males in programmes concerning children 's growth monitoring.

Table 3 showed that majority of the respondents 66.7% were aged between 15-29 years old. This could be in line with CSO (1990) census, which reported that the Zambia' s population is young.

Majority of the respondents 60% were mambwes. This is so because Mbala is the homeland area for mambwes. Table 5 showed that the majority of the respondents 86.7% were married, these were between the ages of 15-29 years. This is the age range that is claimed to be highly productive and sexually active, (ZDHS, 1996). This could be the reason for this age group of 15-29 years of the respondents being married.

Table 6 showed that the majority of the respondents 63.3% had primary education and 10% had no education. This is in line with the CSO (1997) report, which stated that the proportion of those who never had formal schooling is higher in rural areas which is about 45%.

In a similar survey done by ZDHS (1996), 14% of the mothers of children under five years of age have never attended school, while 64% have primary education and 22% have secondary or higher education. Among the provinces, the highest percentage of mothers reporting with secondary school education or higher live in copperbelt 37%, the highest percentage of mothers reporting a primary school live in northern 75%, and the highest percentage of mother who reported never attended school live in eastern 31%.

Malnutrition is said to be two times higher among children of mothers with no education and primary education than among children of mother with secondary or higher education, ZDHS, (1996).

Table 7 showed that the majorities 45% of the respondents were subsistence farmers who are engaged in informal sector. This is in line with the analysis of employment status LCIZ, (1998), which revealed the decline in the percentage of those employed in formal sector.

The result of the study in the table 8 revealed that majority of the respondents 41.7% their monthly income is between K51, 000.00-K100, 000.00. From the socio-economic correlation of child health and nutrition status in Zambia, malnutrition is closely related to low income, to household food insecurity and to poverty. The analysis indicated that much of the under nutrition (weight/age) found in the survey (ZDHS, 1996) is explained by shortness rather than thinness. This suggests that the principal source of child malnutrition in Zambia is the result of chronic, long-term food inadequacies, rather than acute and short-term bought of food shortage and disease.

Nutrition is directly related to income, and parents who earn less are less able to provide an adequate diet for their families, (Adequate food, a human right, subcommittee on nutrition, 1999, UN ACC USA project).

5.3 KNOWLEDGE DATA

Knowledge questions were included in section B of the questionnaire in order to determine parents' knowledge on malnutrition among the under five children.

Figure 5 showed that the majority 63.3% of the respondents obtains information on nutrition issues from clinics. This is so because of the information, education, and communication provided by the health providers during maternal and children's clinics.

In the study, the results on the knowledge level of respondents on essential food revealed that the majority 75% had very low knowledge on essential foods. This is so, because most of the respondents 63.3% had attained only primary education and it could be due to inadequate information on the

specification of essential foods during information, education, and communication (IEC) by health workers.

The findings on education level in relation to level of knowledge on essential foods for under fives, table 11 showed that majority 56.7% of the respondents with primary education had low level of knowledge on essential foods.

Conversely, a lack of access to basic education is one cause of malnutrition. Parents who face discrimination in education may lack the skill for productive employment and the knowledge that can help them support the health and nutrition of their families, Support for Analysis and Research in Africa (SARA) project, (1999). The report also revealed that literacy is positively associated with reduced infant mortality. Education provide people opportunities for learning and creativity that they would otherwise lack by providing them with skills for physical safety, clean water, good sanitation, health care, nutritious food and food supplementation. Education also equips parents with life skills to over come other problems that may threaten their health and well being later in life.

Table 10 showed that the majority of the respondents 80% had moderate knowledge on specific foods given to under five children. This could be attributed to inadequate information on basic foodstuff for under five children.

A study report on nutrition in the Zambia child health project (1995), revealed that there is insufficient information on infant and child care and feeding practices and factors influencing household decision making. The team recommended that health officials should raise awareness among policy makers on the importance of preventing malnutrition. They should conduct

formative qualitative research on child care and feeding practices in homes, in order to develop a strategy for information, education, and communication activities, improve counselling on breast feeding and supplementary feeding, train health providers about recognising malnutrition, and develop recommendations on practical and acceptable feeding recommendations.

In another study by Ritche (1983), the report revealed that the cause of malnutrition may be shortage of food or it may be a diet with one or more nutrients missing. In turn these direct cause may be the result of economic, social, cultural, agricultural or climatic factors which cause a child to eat little or too little of certain kinds of food.

Figure 6 revealed that majority 63.3% of the respondents had moderate knowledge on malnutrition. This could be attributed to low level of education in rural areas LCIZ, (1998). Ignorance has been found to be another contributing factor to malnutrition in developing countries like Zambia. It has been found that in some cases food is available but ignorance regarding food requirements of children resulting in under feeding has been a problem, WHO, (2000).

According to ZDHS, (1996), maternal education has an inverse relationship with child malnutrition. As the level of education increases, the level of childhood malnutrition decreases. The finding on knowledge on malnutrition in relation to sex, table 11 showed that 66.7% were females and were the ones with moderate knowledge on malnutrition. Malnutrition is two times higher among children of mothers with no education than among children of mothers with secondary or higher education.

Malnutrition is more prevalent among parents in rural than urban areas. Parental education is related to knowledge of good childcare, practices and to household wealth.

The study results revealed that only 10% of the respondents had high knowledge on signs and symptoms of malnutrition while 26.7% had low knowledge. Steel, (1995), reported that there is insufficient information on malnutrition as a disease in the communities. This is in support of the researcher's findings.

Figure 7 showed that 38.3% of the respondents had low knowledge on the prevention of malnutrition among the under five children. This could be attributed to inadequate information of preventing malnutrition. The findings on education level in relation to level of knowledge on malnutrition, table 16 showed that 43.3% of the respondents with primary education had moderate knowledge on malnutrition.

The report by Mutambo (1989), on socio-economic of child morbidity and mortality in Zambia revealed among other things, that parents' lack of information regarding preventive measures, is one of the factors affecting child morbidity and mortality.

According to Panafrican News Agency (January 24,2001), Malnutrition is one of the leading cases of child deaths in Zambia, Health Minister Enoch Kavindele revealed in Lusaka. Noting that the situation posed a big challenge to government. The minister said malnutrition was to blame for about 80 percent of child deaths and aggravating mortality from other illnesses. He said the MOH was putting into final form a nutrition policy that would be an important tool for Zambia to fight malnutrition. Government was ready to work

with the community and partners, he said, in order to come up with workable interventions for reduction of malnutrition.

"Health and nutrition, education and promotion of household food security are already being implemented, but there is need to do more on the prevention of malnutrition," Kavindele said.

5.4 PRACTICE DATA

In this study, questions on practice were included in the questionnaire, section C in order to establish feeding habits, which promote growth in children. The purpose was to find out if parents translate their knowledge of nutrition into practice.

Figure 8 showed that majority 83.4% of the respondents had good practice toward under five nutrition. This could be attributed to information, education, and communication during children's clinic. This is in support with the national health reform (CBoH, BASIC, 1996), which has integrated nutrition interventions into its essential health care package called nutrition minimum package. This package emphasises on;

- Exclusive breast-feeding for the first six months of life.
- Appropriate complementary feeding starting at about 6 months of age, in addition to continued breast-feeding until aged 24 months.
- Adequate vitamin A intake for women, infant and young children.
- Regular use of iodised salt by all families.

Neighbourhood Health Committees (NHC) assists the CBoH to implement primary health care programs, which include the minimum package interventions. These committees are community-based organisations.

Table 18 showed that majority of the respondents 60% feed their children 3 times a day as opposed to the recommended four or more times of feeding a child by WHO, (2000).

Jailer, (1999), reported that poverty is the most dangerous and wide spread threat to children. 50% of deaths world-wide in children under five are due to malnutrition as a result of lack of adequate food. The report by ZDHS, (1996), revealed that inadequate household food security is one of the contributing factors to high levels of malnutrition.

According to Keen et al (1999), on nutrition briefs linking multiple sector for effective planning and programming. Food security refers to the availability, accessibility, and affordability of safe, balanced and nutritious food through production, distribution, purchase, or exchange at the household level and implies sufficient food for a normal healthy life for each and every member of the household.

Figure 9 revealed that majority of the respondents weaned their children between 3-4 months 36.7% and 5-6 months 43.3%. This could be attributed to inadequate knowledge on exclusive breast-feeding.

Mandelbum, (1992), reported that the first line of defence against malnutrition is breast-feeding. Those infants who are breast fed for less than 6 months are five to ten times more likely to die before their first birth day than infants who

are breast fed longer. Weaning period presents another nutritional risk as local weaning practices influence the type of food offered to the child.

The study also revealed that majority 66.7% of the respondents breast-feed their children up to 24 months. Majority 96.7% of the respondents practice partial breast-feeding while 3.3% practised exclusive breast-feeding.

Although breast-feeding is highly practised as already mentioned, exclusive breast-feeding is not very common. This could be due to inadequate food security for breast-feeding mothers and inadequate knowledge on exclusive breast-feeding.

According to USAID project (1996), on Nutrition of infants and Young child in Zambia. Children that are not exclusively breast-fed in the first 6 months of life are at considerably increased risk of infection and mortality. This risk results not only from lack of immunity that the infant receives directly from colostrum and from breast milk, but also as a result of the introduction of weaning food and porridges that are frequently contaminated by dirty water or poor storage and handling conditions. Weaning foods pose a further source of risk of child nutrition in as much as they are frequently of a low caloric and protein density. These inappropriate weaning foods when coupled with inadequate frequency of feeds can have a particularly devastating effect on child growth.

Ross, (1996), on nutrition policy dialogue in Zambia, the study revealed that nutrition intervention should focus on promoting exclusive breast feeding up to 6 months and appropriate supplementary feeding there after. At the national level, a strategy should be developed that focus on training of managers, health workers, and community mobilisers on improved infant feeding.

The United Nations Children's Fund (UNICEF) (1996) named the promotion of breast-feeding as one of the most important strategies for improving child health in developing countries. Studies indicate that the infant mortality rates are five times higher for exclusively bottle-fed infants and three times higher for mixed fed infants than those exclusively breast-fed. Breast milk is an appropriate natural source of infant nutrition, it is an ideal food in both quality and quantity provides the infant with immunological protection and is generally free of contamination. Breast-feeding also indirectly promotes improved maternal and child health by lengthening birth intervals.

The study results revealed that 30% of the respondents held traditional / religious beliefs in with holding of certain foodstuff for under five children such as pork meat, some sweet potatoes and restricting pregnant women not to eat eggs in fear of giving birth to a child with no hair. This could be attributed to traditional beliefs passed down to parents by elders.

According to Kean, (1999), on cultural beliefs and customs, nutritional stress can be compounded by norms and taboos that limit the intake of foods that limit the intake of foods that contain important nutrients, particularly during pregnancy. For many children, the devastating health effects of malnutrition begin in the womb. Pregnant and nursing women need care and support from their families and communities to ensure a healthy pregnancy and delivery and to provide adequate nutrition and nurture to their children.

The findings on the practice of food restriction in relation to education level majority 21.7% of the respondents who practised food restriction had primary

education. This could be attributed to inadequate knowledge on the importance of nutritious foods for under five children. Appropriate feeding of children helps ensure proper nutrition, avert stunting, and prevents illness and death. Nutrition education programs can motivate health providers and parents to follow appropriate feeding practices including to actively encourage children to eat during and after illness, A joint WHO/UNICEF STATEMENT, (1998).

The attendance of respondents at children's clinic, table 19 showed that the majority 96.7% of the respondents attended the clinic regularly on monthly basis. This could be attributed to adequate public awareness of children's clinic and growth monitoring.

According to WHO, (2000), on child growth on malnutrition, malnutrition is frequently part of a vicious cycle that includes poverty and disease. These 3 factors are interlinked in such a way that each contributes to the presence and permanence of the other. Socio-economic and political changes that improve health and nutrition can break the cycle, as can specific nutrition and health interventions.

The WHO Global Database on growth and malnutrition seeks to contribute to the transformation of this cycle of poverty, malnutrition and disease into a virtuous one of wealth, growth and health.

Malnutrition in children is the consequence of a range of factors, that are often related to poor food quality, insufficient food intake and severe and repeated infectious disease, or frequently some combination of the three. These conditions in turn are closely linked to the overall standards of living and

whether a population can meet, its basic needs, such as access to food, housing and health care.

Growth assessment thus not only serves as a means for evaluating the health and nutritional status of children, but also provides an indirect measurement of the quality of life of an entire population.

The WHO Global Database on child growth and malnutrition illustrates, malnutrition's enormous challenge and provides decision-makers and health worker alike with the baseline information necessary to plan, implement and monitor and evaluate nutrition and public health intervention programmes aimed at promoting healthy growth and development.

5.5 HEALTH SYSTEM IMPLICATION

The United Nations Children's Fund progress report on child survival says Zambia has one of the highest under five mortality rates in the world, with 59 percent of children of this age group suffering from chronic malnutrition. Malnutrition, malaria, and anaemia were said to be highly related and together accounted for more than half of the under fives deaths.

The report was released at stakeholders' meeting attended by over 140 participants to review Zambia's progress towards attaining the goals set at the world summit on children in September 1990.

The report indicated that the situation of children and women had declined drastically with malnutrition rates, especially among children having increased

from 39 percent in 1991 to 59 percent in 1999. The report states that Zambia has over the last decade failed to make gains on indicators of child survival as data indicated a continued gradual deterioration.

Globally, Zambia has been ranked among the 12 worst cases with regard to under five mortality. Nationally, 59 percent of Zambian children under five years were reported to be stunted or chronically malnourished, 25 percent under weight and four (4) percent wasted or acutely malnourished.

"These figures are very high and reflect a worsening situation. In particular, the stunting level is 25 times the expected prevalence of 2.3 percent in a normal population while under weight is similarly 10 times worse,"Panafrican News Agency, December, 2000.

According to Global food projections to 2020 emerging trends and alternative future on child malnutrition, facts and consequences are;

- In the late 1990s there were 166 million malnourished children around the world.
- If today's policies and practices continue, there will still be 132 million malnourished children world wide in 2020.
- Each year, malnutrition plays a role in more than half of the nearly 12 million deaths of children under five years in developing countries.
- Due to poor diet and disease, in 2000, 32.5 percent of children in developing countries suffered from stunting, or below normal height for their age.

- Under nourished children are more susceptible to severe illnesses, have full height, and have trouble with coordination and mobility. These problems often continue into adulthood, Global food projections, (2000).

Child nutrition is a critical factor for child survival. Malnutrition is often the common cause of childhood deaths. It affects the immunity and impairs growth and cognitive development of children, where by reducing the learning capacity and may even cause permanent disability like blindness, WHO, (1999).

Malnutrition poses a challenge to all health workers and concerned agencies and citizens. Information, education, and communication on child care, growth monitoring and nutrition should be intensified and modified to improve parents' knowledge and practices towards malnutrition among the under five children.

The study demonstrated that most parents in the communities have moderate knowledge on malnutrition. This could be attributed to inadequate public education on malnutrition through the use of posters written in foreign language. This inadequate knowledge on malnutrition has adversely affected even practice of proper nutrition habits for under five children. The effects have been seen by the number of under five children admitted to the health institutions with malnutrition as indicated in the quarterly reports of the district health institutions 2001. Mbala 24,414 under five weighed, 24% under weight; Tulemane clinic 5,163 under five weighed, 22% under weight; and Urban clinic 2,964 under five weighed, 15% under weight etc.

The factors, which may have led to communities not to utilise the moderate knowledge they have acquired on malnutrition to improve the nutritional status of their under five children, include the following:

1. Community's inability to actively participate at various levels of nutrition programmes, prevention and control of malnutrition.
2. Resource constraints, which could have hindered communities to adhere to malnutrition prevention such as ensuring household food security all the time.
3. Inability by the hospital and the district health management team to provide nutritional wards and ensure nutritional cooking demonstrations to the parents.

5.6 CONCLUSION

Good nutrition is a pre-condition for rather merely a result of, human and economic development. Malnutrition in children today slows economic growth and development for decades by increasing illness and mortality and reducing the productivity of tomorrow's labour force. Therefore investing to improve the nutrition of children and women today is an effective way to improve the living standards of generations to come.

Malnutrition is economically costly, particularly when it occurs among children, because the effects are cumulative over a lifetime. Nutrition deficiencies lead to child deaths, increased health cost to families and the government, decreased mental capacity, and lower future productivity, all of which hinder economic development of a nation.

Improved nutrition increases human capacity and fosters economic growth. In turn increasing food intake and improving nutrition often is best achieved by raising the incomes of poor households. Infact, malnutrition is both a cause and a consequence of poverty, Kean, (2001).

Malnutrition imposes a substantial burden on the people of Zambia. Most households have insufficient food in terms of quality, quantity, and utilisation. This compromises their nutritional status, diminishes their potential for growth and good health, increases their burden of disease, reduces their educational and economic prospects and shortens their lives. Yet, nutrition programs lack the financial and political support they deserve, especially given their effective and relative low cost.

The study sought to determine the level of knowledge and practice towards malnutrition among under five children in Mbala urban district. The study has revealed that parents have moderate knowledge on malnutrition. This has contributed to high level of malnutrition in the communities especially among the under fives.

The failure by the health institutions to implement nutritional programmes effectively in the district has contributed to inadequate community participation. The study has revealed that parents have very low knowledge on essential foods. This is so because most of the health promotion posters that are displayed in health institutions show foodstuffs that are not locally

available in the communities and the language used to write posters is not community friendly.

Parents have moderate knowledge on prevention of malnutrition. This could be attributed to inadequate health promotion programmes by health institutions, and community based organisations. Most of the parents are not hindered by any traditional or cultural beliefs on foodstuffs.

5.7 RECOMMENDATIONS

In view of the findings of the study, the researcher would like to make the following recommendations.

GOVERNMENT

- Increase income distribution: One of the most effective national strategies for reducing malnutrition may be to focus on improving the equity of income distribution.
- Improve food security: the objective of agricultural policy and production should be to increase food consumption among poor households, generate sustainable livelihood and improve the nutritional content of food not simply to produce crops and live stocks. Policies must be concerned about improving access to land, agricultural inputs and knowledge and income, particularly for women.
- Collaborating with private industry or other non-governmental agencies to combat malnutrition; strong partnerships between the public and private sectors can be an important weapon in the fight against

malnutrition. The private sector can be a valuable partner to the public sector in planning and implementing food fortification and supplementation programs, two important strategies for combating micro nutrient deficiencies. Food fortification and supplementation are cost-effective strategies for combating existing malnutrition while helping expand the availability and consumption of micro nutrient-rich foods.

- Policy makers should advocate strongly for nutrition and its socio-economic consequences.
- Encourage community based education programs, which provide interpersonal counselling about nutrition. They are successful in improving feeding practices and have led to improved nutritional status for children. Such programs stress maternal, nutrition, breast-feeding, appropriate complementary foods and active feeding of sick children, among other things.
- Balance food for export (sell) and food for domestic consumption; Policy makers should ensure that agricultural policies focus on assuring sufficient production for their people.
- Train more health workers who will assist families in the prevention of malnutrition.

HEALTH INSTITUTIONS

- Increase public awareness on malnutrition among the under five children.
- Incorporate in UCI programmes, nutritional demonstration on preparation of essential foodstuffs.

- Introduce nutritional wards at the hospitals or clinics.
- Involve communities in nutrition prevention and control of malnutrition programmes at grass root level.

COMMUNITIES

- Produce traditional, nutritious foods; Many traditional foods such as roots, tubers, legumes etc. serve as staples, and increasing their production can improve food supplies for groups particularly vulnerable to under nutrition. Most traditional foods also are well adapted to the local environment and provide year-round supplies.
- Improve feeding practices; Appropriate feeding of children helps ensure proper nutrition, avert stunting and prevent illness and deaths.
- Active community participation in all nutritional and health care programmes for the under five children.

5.8 LIMITATIONS OF THE STUDY

- The study was done within the busy school calendar of the researcher. This made it difficult to concentrate on the study at the expense of the other courses.
- The sample of sixty (60) was as a result of time limit. As such representativeness may not be adequate, because respondents interviewed were only those coming to the health institution.

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ANNEX 1

STRUCTURE INTERVIEW QUESTIONNAIRE

TITLE OF THE STUDY

**A STUDY TO DETERMINE PARENTS' KNOWLEDGE AND PRACTICES
TOWARDS MALNUTRITION IN UNDER FIVE CHILDREN IN MBALA
DISTRICT**

Questionnaire No/client ID No.....

Place of Interview

Name of Interviewer

Date of Interview/...../.....

INSTRUCTIONS

1. Please do not write the name of the respondent on the questionnaire.
2. For questions without alternatives, write responses clearly on the space provided.
3. For questions with responses, tick () in the box the most appropriate answer.
4. Respondents should be free to ask questions during the course of interview.
5. All information provided will be held in strict confidence.
6. Thank the respondent at the end of each interview.

SECTION A: DEMOGRAPHY DATA

FOR OFFICIAL USE

1. How old are you?
2. What tribe are you?
3. Which religious denomination do you belong to?
4. What is your marital status?
 - (a) Married
 - (b) Single
 - (c) Divorced
 - (d) Widower
5. How far did you go in your education?
 - (a) No schooling
 - (b) Primary
 - (c) Secondary
 - (d) College
6. What is your occupation?
 - (a) Subsistence farmer
 - (b) Marketeer
 - (c) House wife
 - (d) Professional
 - (e) Others (specify):
7. How much money do you earn or make per month?
 - (a) Below K50,000.00
 - (b) K51,000.00 – K100,000.00
 - (c) K101,000.00 – k200,000.00
 - (d) K201,000.00 and above
 - (e) None
8. How many children do you have?
9. How old is the youngest child?
10. How many are you in the family?
 - (a) 1 – 5 members
 - (b) 6 – 10 members
 - (c) 11 and more

SECTION B: KNOWLEDGE DATA

FOR OFFICIAL USE

11. Did you learn domestic science or home economics at primary school?

- (a) Yes
- (b) No

12. If yes, do you practice what you learn?

- (a) Yes
- (b) No

13. If No, why?

.....
.....

14. What is your current source of information on nutrition issues?

- (a) Clinic
- (b) Friends
- (c) Radio
- (d) Your elders in the community

15. Mention the three groups of essential foods that are necessary for under five children?

- (a)
- (b)
- (c)

16. Specify the foods you give to your under five children

- (a)
- (b)
- (c)
- (d)
- (e)

17. How can you tell that the child is suffering from malnutrition?

.....

18. How can malnutrition be prevented from occurring in the family?

- (a)
- (b)
- (c)
- (d)

SECTION C: PRACTICE DATA

19. How do you prepare or cook food for your under five children?

- (a) Boiling
- (b) Frying
- (c) Toasting

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| |

20. How often do you give food to your under five children?

- (a) Once
- (b) Twice
- (c) Thrice
- (d) Four times and above

| |
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| |

21. Do you have any type of food that cannot be given to your under five children?

- (a) Yes
- (b) No

| |
|--|
| |
| |

22. If Yes, name the food and explain why?

.....

23. Who feeds your under five children when you are not at home?

- (a) Maid
 (b) Father
 (c) Mother
 (d) Anyone available
 (e) No one

24. Do you eat from the same plate with your under five children?

- (a) Yes
 (b) No

25. When serving food who is served first?

- (a) Children
 (b) Female adult
 (c) Male adult

26. What has been your practice when the child is breast feeding, is it;

- (a) Partially fed
 (b) Exclusively fed

27. At what age do you introduce other food to your children?

- (a) 1 - 2 months
 (b) 3 - 4 months
 (c) 5 - 6 months

28. How long do you breast-feed your children?

- (a) 0 - 6 months
 (b) 7 - 12 months
 (c) 13 - 18 months
 (d) 19 - 24 months

29. Are there days when you do not feed your under five children?

- (a) Yes
 (b) No

30. If Yes, explain

31. Do you have any traditional or religious beliefs which restrict your children to eat certain foods?
(a) Yes
(b) No

32. If yes, explain.....

33. How often do you take your children for children's clinic?
(a) Every month
(b) Every two months
(c) Every three months
(d) Occasionally

34. Are your children fully immunised?
(a) Yes
(b) No

35. If No, Explain.....

36. Has any of your under five children been below the road to health on the under five card?
(a) Yes
(b) No

37. If yes, what do you think was the cause?
.....
.....
.....

THANK YOU FOR YOUR ANSWERS

ANNEX 2

University of Zambia
School of Medicine
Department of PBN
P.O. Box 50110
LUSAKA

Executive Director of Health
Mbala District
20059

Head
School of Medicine
Post Basic Nursing Department

S. M. M.

adam,

MISSION TO CARRY OUT A STUDY ON PARENTS' KNOWLEDGE AND PRACTICES TOWARDS MALNUTRITION IN UNDER FIVE CHILDREN

Undergraduate student in Post Basic Nursing at the University of Zambia wish to seek permission to carry out a study on the above topic, in partial fulfilment of the course.

Carry out the study in health facilities in Mbala District. The research involves interviewing parents with under five children visiting the clinic or in

Confidentiality will be maintained and informed consent will be obtained from participants. If permission is granted, the study will be conducted between September 2001. Your consideration will be greatly appreciated.

Sincerely,

Kweshah



**Republic of Zambia
Ministry of Health**

**OFFICE OF THE DISTRICT DIRECTOR OF HEALTH
MBALA DISTRICT HEALTH BOARD
P. O. BOX 420075
MBALA**

2, 2001

Department of School of Medicine
University of Zambia
Department of Medicine
Department of Post Basic Nursing
Lusaka 50110

**PERMISSION TO CARRY OUT A STUDY ON PARENTS; KNOWLEDGE
AND PRACTICES TOWARDS MALNUTRITION IN UNDER FIVE CHILDREN
IN MBALA DISTRICT**

Reference is made in reference to the above captioned subject.

Permission is granted to Mrs Kwesha K. Winfridah, a post Basic Nursing Student at your institution to collect data for research purposes from our health facilities in the District.

It is noted with no doubts that the data collected will facilitate production of a satisfactory report, which would in future serve as reference for setting feasible interventions to reduce malnutrition in the District.

Yours faithfully,



REPUBLIC OF ZAMBIA

MINISTRY OF HEALTH

OFFICE OF THE EXECUTIVE DIRECTOR
Mbala Hospital Board of Management
P.O. Box 420059
MBALA

In reply please quote

No.....

, 2001

sha
ity of Zambia
edicine
110 R7

ION TO COLLECT DATA

Your letter regarding the above subject. I have read
seeking authority to interview parents at the hospital
ward for your research study.

objection to your well deserved research as the results
our benefit at the hospital.

the best.

ely

ICAL CARE Bsc NURSING
L HOSPITAL

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