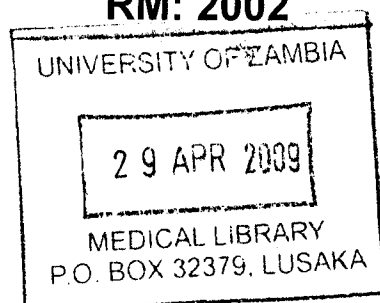


**A STUDY TO DETERMINE MOTHERS KNOWLEDGE AND  
PRACTICES TOWARDS VITAMIN A SUPPLEMENT AND  
FOODS RICH IN VITAMIN A IN MPANSHYA- CHONGWE  
DISTRICT**

**BY  
GLADYS LUNGU**

**RN: 1998**

**RM: 2002**



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LUN  
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<b>TABLE OF CONTENTS</b>	<b>PAGE</b>
1 Acknowledgement.....	i
2 Table of contents.....	ii
3 List of appendices.....	iv
4 List of tables.....	v
5 List of figures.....	vii
6 List of abbreviations.....	viii
7 Declaration.....	x
8 Statement.....	xi
9 Dedication.....	xii
10 Abstract.....	xiii

## **CHAPTER ONE**

1.0 Introduction.....	1
1.1 Background information.....	1
1.2 Statement of the problem.....	4
1.3 Factors influencing mother's knowledge and practices towards Vitamin A supplement and foods rich in Vitamin A.....	8
1.4 Diagram of the problem analysis.....	11
1.5 Justification.....	12
1.6 Research objectives.....	12
1.6.1 General objectives.....	12
1.6.2 Specific objectives.....	13
1.7 Hypothesis.....	13
1.8 Variables.....	13
1.8.1 Dependent Variables.....	14
1.8.2 Independent Variables.....	14
1.8.3 Variables and cut- off point.....	15
1.9 Operational definition of terms.....	16

## **CHAPTER TWO**

2.0	Literature Review.....	17
2.1	Introduction.....	17
2.2	Global perspective.....	17
2.3	Regional perspective.....	20
2.4	National perspective.....	22
2.5	Conclusion.....	23

## **CHAPTER THREE**

3.0	Research methodology.....	25
3.1	Research design.....	25
3.2	Research setting.....	25
3.3	Study population.....	28
3.4	Sample selection.....	28
3.5	Sample size.....	29
3.6	Data collection tool.....	29
3.7	Validity.....	30
3.8	Reliability.....	30
3.9	Data collection technique.....	30
3.10	Pilot study.....	31
3.11	Ethical and cultural consideration.....	31

## **CHAPTER FOUR**

4.0	Data analysis and presentation of findings.....	33
4.1	Introduction.....	33
4.2	Data analysis.....	33
4.3	Presentation of findings .....	33

## **CHAPTER FIVE**

5.0	Discussion of findings.....	65
5.1	Introduction.....	65

5.2	Characteristics of the sample.....	65
5.3	Discussion of each variable.....	65
5.4	Demographic data.....	65
5.5	Knowledge data.....	67
5.6	Practice data.....	70
5.7	Implications to the health care system.....	74
 <b>CHAPTER SIX</b>		
6.0	Conclusion, recommendations and limitations of the study.....	76
6.1	Conclusion.....	76
6.2	Recommendations.....	77
6.3	Limitations of the study.....	79
6.4	Dissemination and utilization of findings.....	79
	References.....	80
 <b>LIST OF APPENDICES</b>		
	Appendix I: Questionnaire.....	82
	Appendix II: Work schedule.....	89
	Appendix III: Gantt chart.....	90
	Appendix IV: Budget.....	91
	Appendix V: Budget justification.....	92
	Appendix VI: Request to undertake the study.....	93

## LIST OF TABLES

Table	Page
1: Top 10 causes of filter clinic attendances (all ages) .....	6
2: Top 5 causes of morbidity in under 5 children.....	7
3: Variables, indicators and cut off points.....	15
4: Age of respondents.....	34
5: Tribe of respondents.....	34
6: Marital status of respondents.....	35
7: Education level of respondents.....	36
8: Occupation of respondents.....	36
9: Monthly income of respondents.....	37
10: Monthly income of respondents' spouse.....	38
11: Definition of vitamin A.....	38
12: Foods rich in vitamin A.....	39
13: Importance of vitamin A to children.....	39
14: Hearing of vitamin A supplementation.....	40
15: Information on how a child with vitamin A deficiency looks like.....	41
16: Information on foods rich in vitamin A given to children.....	42
17: Information on how often children are given food.....	42
18: Information on whether they have foods that can not be given to children.....	43
19: Information on foods that can not be given to under five children.....	44
20: Information on child breastfeeding practices.....	45
21: Information on whether respondents have traditional beliefs which restrict children to eat certain foods.....	46
22: Information on the explanation of the traditional belief which restrict children to eat certain foods .....	46
23: Information on whether respondents take their children for vitamin A supplementation.....	47
24: Availability of vitamin A supplementation at health center.....	48
25: Information on when the child last received vitamin A supplement.....	48

26:	Information on waiting time for vitamin A supplement at health center...	49
27:	Information on staff level at the health center.....	49
28:	Distance from home to health center.....	50
29:	Information on whether respondents have a vegetable garden.....	50
30:	Information on where they get vegetables.....	51
31:	Relationship between age and marital status.....	51
32:	Relationship between age and educational level.....	52
33:	Relationship between age and occupation.....	52
34:	Relationship between age and knowledge.....	53
35:	Relationship between age and breastfeeding practices.....	53
36:	Relationship between age and practice.....	54
37:	Relationship between age and availability of food.....	54
38:	Relationship between age and importance of vitamin A .....	55
39:	Relationship between education level and knowledge.....	56
40:	Relationship between education level and level of practice.....	56
41:	Relationship between education level and importance of vitamin A.....	57
42:	Relationship between education level and occupation.....	58
43:	Relationship between education level and breastfeeding practices.....	58
44:	Relationship between education level and availability of food.....	59
45:	Relationship between occupation and level of knowledge.....	59
46:	Relationship between occupation and breastfeeding practices.....	60
47:	Relationship between occupation and availability of food.....	61
48:	Relationship between occupation and monthly earnings.....	62
49:	Relationship between occupation and frequency of feeding.....	63
50:	Relationship between availability of food and frequency of feeding.....	64

## LIST OF FIGURES

Figure	Page
1: Diagram of problem analysis.....	11
2: Religious denomination of respondents.....	35
3: Occupation of respondents' spouse.....	37
4: Source of information on vitamin A supplementation.....	40
5: Information on whether respondents knew when to take children for vitamin A supplementation.....	41
6: Information on availability of food.....	43
7: Information on why they do not give the named foods.....	45
8: Information on how often children are taken to health center for vitamin A supplementation.....	47



## LIST OF ABBREVIATIONS

ART	-	Antiretroviral Treatment
CBAs	-	Community Based Agents
CBOH	-	Central Board of Health
CHAZ	-	Churches Health Association of Zambia
CHW	-	Community Health Worker
CSO	-	Central Statistics Office
DHMT	-	District Health Management Team
HEPS	-	High Energy Protein Supplement
IEC	-	Information Education and Communication
IVACG	-	International Vitamin A Consultation Group
MCH	-	Maternal and Child Health
MDG	-	Millennium Development Goals
MMD	-	Movement for Multiparty Democracy
MOH	-	Ministry of Health
MTEF	-	Medium Term Expenditure Framework
NFNC	-	National Food and Nutrition Commission
NHC	-	Neighbourhood Health Committee
NHR	-	National Health Reforms
NID	-	National Immunisation Day
OPD	-	Out Patient Department
PAM	-	Prevention Against Malnutrition
PEM	-	Protein Energy Malnutrition
PHC	-	Primary Health Care
RTI	-	Respiratory Tract Infection
SCN	-	Standing Committee on Nutrition
TDRC	-	Tropical Disease Research Center
UNICEF	-	United Nations International Children's Fund
UNCT	-	United Nations Country Team
USAID	-	United State Agency for International Development

UTH	-	University Teaching Hospital
VAD	-	Vitamin A Deficiency
WFP	-	World Food Programme

## DECLARATION

**I LUNGU GLADYS** hereby declare that the work presented in this study for Bachelor of Science Degree in Nursing has not been presented wholly or in part for any other Degree and it is not being currently submitted for any other degree.

Signed: Qing  
(Student)

Date: 08/04/08

Approved by: *R. S. Gama*  
(Supervising Lecturer)

Date: 08/04/08

**STATEMENT**

I hereby certify that this is entirely the result of my own independent investigation. The various sources to which I am indebted are clearly indicated in the references.

Signed:                       
(Student)

Date: 08/04/08

## **DEDICATION**

This study is entirely dedicated to my beloved parents who supported me throughout my education through their love, moral support and their resources; to my beloved husband Emmanuel for his love, support and encouragement; to my sisters Charity, Mervis, Florence and Angela for their support and taking care of my daughter and to my beloved daughter Tressy Chilekwa for the moral support.

My beloved family, I am very grateful to you all and I thank God Almighty for having you as my relations.

## ABSTRACT

The study aimed at exploring mother's knowledge and practices towards vitamin A supplement and vitamin A rich foods in Mpanshya area, Chongwe district of Lusaka Province. Mpanshya catchment area has been experiencing a steady increase of number of illnesses in children such as respiratory tract infections, diarrhoea and eye infections. These diseases are among the top five causes of morbidity in under five children. Literature review was obtained from studies conducted globally, regionally and locally. Literature has indicated that assessing mother's knowledge and practices' regarding vitamin A supplement and vitamin A rich foods is necessary. This is because of the increasing number of vitamin A deficiency disorders in under five children world wide despite vitamin A programmes being implemented.

A descriptive qualitative study design was used. Stratified random sampling was used to select the sample and a sample of 50 respondents was selected for the study. A pilot study was conducted at UTH in Paediatric wards and the respondents were five (5) mothers with under five children. Analysis of data from the pilot study was done and necessary changes to the interview schedule were made accordingly.

Data was collected using a semi-structured interview schedule from 4<sup>th</sup> September to 30<sup>th</sup> September, 2007. Anonymity and confidentiality was upheld by keeping the information as secret of the researcher. Data analysis was done manually and entered on the data master sheet for easy analysis. The findings were presented using frequency tables, bar charts, pie charts, cross tabulations and numerical description was prepared to show the relationship of variables with the aid of a calculator.

The study has revealed that 52% of the mothers were within the age group between 14 and 24 years. Thirty-two percent (32%) were aged between 25 and 34 years. Fourteen percent (14%) were aged between 35 and 44 years. Two percent (2%) of the respondents were aged 45 years and above. This shows that most of them were young mothers, who could be in school at that age. The findings show that 71.4 % of the respondents in the

age group between 14 and 24 years did not know the importance of giving vitamin A to children.

The study has revealed that 70% mothers had primary education. Low educational levels of the mothers could have contributed to high level of vitamin A deficiency (VAD) because 71.4% of mothers who attained primary education did not know the importance of vitamin A.

The results show that 58% of the respondents had medium level of knowledge on vitamin A rich foods and vitamin A supplementation but could not use their knowledge into practice in terms of feeding their under five children with the appropriate foodstuffs.

The bad practice could have contributed to the increase in VAD. In addition, 52% of the mothers did not know the definition of vitamin A. However, 68% of mothers knew the importance of vitamin A.

This study has revealed that 64% of the mothers had bad practices towards vitamin A supplement and vitamin A rich foods. The shortage of food in homes could have contributed to bad practices towards vitamin A, as 64% of the mothers did not always have food in their homes to give to children. Only 10% of the mothers fed their children the correct frequency of four times or more a day. Most mothers (50%) feed their children 3 times per day which is not very good for growing children. The recommended infant feeding by WHO is that the infant should be fed four times and above.

The findings show that 24% of the mothers did not know the foods rich in vitamin A they are suppose to give to their children. Twenty- two percent (22%) were able to mention three foods rich in vitamin A, while another 22% mentioned one food, 20% mentioned two foods. Only 12% of mothers were able to mention four foods rich in vitamin A they give to their children.

However, all (100%) of the mothers had heard about vitamin A supplementation but only 82% knew when to take their children for the supplementation.

The major recommendations made to relevant authorities in view of the findings of the study focus on:

- Government should improve the objectives of agricultural policies and production to food consumption among poor households, generate sustainable livelihood and improve the nutritional content of food access to land, agricultural inputs and knowledge and income.
- Government should collaborate with non-governmental agencies to combat vitamin A deficiency disorders. A strong partnership between the public and private can be an important weapon in the fight against VAD.
- The health institutions should increase public awareness on VAD to the mothers or caretakers of the under five children during children's clinic or out reach programmes, cooking demonstrations on preparation of essential foods and also during child health week. They should raise the usefulness of vitamin A in treating measles, diarrhoea and preventing of death.
- The community based nutrition agents should encourage the community to produce traditional and nutritious foods such as pumpkins, paw paws and mangoes because these are rich, cheap and abundantly available sources of vitamin A.
- The hospital management should encourage communities to participate in all nutritional and health care programmes for under five children such as cooking demonstrations.



## **CHAPTER ONE**

### **1.0 INTRODUCTION**

#### **1.1 BACKGROUND INFORMATION**

Zambia is a landlocked country situated in Central Africa and covers an area of 752 614 square kilometers. It shares boundaries with Tanzania and Democratic Republic of Congo in the north, Mozambique and Malawi in the east, Zimbabwe and Botswana in the south, Angola in the west and Namibia in the southwest (CSO, 2003).

According to Central Statistic Office (2003) the country is divided into nine provinces and seventy two (72) districts. It lies between latitude 8 degrees and 18 degrees south and between 20 degrees and 35 degrees longitudes east. The country has a tropical type of climate and vegetation with three distinct seasons, the cool and dry winter from May to August, hot and dry season from September to October and the warm and wet season from November to April. The average rainfall range is between 600mm to 1 400mm per year (CSO, 2003).

CSO (2003) also reports that the country has a population of 10.3 million people with a growth rate of 2.9 percent per annum. The population density ranges from 65 people per square kilometers in Lusaka province to 5 people per square kilometers in Northwestern province (CSO, 2003). The population is concentrated along the line of rail because major towns are along this route. The rural area is underdeveloped, as a result most of the people including the youths move to urban areas in search of employment and livelihood. Zambia has a mixed economy consisting of a modern urban sector that follows the rail line and a rural agriculture sector. For a long time, the modern sector has been dominated by parastatal organizations, while private businesses had predominated in construction and agriculture sectors. Since 1991, with the introduction of a liberalized market-oriented economy, the parastatals have been privatized and in some cases liquidated.

Copper mining was the country's major foreign exchange earner. In mid 1970s there was a sharp decline in copper prices leading to the decline of the country's economy. The decline in the economy adversely affected the health services. There were shortages of drugs in hospitals and the infrastructures were run down.

In 1981, the Zambian government through the Ministry of Health adopted the Primary Health Care (PHC) concept with the vision of providing health to all by the year 2000 (Central Board of Health /Ministry of Health, 2004). This concept emphasizes that health services should be provided as close to the family as possible through community participation and at a cost the family and community can afford. In 1991, when the Movement for Multiparty Democracy (MMD) came into power, the Government introduced the concept of National Health Reforms (NHR) whose vision was to provide equitable access to high quality cost effective care as close to the family as possible (CBOH, 1997). Health reforms stress the need for families and communities to be self-reliant and to participate in their own health and development promotion of adequate nutrition and food supply is one of the components of primary health care. Promotion of adequate nutrition and food supply is taken care of by the Ministry of Agriculture and Cooperatives and World Food Programme (WFP).

Improving of maternal and child health and adequate supply of food and good nutrition are some of the components of PHC that promote the wellbeing of mothers and children. To promote the health of children, the Government has adopted programmes like Vitamin A supplementation to all children aged between 6 to 59 months. Vitamin A is a substance needed by the body to promote good health and optimal eye sight. Vitamin A is found in pawpaw, mangoes, sweet potatoes, pumpkins and other yellow/orange red colored fruits. It is also found in green vegetables such as cassava leaves, pumpkin leaves, lbondwe (Amaranthus). Other good sources are breast milk, whole milk, liver, kapenta, palm oil, yellow maize and carrots. Vitamin A promotes the child's health and wellbeing such that the body is able to defend it self against infections such as diarrhoea and measles. It increases child survival from infections, promotes adequate growth and optimal functioning of the eyes.

Tull (1996) points out that children not receiving or eating enough vitamin A may suffer from vitamin A deficiency. He further states that Vitamin A deficiency (VAD) is a disease caused by not eating food rich in vitamin A and that children suffering from lack of vitamin A may experience poor eye sight especially at night, complete blindness or have weak body defence against diseases (Tull, 1996).

Literature has shown that administering vitamin A supplement to all children aged 6-59 months every 6 months can prevent vitamin A deficiency and that it is also very important to give children foods rich in vitamin A to prevent the deficiency (CBOH, 2002). VAD is the most common cause of preventable childhood blindness in the world. It also contributes significantly to morbidity and mortality from common childhood infections and women of reproductive age. This is usually as a result of insufficient dietary intake and absorption of vitamin A or impaired utilization. VAD can reduce the ability of the body to fight infection, increasing the severity of common childhood infections like measles and diarrhoeal diseases, which may even lead to death. Controlled trials have demonstrated that improving the vitamin A status of young children who have vitamin A deficiency reduces mortality on an average of 25% (Mwela, Luo and Campbell, 1999).

In Zambia VAD was recognized as a public health problem in the early 1960s when it was described as a major cause of blindness in Luapula province. In 1985, the National Food and Nutrition Commission (NFNC) and the Tropical Diseases Research Center (TDRC) conducted a study in Luapula valley. The study involved children between 6-72 months. The findings were that 1.89% of children had xerophthalmia, 75% had night blindness, and 16.5% had biochemical levels of severe deficiency less than 10ug/dl. In 1990 the Government of United Nation and other countries including Zambia during the world summit for children recognized the problem of VAD and pledged to eliminate it by the year 2000. This led to Zambia to adopt the vitamin A deficiency supplement programme in 1990 as it is the fastest way to improve the vitamin A status of the population in which the deficiency is endemic.

In 1992 after the drought that affected the southern half of the country, it was decided that vitamin A supplements be distributed through all the health facilities. This was aimed at reaching the vulnerable groups due to vitamin A related diseases such as measles, diarrhoea, acute respiratory infections as well as high mortality and morbidity cases. The other strategy to reduce VAD is through food fortification. Food fortification involves adding nutrients to foods in order to maintain or improve the quality of diet of a targeted group or population. Fortification has long been an accepted strategy for improving vitamin A nutrition in the country. Food fortification offers a direct, effective and potentially sustainable way to correct VAD.

Foods that have been fortified with vitamin A or imported as fortified products include sugar, wheat, margarine and many other products.

In Zambia the sugar fortification programme was launched on the 13<sup>th</sup> of May, 1998 at Nakambala Sugar Estate in Mazabuka. This was the first time the company sold its fortified product. The purpose of fortifying sugar was to increase dietary intake of vitamin A in the Zambian population, in order to try and reduce VAD disorders and disease mortality and morbidity associated with the deficiency. The Zambian sugar is fortified with vitamin A concentrate that contains peanut oil. Every 100g of sugar contains 1mg retinol a form of vitamin A (UNICEF, MOH and NFNC, 2005).

VAD is a worldwide problem being common in Asia, Eastern Mediterranean, Latin America and Africa especially in sub-Saharan countries including Zambia. In Zambia, it is more common in peri-urban and rural areas of which Mpanshya in Chongwe district is one of them and this is where the study will be carried out.

## **1.2 STATEMENT OF THE PROBLEM**

Vitamin A deficiency (VAD) disorder is a world wide problem. In Asia about 55,812 children had VAD and 2,026 had xerophthalmia (WHO, 2004). VAD disorders are a widespread problem in developing countries, particularly Sub-Saharan Africa where about 33,406 children had VAD and 1592 had xerophthalmia (WHO, 2004). This has lead to the high mortality and morbidity rate in the region.

Zambia has one of the highest levels of infant and childhood mortality rates in the African Sub-Saharan region. It is 168 per 1000 live births despite good immunisation coverage (CSO, 2003). According to current estimation in Zambia, childhood mortality is mainly due to acute lower respiratory tract infections, malaria, measles, diarrhoea and malnutrition and that most of these diseases may be worsened by VAD (CSO, 2003). A recent random cluster nation- wide study involving women and children attending the National Immunisation Days (NID) for eradication of polio revealed that 65.7% and 21.5% of children and women respectively had less than 20ug/dl serum levels of retinol (vitamin A). About 62% of children and 11.6% of women had

night blindness placing Zambia in the severe clinical and sub-clinical vitamin A deficiency according to the WHO population affected cut-off (Mwela, Luo and Campbell, 1999).

Mpanshya catchment area may have also contributed to the problem of high mortality and morbidity rate in the country due to VAD as it is in the rural area and also a drought area leading to lack of fruits in all seasons and green vegetables (Mpanshya Hospital Action Plan 2007-2009). Mpanshya has been recording high levels of eye infections from 2002-2004 as shown in table 2 below (Mpanshya Hospital MTEF Action Plan, 2006). Diarrhoea and RTI is also among the top 5 killer diseases in the under five children in Mpanshya as shown in table 1 and 2 below. This shows that VAD could be a leading problem in the area. It may contribute to increased infections like diarrhoea, measles and Respiratory Tract Infection (RTI). VAD could be attributed to the fact that Mpanshya has no fruits and green vegetables throughout the year. For example mangoes are present during rainy season only. People in the area do not have gardens throughout the year to have green vegetables as a result they lack vitamin A. The problem may be worsened by mother's lack of knowledge on foods rich in vitamin A. Instead of giving children foods rich in vitamin A, mothers feed their children on cassava as it is the common food in the area (Mpanshya Nutrition Center records, 2004).

**Table 1: Showing top 10 causes of filter clinic attendances (all ages)**

<b>Diseases</b>	<b>2003</b>		<b>2004</b>		<b>2005</b>	
	Number of cases	Case fatality	Number of cases	Case fatality	Number of cases	Case fatality
Malaria	1132	320.7/1000	2028	428/1000	1648	334.3/1000
RTI	973	275.7/1000	1174	248/1000	754	170/1000
Skin infections	282	79.9/1000	302	63.8/1000	313	70/1000
Trauma	179	50.7/1000	485	102/1000	288	58.4/1000
Diarrhoea	170	48.1/1000	243	51/1000	151	52.9/1000
Eye infections	153	43.3/1000	134	28/1000	170	65.2/1000
M/skeletal system Disorders	131	37.1/1000	101	40.8/1000	94	36/1000
Digestive disorders	128	36.2/1000	64	30/1000	90	34.5/1000
Dental infections	63	17.8/1000	40	16.1/1000	54	20.7/1000
Anaemia	49	13.8/1000	55	22.2/1000	57	21.8/1000
<b>Total</b>	<b>3529</b>		<b>2475</b>		<b>2605</b>	

Source: Mpanshya Hospital Action Plan 2007-2009

Table 1 show that Eye infections, RTI and diarrhoea are among the top 10 causes of filter clinic attendances and also shows that case fatality rate for eye infections was increasing from 2003 was 43.3/1000, 2004 was 28/1000 and 2005 was 65.2/1000.

**Table 2: Top five causes of morbidity in under 5 children**

Disease	2002	2003	2004
	Fatality rate	Fatality rate	Fatality rate
Malaria	1106.3/1000	1335.5/1000	1544.4/1000
RTI	388.6/1000	810/1000	754.8/1000
Eye infections	274.1/1000	210/1000	266.4/1000
Diarrhoea	173.3/1000	159.6/1000	206.1/1000
Skin infections	52.1/1000	83.6/1000	90.9/1000

Source: Mpanshya hospital MTEF Action Plan 2006

Table 2 shows the top five causes of morbidity in under five children. Eye infection is one of the top five causes of morbidity. RTI and diarrhoea also are among the top five causes of morbidity, the cases have been increasing from 2002, 2003, 2004. These diseases are worsening by lack of vitamin A in the body.

VAD is the most common cause of preventable childhood blindness and contribute to high levels of mortality and morbidity. VAD reduces the ability of the body to fight infections and increasing the severity of common childhood infections like measles and diarrhoeal diseases which may even lead to death (CBOH/MOH, 2004). This may affect the socioeconomic growth of the nation as children are the future leaders. High infant morbidity and mortality rates will affect the service provision in Mpanshya catchment area as it is one of the indicators in the health status of the population. Due to high infant mortality rates in the health care services the country has included the reduction of infant mortality rate in its Millennium Development Goals (MDGS) to be achieved by the year 2015 (United Nation Country Team / Zambia, 2005).

Despite the high prevalence of VAD, Mpanshya has put in measures to reduce the problem. For example, the universal supplementation of vitamin A to children in the community twice a year in June and December (Mpanshya Hospital Action Plan 2007-2009). The World Food Programme (WFP) provides High Energy Protein Supplement (HEPS) to under weight children. The Programme Against Malnutrition (PAM) provide farm inputs to farmers like Soya beans seed, bean seeds, maize seeds and fertilizers in order to grow more foods for the families. The

community is also encouraged to grow more food. Cooking demonstrations have been conducted at nutrition center. Health workers have been giving Information, Education and Communication (IEC) to the community on the importance of good nutrition and the importance of giving children foods rich in vitamin A. Even after the above mentioned interventions carried out to deal with the problem of VAD in the area, this problem has persisted and keeps on increasing as seen in more children been infected with childhood illnesses like RTI, diarrhoea. In view of the above stated problem the researcher developed interest to explore mother's knowledge and practices on vitamin A supplement and foods rich in Vitamin A given to children.

### **1.3 FACTORS INFLUENCING MOTHER'S KNOWLEDGE AND PRACTICES TOWARDS VITAMIN A SUPPLEMENTS AND FOODS RICH IN VITAMIN A**

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

##### **1.3.1.1 Poverty**

According to CSO (2003) about 73% of the Zambian population live in poverty. Poverty has not spared the Mpanshya community as well. Most of the Mpanshya community is composed of subsistence farmers who grow maize and Cassava. They are only able to grow food for their families and not for sell. However, there are some families that do not manage to grow enough food for their families and not even vegetables. The problem of Vitamin A has been increasing due to poor yields and failure to grow vegetables. Therefore, poor economic status affect mothers knowledge and practices towards vitamin A supplementation and foods rich in vitamin A.

##### **1.3.1.2 Traditional beliefs**

Traditional beliefs may influence mother's knowledge and practices towards vitamin A supplementation and foods rich in vitamin A.

##### **1.3.1.3 Inadequate knowledge on food rich in Vitamin A to give a child**

Mothers may have inadequate information on the nutritional needs of children especially foods rich in Vitamin A. Therefore, they will not be able to give correct foods to their children and this may result in malnutrition. This could be due to the low education status of mothers.



#### **1.3.1.4 Education level**

According to CSO (2003) consumption of foods rich in vitamin A is higher in children of mothers with a secondary or higher education compared with those with primary or no education. This is because an educated mother will be able to purchase and know what foods to give to her child in the right amounts than uneducated mother.

#### **1.3.1.5 Age**

Age of a mother is a major factor that may influence her knowledge on vitamin A supplementation and foods rich in vitamin A. Young mothers may lack knowledge on vitamin A supplementation and foods rich in vitamin A. They usually lack experience in child rearing and care and depend on parents/ relatives for advice.

#### **1.3.1.6 Non availability of food**

Mpanshya community is a drought prone area and Vitamin A rich foods are not available most of the time. Therefore, this situation may predispose under five children to malnutrition in general and lack of vitamin A foods.

### **1.3.2 SERVICE RELATED FACTORS**

#### **1.3.2.1 Staff shortage**

Shortage of staff at the health facility has contributed to poor quality of service. The few staff present are overworked. They are demotivated because of pressure of work. This has led to staff not going for outreach activities for children clinics to reach out to children in areas very far from the center especially during Child Health Week (CHW) where vitamin A supplement is also given.

#### **1.3.2.2 Staff attitude**

The poor attitude of staff members at health centers could influence mother's knowledge and practices towards vitamin A supplementation and vitamin A rich foods because mothers who are treated rudely by health care providers when they visit health centers will not come back to those health facilities again. Therefore, staff attitudes could hinder access to seek medical care.

### **1.3.2.3 Long distance to health facility**

CSO (2003) reported that vitamin A supplementation is higher in urban areas than in rural areas. This could be due to some villages very far from the health centre and they find it difficult to access the center and bring their under five children for vitamin A supplementation.

### **1.3.2.4 Long waiting time**

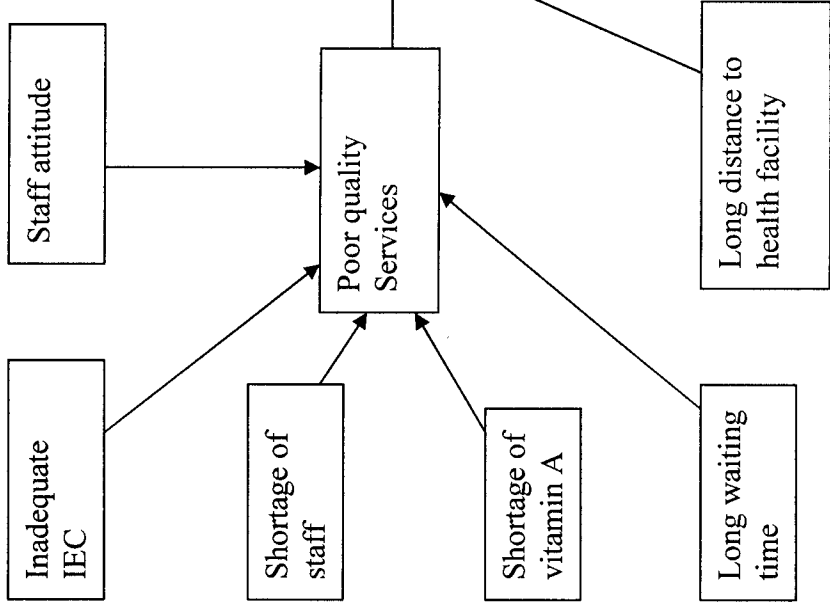
Mothers wake up very early to go to the health facilities in order to be attended to early but nurses report on duty late. This discourages them from coming to the health center for vitamin A supplement.

### **1.3.2.5 Inadequate Information, Education and Communication (IEC)**

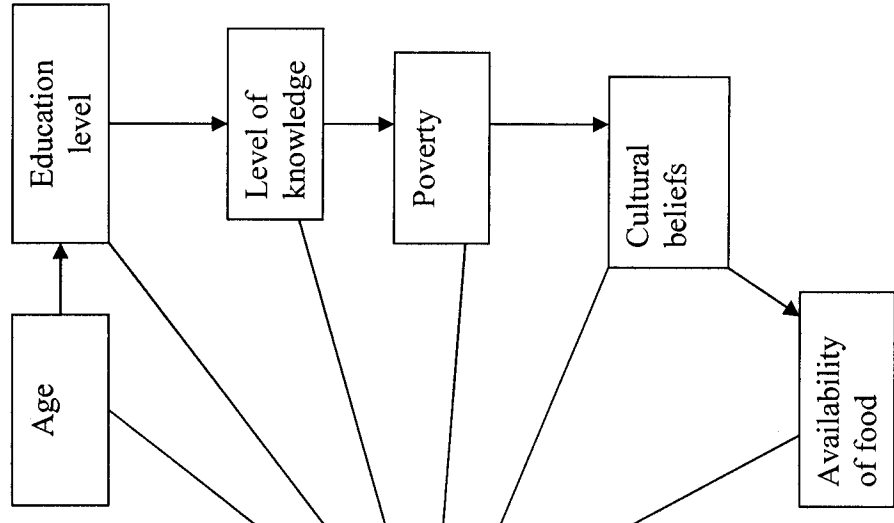
Inadequate IEC to mothers on the importance of vitamin A could contribute to poor knowledge and practice towards vitamin A supplements and vitamin A rich foods. Mothers may not know the correct foods to give to their children.

**Figure: 1 DIAGRAM OF THE PROBLEM ANALYSIS**

**Service related factors**



**Socio cultural and economic factors**



## **1.5 JUSTIFICATION**

Mpanshya hospital has been recording high levels of eye infections among under five children in the past years (2002-2004) and also high cases of respiratory tract infections and diarrhoeal diseases (Mpanshya Hospital MTEF Action Plan 2006). The high increase in VAD could have greatly contributed to the increase in the morbidity rate. Eye infection is among the top five causes of morbidity in children. Diarrhoea, respiratory tract infections and malnutrition are also the top ten (10) killer diseases in under five children in Mpanshya catchment area. Lack of vitamin A in the body makes children prone to these diseases.

The purpose of the study is to determine mother's knowledge and practices towards vitamin A supplement and foods rich in vitamin A.

It is hoped that the study will contribute to the existing body of knowledge on the topic under study by identifying gaps in knowledge among mothers with a view of providing them with adequate information in order to improve practice.

The findings of this study will be of great benefit to the policy makers, under five children's clinic program managers, MCH Coordinators, Nurse managers, Nurses and other health care professionals as well as the Ministry of Agriculture and the Non-Governmental Organizations to design IEC strategies that will help to reduce child morbidity and mortality in order to meet the MDG number four (4).

## **1.6 RESEARCH OBJECTIVES**

The research objectives are divided into two parts namely general and specific objectives.

### **1.6.1 GENERAL OBJECTIVE**

The general objective for this study is to:

Determine mothers' knowledge and practices towards vitamin A supplement and vitamin A rich foods given to under five year children in Mpanshya in Chongwe district.

## **1.6.2 SPECIFIC OBJECTIVES**

The specific objectives for this study are to:

1. Assess the knowledge mothers have on Vitamin A
2. Assess the knowledge mothers have on foods rich in Vitamin A.
3. Identify the types of food rich in Vitamin A mothers give to their children.
4. Determine how often mothers take their children to the health center for Vitamin A Supplement.
5. Establish mothers' practices towards vitamin A supplement and foods rich in vitamin A.
6. 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 Mpanshya.

## **1.7 HYPOTHESES**

Hypothesis is an assumption statement about the relationship between two or more Variables that suggest an answer to the research question (Basavanthappa, 2006).

**1.7.1** The lower the knowledge levels on Vitamin A supplement and foods rich in Vitamin A the poorer will be practices towards Vitamin A supplement and foods rich in vitamin A.

**1.7.2** Mothers traditional beliefs will contribute to poor child feeding practices in vitamin A rich foods.

## **1.8 VARIABLES**

Polit and Hungler (1997) define variables as anything that can change or anything that is liable to vary.

There are two types of Variables and these are:

- Dependent variable
- Independent variable

### **1.8.1 Dependent Variable**

This is the phenomenon in the hypothesis that, in the experimental study, to test the hypothesis, is not manipulated, but is accepted as it occurs (Basavanthappa, 2006). It is also called the effect, the response, the criterion variable.

Polit and Hungler (1997) define a dependent variable as a variable that is hypothesized to depend on or be caused by another variable.

This is the variable used to describe or measure a problem under study. The dependent variables for this study are:

- Knowledge
- Practices

### **1.8.2 Independent Variable**

This is the variable that is believed to cause or influence the dependent variable, in experimental research, the manipulated variable (Polit and Hungler, 1997). It is a variable that stands alone and not dependent on any other.

These are variables used to describe or measure the factors that are assumed to cause or influence the problem under study and these are:

1. Socio-economic status of parents
2. Educational level of mothers.
3. Level of knowledge on child nutrition
4. Traditional beliefs
5. Availability of food.

1.8.3 TABLE 3: VARIABLES AND CUT OFF POINT

	DEPENDENT VARIABLES	INDICATOR	CUT OFF POINTS	QUESTION NUMBER
1.	Knowledge towards Vitamin A supplement and foods rich in vitamin A	High Medium Low	Responses to questions on knowledge with Scores of: 6-7 High 4-5 Medium 0-3 Low	10-16
2.	Practice towards Vitamin A supplementations	Good Bad	Responses to practices questions with scores of: 10-19 Good 0-9 Bad	17-35

## 1.9 OPERATIONAL DEFINITION OF TERMS

The following are the operation definitions for this study:-

- **Food rich in vitamin A**

It refers to foods that contains vitamin A.

- **Vitamin A supplements**

This is the giving of vitamin A capsules to children.

- **Vitamin A deficiency**

This is one of the most important nutritional diseases among children due to lack of Vitamin A causing damage to the eyes and increasing the risk of infection and death in children.

- **Mother**

This is a female parent of a child.

- **Practices**

This is the doing of something repeatedly or regularly in order to improve one's skill.

- **Knowledge**

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

- **Xerophthalmia**

It is a progressive nutritional disease of the eye due to deficiency of vitamin A. The cornea and conjunctiva becomes dry, thickened and wrinkled which may lead to blindness.

- **Good feeding practices**

This refers to feeding children with foods rich in vitamin A to promote growth.



## **CHAPTER TWO**

### **2.0 LITERATURE REVIEW**

#### **2.1 INTRODUCTION**

Literature review is a broad, comprehensive in-depth, systematic and critical review of published, unpublished print materials, audiovisual materials and personal communication. It also involves examining the strength and weakness of the appropriate publications (Basavanthappa, 2006). Studies have been conducted worldwide on the prevalence of Vitamin A Deficiency (VAD), but very few have been conducted on mother's knowledge and practices towards vitamin A and foods rich in vitamin A. Literature review is done to help the researcher identify what is known and not known about the research topic so that the researcher avoids duplication of work. Literature review will also describe methods of enquiry used in other studies including their success and shortcomings so that the researcher could choose the most appropriate method for this study.

Literature review for this study focuses on both published and non published studies. To review the literature on the prevalence of vitamin A deficiency, the researcher will look at global, regional and national perspectives and then conclude.

#### **2.2 GLOBAL PERSPECTIVE**

Nutrition is an issue of major concern throughout the world. Vitamin A Deficiency (VAD) causes impaired immune function, increased severity of some infections and an increased risk of mortality from infectious diseases and is widely recognized as a major cause of blindness in children. It is estimated that 85 million school age children are at increased risk of acute respiratory tract infections and other infections because they are deficient in Vitamin A (Standing Report Committee on Nutrition, 2002).

WHO (2003) reports that in 2000 a study was conducted in Vietnam on clinical vitamin A Deficiency in some ecological areas. The study was conducted in seven areas in which 10 communes by area were randomly chosen. In each commune 50 under five children and 30 lactating mothers were sampled. The study revealed that VAD in lactating mothers was 56.3% while in children under five years was 10.8%, this

indicate Vietnam among the countries with severe VAD. The recommendations made were that the national programs for controlling VAD should establish the suitable and specific activities to address the problem in the area.

The National Demographic Health Survey (1998) for Philippines revealed that the region of Autonomous Region of Muslim Mindano (ARMM) had the highest VAD among 6 months to 5 year old children as compared to the other regions in Philippines. VAD was 40.5% among 6 months to 5 year old children which was higher than the national average of 38%.

In Bangladesh and Nepal, the survey by UNICEF (1997) on prevalence of vitamin A deficiency and revealed that night blindness was 0.66% among the under five children and 15-20% in pregnant women. Another survey was conducted in Bangladesh on adolescent health and nutrition status by SCN (2002), the study revealed that about 2.1% of the children had eye changes (conjunctival xerosis and Bitot's spots) indicating severe VAD.

According to the report of 21<sup>st</sup> International Vitamin A Consultation Group (XXI IVACG) meeting in Morocco by WHO and UNICEF (2003), it was reported that in 1998, Indonesia and Bangladesh had a sharp increase in the percentage of night blind children and mothers in the three severely flood affected sub-districts between August and October 1998. Night blindness was 2.0% from 0.3% in children and 5.6% from 1.9% in mothers and remained a public health problem until December 1998. According to the same meeting in Morocco by WHO and UNICEF revealed that upon seeing the problem of VAD in Indonesia, the programs for Vitamin A were being supported. The support was to combat the Asian economic crisis that started in 1997 which continued to compromise the nutritional status of Indonesian children and cases of clinical VAD still been reported in some areas. The government thought of decentralizing vitamin A programs which began in 2000. By 2001, vitamin A capsule coverage rates of children under five years old was widely across Indonesia. This was supported by continued raising awareness about the importance of VAD as a public

health problem and to increase activities to improve vitamin A status among the children. In 2002, a variety of strategies were used and these included a national level mass media campaign to promote the vitamin A distribution; advocacy aimed at district level decision makers and program managers, the distribution of guidelines for the detection and treatment of clinical VAD, and integrating vitamin A capsule delivery into the national polio immunisation day. Partners forged to continue assisting the nation to adapt to new structure of health programming to reduce VAD.

UNICEF (2003) reported that in India about 22% of children had clear manifestation of ocular signs of VAD, 11% of children had conjunctival xerosis, 6% of children had Bitots spots and 5% of children had night blindness and about 10-15% of pregnant women had night blindness. In the same report, it was revealed that a survey was conducted again in India on street kids and working children and the results were that about 12% of these children had night blindness and 2% had Bitots spots. These results show how serious the problem of VAD is in India.

A study was conducted in Jordan on prevalence of vitamin A deficiency UNICEF (2002). In the survey 468 young children aged 6-9 years were randomly selected from eight rural districts. The results were that 32.9% of the children had VAD. It was concluded that the 32.9% VAD prevalence was alarming and that it indicates a worse problem among the under five children. Recommendations were made for the nation to put Vitamin A program as one of its priorities in health. In the same report it was revealed that in Pakistan about 76 of children had blindness and xerophthalmia between November 1996 and October 1997.

In Mexico a survey by Standing Committee on Nutrition (2002) revealed that almost half of school children had deficiency in Vitamin A and over 60% had low serum retinol levels which pose a threat to their health.

A recent assessment on vitamin A status of school children in Tanzania, Ghana, Indonesia and Vietnam by UNESCO/ WHO/UNICEF (2002) revealed that VAD was a

severe public health problem in Tanzania and about 30% of the children had Vitamin A deficiency.

### **2.3 REGIONAL PERSPECTIVE**

The problem of Vitamin A Deficiency in Sub- Sahara Africa is increasing due to population growth and economic decline (UNICEF, 2003). It was reported that the prevalence rate of VAD is 2.2 times higher than it was in 1998. The estimation was that about 42.4% (43.2 million) of under five children have VAD. CSO (2003) also revealed that in Sub-Saharan African about 2 million children die a year of measles associated with VAD.

According to the report on regional meeting in Burkina Faso, it was revealed that 127 million pre-school children and 7 million pregnant women were Vitamin A deficient. The report also revealed that every year 250,000 and 500,000 children became blind from lack of vitamin A in their diet, which also affects their growth, cognitive development and immune system. The report showed that 70% of these children died within one year of losing their sight, and a total of 800 000 children die every year from lack of vitamin A deficiency disorders.

VAD is a major problem for school age children in low income countries. It has been shown that such deficiencies can negatively impact growth, increase susceptibility to infection and also impair the mental development and learning ability of school children. VAD causes impaired immune function, increased severity of some infections and an increased risk of mortality from infectious diseases and is widely recognized as a major cause of blindness in children (UNICEF, 2002).

WHO and UNICEF (2003) reports that a survey was conducted in Malawi on the prevalence of vitamin A in 2001. The survey had subjects from all age groups (children 6-36 months, children 6-12 years, women 15-45 years, and men 20-55 years). The subjects were assessed for serum retinol. The cut-offs for vitamin A deficiency were <20mcg/dl for children and <30mcg/dl for adults. The results were that VAD was

found in 59.2% of young children, 38.3% of school children, 89.9% of non pregnant women and 81.8% of men. It was concluded that VAD is a widespread problem, affecting all age groups in Malawi.

The Standing Committee on Nutrition (2003) reported that in South Africa strategies to reduce and prevent vitamin A and micronutrient deficiencies have been put in place like National Food Fortification Programme by the Department of health which is assisted by a National Food Fortification Task Group. After the strategies of food fortification were implemented, a study to determine the effectiveness of fortified biscuits in maintaining improved vitamin A status was conducted on school children. Fortified biscuits were given to primary school children as school feeding was effective in significantly improving the vitamin A status of 6-11 years old children over a period of 12 months. The aim of the study was to evaluate the long-term effectiveness of this intervention in maintaining vitamin A status over a period of 45 months. Children who had received the fortified biscuit were followed in a longitudinal study for 30 months (n=108); in addition, data from three subsequent cross-sectional surveys, was conducted in the same school at 33, 42 and 45 months after the start of the original intervention. Fortified biscuits were distributed daily during the school week; no intervention took place during school holidays, weekends or public holidays. The results were that there was a significant improvement in serum retinol during the first 12 months of biscuit intervention, and the prevalence of low serum retinol levels (<20g/dl) decreased from 39% to 12%. When the schools reopened after the summer holidays serum retinol returned to pre-intervention levels. Retinol levels increased again during the next 9 months, but showed a significant drop in a subsequent cross-sectional survey carried out directly after the summer holidays; this pattern was repeated in two further cross-sectional surveys. It was concluded that the study has shown that fortification of biscuits was enough to maintain serum retinol concentrations in primary school children from day to day, but not enough to sustain levels during long school holiday break. It was recommended that the biscuit programme be supplemented with other long-term strategies such as nutrition education and local home gardening

programmes, which encourage the production and consumption of vitamin A rich foods.

## **2.4 NATIONAL PERSPECTIVE**

Zambia has one of the highest infant and child mortality rates in Africa. According to CSO (2003) child mortality rate is now 168 per 1000 and death among children under one is 95 per 1000. These high rates are largely attributed to malaria, diarrhoea, measles, malnutrition and acute respiratory tract infections which are worsened by VAD (USAID, 2004).

According to International Vitamin A Consultation Group (2001) unsatisfactory vitamin A status is a major public health problem among pre- school children. Clinical manifestations of an unsatisfactory vitamin A status include increased vulnerability to severe infections and xerophthalmia, including blindness, keratomalacia and irreversible blindness. Not much of the studies have been done on vitamin A deficiency disorders.

Mwela et al (1999) conducted a survey on vitamin A deficiency in Luapula province on women and children attending the National Immunisation Days (NID) for eradication of polio, the survey revealed that 65.7% of children and 21.5% of women had less than 20ug/dl serum levels of retinol (vitamin A). About 62% of children and 11.6% of women had night blindness placing Zambia in the severe clinical and sub-clinical vitamin A deficiency according to the WHO population affected cut-off.

Luo et al (1997) conducted a nation wide survey on prevalence of vitamin A deficiency in 1997 which revealed severe and wide spread of VAD in the country with 6% of children manifesting clinical deficiency (night blindness) and 65% with low or deficient serum retinol levels less than 10ug/dl. The same study revealed that 11.6% of women had night blindness and 2.0 % had retinol levels less than 10ug/dl.

Besa et al (1998) prepared a guide on the causes of vitamin A deficiency. The guide revealed that infants are not exclusively breastfed up to 6 months of age. This makes the children not receive all the nutrients that are in the breast milk as it is rich in vitamins including vitamin A. Children are not given sufficient vitamin A rich foods which pose a threat to vitamin A deficient disorders. The other reason was that vitamin A rich foods especially animal products might be too expensive for people to afford or that rich vitamin A foods are not available through out the year e.g. mangoes. Lack (or no regular intake) of fruits and vegetables contribute to Vitamin A deficiency disorders. Some people do not take sufficient oil or fats to prepare their meals, fats help in the absorption of Vitamin A and if the diet lacks fat vitamin A levels in the body will be low causing a deficiency. The same guide revealed that PEM, diarrhoea and round worms cause malabsorption of vitamin A, making children being deficiency of the vitamin.

According to CSO (2003), the consumption of vitamin A rich foods was found to be high for children of women with a secondary or higher education as compared with those with primary or no education. The reason could be that mothers with education knows the foods rich in vitamin A and knows the importance of the vitamin in the body.

VAD has been recognized as a public health problem in Zambia. Though studies are limited it has been recognized in Luapula valley as a major cause of blindness since 1960s. The government of Zambia is committed to the elimination of VAD. There is a technical committee that is part of the national micro-nutrients taskforce which implement vitamin A programmes (National Food and Nutrition Commission, 2001).

## **2.5 CONCLUSION**

The Literature reviewed shows that VAD is a worldwide problem which affects mainly the under five children and the pregnant women. It is the major cause of blindness in children and a complicating factor for other illnesses. Literature has showed that the major cause of VAD is not giving sufficient vitamin A rich foods to children. Literature

has also revealed that some programmes are put in place to reduce the problem of VAD like vitamin A supplementation. According to the literature reviewed no study has been done on the knowledge and practices of mothers towards vitamin A. Therefore the researcher decided to conduct this study in order to create a body of knowledge on the subject.



## **CHAPTER THREE**

### **3.0 RESEARCH METHODOLOGY**

#### **3.1 RESEARCH DESIGN**

A research design is the plan, structure, and strategy of investigations of answering the research question. It is the overall plan or blue-print the researcher select to carry out their study that entails all the steps in the research process from the definition of variables and formulation of hypotheses through the decision how the data will be analyzed (Basavanthappa, 2006). The research design consists of the strategy used to find answers to the research questions.

This research study used a descriptive research design. Basavanthappa (2006) defines descriptive study as studies carried out for the purpose of providing an accurate portrayal of a group of subjects with specific characteristics. Descriptive studies entail the precise measurement of phenomena as they currently exist within a single group.

The researcher used a quantitative type of descriptive research design because it involved identification and exploration of the levels of knowledge and types of practices mothers have towards Vitamin A supplement and foods rich in vitamin A in Mpanshya catchment area in Chongwe District. Descriptive study assisted the researcher to observe, describe and document aspects of a situation as it occurs. The purpose was to obtain new knowledge by describing the relationship among variables.

#### **3.2 RESEARCH SETTING**

Research setting is a physical location and conditions in which data collection takes place in a study (Polit and Hungler, 2001). The study was conducted at Mpanshya Mission Hospital in Chongwe district. Mpanshya Hospital has been recording high levels of eye infections, diarrhoea and RTI are also among the top 5 killer diseases in the under five children (Mpanshya Action Plan 2006). This prompted me to carry out a study to assess mother's knowledge and practices towards vitamin A supplement and vitamin A rich foods.

### **3.2.1 CHONGWE DISTRICT PROFILE**

Chongwe district is one of the four districts in Lusaka province. It is situated 48 km east of Lusaka. It shares boundaries with Lusaka district on the west, Kafue district on the south, Chibombo district on the north, Luangwa district on the east and Nyimba and Mkushi districts on the northeast. The district has 28 health Institutions, and only one hospital which is Mpanshya Mission Hospital and this is where the study was conducted, it is a 1<sup>ST</sup> level referral center for the district (Chongwe DHMT Action Plan, 2007-2009).

#### **3.2.1.1 SOCIO-ECONOMIC STATUS**

The socio economic status of the district is low. The major occupation of the people is farming. It is estimated that 88% of the people are peasant farmers, 5% are commercial farmers, 5% are civil servants and 2% are traders (Chongwe DHMT Action Plan 2007-2009). The major crops grown are maize while commercial farmers are engaged in cash crops such as Flowers, paprika and wheat. There are two small-scale mining industries producing Copper, Gold and other stones creating 1% employment to local people in the district. Prominent is a newly opened Copper Mining project in Kanakantapa area of Chongwe district giving rise to economic growth in the district. In addition the district has a newly opened Abattoir called Savannah Beef Abattoir which provides employment for local community.

#### **3.2.1.2 DEMOGRAPHIC PROFILE**

The district has a projected population of 196 999 with an annual growth rate of 4.2%. The population density is about 15.3 persons per square kilometer. The population is more concentrated in areas around the central part of Chongwe and in areas close to the city of Lusaka on the western and along the Great East Road and Manyika area.

The mountainous areas of Luano Valley in the east are sparsely populated (Chongwe DHMT Action Plan 2007-2009).

### **3.2.1.3 COMMUNICATION**

Chongwe district has the Great East Road which cuts across the district and feeder roads. These roads make the district accessible by road. The modes of transport that exist in the district are vehicles, motor cycle and bicycles. The other methods used for communication are radio network and letter writing. It also has a land phone, fax and email. Communication system among health facilities has greatly improved following the expansion of mobile cell phone networks such as Cell Z, Celtel and MTN. About 25 out of 28 health centers are within the network coverage. This has improved the referral system among health centers.

Mpanshya Mission Hospital where the study was carried out is situated in the south eastern direction of the district. It is about 140 km from the District Health Management Team offices and 6 km off the Great East Road. The hospital has Mpanshya Hospital Affiliated Health Center within the hospital premises, a hospice and a nutrition center. It has a total catchment population of 5 352 people (Mpanshya Hospital Action Plan 2007-2009).

Mpanshya Hospital catchment is within the district with low economic status. The area has no any factory or industry. Main occupation of the people is subsistence farming and some engage in poaching as a means of deriving income. The main crops grown are maize and cassava. Mpanshya Hospital has a radio used to communicate to other health centers. Most of the communication is done by mail and cell phones. The hospital uses thermal electricity and solar. It is supplied with piped water. Most of the community depends on water from the streams and unprotected wells.

### **3.2.1.4 HEALTH SERVICES**

The hospital offers preventive and curative health services to the community.

The Health services offered include:-

- In patient services
- Out patient services
- Dental services

- Radiological services
- Laboratory services
- Maternal and Child health services
- Eye services
- Antiretroviral therapy services
- Health preventive and promotive services

- **Out patient services**

Out patient services are offered at Mpanshya Hospital Affiliated Health Center. Patients are seen or screened in the OPD and are dispensed with drugs. Those patients that require hospital care are admitted.

- **Outreach activities**

The hospital offers outreach services for Maternal and Child Health (MCH) services, eye services and antiretroviral therapy (ART) services.

It has two MCH outreach posts which are visited once a month. ART outreach has four posts which are visited weekly.

### **3.3 STUDY POPULATION**

Study population refers to the entire set of individuals or objects having some common characteristics, referred to as universe (Polit and Hungler, 2001).

The study population comprised of mothers in Mpanshya catchment area in Chongwe district. The study units were mothers with under five year children.

### **3.4 SAMPLE SELECTION**

Sample selection is the process of selecting a portion of the population to present the entire population (Polit and Hungler, 2001). Stratified random sampling was used to select the participants from each stratum. According to Basavanthappa, (2006) stratified random sampling is a sampling design where the entire universe is divided into groups or strata. The sampling was from five zones, and each zone present one strata. Then each stratum was sampled by choosing randomly 10 mothers from it to participate in the study.

Mothers were selected using a systematic sampling. The approach of sampling from each stratum is aimed at having a balanced representation of each zone.

### **3.5 SAMPLE SIZE**

A sample size is the number of study participants (Polit and Hungler, 2001). A sample size of 50 mothers with under five years children was selected. These mothers were recruited from under five clinics.

### **3.6 DATA COLLECTION TOOL**

Data collection is gathering of information needed to address a research problem (Polit and Hungler, 2001). They also state that data collection tool is an instrument used for collecting data (Polit and Hungler, 2001).

In this study, a semi-structured interview schedule was used to collect data. The interview schedule had both open and closed ended questions. All the respondents were interviewed using the same tool.

The use of an interview was chosen for the following advantages:-

- Respondents were able to describe things in their own words.
- Misunderstandings were corrected on the spot.
- Questions were rephrased while retaining the same meaning.
- Personal rapport was built.
- High response rate was obtained due to the presence of the researcher.
- Non-verbal behaviour was observed during the interview.

The disadvantages are:-

- It is time consuming
- It is costly when it comes to transport; the researcher was required to move to and from.

The above disadvantages were overcome by employing research assistants to help in interviewing the subjects.

### **3.7 VALIDITY**

Validity is the degree to which an instrument measures what it is supposed to measure (Polit and Hungler, 2001). In this study, validity was measured by a pilot study that was conducted. A semi-structured interview schedule included questions pertaining to factors that are identified as having influence on the problem of mother's knowledge and practices on vitamin A supplement and foods rich in vitamin A. The researcher also consulted current sources of literature on the topic under study and experts on the topic were also consulted. Any questions that were not clear from the pilot study were changed.

### **3.8 RELIABILITY**

Reliability is the degree of consistency or accuracy with which an instrument measures the attribute it is designed to measure (Polit and Hungler, 2001). The instrument used should be able to bring out the accurate information whereby when the same instrument is used after some time it should have the same response. Reliability of the instrument was measured by conducting a pilot study. The results from the pilot study were used as base line data to test reliability. The researcher followed the instructions on the semi-structured interview schedule so that biases can be eliminated by administering the same instrument across the subjects. This also minimized errors.

### **3.9 DATA COLLECTION TECHNIQUE**

Data collection technique is gathering information needed to address a research problem (Polit and Hungler, 2001). An interview involves direct personal contact with the participant who is asked to answer questions. The questions were written in English but translated into Nyanja and Soli respectively during interviews for those mothers or caretakers who do not understand English. Instructions were read to the respondents, purpose of the study, use of findings and the assurance of privacy and confidentiality was explained. The interview was conducted at under five clinics from 4<sup>th</sup> September to 30<sup>th</sup> September, 2007. The interview lasted for approximately 30 minutes with each respondent.

The procedure for the interview was as follows:

- Self introduction of the investigator/research assistant to the respondents.
- Brief explanation of the purpose of the study.
- Reassurance of respondents on confidentiality and anonymity.
- Informing the respondents on how the feedback will be provided.
- After getting consent, the researcher/ research assistant read out the questions to the respondents.
- The researcher then entered the responses as given by the respondents.
- At the end of the interview, the researcher went through the interview schedule to note for consistency in the answers given and for completeness of the interview schedule.
- The interviewer asked the interviewee for any questions, comments or contributions regarding the study and then thanked the respondents for taking part in the study.

### **3.10 PILOT STUDY**

A pilot study is a small preliminary investigation of the same general character as the major study, which is designed to acquaint the researcher with problems that can be corrected in preparation for the large research projects (Basavanthappa, 2006). The purpose of the pilot study was to assess the feasibility of the study and make necessary adjustments to the interview schedule before the major study is carried out. The pilot study was conducted at University Teaching Hospital (UTH) in paediatric wards to mothers with under five children. The pilot study was conducted on 10% of the total sample (10% of 50 = 5). Therefore, five respondents participated in the pilot study.

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

The development and implementation of research should be ethically and culturally acceptable. Ethics are a system of moral values that is concerned with the degree to which research procedures adhered to professional, legal and social obligations to the study participants (Polit and Hungler, 2001).

Written permission was sought from Chongwe District Health Director, the hospital administrator and chief Mpanshya where the study was conducted. Verbal permission was sought from the subjects before conducting the interviews. Confidentiality and anonymity was assured. Serial numbers were used to identify the respondents. The purpose of the study was explained to all respondents involved so that they understand the nature of the study to which they are consenting to, as well as enable them participate in the study willingly. Respondents were informed that they can withdraw from the study at any time and this was not held against them. The questionnaires were kept in the big envelop and locked up for safety.



## **CHAPTER FOUR**

### **4.0 DATA ANALYSIS AND PRESENTATION OF FINDINGS**

#### **4.1 INTRODUCTION**

The purpose of this chapter is to present information on how the research data were analyzed and what information was obtained. Data was collected from respondents using an interview schedule. Fifty (50) respondents participated in the study, ten (10) from each of five different Zones in Mpanshya area. A pilot study was conducted at University Teaching Hospital (UTH), after which the main study was undertaken.

#### **4.2 DATA ANALYSIS**

Data analysis is the systematic organisation and synthesis of research data, and the testing of research hypothesis using those data (Polit and Hungler, 2001).

After data collection, data were checked for completeness and inconsistencies.

The data was analysed manually using a data master sheet soon after interview schedules. There was sorting, verification of responses, coding and entering of data on the data master sheet for the quantitative data. The data master sheet was partitioned into 3 categories namely demographic data, knowledge on vitamin A and foods rich in vitamin A and practices towards vitamin A supplementation and foods rich in vitamin A.

The qualitative data, which were derived from open-ended questions, were analysed using content analysis (Polit and Hungler, 2001). Each response was transcribed, read and reread to get the concepts in the responses. The concepts were derived from the characteristics of the responses, and then developed into themes that were used to categorise the content into meaningful groupings. A scientific calculator was used for data analysis.

#### **4.3 PRESENTATION OF FINDINGS**

Data has been presented in frequency tables and cross tabulations. Frequency tables are suitable because they summarize the findings in a meaningful way, which is easy to understand. Cross tabulation of dependent and independent variables was done to show the relationship among variables so that meaningful inferences could be drawn. Pie

charts, graphs and bar charts have also been used to present the data in a meaningful way to enable the reader to understand the findings easily.

A. DEMOGRAPHIC DATA

Table 4: Respondents age distribution (n=50)

Age	Frequency	Percentage
14-24 years	26	52
25-34 years	16	32
35-44 years	7	14
45 years+	1	2
Total	50	100

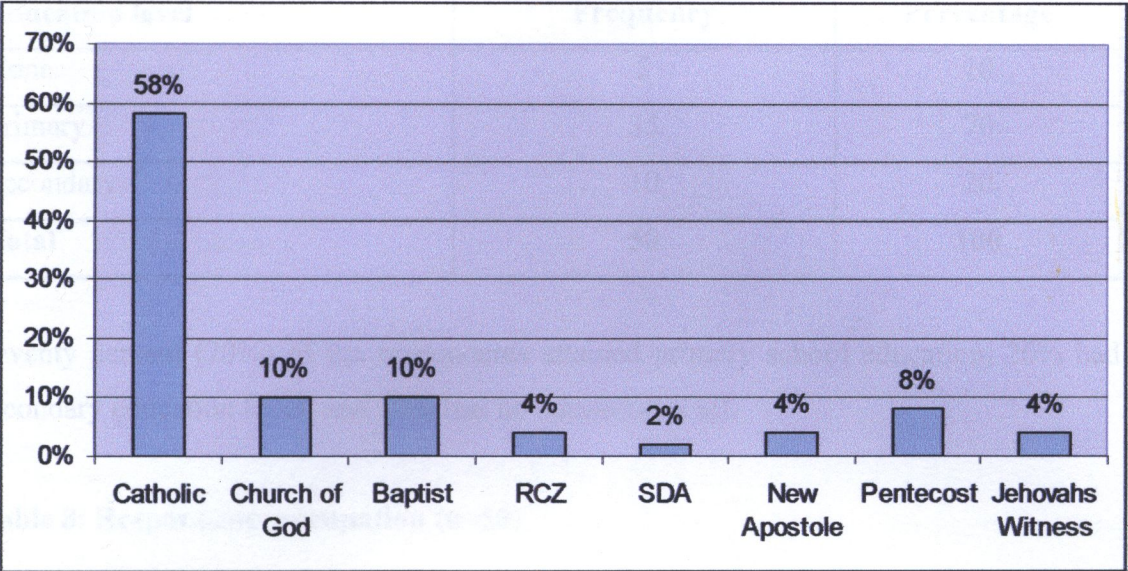
Fifty- two percent (52%) of the respondents were in the age group of 14-24 years, 32% were between 25-34 years, 14% were between 35-44 years, 2% was above 45 years old.

Table 5: Respondents' Tribe (n=50)

Tribe	Frequency	Percentage
Soli	16	32
Nsenga	17	34
Chikunda	4	8
Lenje	2	4
Others	11	22
Total	50	100

Thirty- four percent (34%) were Nsenga, 32% of the respondents were Soli, 22% were among other tribes, 8% were Chikunda, and 4% were Lenje.

**Figure 2: Respondents religious denomination (n=50)**



All the respondents were Christians. Fifty-eight percent (58%) were Catholic, 10% belonged to Church of God and another 10% belonged to Baptist, 8% belonged to Pentecost, 4% belonged to Reformed Church of Zambia (RCZ), 4% were Jehovah’s Witness and another 4% were New Apostle. Only 2% were SDA.

**Table 6: Respondents marital status (n=50)**

Marital status	Frequency	Percentage
Single	5	10
Married	42	84
Divorce	1	2
Widowed	2	4
Total	50	100

Majority of the respondents (84%) were married, 10% were single, 4% were widowed and 2% were divorced.

**Table 7: Respondents education Level (n=50)**

Education level	Frequency	Percentage
None	5	10
Primary	35	70
Secondary	10	20
Total	50	100

Seventy percent (70%) of the respondents attained primary school education, 20% had secondary education level, and 10% had no education at all.

**Table 8: Respondents occupation (n=50)**

Occupation	Frequency	Percentage
Subsistence farmer	13	26
Marketeer	6	12
Housewife	25	50
Others	6	12
Total	50	100

Half (50%) of the respondents were housewives, 26% were subsistence farmers, 12% were marketeers another 12% belong to other occupations.

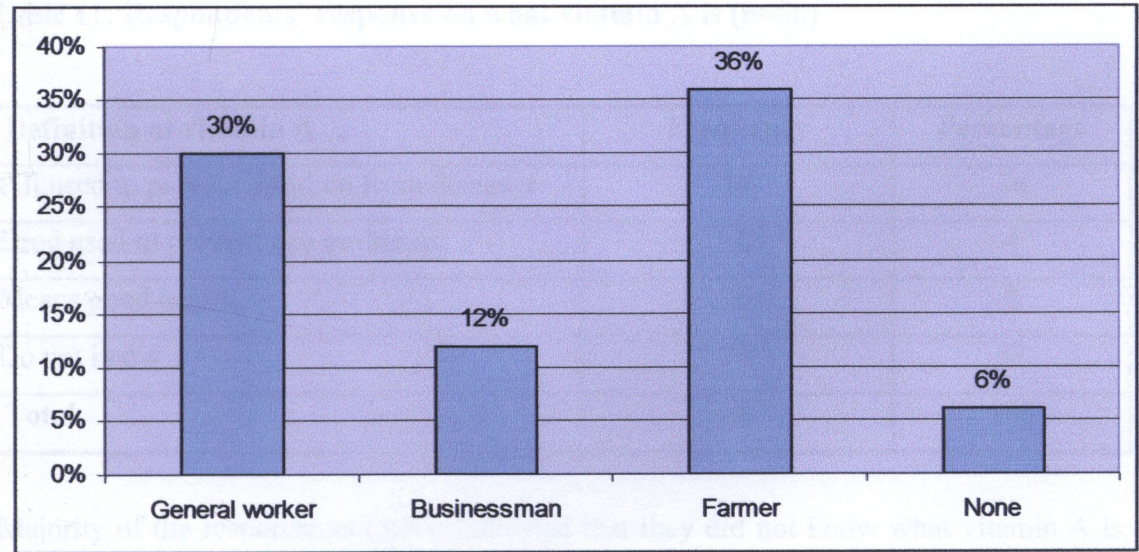


**Table 9: Respondents income per month (n=50)**

Income per month	Frequency	Percentage
Below K50 000	29	58
K51 000 – K100 000	3	6
K102 000 – K200 000	2	4
K201 000 and above	1	2
None	15	30
<b>Total</b>	<b>50</b>	<b>100</b>

Fifty- eight percent (58%) of the respondents earned below K50 000 per month, 30% earned nothing, 6% earned between K51 000 and K100 000, 5.1% earned between K102 000 and K200 000, 2% earned K201 000 and above.

**Figure 3: Respondents spouse occupation (n=50)**



Thirty- six percent (36%) of the respondents were farmers, 30% were general workers, 12% were businessmen, and 6% had no occupation.

**Table 10: Respondent’s spouse income (n=50)**

Income per month	Frequency	Percentage
Below K50 000	18	36
K51 000 – K100 000	13	26
K102 000 – K200 000	2	4
K201 000 and above	6	12
None	3	6
<b>Total</b>	<b>50</b>	<b>100</b>

Thirty- six percent (36%) of the respondent’s spouse earned below K50 000 per month, 26% earned between K51 000 and K100 00, 12% earned K201 000 and above, 6% earned none while 4% earned between K102 000 and K200 000.

**B. KNOWLEDGE ON VITAMIN A SUPPLEMENT AND FOODS RICH IN VITAMIN A**

**Table 11: Respondents’ response on what vitamin A is (n=50)**

Definition of vitamin A	Frequency	Percentage
Pill used to prevent children from diseases	18	36
Drug used to prevent eye problems	2	4
Means good health	4	8
Do not know	26	52
<b>Total</b>	<b>50</b>	<b>100</b>

Majority of the respondents (52%) indicated that they did not know what vitamin A is, 36% indicated that vitamin A is a pill used to prevent children from diseases, 8% indicated that Vitamin A is a drug used to prevent eye problems, 4% indicated that vitamin A means good health.

**Table 12: Respondents response on foods rich in vitamin A (n=50)**

<b>Foods rich in vitamin A</b>	<b>Frequency</b>	<b>Percentage</b>
Mentioned four foods	9	18
Mentioned three foods	12	24
Mentioned two foods	13	26
Mentioned one food	8	16
Do not know	8	16
<b>Total</b>	<b>50</b>	<b>100</b>

Twenty-six percent (26%) of the respondents mentioned two foods that are rich in vitamin A, 24% mentioned three foods, 18% mentioned four foods, 16% mentioned one food, and another 16% do not know any foods that are rich in vitamin A.

**Table 13: Respondents` response on the importance of vitamin A to children (n=50)**

<b>Response</b>	<b>Frequency</b>	<b>Percentage</b>
Growth and prevent diseases	34	68
It gives energy	4	8
Makes the body look good and fat	5	10
Do not know	7	14
<b>Total</b>	<b>50</b>	<b>100</b>

Sixty- eight percent (68%) of the respondents indicated that the importance of vitamin A is for growth and prevention of diseases, 14% did not know the importance of vitamin A, 10% indicated that vitamin A makes the body look good and fat, while 8% indicated that vitamin A gives energy.

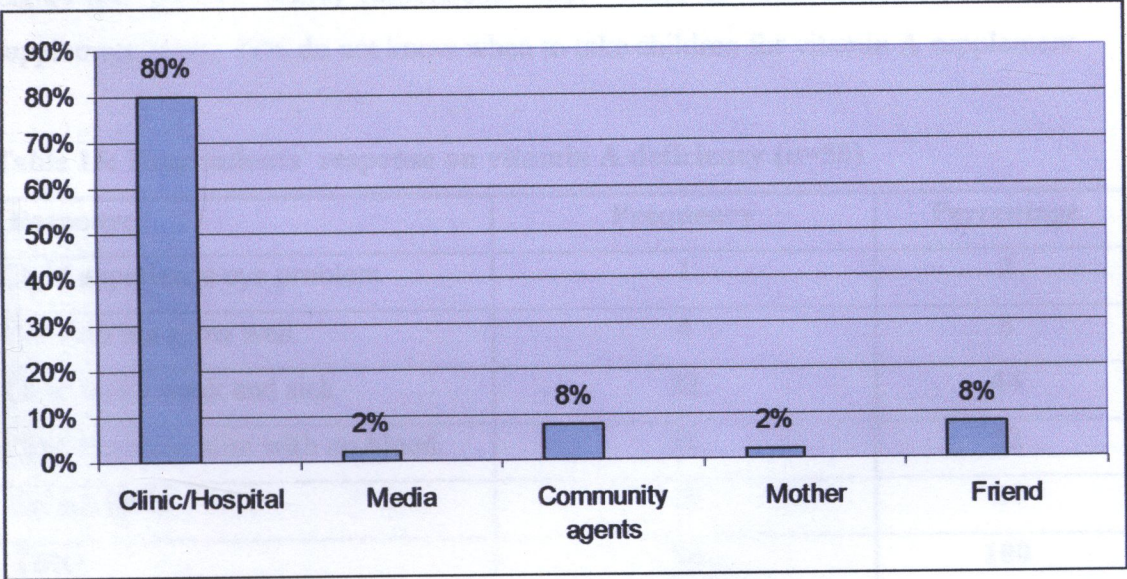


**Table 14: Respondents` response on whether they have heard about vitamin A supplement (n=50)**

Response	Frequency	Percentage
Yes	50	100
No	0	0
Total	50	100

All (100%) of the respondents had heard about vitamin A supplementation before.

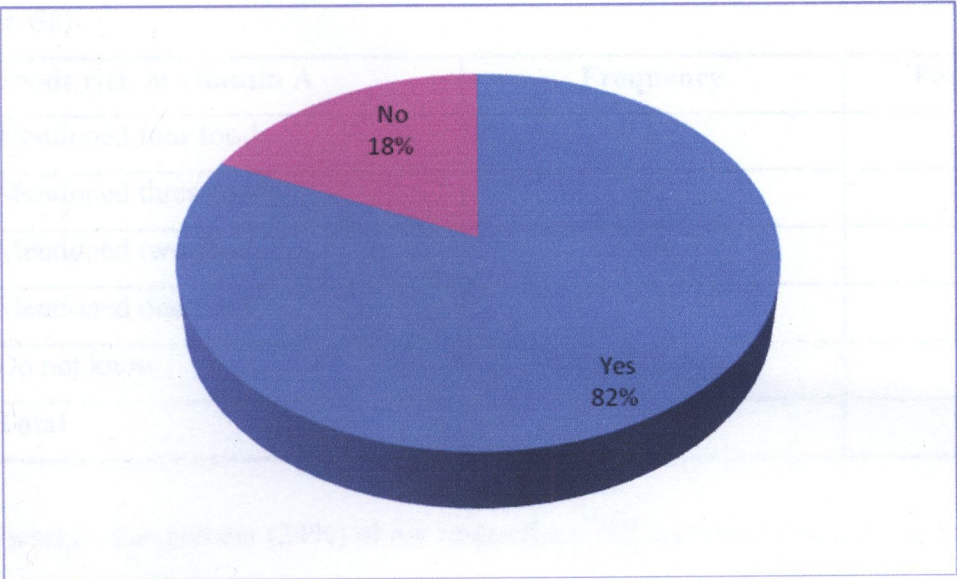
**Figure 4: Respondents` response on the source of information on vitamin A Supplementation (n=50)**



Eighty percent (80%) of the respondents heard about vitamin A supplementation from the clinic/hospital, 8% heard from community agents, another 8% heard from friends, 2% heard from the media, another 2% heard from the mother.



**Figure 5: Respondents` response on whether they know when to take  
Children for vitamin A supplement (n=50)**



Eighty-two percent (82%) respondents knew when to take children for vitamin A supplement, while 18% do not know when to take children for vitamin A supplement.

**Table 15: Respondents` response on vitamin A deficiency (n=50)**

Response	Frequency	Percentage
Child experience eye problem	1	2
Child do not grow well	4	8
Child looks weak and sick	22	44
Child becomes slim with no blood	11	22
Do not know	12	24
Total	50	100

Forty- four percent (44%) of the respondents indicated that the child with vitamin A deficiency looks weak and sick, 24% did not know how the child with vitamin A deficiency looks like, 22% indicated that that the child becomes slim with no blood, 8% indicated that the child with vitamin A deficiency does not grow well, while 2% indicated that the child experiences eye problem.

C. PRACTICE TOWARDS VITAMIN A SUPPLEMENTATION AND FOODS RICH IN VITAMIN A

Table 16: Respondents response on foods rich in vitamin A they give to the children (n=50)

Foods rich in vitamin A	Frequency	Percentage
Mentioned four foods	6	12
Mentioned three foods	11	22
Mentioned two foods	10	20
Mentioned one food	11	22
Do not know	12	24
Total	50	100

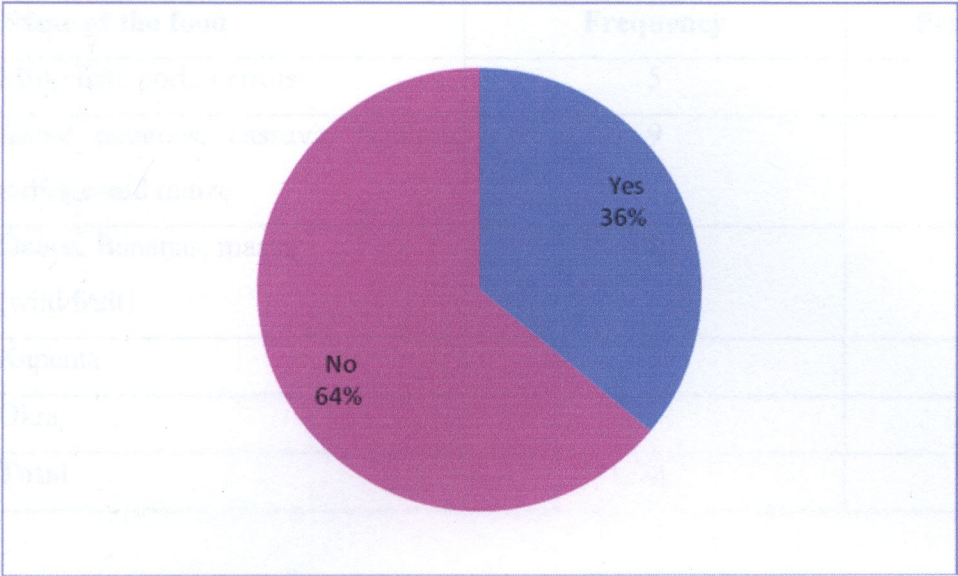
Twenty- four percent (24%) of the respondents did not know whether the foods they give children is rich in vitamin A or not, 22% mentioned three foods, another 22% mentioned one food, 20% mentioned two foods, 12% mentioned four foods.

Table 17: Respondents response on how often they give food to children (n=50)

Response	Frequency	Percentage
Twice a day	5	10
Thrice a day	25	50
Four and above times	20	40
Total	50	100

Half (50%) of the respondents gave children food thrice a day, 40% gives four and above times a day, 10% gives twice a day.

**Figure 6: Respondents response on whether they always have food (n=50)**



Sixty- four percent (64%) of the respondents did not always have food in the house, 36% always had food.

**Table 18: Respondents’ response on whether they know any foods that can not be given to children (n=50)**

Response	Frequency	Percentage
Yes	26	52
No	24	48
Total	50	100

Fifty- two percent (52%) of the respondents reported that they had foods that cannot be given to children, 48% had no foods that cannot be given to children.

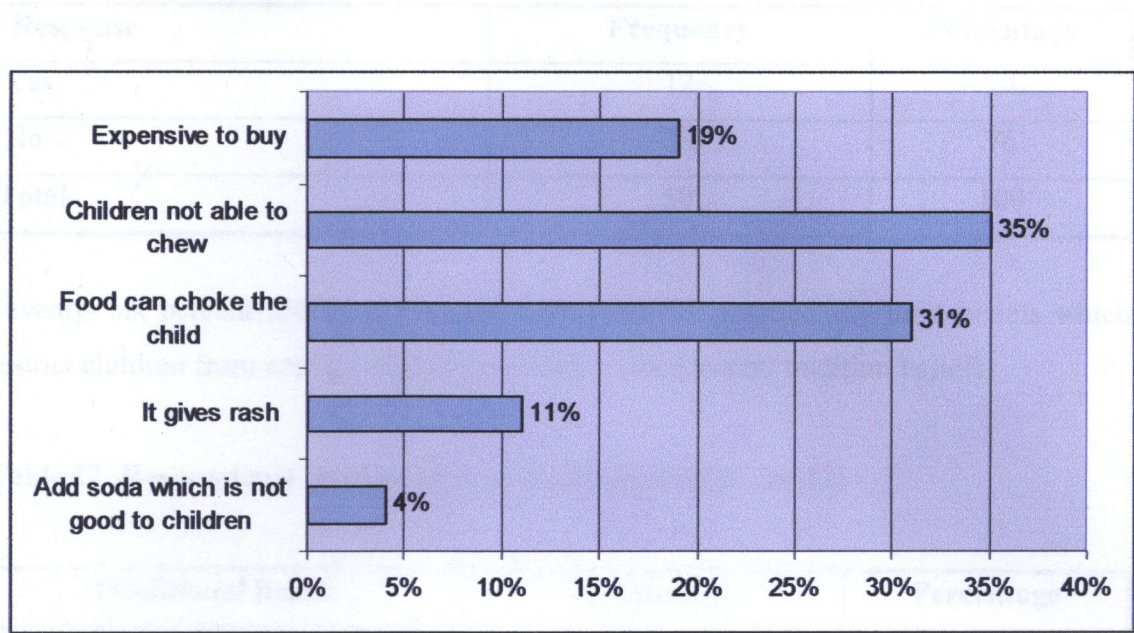
**Table 19: Respondents response on the foods that are not given to children (n=26)**

<b>Name of the food</b>	<b>Frequency</b>	<b>Percentage</b>
Milk, fish, pork, carrots	5	19
Sweet potatoes, cassava, Nshima, porridge and maize	9	35
Guava, Bananas, masau (wild fruit)	8	31
Kapenta	3	11
Okra	1	4
<b>Total</b>	<b>26</b>	<b>100</b>

Thirty- five percent (35%) of the respondents stated that they did not give sweet potatoes and cassava to children, 31% do not give milk, fish, kapenta and pork, 19% do not give nshima, porridge and maize, 11% do not give guavas, bananas, lemon, carrots, masau, while 4% do not give okra to children under five years.



**Figure 7: Respondents explanation to why they do not give the named food to children (n=26)**



Thirty- five percent (35%) of the respondents indicated that certain foods children are not able to chew, 31% indicated that certain foods can choke children, 19% indicated that certain foods are expensive to buy, 11% indicated that certain foods gives rash to children, while 4% indicated that soda added to okra is not good to children.

**Table 20: Respondents response on Breastfeeding (n=50)**

Breast feeding	Frequency	Percentage
Partial feeding	19	38
Exclusive feeding	31	62
Total	50	100

Sixty- two percent (62%) of the respondents reported that they exclusively breast fed their children. While 38% practiced partial feeding.

**Table 21: Respondents` response on traditional belief (n=50)**

Response	Frequency	Percentage
Yes	12	24
No	38	76
Total	50	100

Seventy- six percent (76%) of the respondents did not practice any have beliefs which restrict children from eating certain foods, while 24% have no tradition beliefs.

**Table 22: Respondents` explanation on traditional belief (n=12)**

Traditional belief	Frequency	Percentage
Not giving salty foods to children without teeth	3	25
Left over nshima makes tummies swell	4	33,3
Lemon finishes Blood in the body	1	8.3
Not giving nshima to children Less than 6 months, it gives Them diarrhoea	4	33.3
Total	12	100

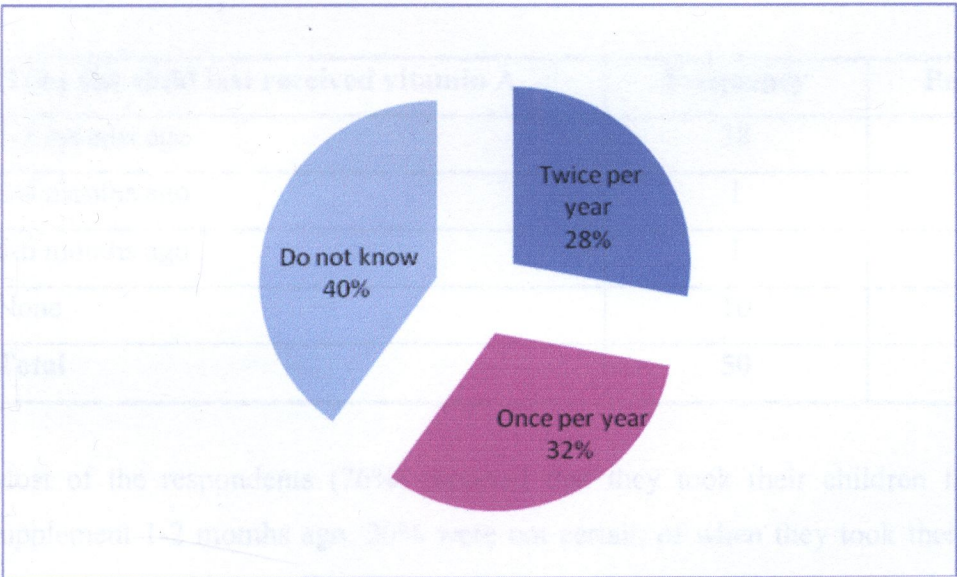
Thirty- three percent (33.3%) of the respondents practiced traditional belief of not giving left over nshima to children because it makes their tummies swell, another 33.3% had a traditional belief of not giving nshima to children less than 6 months because they may develop diarrhoea, 25% had a belief of not giving salt foods to children without teeth because they will never have teeth, while 8.3% had a belief of not giving lemons because blood may finish in the body.

**Table 23: Respondents response on vitamin A supplementation (n=50)**

Response	Frequency	Percentage
Yes	50	100
No	0	0
Total	50	100

All (100%) of the respondents reported that they took their children to health centre for vitamin A supplement.

**Figure 8: Respondents response on how often children are taken for Vitamin A supplement (n=50)**



Forty percent (40%) of the respondents did not know how often they take children for vitamin A supplement per year, 32% take children once per year, 28% take children twice per year.

**Table 24: Respondents response on availability of vitamin A supplement (n=50)**

Availability of vitamin A Supplement	Frequency	Percentage
Yes	49	98
No	1	2
Total	50	100

Majority of respondents (98%) indicated that vitamin A supplement were available at the health center, while 2% indicated that vitamin A supplement was not available.

**Table 25: Respondents` response on when the child last received vitamin A Supplement (n=50)**

Time the child last received vitamin A	Frequency	Percentage
1-2 months ago	38	76
3-4 months ago	1	2
5-6 months ago	1	2
None	10	20
Total	50	100

Most of the respondents (76%) reported that they took their children for vitamin A supplement 1-2 months ago, 20% were not certain of when they took their children for vitamin A supplement, 2% of respondents took their children 3-4 months ago, another 2% took their children 5-6 months ago.



**Table 26: Respondents' response regarding waiting time for vitamin A Supplement at the health center (n=50)**

Waiting time before attended to	Frequency	Percentage
1-2 hours	46	92
3-4 hours	4	8
<b>Total</b>	<b>50</b>	<b>100</b>

Majority of respondents (92%) stated that they waited for about 1-2 hours before health staff attends to them when they take children for vitamin A supplement, while 8% wait for about 3-4 hours before being attended to.

**Table 27: Respondents response regarding staff level at the health center (n=50)**

Staff level the at health center	Frequency	Percentage
Enough	37	74
Do not know	13	26
<b>Total</b>	<b>50</b>	<b>100</b>

Majority of the respondents (74%) stated that health staff are enough at the center, while 13(26%) were not certain of the staff level at the health center.

**Table 28: Participants` response on distance from home to health centre (n=50)**

Distance from home to health centre	Frequency	Percentage
1-4 kilometers	24	48
5-8 kilometers	20	40
13 and above	6	12
Total	50	100

Forty- eight percent (48%) of the respondents said that they traveled a distance of 1-4 kilometers to the health centre, 40% travel 5-8 kilometers, while 12% travel 13 and above kilometers to the health center.

**Table 29: Respondents` response regarding vegetable garden (n=50)**

Vegetable garden	Frequency	Percentage
Yes	24	48
No	26	52
Total	50	100

Fifty- two percent (52%) of the respondents reported that they had no vegetable garden, while 48% have vegetable garden.

**Table 30: Respondents` response to where they get vegetables (n=26)**

Response	Frequency	Percentage
Buy from the market	26	100
Wait for rain season	0	0
Total	26	100

All (100%) of the respondents stated that they purchased vegetables from the market.

**CROSS TABULATION TABLES**  
**SHOWING RELATIONSHIP BETWEEN VARIABLES**

**Table 31: Relationship between age and marital status**

AGE	MARITAL STATUS				TOTAL
	Single	Married	Divorced	Widowed	
14-24	4(80%)	22 (52.4%)	-	-	26(52%)
25-34	1(20%)	13 (30.9%)	1(100%)	1(50%)	16(32%)
35-44	-	6 (14.3%)	-	1(50%)	7(14%)
45 and above	-	1(2.4%)	-	-	1(2%)
Total	5(10)	42(84)	1(2%)	2(4%)	50(100%)

Majority of the respondents (52.4%) who were married were aged 14-24 years. Only 20% of those who were single were aged 25-34 years.

**Table 32: Relationship between age and educational level**

AGE	EDUCATIONAL LEVEL				TOTAL
	No Schooling	Primary	Secondary	College	
14-24	1(20%)	17(49%)	8(80%)	-	26 (52%)
25-34	3(60%)	11(31%)	2(20%)	-	16(32%)
35-44	1(20%)	6(17%)	-	-	7(14%)
45 and above	-	1(3%)	-	-	1(2%)
Total	5(10%)	35 (70%)	10 (20%)	-	50(100%)

Majority of the respondents (49%) who attained primary education were aged 14-24 years, where as 80% of the respondents with secondary education were aged 14-24 years.

**Table 33: Relationship between age and occupation**

AGE	OCCUPATION					TOT.
	Subsistence farmer	Marketeer	Housewife	Professional	Other (Specify)	
14-24	5 (38.4%)	2(33.3%)	15(60%)	-	4(66.7%)	26(52%)
25-34	4 (30.8%)	3 (50%)	7(28%)	-	2(33.3%)	16(32%)
35-44	4 (30.8%)	1(16.7%)	2(8%)	-	-	7(14%)
45 and above	-	-	1(4%)	-	-	1(2%)
Total	13 (26%)	6(12%)	25(50%)	-	6(12%)	50(100%)

Majority of the respondents (60%) who were housewives were aged between 14-24 years.

**Table 34: Relationship between age and knowledge**

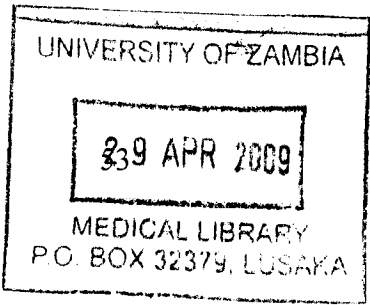
AGE	KNOWLEDGE			TOTAL
	High	Medium	Low	
14-24	6 (50%)	13(44.8%)	7(77.8%)	26(52%)
25-34	4(33.3%)	11(37.9%)	1(11.1%)	16(32%)
35-44	2(16.7%)	4(13.8%)	1(11.1%)	7(14%)
45 and above	-	1(3.4%)	-	1(2%)
Total	12 (24%)	29(58%)	9(18%)	50(100%)

Majority of the respondents (58%) had medium level of knowledge on vitamin A. Out of those 44.8% were aged between 14-24 years, 37.9% were aged between 25-34 years, 13% were of age 35-44 years and 3.4% were 45 and above years. 77.8% who were in the age group between 14-24 years had low level of knowledge.

**Table 35: Relationship between age and breastfeeding practices**

AGE	BREAST FEEDING PRACTICE		TOTAL
	Partial feeding	Exclusive feeding	
14-24	10(52.6%)	16(51.6%)	26(52%)
25-34	8(42.1%)	8(29%)	16(32%)
35-44	-	7(19.3%)	7(14%)
45 and above	1(5.3%)	-	1(2%)
Total	19(38%)	31(62%)	50 (100%)

Majority of the respondents (51.6%) whose age was 14-24 years practiced exclusive feeding, where as 52.6% of the same age practiced partial feeding.



**Table 36: Relationship between age and practice**

AGE	PRACTICE		TOTAL
	Good	Bad	
14-24	7(38.9%)	19(59.3%)	26(56%)
25-34	7(38.9%)	9(28.1%)	16(32%)
35-44	4(22.2%)	3(9.4%)	7(14%)
45 and above	-	1(3.1%)	1(2%)
Total	18(36%)	32(64%)	50(100%)

A total of 64% of the respondents had bad practices towards vitamin A. Out of these, 59% were in the age group 14-24 years. 38.9% of the respondents who had good practices were in the age between 14-24 and 25-34 respectively.

**Table 37: Relationship between age and availability of food**

AGE	AVAILABILITY OF FOOD		TOTAL
	Yes	No	
14-24	12(66.7%)	14(43.7%)	26(56%)
25-34	3(16.7%)	13(40.6%)	16(32%)
35-44	2(11.1%)	5(15.6%)	7(14%)
45 and above	1(5.5%)	-	1(2%)
Total	18(36%)	32(64%)	50(100%)

A total of 64% of the respondents did not always have food. 66.7% of the respondents who always had food were aged between 14-24 years.

**Table 38: Relationship between age and importance of vitamin A**

AGE	IMPORTANCE OF VITAMIN A				TOTAL
	Growth and prevention of diseases	Gives energy	Makes the body look good and fat	Do not know	
14-24	13(40.6%)	2(50%)	6(85.7%)	5(71.4%)	26(52%)
25-34	13(40.6%)	1(25%)	1(14.3%)	1(14.3%)	16(32%)
35-44	5(15.6%)	1(25%)	-	1(14.3%)	7(14%)
45 and above	1(3.1%)	-	-	-	1(2%)
Total	32(64%)	4(8%)	7(14%)	7(14%)	50(100%)

A total of 64% of the respondents knew the importance of vitamin A. Out of these, 40.6% were in the age between 14-24 and 25-34 years. 71.4% of those who did not know the importance of vitamin A were aged 14-24 years.

**Table 39: Relationship between educational level and knowledge**

EDUCATIONAL LEVEL	KNOWLEDGE			TOTAL
	High	Medium	Low	
No schooling	2(16.7%)	2(6.9%)	1(11.1%)	5(10%)
Primary	6(50%)	23(79.3%)	6(66.7%)	35(70%)
Secondary	4(33.3%)	4(13.8%)	2(22.2%)	10(20%)
College				-
Total	12(24%)	29(58%)	9(18%)	50(100%)

A total of 70% of the respondents had attained primary education. Out of these, 79.3% had medium level of knowledge on vitamin A, 66.7% had low level of knowledge and 50% had high level of knowledge.

**Table 40: Relationship between educational level and level of practice**

EDUCATIONAL LEVEL	PRACTICE		TOTAL
	Good	Bad	
No schooling	2(11.1%)	3(9.4%)	5(10%)
Primary	13(72.2%)	22(68.7%)	35(70%)
Secondary	3(16.7%)	7(21.9%)	10(20%)
College	-	-	-
Total	18(36%)	32(64%)	50(100%)

Majority of the respondents (68.7%) who had bad practices had attained primary education. Only 21.9% of the respondents with secondary education also had bad practices.



**Table 41: Relationship between educational level and importance of vitamin A**

EDUCATIONAL LEVEL	IMPORTANCE OF VITAMIN A				TOTAL
	Growth and prevention of diseases	Gives energy	Makes the body look good and fat	Do not know	
No schooling	3(9.4%)	-	1(14.3%)	1(14.3%)	5(10%)
Primary	21(65.6%)	4(100%)	5(71.4%)	5(71.4%)	35(70%)
Secondary	8(25%)	-	1(14.3%)	1(14.3%)	10(20%)
College	-	-	-	-	-
Total	32(64%)	4(8%)	7(14%)	7(14%)	50(100%)

Majority of the respondents (65.6%) who attained primary education knew the importance of vitamin A, where as 71.4% of respondents with primary education did not know the importance of vitamin A.

**Table 42: Relationship between education level and occupation**

EDUCATIONAL LEVEL	OCCUPATION					TOTAL
	Subsistence farmer	Marketeer	Housewife	Professional	Other (Specify)	
No schooling	2(15.4%)	1(17%)	2(8%)	-	-	5(10%)
Primary	10(76.9%)	4(66%)	20(80%)	-	1(16.7%)	35(70%)
Secondary	1(7.7%)	1(17%)	3(12%)	-	5(83.3%)	10(20%)
College	-	-	-	-	-	-
Total	13(26%)	6(12%)	25(50%)	-	6(12%)	50(100%)

Majority of the respondents (80%) who had attained primary education were housewives and 76.9% were subsistence farmers. Only 12% who were housewives had attained secondary education.

**Table 43: Relationship between educational level and Breast feeding practices**

EDUCATIONAL LEVEL	BREAST FEEDING PRACTICES		TOTAL
	Partial feeding	Exclusive feeding	
No schooling	3(15.8%)	2(6%)	5(10%)
Primary	14(73.7%)	21(68%)	35(70%)
Secondary	2(10.5%)	8(26%)	10(20%)
College	-	-	-
Total	19(38%)	31(62%)	50(100%)

Majority of the respondents (68%) who had attained primary education practiced exclusive feeding, where as 73.7% practiced partial feeding. Only 26% of those who had attained secondary education practiced exclusive feeding.

**Table 44: Relationship between educational level and availability of food**

EDUCATIONAL LEVEL	AVAILABILITY OF FOOD		TOTAL
	Yes	No	
No schooling	2(11%)	3(9.4%)	5(10%)
Primary	13(72%)	22(68.7%)	35(70%)
Secondary	3(17%)	7(21.9%)	10(20%)
College	-	-	-
Total	18(36%)	32(64%)	50(100%)

Majority of the respondents (68.7%) who did not always have food in the house had attained primary education. Only 36% of the respondents always had food in their homes, out of these 72% had attained primary education, 17% had attained secondary education and 11% did not go to school at all.

**Table 45: Relationship between occupation and level of knowledge**

OCCUPATION	KNOWLEDGE			TOTAL
	High	Medium	Low	
Subsistence Farmer	-	9(31%)	4(44%)	13(26%)
Marketeer	2(16.7%)	4(13.8%)	-	6(12%)
Housewife	6(50%)	14(48.3%)	5(56%)	25(50%)
Professional	-	-	-	-
Other (specify)	4(33.3%)	2(6.9%)	-	6(12%)
Total	12(24%)	29(58%)	9(18%)	50(100%)

A total of (58%) of the respondents had medium level of knowledge. Out these 48.3% were housewives, 31% were subsistence farmers, 13.8% were marketers and 6.9% were among specified others. Only 24% had high knowledge.

**Table 46: Relationship between occupation and breastfeeding practices**

OCCUPATION	BREAST FEEDING PRACTICES		TOTAL
	Partial feeding	Exclusive feeding	
Subsistence Farmer	7(37%)	6(19.3%)	13(26%)
Marketeer	-	6(19.3%)	6(12%)
Housewife	10(53%)	15(48.4%)	25(50%)
Professional	-	-	
Other (specify)	2(10%)	4(13%)	6(12%)
Total	19(38%)	31(62%)	50(100%)

A total of (62%) of the respondents practiced exclusive feeding. Out of those who practiced exclusive feeding, 48.4% were housewives. Thirty-eight percent (38%) of the respondents practiced partial feeding, out of these, 53% were housewives, 37% were subsistence farmers and 10% were among others.

**Table 47: Relationship between occupation and availability of food**

OCCUPATION	AVAILABILITY OF FOOD		TOTAL
	Yes	No	
Subsistence Farmer	2(15.4%)	11(84.6%)	13(26%)
Marketeer	2(33.3%)	4(66.7%)	6(12%)
Housewife	12(48%)	13(52%)	25(50%)
Professional	-	-	-
Other (specify)	2(33.3%)	4(66.7%)	6(12%)
Total	18 (36%)	32 (64%)	50(100%)

Majority of the respondents (52%) who were housewives did not always have food in their homes. 84.6% of the subsistence farmers also stated that they did not always have food in their homes. Only 48 % of the respondents who were housewives always have food in their homes.

**Table 48: Relationship between occupation and monthly earnings**

OCCUPATION	MONTHLY EARNINGS					TOTAL
	Below K50 000	K51 000 to K100000	K102 000 To K200 000	K201000 And above	None	
Subsistence Farmer	11(39.3%)	1(33.3%)	-	-	1(6.7%)	13(26%)
Marketeer	3(10.7%)	1(33.3%)	2(100%)	-	-	6(12%)
Housewife	14(46.4%)	1(33.3%)	-	-	10(66.7%)	25(50%)
Professional	-	-	-	-	-	-
Other (specify)	1(3.6%)	-	-	1(100%)	4(26.6%)	6(12%)
Total	29(58%)	3(6%)	2(4%)	1(2%)	15(30%)	50(100%)

Majority of the respondents (46.4%) were housewives whose monthly earned below K50 000. Where as 66.7% of housewives earned nothing.

**Table 49: Relationship between occupation and frequency of feeding**

OCCUPATION	FREQUENCY OF FEEDING				TOTAL
	Once a day	Twice a day	Thrice a day	Four times and above	
Subsistence Farmer	-	2(40%)	5(20%)	6(30%)	13(26%)
Marketeer	-	1(20%)	3(12%)	2(10%)	6(12%)
Housewife	-	2(40%)	12(48%)	11(55%)	25(50%)
Professional	-	-	-	-	-
Other (specify)	-	-	5(20%)	1(5%)	6(12%)
Total	-	5(10%)	25(50%)	20(40%)	50(100%)

Half (50%) of the respondents who were housewives were able to feed their children frequently. Out of these, 48% were able to feed their children three times a day, 55% were able to feed their children four times a day and 40% were able to feed their children twice a day.

**Table 50: Relationship between availability of food and frequency of feeding**

AVAILABILITY OF FOOD	FREQUENCY OF FEEDING				TOTAL
	Once a day	Twice a day	Thrice a day	Four times and above	
Yes	-	3(60%)	10(40%)	5(25%)	18(36%)
No	-	2(40%)	15(60%)	15(75%)	32(64%)
Total	-	5(10%)	25(50%)	20(40%)	50(100%)

A total of 64% of the respondents who did not always have food in their homes were able to feed their children frequently. Out of these, 75% were unable to feed their children four times a day, 60% were unable to feed their children three times a day and 40% were unable to feed their children twice a day. Only 25% were able to feed their children four times a day.



## **CHAPTER FIVE**

### **5.0 DISCUSSION OF FINDINGS**

#### **5.1 INTRODUCTION**

The discussion contained in this chapter is based on the data collected for the study which was aimed to determine knowledge and practices of mothers towards vitamin A supplement and foods rich in vitamin A in Mpanshya catchment area in Chongwe District. The results were based on the analysis of data obtained from a sample of 50 mothers with under five children.

#### **5.2 DISCUSSION OF EACH VARIABLE**

##### **5.2.1 DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS**

This study was carried out on fifty (50) mothers with under five children. The findings of the study showed that 52% of the respondents were aged between 14 and 24 years. This indicated that most of the mothers were young. It also means that child bearing starts early among women. Thirty-two percent (32%) were aged between 25 and 34 years. Fourteen percent (14%) were aged between 35 and 44 years. Two percent (2%) of the respondents were aged 45 years and above (Table 4, page 34). This shows that most of the respondents were young mothers, who could be in school at that age. This may be due to lack of knowledge on the importance of education which lead most of them stop school and get married and have children at an early age. Therefore, it is important for health care providers together with the education sector to health educate the community to send their girl children to school.

Figure 2, page 35 show that all the respondents were Christians, upholding the fact that Zambia is predominantly a Christian nation. Majority of the respondents (58%) were Catholics. This is because of the area having a mission hospital and a parish for Catholics, and most of the people prefer to be Catholics because of the assistance they render to the poor. Ten percent (10%) belonged to church of God, another 10% belonged to Baptist, 8% belonged to Pentecost, 4% were Jehovah's Witness, 4% belonged to Reformed Church of Zambia (RCZ), and another 4% belonged to New Apostolic. Only 2% belonged to Seventh Day Adventist (SDA).

The findings of this study shows that majority of the respondents (84%) were married. Ten percent (10%) were single and two (2%) were divorced (Table 6, page 35). The results have shown that most of the women in rural areas are married. This is because in rural setting there are early marriages which are acceptable and considered to be normal in the Zambian culture. Marriage is viewed as a social security. The respondents who were divorced were fewer because divorce is not accepted socially in Zambia. Therefore, it is important for the health care providers to give health education on the importance of girl child education so that they are empowered as it is one of the Millennium Development Goals (MDG) to be attained by 2015 (United Nations Country Team, Zambia, 2005).

Table 7, page 36 show that majority of the respondents (70%) had primary education and only 10% had no formal education, 20% of the respondents had secondary education. This result shows that Zambia as a country is progressing towards the achievement of the Millennium Development Goal 2 on attainment of universal primary education for all by 2015. However, the country still needs to do a lot as there are still people in rural areas especially women who still have no formal schooling. This result confirms the findings of CSO (2003) which showed that the proportion of those who never have formal schooling is higher in rural areas. This is also due to early marriages, negative attitude towards school in rural areas or that schools are very few and far away especially secondary schools.

Table 8, page 36 show that half of the respondents (50%) were housewives, while 26% were subsistence farmers. However, those who were housewives were also involved in subsistence farming. This could be the reason why there is an increase in Vitamin A Deficiency (VAD) diseases because they may not have enough foods rich in vitamin A to give their children.

The findings show that 58% of the respondents earned below K50 000 every month, while 30% do not earn anything. Only 2% earned K201 000 and above (Table 9, page 37). This means that the income of the respondents is very low. This is attributed to low level of education as majority of the respondents only attained primary education and this makes it difficult for them to find meaningful employment. Unless women are empowered, children will continue to suffer from vitamin A deficiency disorders. The low income makes parents not able to provide good diet for their families.

### **5.2.2 KNOWLEDGE ON VITAMIN A SUPPLEMENT AND FOODS RICH IN VITAMIN A**

The findings in table 39, page 56 shows that 58% of the respondents had medium level of knowledge on vitamin A rich foods and vitamin A supplementation, 24% had high level of knowledge, while 9% had low level of knowledge. This may be attributed to the low level of education of the respondents as most of them attained only primary education. The level of knowledge recorded in this study was medium than that obtained in a survey carried out in Nigeria in which 98% of mothers knew the sources and functions of vitamin A (Uti and Edet, 2005). Therefore health care providers should educate the mothers on nutrition.

Table 11, page 38 shows that majority of the respondents (52%) did not know the definition of vitamin A. While 36% were able to define. This may be due to lack of health education and low education level which makes it difficult for them to assimilate information as most of the respondents attained primary education only. Therefore it is important for the health care providers to intensify their Information, Education and Communication (IEC) to the community.

The findings show that 68% of the respondents knew the importance of vitamin A (Table 13, page 39). This could be as a result of the health education the health providers and the community agents give to mothers during Child Health Week (CHW) campaigns. However, the health care providers need to continue giving health education to the community. The level of knowledge on importance of vitamin A recorded in this study

was high than that obtained in a survey carried out in Nepal in which only 49% of mothers knew the importance of giving vitamin A to their children (SCN 2002). There is need to raise mothers' awareness of the usefulness of vitamin A in treating measles, diarrhoea and preventing death.

In this study 71.4% of those who did not know the importance of vitamin A were aged between 14 and 24 years, 14.3% were aged between 25 and 34 years, and another 14.3% were aged between 35 and 44 years (Table 38, page 55). The health care providers together with the community based agents should give nutrition talks in the communities so that those who do not attend under five clinics should be given the information on nutrition.

This study also revealed that majority 71.4% of mothers who did not know the importance of vitamin A had attained primary education. Sixty-five percent (65.6%) of mothers who had attained primary level also knew the importance of vitamin A. Twenty-five percent (25%) of mothers who had attained secondary education also knew the importance of vitamin A (Table 41, page 57). Therefore, most of the mothers did not know the importance of vitamin A despite attaining primary education while some knew the importance of vitamin A. Majority of those who attained secondary education were able to remember the importance of vitamin A.

Table 14, page 40 show that all respondents (100%) had heard about vitamin A supplementation. This is as a result of the sensitization carried out during the CHW. Intensive sensitization has lead to majority of mothers about 82% knew when to take their children for vitamin A supplement, and only 18% did not know when to take them (Figure 5, page 41). This shows that health staff and the Community Based Agents (CBAs) still have a challenge to raise awareness and promoting utilization of vitamin A supplements.

The findings in table 15, page 41 show that majority of the respondents did not know how a child with vitamin A deficiency looks like. Forty-four percent (44%) stated that the child with vitamin A deficiency looks weak and sick, 22% stated that the child becomes

slim with no blood and 24% stated that they did not know how a child with vitamin A deficiency looks like. Only 8% of the respondents said that the child does not grow well and 2% said that the child experience eye problem. This result shows that there is need to educate the mothers on the signs of vitamin A deficiency so that they can identify vitamin A deficiency in their children.

In this study, 77.8% of the young mothers aged between 14 and 24 years had low levels of knowledge on vitamin A rich foods. This implies that young mothers need information on vitamin A rich foods. Therefore, nurses and other health workers should target IEC to this group of mothers and encourage and involve them in nutrition activities. However, the findings show that 50% of the mothers between 14 and 24 years had high knowledge regarding foods rich in vitamin A and vitamin A supplementation. This was followed by mothers between 25 and 34 years and only 16.7% of mothers between 35 and 44 years had high level of knowledge (Table 34, page 53). Therefore, this could mean that knowledge depends on ones ability to learn. In this case mothers will have knowledge on vitamin A depending on how active the person is in attending health talks or nutrition demonstrations arranged by health care providers.

The findings show that most of the mothers had medium knowledge on vitamin A supplementation and foods rich in vitamin A. This could be due to their low level of education as most of them attained only primary education. Education provides people with opportunities for learning and understanding the knowledge that can help to support the health and nutrition of the families. Support for Analysis and Research in Sara project (1999) report revealed that literacy is positively associated with reduced infant mortality. Therefore, education can equip mothers with skills which can help them be innovative and creative thereby providing nutritious food and food supplementation and overcoming other problems that may threaten their children's health and well being later in life.

The above discussions answers specific objective number 1 and 2 that states to assess the knowledge mothers have on vitamin A supplementation and also on foods rich in vitamin A. Although all mothers knew about the vitamin A supplementation and had actually

made use of it, more accurate information might enable these mothers to make even better use of the programme. More knowledge about vitamin A rich foods could enhance the well being of both the mothers and their children.

### **5.2.2 PRACTICE**

The findings in table 36, page 54 show that 64% of the respondents had bad practices towards vitamin A rich foods and vitamin A supplement. While 36% had good practices towards vitamin A rich foods and vitamin A supplement. This could be attributed to the low level of education of the respondents as most of them attained only primary education. This could also be attributed to lack of Information, Education and Communication (IEC) during children's clinic.

In this study 68.7% of the respondents who had bad practices had attained primary education, 21.9% had attained secondary education and 9.4% had never been to school (Table 40, page 56). These results suggest that majority of the mothers who had attained primary education had bad practices than those who had attained secondary education. However, there were some mothers with secondary education who had bad practices. Therefore there is need to provide mothers with continued education on the subject.

The findings show that 24% did not know vitamin A which they are supposed to give to their children. Twenty- two percent (22%) were able to mention three foods rich in vitamin A, while another 22% mentioned one food, 20% mentioned two foods. Only 12% of the respondents were able to mention four foods rich in vitamin A they give to their children (Table 16, page 42). This shows that there is a great need for health providers to educate the mothers on nutrition so that they know the correct values of foods they can give children. This will help to promote the good health of the children and prevent illnesses which may occur due to deficiency in vitamin A. Educational efforts should be directed at motivating mothers to give vitamin A- rich fruits and vegetables such as paw paws, mangoes in their children's diet. This answers the specific objective number 3, to identify the types of foods rich in vitamin A mothers give to their children.

Table 17, page 42 show that 50% of the respondents feed their children 3 times per day and 40% feed their children 4 times or more per day. Only 10% fed their children twice a day. The results recorded in this study on the correct frequency four times or more of feeding the under five children was higher than that obtained in a study in Chitambo by Munamavili (2006) in which only 17% of mothers feed their children four times or more. Since children who are under five years need more food to grow, the three times feeding is not enough because they need a lot of food with good nutritional value in order to grow health. Therefore health care providers together with agencies in the Ministry of Agriculture should work together to reduce poverty by encouraging families to venture in farming so that they can have enough foods for their families. For example, the Programme Against Malnutrition (PAM) supplies farmers with farm inputs such as seeds, fertilizer.

The findings of this study show that majority of the respondents (64%) did not always have food in their homes. Only 36% of the respondents always had food in their homes (Figure 6, page 43). This is in line with the CSO (2003) report which states that most of the rural households never have enough foods to eat. Therefore the health care providers should lobby for the mothers so that they can start activities to raise their own income of which they can use to buy food for the family. For example, the Churches Health Association of Zambia (CHAZ) has a programme for Income Generating Activities (IGA) of which they give small loans to people in rural communities so that they can start small businesses and use the money to help their families (CHAZ, 2006).

The study has revealed that majority of the respondents (52%) did not have any food restrictions regarding foods given to children. Only 48% of the respondents had food restrictions (Table 18, page 43). There is therefore, need to provide mothers with IEC on the good feeding practices and discourage the harmful practices that may lead to poor health of the children. It is imperative that health care providers take up this challenge and help the community to adhere to good health practices.

The results of this study show that majority of the respondents (62%) practice exclusive breastfeeding, while 38% practice partial breastfeeding (Table 20, page 45). This shows that exclusive breastfeeding has been accepted by most of the mothers in rural settings as it is one of the best feeding practices for survival, growth, development, health and nutrition of infants and children and for wellbeing of mothers (CSO, 2003). In support of this a Nigerian study which was carried out in Kent/Edgerly, Calabar, revealed that the main source of vitamin A for infants was breast milk (Asana et al. 1993). The recommended feeding pattern is breastfeeding exclusively for the first 6 months (CBOH 2002). Children not exclusively breastfed in the first 6 months of life are at considerable increased risk of infections and mortality. Therefore health care providers should sensitize the mothers on the importance of exclusive breastfeeding.

The findings in table 43, page 58 revealed that 73.7% of the respondents who had attained primary education practiced partial breastfeeding, 10.5% of those who attained secondary education also practiced partial feeding had and 15.8% of those who had never been to school practiced partial breastfeeding. Therefore, most mothers who attained primary education practiced partial breastfeeding than those who attained secondary education. Therefore, IEC on exclusive breast feeding should be intensified. Mothers should be motivated to sustain the practice of breastfeeding. Infants who are breastfed are unlikely to be vitamin A deficient (Uti and Edet, 2005).

The findings show that majority of the respondents (76%) did not practice any traditional beliefs regarding food restrictions, While only 24% of the respondents practiced food restrictions according to their traditional belief (Table 21, page 46). This shows that people in the rural areas are now moving away from following much of the traditional beliefs which may deprive children from been given health foods. Appropriate feeding of children helps to promote growth, and prevents illness and possible death. Continuity of health education programmes by health care providers can motivate mothers to give health foods to their children.



Table 23, page 47 shows that 100% of the respondents take their children to health center for vitamin A supplement. This could be attributed to good sensitization of the mothers during Child Health Week campaign. The MOH recommends vitamin A supplementation as one of the most cost-effective and important public health interventions (CBOH, 2002).

The findings in figure 5, page 41, show that 40% of the respondents did not know when they last took their children for vitamin A supplement, 32% of the respondents indicated that they take their children once per year. Only 28% indicated that they take their children twice per year to the health center for vitamin A supplement. Not knowing when they last took their children for vitamin A is attributed to low levels of education of the respondents as majority 70% only went up to primary education.

This answers specific objective number 4 which is to determine how often mothers take their children to health center facility for vitamin A supplementation.

Table 29, page 50 show that majority of the respondents (52%) did not have a vegetable garden, only 48% had a vegetable garden. This indicates that most of the people buy vegetables and yet their monthly income is less than K50 000. This also shows that in most of the homes there is hunger. This takes the effort of the health care providers to encourage the community based agents like the NHC and CHW to encourage families to have gardens for their vegetables so that their families can have a good supply of vitamins including vitamin A. This may reduce the vitamin A deficiency disorders.

In this study 38.9% of the respondents aged between 25 and 34 years had good practices on vitamin A rich foods and supplementation and 38.9% of those aged between 14 and 24 years also had good practices. Only 22.2% of those between 35 and 44 years also had good practices (Table 36, page 54). This could mean that good practice does not depend on the age group, it may depend on the knowledge mothers have. However, health care providers should intensify their teachings on good nutrition during under five clinics.

The above discussions answers the specific objective number 5 which aims at establishing mothers practices towards vitamin A supplementation and vitamin A rich foods.

### **5.3 IMPLICATIONS TO THE HEALTH CARE SYSTEM**

The study findings indicate that there were bad practices towards foods rich in vitamin A. This is attributed to the majority of respondents having medium level of knowledge. This implies that health care providers at all levels of health care delivery system should conduct health teachings on nutrition and follow ups to mothers in their homes to supervise children feeding practices.

The findings of this study also revealed that there was low education level among the respondents. This requires the health care system to come up with literacy centers in the community to teach mothers and mothers should also advocate for adult literacy classes at community halls. This will help to boost the understanding of health education messages to mothers which may lead to improve knowledge and change of practices on the foods to give to children, thus helping the country to achieve Millennium Development Goals (MDGs) number four to reduce child mortality by 2/3 by 2015 (United Nations Country Team, Zambia 2005).

Health care providers should encourage the Community Based Agents (CBAs) like the Neighborhood Health Committee (NHC) and the Community Health Workers (CHW) working at different localities to set up mothers nutritional programmes where mothers are taught infant and child feeding practices using locally available foodstuffs. Mothers are taught good feeding practices.

Results of this study also revealed that majority of the respondents (52%) did not have vegetable gardens. This takes the effort of the health care providers to encourage the community based agents like the NHC and CHW working in different localities to encourage families to have gardens for their vegetables so that their families can have a good supply of vitamins including vitamin A, thereby promoting child survival and

reducing vitamin A deficiency disorders. Mothers should work hard and have a garden for vegetables so that they can have rich, cheap and abundantly available sources of vitamin A.

## **CHAPTER SIX**

### **6.0 CONCLUSION, RECOMMENDATIONS AND LIMITATIONS OF THE STUDY**

#### **6.1 CONCLUSION**

The study was carried out to assess the levels of knowledge and practice towards vitamin A supplementation and vitamin A rich foods among mothers with under five children in Mpanshya. Its purpose was to highlight the prevailing situation and some of the factors that affect the knowledge and practice that mothers have, in order that solutions may be found that will ensure that they provide good nutritious foods to their children that ensures good growth and prevents illnesses. The study has revealed that mothers have medium knowledge on vitamin A supplementation and vitamin A rich foods but fail to put their knowledge into practice in terms of feeding their under five children with the appropriate foodstuffs. This study has identified bad practices towards vitamin A supplementation and vitamin A rich foods as a problem among mothers with under five children.

The study has revealed that 52% of the mothers were with in the age group between 14 and 24 years. The study has revealed that 71.4 % of those in the age group between 14 and 24 years did not know the importance of giving vitamin A to children.

The study has also revealed that majority (70%) of mothers had primary education. Low educational levels could have contributed to high level of VAD because 71.4% of mothers who attained primary education did not know the importance of vitamin A. This could lead to bad practices towards vitamin A as mothers did not see the need of giving vitamin A to their children. Although 100% of the mothers had heard about vitamin A supplementation only 82% knew when to take their children for the supplement. The study has revealed that 52% of the mothers did not know the definition of vitamin A. Some (68%) mothers knew the importance of vitamin A.

The study has revealed that 64% of the mothers had bad practices towards vitamin A supplement and vitamin A rich foods. Some mothers (64%) did not always have food in

their homes to give to children. This could have contributed to only 10% mothers feeding their children the correct frequency four times or more a day. Only 12% mothers were able to mention four foods rich in vitamin A they give to their children.

According to the findings the hypothesis that the lower the knowledge levels mothers have on vitamin A supplement and foods rich in vitamin A the poorer will be practices towards vitamin A supplement and foods rich in vitamin A has failed to be rejected. The hypothesis that mothers traditional beliefs will contribute to poor child feeding practices in vitamin A rich foods has been rejected.

## **6.2 RECOMMENDATIONS**

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

### **6.2.1 TO MINISTRY OF HEALTH**

- Improve food security: the objective of agricultural policy and food production should be to increase food consumption among poor households, generate sustainable livelihood and improve the nutritional content of food. Policies must be concerned about improving access to land, agricultural inputs and knowledge and income, particularly for women. The government should be recommended for the agricultural policies introduced in the new deal government were agricultural inputs have been subsidized that government pay 50% and the other 50% is paid by the farmer. The policy should continue until every one is self-reliant at least for another 5 years.
- Collaborating with non-governmental agencies to combat vitamin A deficiency disorders. A strong partnership between the public and private can be an important weapon in the fight against VAD. The private sector can be a valuable partner to the public sector in planning and implementing food fortification and supplementation programmes which are strategies for combating micronutrient deficiencies. Fortification and supplementation are cost effective strategies and help in expanding the availability and

consumption of micronutrient rich food. The government is recommended for fortifying sugar and mealie meal with vitamin A.

- Encourage community based education programmes, which provide interpersonal counseling about nutrition. These programmes are successful in improving feeding practices and have led to improved nutritional status for children.

#### **6.2.2 TO MANAGEMENT AT MPANSHYA MISSION HOSPITAL**

- The hospital management should increase public awareness on VAD to the mothers or caretakers of the under five children during children clinic, and also during child health week. They should raise the usefulness of vitamin A in the treating measles, diarrhoea and preventing of death.
- Should incorporate nutritional demonstration on preparation of essential foods in Expanded Programme for Immunisation (EPI). Mothers should be taught correct methods of food preparation of subjecting the vegetable to moderate cooking processes which do not result in losses of vitamin A. Sustained boiling until vegetables disintegrate should be discouraged because it destroys vitamin A and also frying destroy vitamin A. This is important because dietary change is effective in the long run and cost effective in controlling vitamin A deficiency.
- There is need for the hospital management to involve communities in prevention of VAD and control of supplementation programmes.

#### **6.2.3 TO THE COMMUNITY BASED NUTRITION AGENTS**

- The community based agents should encourage the community to produce traditional and nutritious foods such as pumpkins and their leaves, paw paws and mangoes because these are rich, cheap and abundantly available sources of vitamin A.
- The community should improve feeding practices by increasing the amount of vitamin A rich fruits and vegetables in their children's diets. Appropriate

feeding of children helps to ensure proper nutrition thereby promoting growth and prevent illness and deaths.

- The hospital management should encourage the community to participate in all nutritional and health care programmes for under five children such as cooking demonstrations.
- The community based agents should encourage each household to have a garden for green vegetables for the family which are rich, cheap and abundantly available sources of vitamin A.

### **6.3 LIMITATION OF THE STUDY**

- The limitation of the study was that the sample size of 50 respondents was too small to generalize the findings onto the general population. This was due to the short period in which the study had to be conducted.

### **6.4 DISSEMINATION AND UTILISATION OF FINDINGS**

Dissemination of findings entails the measures that would be undertaken to communicate the findings from the study to others (Polit and Hungler, 2001).

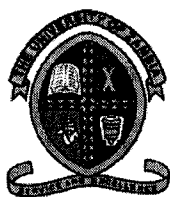
The study findings will be communicated to Chongwe District Health Management Team (CDHMT) and Mpanshya Hospital Management for implementation. Copies of research project will be distributed to the Department of Post Basic Nursing, University of Zambia Medical Library and Ministry of Health to use as reference material by students and health care professionals. The study findings were presented to a large audience during the Research Day which was organized by the research coordinator in the school.

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# **UNIVERSITY OF ZAMBIA**

## **SCHOOL OF MEDICINE**

### **DEPARTMENT OF POST BASIC NURSING**

#### **INTERVIEW SCHEDULE FOR MOTHERS WITH UNDER FIVE CHILDREN TO DETERMINE KNOWLEDGE AND PRACTICES TOWARDS VITAMIN A RICH FOODS AND VITAMIN A SUPPLEMENTS IN CHILDREN IN MPANSHYA CATCHMENT AREA, CHONGWE DISTRICT**

Serial Number.....

Place of Interview.....

Name of Interviewer.....

Date of Interview.....

#### **INSTRUCTIONS FOR INTERVIEWER**

1. Introduce yourself to the respondents.
2. Do not write the respondents name on the questionnaire.
3. Ask all questions in the order they are arranged.
4. For questions with responses, tick ( ) your answers in the box provided.
5. For questions without alternatives, write responses clearly on the space provided.
6. Respondents should be free to ask questions during the course of the interview.
7. Assure the respondents that all information will be treated as confidential and used for the purpose it is intended for.
8. Thank the respondents at the end of each interview.

SECTION A: DEMOGRAPHIC DATA

FOR OFFICIAL  
USE ONLY

1. How old are you? \_\_\_\_\_
2. What tribe are you? \_\_\_\_\_
3. Which religious denomination do you belong? \_\_\_\_\_
4. What is your marital status?

(a) Single

(b) Married

(c) Divorced

(d) Widowed
5. What is your educational attainment?

(a) No schooling

(b) Primary

(c) Secondary

(d) College
6. What is your occupation?

(a) Subsistence farmer

(b) Marketeer

(c) Housewife

(d) Professional

(e) Others, specify \_\_\_\_\_
7. How much money do you earn or make per month?

(a) Below K50 000

(b) K51 000- K100 000

(c) K102 000- K200 000

(d) K201 000 and above

(e) None

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8. What is your spouse's occupation?

- (a) General worker
- (b) Businessman
- (c) Student
- (d) Farmer
- (e) None


--

9. How much money does your spouse earn or make per month?

- (a) Below K50 000
- (b) K51 000- K100 000
- (c) K102 000- K200 000
- (d) K201 000 and above
- (e) None


--

**SECTION B: KNOWLEDGE ON VITAMIN A AND FOODS  
RICH IN VITAMIN A**

10. What is vitamin A?\_\_\_\_\_

--

11. Mention four foods that are rich in vitamin A\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

--

12. What is the importance of giving food rich in vitamin A to your  
Children?

\_\_\_\_\_

\_\_\_\_\_

--

13. Have you heard about Vitamin A supplements before?

(a) Yes

☐

(b) No

☐

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14. State your source of information on Vitamin A supplement?

☐

(a) Clinic/ Hospital

☐

(b) Media

☐

(c) Community agents

☐

(NHC, CHW, TBA, CBD e.t.c)

(d) Mother

☐

(e) Friends

☐☐

15. Do you know when to take the child for vitamin A supplement?

(a) Yes

☐

(b) No

☐☐

16. How can you tell that your child has vitamin A deficiency?

☐

**SECTION C: PRACTICE TOWARDS VITAMIN A  
SUPPLEMENTATION**

17. Mention four types of food rich in vitamin A do you give to your under five children?

  
  
☐

18. How often do you feed your under five children?

(a) Once a day

☐

(b) Twice a day

☐

(c) Thrice a day

☐

(d) Four times and above

☐☐

19. Do you always have food in the house?

(a) Yes

(b) No


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--

20. Are there any type of food that you cannot give to your under five children?

(a) Yes

(b) No


--

21. If yes, name the food.


--

22. Explain why you do not give such foods to your children?


--

23. How do you breast feed your child

(a) Partially fed

(b) Exclusively fed


--

24. Do you have any traditional or religious beliefs which restrict children from eating certain foods?

(a) Yes

(b) No


--

25. If Yes, explain


--

26. Do you take your child to the health center for vitamin A Supplement?

(a) Yes

(b) No


--

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27. If No explain \_\_\_\_\_

28. How many times do you take your child to the health center for  
Vitamin A supplement every year?\_\_\_\_\_

29. Is vitamin A supplementation available at your nearest health  
Facility?

(a) Yes

(b) No

30. When did your child last receive Vitamin A supplement?

31. How long do you wait for health staff to attend to your child  
When you take him/her for vitamin A supplement?

(a) 1-2 hours

(b) 3-4 hours

(c) 5-6 hours

(d) 7-8 hours

32. What is the staffing situation at your nearest health facility  
Explain? \_\_\_\_\_

33. How far is the health facility from your home?

(a) 1- 4 kilometers

(b) 5 -8 kilometers

(c) 9- 12 kilometers

(d) 13 and above kilometers

**APPENDIX II**

**WORK SCHEDULE**

<b>TASK TO BE PERFORMED</b>	<b>RESPONSIBLE PERSON</b>	<b>WEEKS</b>	<b>DATES</b>	<b>PERSON DAYS REQUIRED</b>
Finalize research proposal	Principal Investigator	1-14 weeks	22/04/07 to 30/07/07	100 days
Clearance from Ethics committee	Researcher Supervisor	Week 15-16	31/07/07 to 13/08/07	14days
Training of research assistants	Principal Investigator	Week 17-18	14/08/07 to 27/08/07	14 days
Field testing the tool	Principal Investigator	Week 19	28/08/07 to 03/09/07	7 days
Data collection	Principal Investigator	Week 20-24	04/09/07 to 30/09/07	27 days
Data analysis	Principal Investigator	Week 25-30	01/10/07 to 10/12/07	71 days
Report writing and submission	Principal Investigator	Week 31-33	11/12/07 to 31/12/07	21 days
Dissemination of findings	Principal Investigator	Week 34-38	01/01/08 to 25/01/08	25 days
Monitoring and evaluation	Continuous by the Principal Investigator			



**APPENDIX III**  
**GANTT CHART**

<b>TASK TO BE PERFORMED</b>	<b>RESPONSIBLE PERSON</b>	<b>APRIL</b>	<b>MAY</b>	<b>JUN</b>	<b>JUL</b>	<b>AUG</b>	<b>SEP</b>	<b>OCT</b>	<b>NOV</b>
Finalizing Research proposal	Principal Investigator								
Clearance for funding from Ministry of Health	Principal Investigator								
Clearance and orient local authorities	Principal Investigator and district health director								
Training research assistants and pretest	Principal Investigator								
Collection of data	Principal Investigator and research assistants								
Preliminary data collection	Principal Investigator								
Final data analysis	Principal Investigator								
Report writing	Principal Investigator								
Submitting report	Principal Investigator								
Dissemination of findings	Principal Investigator								
Monitor and evaluation	Principal Investigator								

APPENDIX IV

BUDGET FOR THE RESEARCH STUDY

	ITEM	UNIT COST		TOTAL	
		K	N	K	N
1	<b>Field work and travel expenses</b>				
	(a) Lunch allowance for the Researcher and research assistants	30 000 per day x 10 days		300 000	00
	(b) Transport allowance for the Researcher and assistants	20 000 per day x 10 days		200 000	00
	<b>Subtotal</b>			<b>500 000</b>	<b>00</b>
2	<b>Secretarial Services</b>				
	(a) Typing and editing of the study	3 000.00 per page x 100 pages		300 000	00
	(b) Photocopying of report	200.00 per page x 100 pages		20 000	00
	(c) Stationary	30 000 per ream of paper x 3 reams		90 000	00
	(d) Binding final report	50 000 per copy x 3 copies		150 000	00
	(e) Pens	500.00 per pen x 5		2 500	00
	(f) Pencils	500.00 per pencil x 5		2 500	00
	(g) Eraser	1 box of eraser at 5 000		5 000	00
	<b>Subtotal</b>			<b>570 000</b>	<b>00</b>
3	Dissemination workshop	2 000 000. 00		2 000 000	00
	<b>Subtotal</b>			<b>2 000 000</b>	<b>00</b>
	Contingent fund 10% of the total budget	307 000.00		<b>307 000</b>	<b>00</b>
	<b>GRAND TOTAL</b>			<b>3 377 000</b>	<b>00</b>

## **APPENDIX V**

### **BUDGET JUSTIFICATION**

The researcher needed lunch and transport allowance to enable her travel from residential place to selected communities for data collection. Therefore funds for meals and transport are needed. Funds were also required for typing services. These services consist of printing research proposal, questionnaires, photocopying and printing the final research report.

The contingent fund is the 10% of the total amount for the budget is added to the whole budget to cover unforeseen expenses being required during the research study.

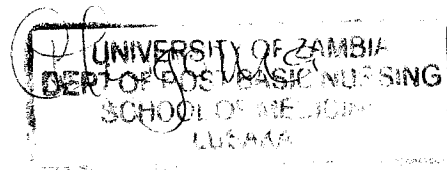
THE UNIVERSITY OF ZAMBIA  
SCHOOL OF MEDICINE  
P.O BOX 50110  
LUSAKA.

07<sup>th</sup> AUGUST, 2007.

THE EXECUTIVE DIRECTOR  
UNIVERSITY TEACHING HOSPITAL  
P/B RW IX,  
LUSAKA.

*Approved*  


UFS: THE HEAD OF DEPARTMENT  
SCHOOL OF MEDICINE  
DEPARTMENT OF POST BASIC NURSING  
P.O BOX 50110  
LUSAKA.



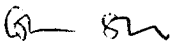
Dear sir/ madam,

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

I am a full time fourth year (4<sup>th</sup>) registered student at the above institution pursuing the Bachelor of Science in Nursing. As part of the requirement for the fulfillment of the degree in nursing, I'm required to carry out a research study. My topic of study is **"To determine mother's knowledge and practices towards vitamin A supplement and foods rich in vitamin A"**. This letter serves to seek permission from you to undertake the pilot study in Paediatric Department. I intend to carry out this exercise at your hospital in the last week of August, 2007.

Thank you in anticipation.

Yours faithfully,



Gladys Lungu

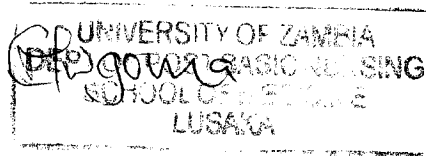
4<sup>th</sup> Year Student.

The University of Zambia  
School of Medicine  
P.O Box 50110  
Lusaka.  
24<sup>TH</sup> July, 2007.

The District Director  
Chongwe DHMT  
P.O Box 25  
Chongwe.



UFS: The Head of Department  
Schools of Medicine  
Department of Post Basic Nursing  
P.O Box 50110  
Lusaka.



Dear sir/ madam,

**RE: PERMISSION TO UNDERTAKE RESEARCH STUDY**

I am a full time fourth year (4<sup>th</sup> ) registered student at the above institution pursuing the Bachelor of Science in Nursing. As part of the requirement for the fulfillment of the degree in nursing, I'm required to carry out a research study. This letter serves to seek permission from you to undertake the study in your district **on mother's knowledge and practices towards vitamin A supplement and foods rich in vitamin A**. The study shall be carried out in Mpanshya area in September 2007. Data collection will take place from 04<sup>th</sup> September to 30<sup>th</sup> September, 2007.

Thank you in anticipation.

Yours faithfully

A handwritten signature in cursive script, appearing to read "Gladys Lungu".

Gladys Lungu.

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