A STUDY TO DETERMINE KNOWLEDGE, ATTITUDE AND PRACTICE OF MOTHERS AND CARETAKERS TOWARDS HOME MANAGEMENT OF FEVER DUE TO MALARIA AMONG CHILDREN UNDER THE AGE OF FIVE YEARS IN CHONGWE DISTRICT

BY

KALUBA DYNES CHINYAMA

ZRN (1989)

ZRM (1997)

SPR
MED
CHI
2007

A RESEARCH STUDY SUBMITTED IN PARTIAL FULFILMENT FOR THE AWARD OF BACHELOR OF SCIENCE IN NURSING DEGREE IN THE DEPARTMENT OF POST BASIC NURSING

SCHOOL OF MEDICINE
UNIVERSITY OF ZAMBIA
- 2007-

UNZA, LUSAKA 2007, FEBRUARY

ACKNOWLEDGEMENTS

My heart felt gratitude goes to my supervisor, Mrs. D. Chanda and the course coordinator Mrs. C. Ngoma for their tireless efforts in guiding and supervising me in this study.

I also wish to thank my sponsors, Ministry of Health through whose sponsorship I am able to carry out the research and also study for the Bachelor of Science in Nursing Degree at the University of Zambia

My love and appreciation goes to my five children especially little Hope and my husband Charles for their patience, love and encouragement in times when the road seemed rough.

To all, I say may God bless you.

TABLE OF CONTENTS

PAGE

- Acknowledgements........ i
- Table of content........ ii
- List of Tables........ v
- List of figures........ vii
- Declaration........ viii
- Statement........ ix
- Dedication........ x
- List of abbreviations........ xi
- Abstract........ xii

CHAPTER ONE

1.0 Introduction........ 1

1.1 Background information........ 1

1.2 Statement of the problem........ 11

1.3 Factors contributing/influencing the problem........ 15

1.4 Diagram of problem analysis........ 20

1.5 Justification........ 21

1.6 Research objectives........ 22

1.6.1 General Objectives........ 22

1.6.2 Specific Objectives........ 22

1.7 Hypothesis........ 23

1.8 Operational definitions........ 24

1.9 Variables and cut-off points........ 26

CHAPTER TWO

2.0 Literature Review........ 27

2.1 Introduction........ 27

2.2 Global perspective........ 28

2.3 Regional perspective.......... 29
2.4 National perspective.......... 32
2.5 Conclusion.......... 33

CHAPTER THREE

3.0 Research methodology.......... 35
3.1 Introduction.......... 35
3.2 Research design.......... 35
3.3 Research setting.......... 35
3.4 Study population.......... 36
3.5 Sampling method.......... 37
3.6 Sample size.......... 37
3.7 Data collection tool.......... 37
3.8 Data collection technique.......... 39
3.9 Pilot study.......... 39
3.10 Validity.......... 40
3.11 Reliability.......... 40
3.12 Ethical and cultural consideration.......... 40

CHAPTER FOUR

4.0 Data analysis and presentation of findings.......... 42
4.1 Data analysis.......... 42
4.2 Presentation of findings.......... 43

CHAPTER FIVE

5.0 Discussion of findings and implications for health care.......... 73
5.1 Introduction.......... 73
5.2 Characteristics of the sample.......... 73
5.3 Discussion of variables.......... 75
5.4 Implications to various health care system.......... 85
5.5 Conclusion.......... 88
5.6 Recommendations.......... 89

5.7 Dissemination of findings of the study........................ 91
5.0 Limitations of the study.. 91
References 93

Appendices

Appendix I: Questionnaire.. 96
Appendix II: Marking key.. 106
Appendix III: Work plan schedule.. 108
Appendix IV: Gantt chart.. 109
Appendix V: Budget.. 110
Appendix V: Authority to undertake study................................... 113

LIST OF TABLES

TABLE	CONTENT	PAGE
Table 1	Population distribution according to age......................	6
Table 2	Top cause of morbidity among under five children.........	8
Table 3	Top five causes of admissions..................................	9
Table 4	Top five causes of mortality....................................	10
Table 5	OPD malaria attendance among under five children.........	12
Table 6	Admissions of malaria cases among under five children....	13
Table 7	Variables, Indicators and cut - off points........................	26
Table 8	Demographic data of the sample.................................	44
Table 9	Distribution of respondents by having heard about fever due to malaria..	44
Table10	Respondents knowledge on the cause of malaria...........	48
Table 11	Respondents knowledge on the symptoms of malaria..	48
Table 12	Respondents knowledge on the dander signs of malaria...	49
Table 13	Whether source told respondent on how to control Temperature..	50
Table 14	Respondents knowledge on how to control temperature...	50
Table 15	Whether respondent's source told them on how to prevent malaria...	51
Table 16	Respondents knowledge on how to prevent malaria....	51
Table 17	Respondents knowledge on how IEC improves utilisation of health services................................	52
Table 18	How IEC messages improve utilisation of health services...	52
Table 19	Respondents knowledge of drugs used to treat a child with fever due to malaria................................	53
Table 20	Respondents' perception about fever as a dangerous symptom of malaria	57

Table 21 Respondents' reasons for considering fever as a dangerous symptom............................. 57
Table 22 Respondents' first source of health care........ 58
Table 23 Time taken by respondents to reach nearest health facility.. 59
Table 24 Does long walking time hinder you from accessing health services.. 59
Table 25 Cultural beliefs about fever and utilisation of health facility.. 60
Table 26 Cultural beliefs about fever which prevent utilisation of health services... 60
Table 27 Action taken when child developed fever...........................62
Table 28 Drugs administered when child developed fever due to malaria.. 62
Table 29 Respondents' source of medicine administered at home...... 63
Table 30 Respondents' response on affordability of drugs.............. 63
Table 31 Distribution of respondents by their practices.................. 66
Table 32 Level of knowledge in relation to age............................ 66
Table 33 Level of knowledge in relation to level of education........... 67
Table 34 Level of knowledge in relation to marital status................. 68
Table 35 Attitude in relation to age... 68
Table 36 Attitude in relation to monthly income............................. 69
Table 37 Attitude in relation to marital status.................................69
Table 38 Attitude in relation to level of education............................70
Table 39 Attitude in relation to level of knowledge...........................70
Table 40 Practice in relation to age..71
Table 41 Practice in relation to level of knowledge..........................71
Table 42 Practice in relation to level of education........................... 72
Table 43 Practice in relation to time taken to reach nearest health facility.. 72

LIST OF FIGURES

Graph 1 National number of malaria cases per thousand...... 2
Figure 2 Problem Analysis Diagram................................ 18
Figure 3 Respondents' definition of malaria...................... 47
Figure 4 Respondents' knowledge on source of information... 49
Figure 5 Respondents' knowledge on dosages of coartem® ... 53
Figure 6 Respondents' knowledge on dosages of fansidar...... 54
Figure 7 Respondents' level of knowledge.......................... 55
Figure 8 Respondents' stage of seeking health care............. 58
Figure 9 Respondents' attitude towards management of fever due to malaria.. 61
Figure 10 Respondents' who had ITNs................................ 64
Figure 11 Practices of respondents towards utilisation of ITN.... 65
Figure 12 Respondents' reasons for occasional utilisation of ITNs. 65

DECLARATION

I, KALUBA DYNES, hereby declare that the work presented in this study for the Bachelors of Science in Nursing has not been presented wholly or part for any other degree and is not being currently submitted for any other degree.

Signed: ____________ Date: 05/04/07.

(Candidate)

Approved: ____________ Date: 05/04/07

(Supervising Lecturer)

STATEMENT

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

Signed: ________________________________

(Candidate)

LIST OF ABBREVIATIONS

AIDS	-	Acquired Immune Deficiency Syndrome
CBoH	-	Central Board of Health
UNICEF	-	United Nations International Children Emergence Fund
CHW	-	Community Health Workers
CSO	-	Central Statistical Office
DHMT	-	District Health Management Team
GDP	-	Gross Domestic Product
HIV	-	Human Immune Virus
HMIS	-	Health Management Information System
IEC	-	Information Education and Communication
ITN	-	Insecticide Treated Nets
MDG	-	Millennium Development Goals
NHPS	-	National Health Policies and Strategies
NMCC	-	National malaria control Centre
NMSP	-	National Malaria Strategic Plan
OPD	-	Out Patient Department
PHC	-	Primary Health Care
RBM	-	Roll Back Malaria
UNICEF	-	United Nations International
WHO	-	World Health Organisation
ZDHS	-	Zambia Demographic Health Survey

ABSTRACT

This study sought at determining The knowledge, attitude and practice of mothers and care takers towards management of fever due to malaria among under five children in Chongwe District. The researcher was prompted to conduct this study by the fact that despite a lot of preventive measures being done on malaria in Chongwe, among under five children, malaria still continues to rank number one as the main cause of morbidity, admissions and mortality rate.

There are various factors that influence home management of fever due to malaria by mother and care takers, for example socio economic factors which include poverty, poor health seeking behaviour, cultural beliefs, age of mother or caretaker, inadequate knowledge on management of malaria as well as inadequate education. Other factors are service related factors such as shortage of staff, poor staff attitude and non-availability of anti malarial drugs at community level. There are also disease related factors and these are repeated attacks of fever, high incidence of fever due to malaria and that fever is not regarded as a danger sign.

Literature review was done covering the global, regional and national perspectives to show the magnitude of fever due to malaria. In Zambia, malaria is among the top ten (10) causes of morbidity and mortality, and it has been included as one of "thrusts" which has increased the disease burden in Zambia.

A descriptive, cross sectional study was conducted in September, 2006 in Chongwe District of Lusaka Province of Zambia where 50 mothers and care takers bringing their under five children to the clinic with fever due to malaria were randomly sampled from Chongwe and Chalimbana Rural Health Centres.

A structured interview schedule was used as a data collection tool. The questionnaire was checked for completeness by conducting a pilot study Monday 4th September 2006. Data analysis was done manually using data master sheet and a scientific calculator. This helped the researcher to answer the objective and test the hypothesis.

The study revealed that 76% of respondents had high levels of knowledge, 14% had moderate levels of knowledge while 10% had low levels of knowledge on home management of fever due to malaria. The study also revealed that 62% of the respondents had negative attitude towards management of fever due to malaria among under five children. These findings reject the hypothesis that states that the lower the levels of knowledge, the poorer the home management of fever among under five children by mothers and care takers.

The study failed to reject the second hypothesis that states that the poorer the health seeking behaviour, the poorer the home management of fever due to malaria among under five children by mothers and caretakers. It is true that mothers and cares takers (30%) who had poor attitude ended up seeking health care after failing to control the fever at home. This could be the reason why malaria is high despite intensive IEC on its management and prevention. It was therefore recommended that health care providers should continue conducting comprehensive IEC. Organize capacity building workshops for community health volunteers and conduct some performance assessments in the community in line with management of fever due to malaria. This would improve the home management of fever due to malaria among under five children by mothers and care takers.

CHAPTER ONE

1.0: INTRODUCTION

1.1: BACKGROUND INFORMATION

Overview of Zambia

Zambia is a landlocked country covering an area of 752,612 square kilometres (about 2.5% of Africa). It shares boarders with the Democratic Republic of Congo and Tanzania in the north, Malawi and Mozambique in the east, Zimbabwe and Botswana in the south, Namibia in the southwest and Angola in the west (CSO, 2003).

Administratively, the country is divided into nine provinces and 72 districts. Of the nine provinces, two are predominantly urban, namely Lusaka and Copper belt Provinces. The remaining provinces – Central, Eastern, Northern, Luapula, North Western and Southern Province are predominantly rural provinces. Four out of ten Zambians live in urban areas (CSO, 2003).

The country is densely populated along the line of rail especially in Lusaka where there are about 65 people per square kilometres compared to 5 people per square kilometres in North western province. According to the report on census of population and housing of 2000, Zambia's population is estimated at 10,285,631 of which 5,070,891 (49%) are males while 5,214,750 (51%) are females (CSO, 2003: 2). The growth rate between 1995-2000 was 2.9%. 20% of the total population of Zambia is composed of children under the age of five years.

Zambia attained independence from Britain on 24th October, 1964. During the pre-independence era, mission and mining hospitals provided health care services. Health care services were limited to the families living within the vicinity of the few missions and mining hospitals. As a result, majority of the

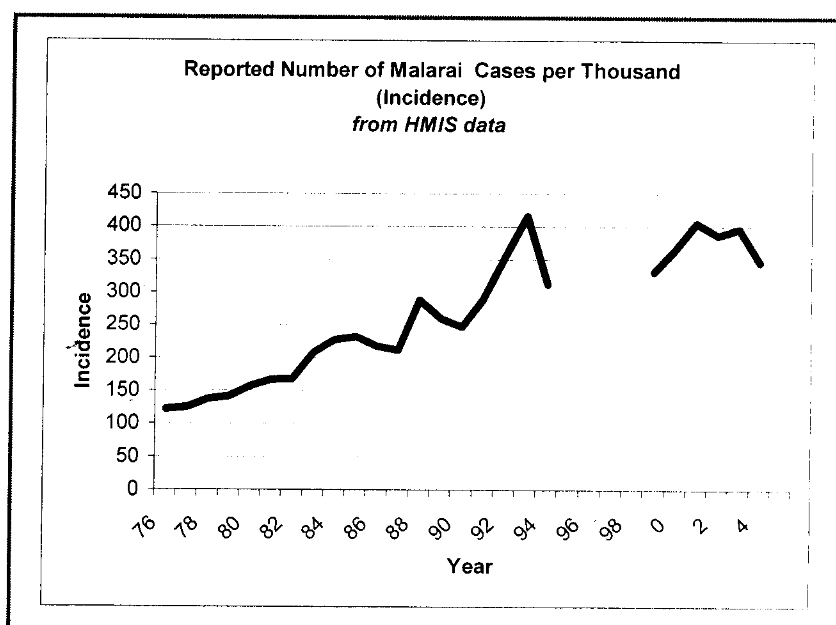
population had no access to health care. Health services are now available at provincial, district and community level.

Zambia embarked on health reforms in 1991 in order to address the problem of poor health service delivery. The health reform concept was articulated in the National Health Policies and Strategies (NHPS) of 1992. The reforms aimed at improving the health status and life expectancy of Zambians, through ensuring of equity of access to cost effective quality health care as close to the family as possible. This came up with decentralisation of health services, an essential strategy in the implementation of health sector reform, which involves the transfer of resources and authority to districts and sub district levels. It also empowers the local authorities and communities to identify and tackle their health priorities and needs. Health issues should be addressed directly through enhanced community awareness and knowledge about disease prevention, diagnosis and treatment, as well as through local operational research activities.

Over view of malaria in Zambia

Figure 1: Number of malaria cases in Zambia per thousand.

Malaria is a major public health problem in Zambia. It accounts for 45% (HMIS, 2004) of all outpatient attendances and 50% of cases among children under-five years of age.



Source: National Malaria Strategic Plan, 2006.

Figure 1 shows that there was a rise of malaria incidence from 125 cases in 1976 to 450 cases in 1994. It remained at 400 cases from 2000 to 2004. The National Malaria Control Centre (NMCC) estimates that malaria is responsible for nearly 4.3 million clinical cases and an estimated 50,000 deaths per year, including up to 20% of maternal mortality. The economic impact of malaria in Zambia has not yet been quantified, but is likely to be substantial, with regional estimates suggesting a deficit of 1.5% Gross Domestic Product (GDP) growth. Malaria incidence rates in Zambia tripled over the three decades, from 121/1000 in 1976 to 396/1000 in 2003. The emergence of chloroquine resistance reduced vector control and decreased access to health care. Human Immunodeficiency Virus (HIV) and poverty have contributed to this increase.

Malaria programme coverage has increased substantially across the country from 2000 to 2005. However, current coverage levels remain considerably under the targeted 60% levels established in the previous plan and far below the levels (>60% coverage) at which major impact of the interventions on malaria burden would be expected.

Zambia has, therefore, joined the world wide efforts in the prevention and control of malaria as well as focusing on the management of fever due to malaria in children. Some of the strategies which have been embarked on are the child survival programmes which include Management of Childhood Illnesses (IMCI), the Roll Back Malaria Initiative, Expanded Programme on Immunisations and the implementation of Millennium Development Goals.

IMCI is a broad strategy which encompasses interventions at home and in the health facility. It aims at reducing childhood deaths, illnesses and disability and to contribute to improved growth and development.

IMCI advocates that success in reducing childhood mortality will not be achieved, solely, through the availability of health services with well trained personnel. It stipulates that management of childhood illnesses like malaria involves a partnership between families and health workers. Families need to provide adequate care and to respond appropriately to fever in the under five children. This necessitates that mothers are taught to seek early care and to follow prescribed treatment regimen for the child. Home care advice is an integral part of case management.

Implementing IMCI with regards to malaria in countries involves three components which are:

- Improvements in the case management skills of the health staff through the provision of locally adapted guidelines on integrated management of malaria and activities to promote their use.
- Improvement in handling fever illness in the under five children at family and community level.
- Improvement in the health system requires effective case management of malaria.

Zambia hopes to use these three components to reduce malaria morbidity and mortality by 75% in 2015. The most important point to note is that interventions are not reaching those who need them most especially mothers and care takers who live in disadvantaged geographical locations like Chongwe, hence the DHMT endeavors to reach these mothers in these hard to reach areas.

The other strategy is the Roll Back Malaria (RBM) initiative which recommends the effective diagnosis of fever due to malaria within 24 hours of onset. This recommendation assumes that mothers and care takers of children will be able to recognise signs and symptoms of malaria which includes fever.

Overview of Malaria in Chongwe District.

As a signatory to the Abuja RBM declaration, all the DHMTs in Zambia, including Chongwe have put in place, processes to ensure increased community partnership. Mechanisms were designed to ensure an enabling environment including reviewing existing policy frameworks, piloting and scaling up of effective interventions, resource mobilisation, capacity building and increased community partnership.

The health centre staff in Chongwe also teach mothers on how to manage children with fever at home level, but despite all these efforts, the under five morbidity and mortality in this age group continue to soar.

In order to monitor the impact of RBM strategic interventions, and targets towards the Abuja declaration, Zambia identified ten sentinel districts to be used as operational sites for monitoring and evaluating malaria control activities through the organisation of periodic community and health facility survey.

Chongwe District, which is one of the districts with high prevalence of malaria in the country, was among the sampled districts. It is also the site for this study.

TABLE 1: POPULATION CATEGORY AND KEY HEALTH INDICATORS IN CHONGWE DISTRICT IN CHONGWE DISTRICT

CATEGORY	%	POPULATION ACCORDING TO YEARS				
		2002	**2003**	**2004**	**2005**	**2006**
Children 0-11 months	4	6415	6684	6965	7258	
Children <5 years	20	32074	33422	34825	36288	37812
Children 5-14 years	28.8	46187	48127	50148	52254	54449
Women 15-45 years	22	35282	36764	38307	39916	41583
All adults 15 years +	51.2	82111	85559	89152	92896	96798
TOTAL males all ages	48	76979	80212	83580	87091	90748
TOTAL all females	52	83393	86896	90546	94348	98311
TOTAL population	100	160372	167108	174126	181439	189059
Expected pregnancies	5.4	8065	9024	9403	9798	10209
Expected deliveries	5.2	8339	8690	9055	9435	9831
Expected live births	4.95	7939	8272	8619	8981	9358

Source: CSO, 2002

The above table shows the population parameters as specified in the standard percentages.

Geographical features

The physical features in Chongwe include valleys and lakes, rivers and streams, mountains and hills and varsity savannah vegetation.

The topographic nature of the district makes some parts to be hard to reach. Such areas have very poor access to health services. Roads are impassable especially in the rainy season. This is coupled with the size of the district which is wide, hence making access to health services generally difficult due to long distances.

The district has a tropical type of climate with temperatures ranging between 14 – 33 degrees centigrade in cold and hot seasons respectively. It falls within the high rainfall area and the average rainfall ranges between 300 – 500 mm per annum.

Due to the high rainfall and high temperature, there is a high transmission of malaria and therefore it is the highest cause of morbidity, admissions and mortality in all health centres.

The socio economic status is low. It includes 88% peasant farmers, 5% civil servants, 5% commercial farmers and 2% traders. The low socio economic status tends to make some parents to fail to take their children when they are sick because they spend most of their time looking for food or if the distance to the health facility is long, they may not afford a bus fare.

There exist a variety of cultural beliefs, customs and rituals, some of which hinder the utilisation of health services. Some of the customs and rituals in Chongwe are amazing. Some groups like the Zionist do not allow their members to utilise health services including child survival services. Convulsion in a child with malaria is considered as a traditional disease and will not seek help from health facilities but from the herbalists.

All the above factors have increased the incidence of malaria especially among the under five children. Malaria ranks as the number one cause of OPD attendances as shown below.

TABLE 2: TOP FIVE CAUSES OF MORBIDITY AMONG UNDER FIVE CHILDREN IN CHONGWE DISTRICT 2003-2005.

Disease	2003		2004		2005	
		%TOTAL of OPD cases		%TOTAL of OPD cases		%TOTAL of OPD cases
Malaria	38,852	35	44,998	44.5	40,955	42.2
Respiratory non pneumonia	16 177	14.6	19282	19.0	12512	12.8
Diarrhoea	5639	5.0	7928	7.8	5268	5.4
Eye disease	4925	4.4	3998	3.9	4212	4.3
Skin infections	3660	3.3	4262	4.2	3018	3.1
Others	41849	37.7	20830	20.6	31250	32.2
TOTAL	111005	100	101119	100	97050	100

Source: Chongwe District HMIS 2003-2005

Table 2 above shows that malaria is the leading cause of morbidity at OPD level.

TABLE 3: TOP FIVE CAUSES OF MORTALITY AMONG UNDER FIVE CHILDREN IN CHONGWE DISTRICT 2003-2005.

Disease	**2003**		**2004**		**2005**	
		% of total deaths		**% of total deaths**		**% of total deaths**
Malaria	25	45.4	46	54.7	28	38.8
anaemia	10	18.1	6	7.1	9	12.5
Diarrhoea	8	14.5	4	4.8	5	6.9
Respiratory non pneumonia	7	12.7	4	4.8	7	9.7
Tuberculosis	1	1.8	2	2.4	2	2.8
others	4	7.3	12	26.2	21	29.3
TOTAL	**55**	**100**	**84**	**100**	**72**	**100**

Source: Chongwe District HMIS 2003-2005

Table 3 above shows that malaria is the leading cause of mortality in the district.

TABLE 4:TOP FIVE CAUSES OF ADMISSIONS AMONG UNDER FIVE CHILDREN IN CHONGWE DISTRICT 2003-2005.

Disease	2003		2004		2005	
	Total admitted	% of total admissions	total admitted	% of total admissions	total admitted	% of total admissions
Malaria	877	46	1360	46.7	1990	52.9
Trauma/accidents	318	16.7	370	12.7	191	5.0
Respiratory pneumonia	168	8.8	260	8.9	241	6.4
Diarrhoea	72	3.8	209	7.2	203	5.4
Respiratory non pneumonia	78	4	220	7.6	197	5.2
Other diseases	544	28.6	404	13.9	530	14.1
TOTAL	1905	100	2909	100	3761	100

Source: Chongwe District HMIS 2003-2005

Table 4 above shows that malaria is the leading cause of admissions in the district.

From the above information, we can say that malaria is the leading cause of morbidity, mortality and admissions in Chongwe District.

One of the objectives in the National Malaria Strategic Plan (NMSP) is to increase the correct home management of malaria by 20%. This includes early recognition, care giving, care seeking and self medication. Despite a range of interventions that have been put in the district for the prevention, treatment and control of malaria, like selling of ITNs at a subsidised price, indoor residual spraying, and intensive IEC in the past three years, there has not been any improvement in the malaria incidence rate.

Chongwe is one of the districts which have planned for this strategy but before implementing it, one needs to know the baseline knowledge, attitude and practices in the management of fever due to malaria by mothers and care takers in Chongwe District.

The situation of home management is not well known in Chongwe District but the high child morbidity rate indicates that there is poor management of fever due to malaria by mothers and care takers.

This study therefore seeks to investigate Knowledge, attitude and practices towards home management of fever due to malaria among mothers and caretakers in Chongwe District.

1.2 STATEMENT OF THE PROBLEM

Malaria continues to be a source of public health concern globally. Globally, 350 – 650 clinical cases occur every year; hence this problem needs to be tackled with a global effort.

Malaria accounts for about 20% of all deaths in the under five year old children in the African region. Hence the Abuja summit was held to fight the incidence of malaria among the under five year old children.

In the normal environmental situation, the under five children are not supposed to suffer from fever due to malaria but malaria remains a major public health concern in Zambia, especially among children below the age of five years. It is a leading cause of morbidity and mortality in Zambia, accounting for about three million clinical cases annually, with 50,000 cases resulting in death (CBoH, MOH and RBM, 2001).

3 million cases are reported every year, and about 50, 000 deaths are attributed to malaria. Malaria accounts for 36.7 percent of all OPD cases in Zambia today with an average 62.1 percent of in patient cases. (CBoH, MOH and RBM, 2001).

Since 1999, Zambia has been involved in the international efforts to control malaria under the Roll Back Malaria Initiative. The goals of the initiative aim at ensuring that at least 60 percent of those at risk of malaria, particularly children under the age of five years benefit from the most

suitable combination of personal and community protective measures such as early recognition and treatment of malaria, Insecticide Treated Nets (ITNs) and other interventions.

As Chongwe is in an impoverished farming community there is overgrown vegetation and other environmental degradation which support mosquito breeding hence the transmission of malaria to the under five children.

In Chongwe, malaria is a major public health concern as most under five children suffer from acute fever, mostly due to malaria.

Most cases seen in Out Patient Department are due to malaria in the under five children as shown in the table below.

TABLE 5: OUT PATIENT MALARIA ATTENDANCE AMONG UNDER FIVE CHILDREN IN CHONGWE DISTRICT

Year	Under five children suffering from fever illness due to malaria	% of all cases seen in OPD
2003	38852	35
2004	44998	45
2005	40955	42

Source: Chongwe District HMIS, 2003 – 2005

Table 5 above shows that malaria accounted for 45 % of all the total OPD attendances. This is almost half of all the cases seen at the OPD.

TABLE 6: ADMISSIONS OF MALARIA CASES AMONG UNDER FIVE CHILDREN IN CHONGWE DISTRICT

Year	Under five children suffering from fever illness due to malaria	% of all TOTAL admissions.
2003	877	46
2004	1360	46.7
2005	1990	52.9

Source: Chongwe District HMIS, 2003 – 2005

Table 6 above shows that malaria accounts for almost half of the admission in the district

Table 5 and table 6 show that there is an apparent increase of 7% magnitude in both outpatient attendance and admissions of the under five children in Chongwe District between 2003 – 2005.

The malaria transmission period generally coincides with that of the planting or harvesting seasons. As a result, a brief period of the illness that delays planting or coincides with harvesting may cause catastrophic economic effects in the community deepening the impoverishment of rural agricultural house hold through direct output and income losses.

Malaria continues to be costly in both societal and economic terms. The cost of a treatment course of a child up to the age of 7 years is around US $0.9 – $1.4, while that of an adult is around US $2.4 (Barnes and White, 2005). This kind of cost of treatment compared to the low household income of most families is a great concern, especially in most parts of Zambia where, on the average a child may have four or more episodes of malaria in a year coupled with other episodes that may be wrongly treated as malaria. These issues may have implication on introducing effective home management strategy in Zambia. Zambia adopted the Artemisinin Combination Therapy (ACTs) in 2003/2004, (MOH, 2003), hence mothers need to be taught on home management of fever due to malaria.

If mothers are not knowledgeable on handling fever due to malaria in their children, the children may develop convulsions which may lead to brain damage. These mentally challenged children to become adults and may not contribute to the economic development of the country. This scenario may lead to the poor socio economic status of the country. Poverty worsens in populations affected by malaria illness because the work force is less productive. Malaria exerts its toll on agricultural communities and households living in rural communities like Chongwe where subsistence economy persists.

Children are at great risk of malaria and may suffer a range of complications from anaemia to cerebral malaria. These complications affect their survival and development and may increase infant morbidity and mortality rates at a period when the community is trying to reduce these rates in accordance with the Millennium Development Goals (MDG).

Measures that the district has undertaken are the sale of ITNs at a subsidised price of K3000 for under five children and pregnant women to sleep under, indoor residue spraying, massive IEC on the prevention and control of malaria and the introduction of case management using coartem as the first line of treatment, but these have not helped to decrease the incidence of malaria. Mothers and care takers in Chongwe still find it difficult to offer young children suffering from malaria the best kind of care feasible at home level.

Some possible causes to the increase could be inaccessibility to health services caused by the sparsely distributed health centres and some cultural beliefs. Some communities have no access to these health services and as such delay in seeking health care. This leads to poor management of high fever at community level.

There is lack of prompt access to effective treatment. Prompt access means having treatment available as near home as possible either in the community or in the home itself.

Despite all the efforts made, Chongwe DHMT has not succeeded in lowering the fever due to malaria in under five children. Chongwe DHMT also needs to implement the Child Health Policy of 2004 in Zambia which is promoting six key priority family practices which include home management of fever. One of the objectives in the Malaria Strategic Plan is to increase by 20% the correct home management of malaria. Chongwe is one of the districts which have planned for this strategy but before implementing it there is need to determine the baseline knowledge in the management of fever due to malaria, at the home levels by mothers and care takers.

1.3: FACTORS INFLUENCING THE MANAGEMENT OF FEVER DUE TO MALARIA.

There are several factors that contribute to poor management of fever illness due to malaria by mothers and care givers at home. The major factors include:

1.3.1: Socio Cultural and Economic Factors

1.3.1.1: Poverty

Most of the people in Zambia are poor. CSO, (2003) reports that about 80% of the population was reported to be poor. Poverty is widespread but deeper in the rural areas like Chongwe. The people of Chongwe are also both geographically and religiously disadvantaged like the Zionists and these disadvantages affect their health-seeking behaviour negatively causes them to delay in health seeking.

1.3.1.2: Poor health seeking behaviour

Poor health seeking behaviour has many causes. Some of the causes are poverty which hinders health seeking behaviour because they are not able to meet the opportunity costs of seeking health services. Patients usually do not seek treatment early, leading to poor outcomes of treatment since malaria is an acute

illness. An improvement in treatment seeking behaviour would greatly improve the prognosis of malaria.

1.3.1.3: Cultural beliefs

One of the devastating complications of fever due to malaria is that it may lead to convulsions. Some customs prohibit mothers taking a child who is convulsing to the health facility. Decision making in such cases lies in the hands of the elderly. A survey conducted in 10 sentinel districts which included Chongwe, noted that convulsions are considered as being caused by witchcraft and children would rather be seen by the herbalists than visit health institutions. Such children end up developing serious complications by the time they are brought to the health facility.

1.3.1.4: Age of the mother

Zambia is characterised by very young mothers especially in rural areas like Chongwe. This is due to the practice of early marriages. Statistics show that one in every four teenagers in Zambia has either already had a child or is pregnant with her first child (CSO, 2002). Young mothers do not have the experience of looking after children.

1.3.1.5: Illiteracy Levels

The Government acknowledges that illiteracy is related to poverty and disease. The literacy levels in Zambia are at 54.6% (CSO,2003) in rural areas and this includes Chongwe District as well because it is rural.

Sometimes mothers may reach the health centre quite in time and treatment may be prescribed to them but may fail to comply with the treatment. This is usually common among mothers with low literacy levels because they do not understand the importance of

complying with treatment. "Prevalence of fever among children under five years declines with increasing level of education (CSO, 2002)".

There is also a culture which favours boy education and this makes the girl child generally backwards. Mshinda, (2004) also noted that care taker's knowledge, place of recognition and perceived severity are crucial in determining factors of treatment seeking and need to be improved.

1.3.1.6: Inadequate knowledge

Most of the children in Chongwe have repeated attacks of fever due to the high malaria prevalence rate. Mothers and care takers have become familiar to the disease and do not regard it as a danger sign. As a result there is poor attitude towards treatment of fever due to malaria. They do not know that malaria can cause anaemia and permanent brain damage which may affect the future of the child. The child may not be able to reach his/her full potential in education and may not contribute meaningfully to the socio economic development of the country. This is more common among young mothers. These young mothers do not have the experience of looking after young children with fever due to malaria. More over, these mothers drop out of school early and this affects their level of knowledge.

1.3.2 SERVICE RELATED FACTORS

1.3.2.1: Shortage of staff

Shortage of staff has impacted negatively on the treatment of fever due to malaria. Shortage of staff has led to health workers being unable to effectively give IEC to mothers and care takers on the management of fever among children. The shortage is mainly due

to an increase in the number of staff leaving the country. This has led to very few health workers in institutions. Lack of IEC by health workers to mothers and caretakers may be one of the causes to poor management of fever due to malaria, because mothers are not empowered with the knowledge due to the heavy workload on the few available health workers.

1.3.2.2: Poor staff attitude

Staff attitude is significant in the delivery of effective health care. Some health workers have very bad attitude towards mothers and as a result mothers shun the utilisation of health services. Poor staff attitude may be due to work overload, lack of resources, poor conditions of service leading to burnout among the nurses.

1.3.2.2: Non availability of anti-malarial drugs at community level.

Drugs are not usually available at community level especially where there are no trained Community Health Workers (CHW) to supply them with drugs. There are also no policy guidelines for provision of anti malarial drugs at community level in the absence of a CHW. Chanda, (2001) noted that CHW hold the key to the success of Primary Health Care (PHC) approach in the community and the success of providing cost effective quality health care as close to the rest of the communities as possible. Mponda (2003) noted that use of anti malarial drugs at home is very popular but there is a lack of access to recommended drugs. Even if a mother has knowledge on the type of drug to be administered to the child, she can not do so if there are no drugs at community level.

"Introducing malaria treatment at community level shall need training of CHWs in handling Coartem regime. In order to minimize costs due to drug wastage and increase accuracy of malaria reporting, the CHWs diagnostic skills shall be improved by

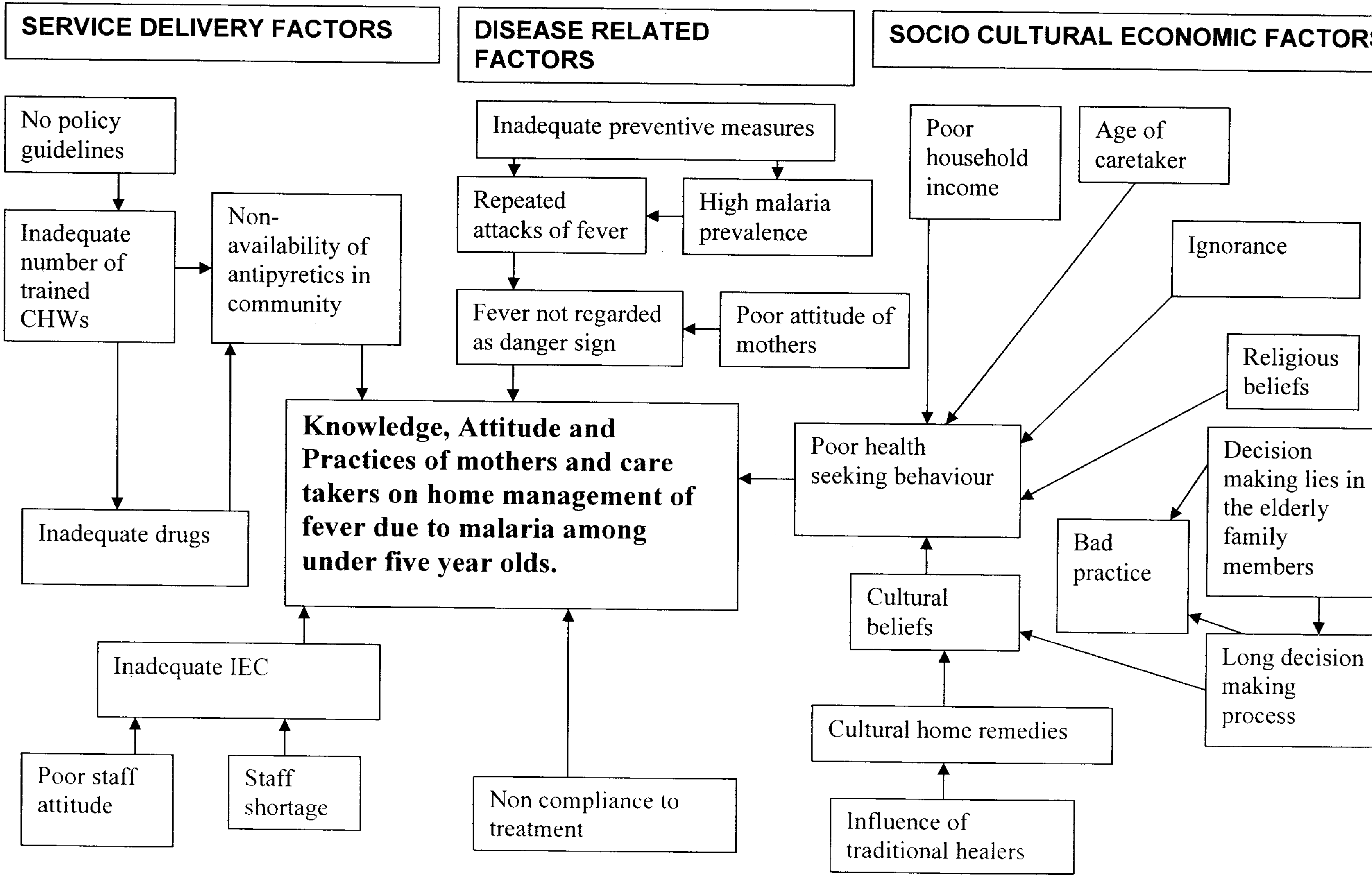
Integrated Management of Childhood Illnesses (IMCI) training (National Malaria Strategic Plan, 2005-2010).

1.3.3: DISEASE RELATED FACTORS

1.3.3.1: Repeated attacks of fever

In malaria endemic places like Zambia, fever due to malaria is the major cause of ill health. As a result a child may have about 4 attacks of fever within one year and mothers and care takers do not take prompt action to control it. Due to the repeated attacks of fever, some mothers and care givers do not regard fever as a danger sign and would not do anything to control it. Zambia RBM National Secretariat recommends that there is need for more community education on the danger signs of malaria in a child, and for more prompt care seeking in malaria in children particularly addressing the community's understanding of simple and severe malaria and addressing any misconceptions.

Repeated attacks of fever may also be due to inadequate preventive measures against malaria due to ignorance about the spread of malaria.



PROBLEM ANALYSIS DIAGRAGM
SERVICE DELIVERY FACTORS
DISEASE RELATED FACTORS
SOCIO CULTURAL ECONOMIC FACTORS
No policy guidelines
Inadequate number of trained CHWs
Non-availability of antipyretics in community
Inadequate drugs
Inadequate preventive measures
Repeated attacks of fever
High malaria prevalence
Fever not regarded as danger sign
Poor attitude of mothers
Poor household income
Age of caretaker
Ignorance
Religious beliefs
Decision making lies in the elderly family members
Bad practice
Long decision making process
Poor health seeking behaviour
Cultural beliefs
Cultural home remedies
Influence of traditional healers
Knowledge, Attitude and Practices of mothers and care takers on home management of fever due to malaria among under five year olds.
Inadequate IEC
Poor staff attitude
Staff shortage
Non compliance to treatment

1.5: JUSTIFICATION OF THE STUDY

The National Child Policy of 2004 in Zambia is promoting six key priority family practices which include home management of fever due to malaria. Prompt access to effective anti malarial treatment is one of the major strategies for reducing the unrelenting burden of malaria. Prompt access means having treatment available as near the home as possible either in the community or in the home itself. Mwilau (2003) in his study noted that most people do not attend general health facilities. Even if consultations are made, patients are likely to attend these health facilities only if home treatment is not successful. In countries in which malaria is endemic, case management of malaria through prompt treatment is the cornerstone of malaria control. In Chongwe, where the morbidity of malaria is high, children can die before they reach the health facility, so it is very important to teach mothers on how to effectively manage fever due to malaria at home. This will reduce high malaria morbidity levels in Chongwe. This means that Chongwe will be contributing in the achievement of the MDGs regarding the reduction of infant mortality by 2015.

One of the objectives in the Malaria Strategic Plan is to increase the correct home management of malaria by 20%. Chongwe is one of the districts which have planned for this strategy but before implementing it, there is need to determine the baseline knowledge in the management of fever due to malaria, at home level by mothers and care takers.

Literature review shows that nationally, the burden of malaria is very high. A National Strategic Plan (2006 – 2011) addresses the problem in line with the Abujah targets. However some recent studies done by Kunkwezu, (2005) studied the mothers' health seeking behaviour and its effect on the compliace to treatment of malaria in children. Another study by Mutambo, (2000) studied the practices of mothers and caretakers towards the prevention and control of malaria among under five children. These

studies have indicated gaps at community and household level related to management of fever due to malaria but is not exhaustive because only health seeking behaviour and knowledge of malaria by mothers and care givers have been the focus of the studies so far found.

Therefore, this study sought to investigate the Knowledge, attitude and practices of mothers and care takers towards management of fever due to malaria among under five children. This information is going to be used in operationalising the child health policy in the district, the health centres, the community and families.

1.6: RESEARCH OBJECTIVES

An objective summarises what is to be achieved in the study. The objectives are developed to focus the study, narrowing it down to essentials, avoiding unnecessary data and organising the study in clearly defined parts or phases. The objectives therefore must address different aspects of the problem and its contributing factors in coherent and in a logical sequence.

The general objective summarises in general terms what is to be achieved by the study, while the specific objectives break down the general objectives into smaller, logically connected parts.

1.6.1: General Objectives

To determine Knowledge. Attitude and Practices of mothers and caretakers towards home management of fever due to malaria among under five children.

1.6.2: Specific Objectives

1. To determine the level of knowledge among mothers and caretakers on home management of fever due to malaria.

2. To identify the attitude of mothers and caretakers in seeking health care for children under five years of age with fever.
3. To identify practices regarding home management of fever due to malaria among under five children by mothers and care takers.
4. To make recommendations to the relevant authorities on how to improve home management of fever due to malaria among under five children by mothers and caretakers in Chongwe District.

1.7: HYPOTHESIS

A hypothesis is a tentative prediction of the relationship between two or more variables (Polit and Hungler 1995)

Hypothesis is a statement about an expected relationship between two or more variables that permits empirical testing. Study hypothesis serve to direct and guide the research. They indicate the major independent variables of interest. They suggest the type of data that must be collected and the type of analysis that must be done in order to measure the relationship.

1. The lower the level of knowledge of mothers and care takers, the poorer the home management of fever due to malaria among under five children.

2. the poorer the health seeking behaviour, the poorer the home management of fever due to malaria among under five children by mothers and caretakers.

1.8: OPERATIONAL TERMS DEFINITIONS

The following operational terms are defined as will be used in this study.

1.8.1: Knowledge

The information mothers and care takers have on home management of fever. This study assumes that understanding comes with the acquisition of knowledge on home management of fever due to malaria at home level.

1.8.2: Practice

Actions mothers and care takers take in the management of fever among under five children at home.

1.8.3: Child

A person below the age of five years.

1.8.4: Child Mortality Rate

The number of deaths among children under the age of five years per 1000 live births.

1.8.5: Attitude

The way mothers and caretakers feel or think about fever which may affect their handling of fever due to malaria.

1.8.6: Accessibility

Able to approach a service in terms of distance, access to drugs and staff attitude.

1.8.7: Care Taker

Person in-charge of looking after a child.

1.8.8: Management

Skill in treatment of fever illness.

1.8.9: Availability of drugs

Presence and use of drugs among families with under five children.

1.8.10: Health seeking behaviour

Ability to request or seek for health care during periods of fever.

1.8.11: Malaria

A fever illness transmitted from man to man by a female anopheles mosquito, produced by the species of a genus plasmodium characterised by periodic attacks of fever, profuse sweating and shivering.

1.9: VARIABLES

"A variable is a characteristic or attribute of a person or object that varies within the population under study (Polit and Hungler, 1995: 656)".

A variable that is used to measure the problem under study is called a dependent variable while those variables which are used to describe or measure the factors assumed to cause or at least influence the problem are called independent variables.

The identified dependent study variable is:

- Home management of fever

The independent variables are:

- Knowledge
- Attitude
- Practice

Table 7: Variables, Indicators and Cut Off Points

VARIABLE	INDICATOR	CUT OFF POINT	QUESTIONS
Knowledge	High level	When the respondent is able to define, state mode of transmission, clinical features, drug to administer and dosages of drugs administered. Score 17 - 21 on knowledge questions.	10 - 23
	Moderate level	When respondent scores 10 – 16 out of 21 total score of knowledge questions.	10 - 23
	Low level	When respondents score 0 – 9 out of 21 total score of knowledge questions.	10 - 23
Attitude	positive	Respondent who are able to seek medical attention promptly, believes that fever due to malaria is dangerous and can be treated and prevented medically and scores 5 – 8 correct responses on attitude questions.	24 - 31
	Negative	Does not feel nor believe in seeking medical attention promptly and cannot recommend positive attitude to others with score between 0 – 4 out of a total score of 8 on attitude questions.	24 - 31
Practice	Good	Respondents who are able to take prompt action and proper management of fever due to malaria with scores between 6 – 11 on practice questions	32 -36
	Poor	Respondent who are unable to take prompt action and unable to manage fever due to malaria among the under five children with scores between 0-5 on practice questions.	32 -36

CHAPTER 2

2.0: LITERATURE REVIEW

2.1: Introduction

Literature review is a critical summary of research on a topic of interest, generally prepared to put a research problem in context or to identify gaps and weaknesses in prior studies so as to justify a new investigation (Polit and Hungler, 1995).

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

The purposes of literature review include the following:

- To determine what has already been done that relates to the topic under study.
- Literature review provides ideas about the kind of studies that need to be done. Reviewing literature may stimulate the researcher to develop new insights into reported research or formulate new problems to be investigated.
- Literature review reveals research strategies, specific research procedures and information regarding measuring instruments that have been found to be productive as well as non productive in studying the problem.
- Literature review serves to guide the researcher in discussing the results of the study in terms of agreement or non agreement with other studies.

For the purpose of this study, this chapter will review literature related to knowledge, attitude and practice towards home management of fever due to

malaria among under five children by mothers and care takers. The literature will be reviewed under Global, Regional and National perspectives.

The focus of management of fever should be prompt treatment with effective anti malarial drugs. This is the cornerstone of malaria control in Africa. At Roll Back Malaria Summit in Abuja in 2000, African leaders committed themselves to ensuring that 60% of all malaria cases were treated with appropriate anti malarial drugs within 24 hours of onset of symptoms by 2005. This demands proper management o fever due to malaria at home level.

WHO, (2003) noted that effective control largely requires active community participation and prompt treatment of malaria.

2.1 : Global Perspective

Malaria remains one of the main global health problems of our time. Globally at present, about 100 countries or territories in the world are considered malaria endemic, almost half of which are in Africa, south of the Sahara. The incidence of malaria world wide is estimated to be 350-650 million clinical cases each year. Over 60% to 90% of the clinical episodes and deaths from falciparum malaria occur in Africa, south of the Sahara where more than a million children under the age of 5 years die from malaria each year. These deaths constitute nearly 25% of child mortality in Africa. (WHO, 2003).

Malaria features prominently in the Millennium Development Goals (MDGs) and these internationally accepted goals build upon the Roll Back Malaria Partnership Goals and the Abuja Targets. The MDGs were established to focus international efforts on addressing critical issues related to health, poverty and equity.

The global health and malaria community has developed ambitious and overlapping targets with respect to malaria control in Africa. On April 25, 2000, at the Abuja Summit in Nigeria, the Roll Back Malaria (RBM) Partnership and

African health ministers set targets of exceeding 60 percent coverage for these interventions by 2005. Recent surveys indicate that current national coverage levels in Africa for each of the Abuja targets range from 5 to 40 percent.

Globally, infant and young children's mortality remains unacceptably high in developing countries with about 12 million deaths occurring annually in under five children. 7 out of these deaths are due to pneumonia, diarrhoea, measles, malaria or malnutrition, and often a combination of these conditions which are also the reason for at least 3 out of six children who come to health facility (UNICEF, 2003).

In essence global review has shown that malaria affects children globally. It also shows that coverage levels in Africa range between 5 – 40% in comparison to 60% coverage agreed on at Abuja, Nigeria.

2.3: REGIONAL PERSPECTIVE

Malaria is the leading killer of children in Africa, accounting for approximately 20 percent of all-causes of mortality in children under the age of five years. Africa's malaria burden is worsening, and many factors, including expanding drug resistance, faltering health services, and the growing impact of HIV/AIDS on health services, contribute to malaria's growing toll on the continent's health and economic potential.

The goal of RBM initiative (1998) is to reduce, by half, all deaths due to malaria by 2010 and again by 2015. The initiative stressed on effecting malaria control interventions through existing health systems. This means that RBM discourages any vertical malaria control programmes.

In order to achieve the RBM goal, one of the intervention coverage target is: "at least 60% of those suffering from malaria should be able to access and use correct and appropriate treatment within 24 hours of the onset of symptoms", (WHO, 2000a).

However, there are issues that are viewed to impede progress and among which is the fact that the delivery of interventions and health care to the poor is a major challenge, *and a particularly difficult one when working through weak* health systems. This includes the strategies for delivering treatment at community or home level, and improving the patient referral systems to higher level of the health system when necessary, (Olumese, 2005).

Success of RBM strategy for malaria reduction depends on the knowledge and practices of mothers and care givers. There is, therefore, need for appropriate and urgent education of mothers about proper drug usage for home management of malaria (Alabi, 2005).

Another study on management of fever due to malaria among children 0-18months by mothers and care givers in Enugu Nigeria, found that care givers did not have good knowledge about malaria disease and its management, (Nwaorgu, 2005).

3000 children are still dying everyday in Africa from malaria and highlighted the need to make effective means of prevention and treatment available to most at risk groups. It underlined the fact that new and more effective anti malaria drugs are not universally accessible and that only a small part of children at risk of malaria are protected by highly effective ITNs. The proper use of ITNs combined with prompt treatment for malaria in every community can reduce transmission by as much as 60% and the overall young child mortality rate by at least one fifth (WHO/UNICEF, 2002).

A qualitative analysis of factors affecting selection of health seeking behaviour was done in Malawi. The study revealed that distance to and from health facilities significantly influences the use of such facilities for malaria like episodes. Participants stated that the first source of care when fever episodes occurred was left over drugs. This finding suggests low compliance with official guidelines for treatment of malaria.

The findings suggested an urgent need for more studies to explore ways of improving health seeking practices and knowledge of anti-malarial drug treatment in rural and peri-urban areas (Kunkwenzu, 2005).

Understanding the form and extent of barriers to treatment, even where the physical infrastructure exist, is important in providing insights on how to make malaria treatment more accessible to consumers (Matovu, 2005).

Another issue to consider in so far as malaria treatment is concerned is the anti malarial drugs. The benefits of Artemisinin Combined Therapy (ACT) such as coartem have been cited to include rapid acting. To date, no reported resistance of malaria parasites to these compounds has been observed. Due to their rapid parasite clearance time, treating early cases of uncomplicated malaria with ACTs may prevent its progression to severe disease with consequent reduction in severe cases and mortality rate. (Mutabingwa, 2005).

Artemisins may also reduce the overall malaria transmission through their action on the viability of gametocytes leading to infectivity to mosquitoes, (Adjuik et al., 2004).

Artemisinins have also been demonstrated to have gametocydal effect on early developmental stages 1 – 3 and probably stage 4 but not on late stage 4, thus emphasizing the need for early treatment, (Barnes and White, 2005). Direct cost and operational costs for policy implementation in poor developing countries has been cited as one of the challenges.

In summary, the regional perspective acknowledges that malaria is a leading killer of children but there is something being done to reverse the burden of malaria such as embracing RBM initiatives and adoption of ACTs for the treatment of malaria. However there are bottlenecks such as weak health systems, high cost of ACTs and inadequate implementation of interventions at community level such as seeking early treatment as well as the general

understanding of how to manage fever in children due to malaria. This is also compounded by high poverty levels among house holds.

2.4: NATIONAL PERSPECTIVE

Malaria is a major public health concern in Zambia, especially among children below the age of five years. It is a leading cause of morbidity and mortality in Zambia, accounting for about three million clinical cases annually, with 50,000 cases resulting in death.

3 million cases are reported every year, and about 50, 000 deaths are attributed to malaria. Malaria accounts for 36.7 percent of all OPD cases in Zambia today with an average 62.1 percent of in patient cases. (CBoH, MOH and RBM, 2001).

Since 1999, Zambia has been involved in the international efforts to control malaria under the RBM initiative. The goals of the initiative aim at ensuring that at least 60 percent of those at risk of malaria, particularly children under the age of five benefit from the most suitable combination of personal and community protective measures such as early recognition and treatment of malaria , ITNs and other interventions.

The theme of the 2006-2011 Zambia National Health Strategic Plan (NHSP) is "Moving towards the Millennium Development Goals".

Focusing on home management of fever by mothers and care takers, the 2004 RBM survey revealed that knowledge of danger signs of malaria among women aged 15 – 49 years was not good as it was mainly limited to such signs as "not feeding" (34%) and convulsions (30%), while the herbalist was the most cited second opinion sought (61%). With regards to children with malaria receiving treatment within 24hours, the survey revealed that it went down to 38% in 2004 compared to 60% in 2001, thus falling short of the Abuja target of 60% by 2005.

The survey also pointed out that community members have their own definitions and understanding of simple and severe malaria, which do not necessarily agree with the medical definitions. The knowledge levels about malaria were generally high (87%), (MOH, 2005).

However, the survey did not adequately address the factors that may enhance or hinder home management of fever due to malaria.

A study which seeks to determine practices of community towards the prevention and control of malaria conducted in Isoka District noted that late health seeking behaviour which was mainly due to distance to the health facility led to a lot of complications among under five children with fever related to malaria (Mutambo, 2000).

Another study done in Luapula Province on care seeking behaviour for illness with fever and convulsions revealed that knowledge on management of fever and availability of drugs at community level were key in the control of prevention of malaria.

The above literature review shows that nationally, the burden of malaria is very high. A National Strategic Plan 2006 – 2011 is in place that is trying to address the problem in line with the Abuja targets. However, some recent studies have indicated gaps at community level related to management of fever due to malaria but are not exhaustive because only health seeking behaviour and knowledge of malaria by mothers and care givers have been the focus of the studies so far found.

2.5: CONCLUSION

The literature review highlighted that malaria is a disease of global concern. Therefore global strategies have been identified to tackle malaria incidences world wide. This has seen the discovery of effective anti malaria drugs. Despite this, challenges still exist in the rural health seeking behaviour of mothers and

are takers such as geographical barriers. Malaria is preventable provided communities have access to the means of prevention. Mortality can also be educed if mothers and caretakers are given the knowledge base and capacity o intervene appropriately in the management of fever due to malaria in the under five children. This study will contribute information to the policy makers, mplementers and communities' effort to make home management of fever a eality. However, this study will seek to focus on these and other factors in the context of Chongwe District.

CHAPTER THREE

RESEARCH METHODOLOGY

INTRODUCTION

Research methodology is the method or technique used by the scientists to collect data, to use statistical manipulation and to arrive at a logical conclusion. Research methodology can be defined as steps, procedures and strategies for gathering and analysing data in a research investigation (Polit and Hungler, 1995).

Research Design

A research design is the overall plan for collecting and analysing data, including specifications for enhancing the internal and external validity of the study (Polit and Hungler, 1995).

For this study, a descriptive cross sectional study was used. A descriptive study is used to discover new meaning, to provide new knowledge when there is little known about a phenomena of interest. It enables the researcher to obtain a descriptive account of the situation at one point in time to provide baseline data for further research.

In this study, little is known about the management of fever in under five children by mothers and care takers in Chongwe District.

Research Setting

Research setting is the physical location and conditions in which data collection takes place in the study (Polit and Hungler, 1995). The study was conducted in Chongwe District, in Lusaka Province of Zambia. Chongwe District has 28 health centres which provide preventive, promotive and curative health services. Chongwe is one of the districts

targeted for monitoring the impact of RBM strategic interventions as described in the Abuja declaration.

The geographical features of Chongwe support the breeding of mosquitoes. Chongwe is a high rainfall area with the average rainfall ranging between 300 – 500mm per annum. The District has lakes, rivers, steams and roads are often impassable during the rainy season due to the presence of pot holes. It is not surprising that malaria is the highest cause of morbidity and mortality in all the health centres in this study setting, which is Chongwe.

Two health centres were selected randomly to represent all the other health centres in the district. The two health centres were selected from a bowl containing six health centres whose radius from the District Health office was 12km or less. The six (6) health centres were purposively selected. Chongwe Referral Rural Health Centre and chalimbana Rural Health Centre were randomly selected from the six health centres. Chongwe is the referral health centre in the district and receives all complicated cases from other rural health centre. Chalimbana was chosen due to the fact that it was much easier for the researcher to collect data with minimal difficulties due to limited time and resources as it is about 7km from the District Health Office (DHO).

3.4: Study Population

The term study population refers to the entire number of unit under study or the whole or all the inhabitants (Treece and Treece,1986).The study population was 50 mothers and caretakers bringing their under five children to the health centre with fever due to malaria.

3.5: Sample Selection

Sample selection is a process of selecting number of individuals from the delineated target population in such a way that the individuals in the sample, represents as much as possible the characteristics of the entire target population (Polit and Hungler, 1995).

The study population was selected from mothers and caretakers seeking treatment of their under five children with fever due to malaria at Chongwe and Chalimbana rural health centres. These were randomly picked, that is every third mother was selected until the desired sample size of 50 was reached. All the mothers and caretakers bringing their under five children to the two health centre with fever due to malaria were potential respondents.

3.6: Sample size

"A sample is a subset of a population to participate in a study (Polit and Hungler, 1995).

The respondents were drawn from the two health centre that is, Chongwe and Chalimbana rural health centres. For this study the sample size included 50 mothers/care takers of under five children seeking treatment at the two health Centres with fever due to malaria.. The sample size was selected on the basis of requirement for partial fulfillment of Bachelor of Science in Nursing, availability of subjects and finances. The researcher also took into consideration the limited time in which to conduct the study.

3.7: Data Collection Tool

A data collection tool is a measuring device used in gathering of information needed to address a research problem (Polit and Hungler, 1995)

A tool is a “a thing that helps someone to do the job or achieve something” (Hornby, 2000). Data collection tool is, therefore an instrument that was used to collect data from respondents. The instrument that was used in this study is a structured interview schedule which contained both open and closed ended questions.

Conducting interviews using a structured interview schedule enabled the researcher to ensure that all issues are discussed, but allowing flexibility in timing the order in which questions are asked. The questions were fixed and identical for every respondent. This helped me to ensure that variations, which appeared between respondents, were attributed to the actual differences among respondents and not to the variations in the structured interview schedule. The structured interview schedule has the following advantages:

- Data can easily be analysed.
- It has higher response rate than written questionnaires.
- Permits clarification of questions
- It is suitable for use for both literate and illiterate respondents.

The disadvantages of the structured interview schedule questionnaire are:

- Interviewers have limited time in which to conduct the project
- Instrument is unable to probe topic in depth.
- The presence of an interviewer can influence responses for open ended questions
- It requires trained staff to conduct the interview.

3.8: Data collection technique

"Data collection technique is the method that a researcher uses to collect accurate and relevant data", (Polit and Hungler, 1995). In this study, data was collected using a structured interview schedule. Respondents were asked to volunteer to participate in the study. Interviews were conducted at the health centres in a closed room to ensure privacy. For confidentiality, serial numbers were used on the interview schedule instead of names.

The interviewer went through the instructions. The interview took 20 minutes. The interviewer followed the structured interview schedule strictly to avoid bias, in questioning. After the interview, the interviewer thanked each respondent for giving the answer

3.9: Pilot study

"A pilot study is a small scale version or a trial run done in preparation of a study (Polit and Hungler 1995)".

The pilot study was carried out at Chainda Rural Health Centre near Chongwe which has similar characteristics as the actual population in which the study was conducted. It comprised of 10% of the actual sample. A total sample of 5 clients was selected for pilot study.

The major reason for conducting a pilot study was to get general overview of the likely responses to the actual study. It served as a means of testing the instrument assisted to test feasibility, reliability and validity of the instrument (interview schedule). This enabled necessary adjustments to be made to the interview schedule.

Validity

Validity is the degree to which an instrument measures what is intended to measure (Polit and Hungler, 1995).

for this study was ensured by covering all important variables under study in the interview schedule. Questions were clearly constructed with clear instructions and explanation. Pilot study was conducted and amendments to the instrument were made as necessary. The same questions were asked to each respondent in the same sequence with translations to vernacular language when necessary to ensure respondents understood the questions.

Reliability

This refers to the degree of consistency or accuracy with which an instrument measures the attributes it is designed to measure (Polit and Hungler, 1995). Reliability is usually expressed in terms of numerical index. In this study the researcher used experts to review the instruments before going ahead to administer it. Making questions simple, concise and brief further ensured reliability and the subjects were only exposed to the tool once. A pilot study was conducted which also helped to measure reliability.

Cultural and Ethical Considerations

Ethical consideration refers to ethics which are a system of moral values that is concerned with the degree to which research procedures adhere to professional legal and social obligations to the study participants (Polit and Hungler, 1995). In this regard, the researcher got a written consent from the District Director of Health from Chongwe DHMT for the pilot study and for the actual study. She also asked for permission from the research subjects. The nature and purpose of the study was explained to the

subjects before administering an interview schedule. The respondents were reassured that the information provided was confidential.

CHAPTER FOUR

4.0 DATA ANALYSIS AND PRESENTATION OF FINDINGS

4.1 DATA ANALYSIS

The findings of this study are presented according to sequence of the questions and sections in the questionnaire where necessary many of them have been grouped together under their respective sections to offer an overall picture.

The data collected was checked for completeness and there after, it was entered on the data master sheet ready for analysis. Responses from open ended questions were categorised, coded, grouped under theme and later entered on the master sheet.

The findings are presented together to facilitate a better and easy understanding of the research findings. The findings of this research have been presented in the form of tables, graphs and pie charts to give vivid illustrations of the findings.

This has been done to assist in examining relationships among the data collected. Data has been analysed manually by use of data master sheet.

SECTION A

The tables in section A deals with demographic data of the respondents.

SECTION B

The tables in this section show the respondents knowledge in relation to the management of fever due to malaria.

SECTION C

The tables in this section show the respondents' attitude in relation to the management of fever due to malaria.

SECTION D

The tables in section D represent the practice of respondents in relation to the of fever due to malaria.

PRESENTATION OF FIDINGS

SECTION A

TABLE 8: DEMOGRAPHIC DATA OF THE SAMPLE (n=50)

	FREQUENCY	PERCENTAGE (%)
SEX		
Male	3	6
Female	47	94
TOTAL	**50**	**100**
AGE		
<19	7	14
20 – 29	20	40
30 – 39	13	26
40 – 49	10	20
> - 50	0	0
TOTAL	**50**	**100**
MARITAL STATUS		
Single	14	28
Married	31	62
Divorced	2	4
widow	3	6
TOTAL	**50**	**100**
Religion		
Christian	50	100
Moslem	0	0
Hindu	0	0
TOTAL	**50**	**100**

EDUCATIONAL LEVEL	**FREQUENCY**	**PERCENTAGE (%)**
No education Primary Secondary Post secondary	12 31 6 1	24 62 12 2
TOTAL	**50**	**100**
OCCUPATION STATUS		
Formerly employed House wives Farmers Self employed Unemployed	3 25 14 2 6	6 50 28 4 12
OCCUPATION STATUS OF THE SPOUSE		
Unemployed Formerly employed Self employed	17 2 12	55 6 39
TOTAL	**31**	**100**
NUMBER OF CHILDREN UNDER THE AGE OF FIVE YEARS IN THE FAMILY		
1 2 3 More than 3	16 28 6 0	32 56 12 0
TOTAL	**50**	**100**

MONTHLY INCOME	FREQUENCY	PERCENTAGE (%)
<K100 000	31	62
K100 000-K200 000	19	38
K201 000-K300 000	6	12
K301 000-K400 000	2	4
K401 000-K500 000	1	2
>K500 000	1	2
TOTAL	**50**	**100**

Table 8 above shows that majority (47) 94% of the respondents were female with (3) 6% males. (20) 40% of the respondents were in the age range 20-29 years while (13) 26% were in the age range 30 – 39 years.

(31) 62% of the respondents were married while (14) 28% were single. (6)12% attained secondary education with only (1) 2% who attained post secondary education. The majority (31) 62% of the respondents attained primary education.

(3) 6% of the mothers and care takers were formerly employed, (14) 28% were self employed while the majority (21) 42% were unemployed.

Regarding the number of under five children per family, the majority (28) 56% had 2 under fives, (3) had 3 under fives while none had more than 3 under five children.

(1) 2% of the respondents earned above K500 000, (1) 2% earned above K400 000 and the majority (19) 38% earned K100 000 and below.

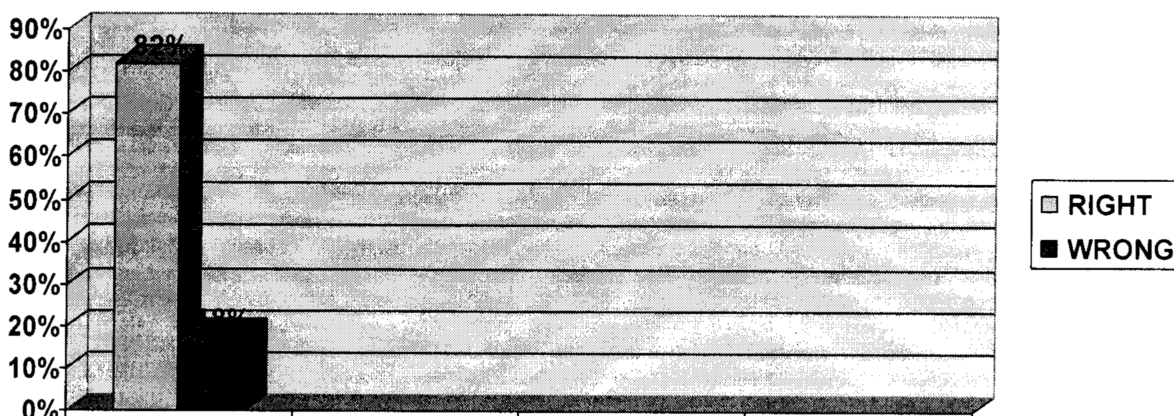
SECTION B: KNOWLEDGE TOWARDS MANAGEMENT OF FEVER DUE TO MALARIA (n=50)

TABLE 9: DISTRIBUTION OF RESPONDENTS BY HAVING HEARD ABOUT FEVER DUE TO MALARIA (n = 50)

VARIABLE	FREQUENCY	PERCENTAGE (%)
EVER HEARD ABOUT FEVER DUE TO MALARIA		
Yes	50	100
No	-	-
TOTAL	**50**	**100**

All (50) 100% respondents stated that they have heard about fever due to malaria.

FIGURE 3: RESPONDENTS DEFINITION OF MALARIA



The majority (41) 82% of respondents were able to state correctly the definition of malaria where as (9)18% were unable to.

TABLE 10: RESPONDENTS KNOWLEDGE ON THE CAUSE OF MALARIA (n=50)

CAUSE OF MALARIA	FREQUENCY	PERCENTAGE (%)
/ARIABLE		
/losquitoes	44	88
)irty food and water	0	0
3eing soaked by rains	1	2
;ugar cane	1	2
Iarmful spirits	4	8
'OTAL	**50**	**100**

/lajority (44) 88% of the respondents stated the correct cause of fever due to ıalaria while (4) 8% stated harmful spirits.

'ABLE 11: RESPONDENTS KNOWLEDGE ON THE SYMPTOMS OF MALARIA (MULTIPLE RESPONSE QUESTION, DOES NOT ADD UP TO 50)

;YMPTOMS	FREQUENCY	PERCENTAGE (%)
'ARIABLE		
Iot body	42	29.8
;onvulsions	2	1.4
)iarrhoea	16	11.4
oss of appetite	44	31.2
omiting	37	26.2

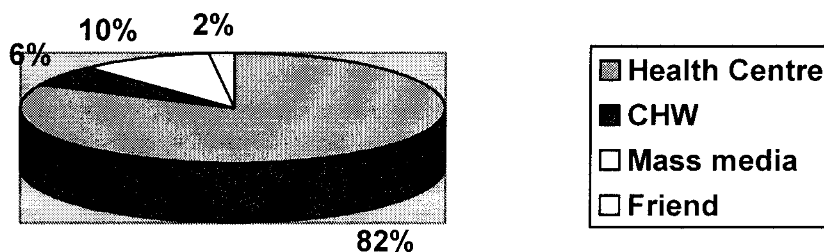
'he majority (44) 31.2% of respondents stated loss of appetite as a symptom of ıalaria while (42) 29.8% respondents stated body hotness as a symptom of ıalaria.

LE 12: RESPONDENTS' KNOWLEDGE ON THE DANGER SIGNS OF MALARIA (MULTIPLE RESPONSE QUESTION, DOES NOT ADD UP TO 50)

GER SIGNS	FREQUENCY	PERCENTAGE (%)
ABLE		
ulsions	01	1.2
eeding well	43	50
stent fever	42	48.8

rity (43) 50% of the respondents cited not feeding well as a danger sign of ness while (42) 48.8% cited persistent fever as a danger sign of the illness nly (1) 1.2% cited convulsions.

RE 4: RESPONDENTS' KNOWLEDGE ON SOURCE OF INFORMATION



najority (41) 82% of the respondents' source of information about fever due alaria was the rural health centre, (3) 6% from CHWs, (5)10% from mass a and (1) 2% from friends.

TABLE 13: WHETHER THE SOURCE TOLD RESPONDENTS ON HOW TO CONTROL BODY TEMPERATURE (n = 50)

VARIABLE	FREQUENCY	PERCENTAGE (%)
TOLD ON CONTROL OF BODY TEMPERATURE		
Yes	38	76
No	12	24
TOTAL	**50**	**100**

Majority (38)76% of the respondents stated that they got information about control of body temperature from their source while (12) 24% stated their source did not include information on how to control body temperature.

TABLE 14: RESPONDENTS' KNOWLEDGE ON HOW TO CONTROL TEMPERATURE OF A CHILD WITH FEVER DUE TO MALARIA

DESCRIPTION	FREQUENCY	PERCENTAGE (%)
VARIABLE		
Give cold bath	28	42.4
Give antipyretic	26	39.4
Remove extra clothing	3	4.6
Others	9	13.6

The majority (28) 42.2% of the respondents described how they would give a cold bath to reduce fever while (26) 39.4% described how they would administer some antipyretics to reduce the fever.

3LE 15: WHETHER RESPONDENTS' SOURCE TOLD THEM ON HOW TO PREVENT FEVER DUE TO MALARIA (n=50)

RIABLE	FREQUENCY	PERCENTAGE (%)
.D ON HOW TO PREVENT /ER DUE TO MALARIA		
	50	100
	-	-
TAL	**50**	**100**

(50) 100% respondents stated that they were given information on how to /ent fever due to malaria.

3LE 16: RESPONDENTS' KNOWLEDGE ON HOW TO PREVENT MALARIA (n = 50)

SCRIPTION	FREQUENCY	PERCENTAGE (%)
of ITNs	42	84
ironmental control	0	0
oor residual house aying	7	14
sing doors and dows early	1	2
TAL	**50**	**100**

majority (42) 84% of respondents had knowledge on the use of ITNs as a ans to prevent fever due to malaria, (7)14% stated indoor residual house aying and none stated environmental control

LE 17: KNOWLEDGE ON WHETHER IEC IMPROVES

UTILISATION OF HEALTH FACILITY (n=50)

IEC IMPROVES ISATION OF LTH FACILITY	FREQUENCY	PERCENTAGE (%)
	40	80
	10	20
AL	**50**	**100**

st (40) 80% of the respondents stated that IEC improves the utilisation of the lth facility in the management of fever due to malaria while (9) 18% stated t it did not.

BLE 18: HOW IEC MESSAGES IMPROVE UTILISATION OF HEALTH FACILITY (MULTIPLE RESPONSE QUESTION, DOES NOT ADD UP TO 50)

RIABLE	FREQUENCY	PERCENTAGE(%)
W IEC IMPROVES UTILISATION HEALTH FACILITY		
ow cause of malaria	23	24.7
ow drugs to use	14	15.0
ow when to go to the clinic	12	12.9
ow how to prevent malaria	38	40.9
ers	6	6.5

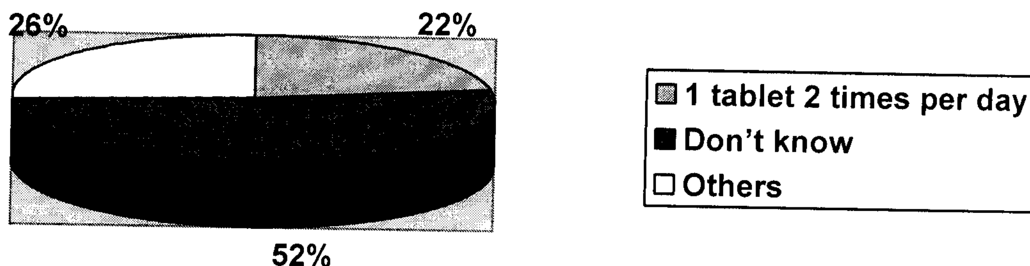
ority (38) 40.9% of respondents stated that IEC improves the utilisation of the lth facility because they know how to prevent malaria while (23) of the pondents stated that people know the cause of malaria and (14) 15% stated t they know the drugs to give for fever due to malaria.

TABLE 19: KNOWLEDGE OF DRUGS USED TO TREAT FEVER DUE TO MALARIA (n=50)

MEDICINE	FREQUENCY	PERCENTAGE (%)
Chloroquine	0	0
Coartem, Fansidar Quinine	46	92
Septrin	4	8
TOTAL	**50**	**100**

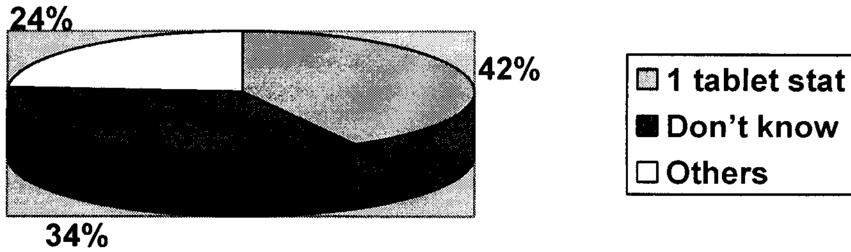
Majority (46) 92% of the respondents stated the right drugs for treatment of fever due to malaria while (4) 8% stated wrong ones.

FIGURE 5: RESPONDENT'S KNOWLEDGE OF DOSAGE FOR COARTEM TO BE GIVEN TO A CHILD WHO IS 3 YEARS.



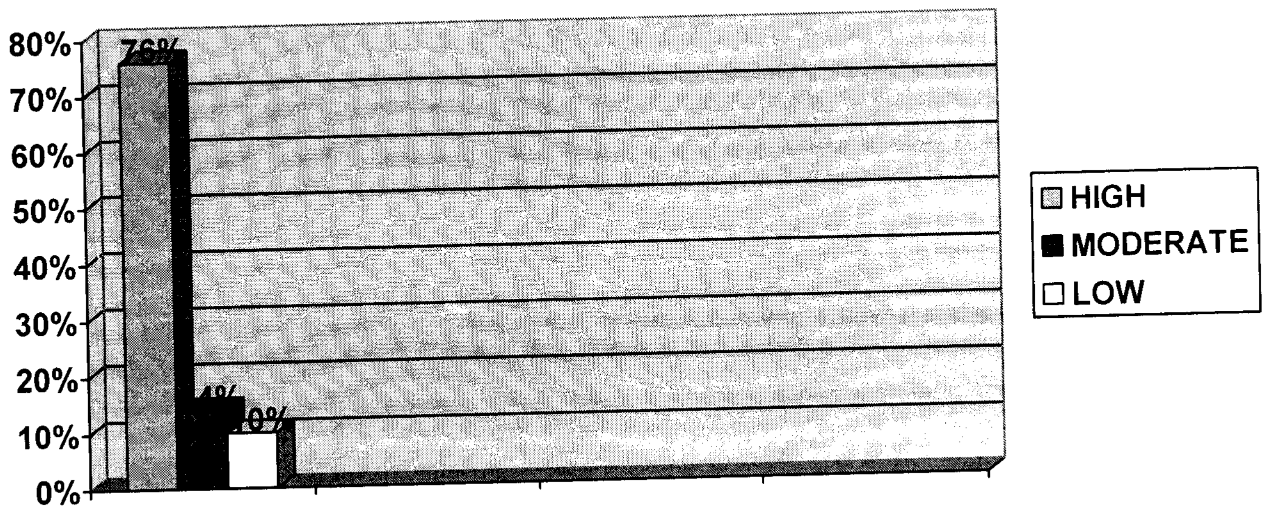
(11) 22% of the respondents cited the correct dosage of Coartem® while the majority (26) 52% of the respondents did not know the dosage of coartem® for a child who is three years.

FIGURE 6: RESPONDENT'S KNOWLEDGE OF THE DOSAGE FOR FANSIDAR TO BE GIVEN TO A CHILD WHO IS 3 YEARS.



(21) 42% of the respondents stated the correct dosage for fansidar, (12)24% stated the dose wrongly while (17) 34% did not know.

FIGURE 7: RESPODENTS' LEVEL OF KNOWLEDGE ON MANAGEMENT OF FEVER DUE TO MALARIA (n=50)

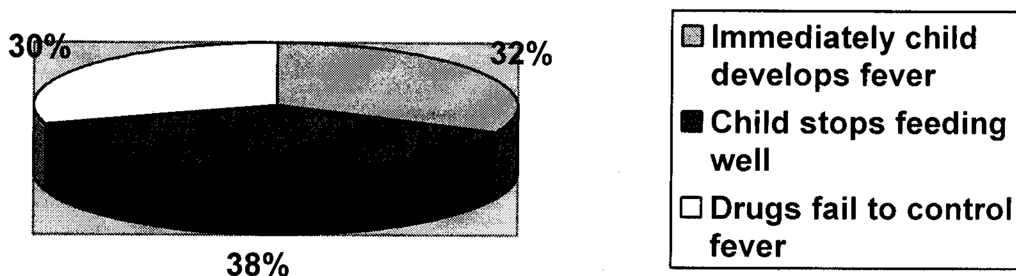


Level of Knowledge

(38) 76% of the respondents had high knowledge, (7)14% had moderate knowledge while (5)10% had low knowledge.

SECTION C: RESPONDENTS ATTITUDE TOWARDS MANAGEMENT OF FEVER DUE TO MALARIA.

FIGURE 8: RESPONDENTS' STAGE OF SEEKING MEDICAL ATTENTION WHEN CHILD HAS FEVER



The majority (19) 38% of mothers and care takers stated that they would seek medical attention when child stops feeding well, (16) 32% immediately child develops fever while (15) 30% when drugs fail to control the fever.

ABLE 20: RESPONDENT'S PERCEPTION ABOUT FEVER AS A DANGEROUS SYMPTOM (n=50)

ARIABLE	FREQUENCY	PERCENTAGE (%)
S FEVER DANGEROUS		
es	48	96
o	2	4
OTAL	**50**	**100**

lajority (48) 96%of the mothers and care takers perceived fever to be a angerous symptom while (2) 4% perceived it not to be dangerous

ABLE 21: RESPODENT'S REASONS FOR CONSIDERING FEVER AS A DANGEROUS SYMPTOM (n=48)

EASONS	FREQUENCY	PERCENTAGE (%)
hild may convulse	2	4
hild may develop brain damage	0	0
hild may die	22	46
hild stops feeding well	24	50
OTAL	**48**	**100**

ne Majority (24) 50% of the respondents stated that the child may stop feeding ell as a reason for considering fever to be a dangerous symptom while (22) 6% stated that the child may die.

TABLE 22: RESPONDENTS' FIRST SOURCE OF HEALTH CARE DURING THE CURRENT ILLNESS OF FEVER (n=50)

VARIABLE	**FREQUENCY**	**PERCENTAGE (%)**
SOURCE OF HEALTH CARE		
Medical centre	18	36
CHW	2	4
Prophet	3	6
Self treatment	27	54
TOTAL	**50**	**100**

(19) 36% of the respondents' first source of health care was medical centre while 54% self medicated their children before sourcing for medical care.

TABLE 23: TIME TAKEN TO REACH THE NEAREST HEALTH CENTRE (n=50)

VARIABLE	FREQUENCY	PERCENTAGE (%)
TIME TAKEN IN HOURS		
1 - 2	41	82
3 - 4	9	18
> 4	-	-
TOTAL	**50**	**100**

The majority (41) 82% of the respondents stated that it takes them 1 – 2 hours to reach the nearest health centre while (9)18% stated that it takes them 3 – 4 hours.

TABLE 24: DOES LONG WALKING TIME HINDER YOU FROM ACCESSING HEALTH SERVICES

VARIABLE	FREQUENCY	PERCENTAGE (%)
WALKING TIME HINDERS ACCESS TO HEALTH SERVICES		
Yes	11	22
No	39	78
TOTAL	**50**	**100**

Majority (39) 78% of respondents stated that walking time does not hinder them from accessing health services as they stayed near the health centre, while (11) 22% stated that it did.

TABLE 25: CULTURAL BELIEFS ABOUT FEVER DUE TO MALARIA AND UTILISATION OF HEALTH FACILITY

VARIABLE	FREQUENCY	PERCENTAGE (%)
DO CULTURAL BELIEFS PREVENT UTILISATION OF HEALTH FACILITY		
Yes	11	22
No	39	78
TOTAL	**50**	**100**

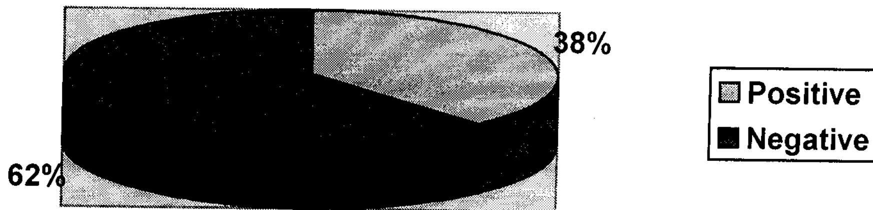
Majority (39) 78% of the respondents perceived that cultural beliefs about fever had no effect on the utilisation of health facilities while (11) 22% perceived that cultural beliefs had an effect.

TABLE 26: CULTURAL BELIEFS WHICH PREVENT UTILISATION OF HEALTH FACILITY (n=11)

BELIEF	FREQUENCY	PERCENTAGE (%)
Convulsions are due to witch craft	8	73
People use traditional medicine	3	27
TOTAL	**11**	**100**

Majority (8) 73% of the respondents believe that convulsions are due to witch craft while (3) 27% believe that fever can be resolved by use of traditional medicine.

FIGURE 9: RESPONDENTS' ATTITUDE TOWARDS MANAGEMENT OF FEVER DUE TO MALARIA



The majority (31) 62% of respondents portrayed negative attitude towards management of fever due to malaria while (19) 38% portrayed positive attitude.

SECTION D: PRACTICE OF RESPONDENTS TOWARDS MANAGEMENT OF FEVER DUE TO MALARIA

TABLE 27: ACTION TAKEN WHEN CHILD DEVELOPED CURRENT ILLNESS OF FEVER (MULTIPLE RESPONSE QUESTION, DOES NOT ADD UP TO 50)

ACTION	FREQUENCY	PERCENTAGE(%)
Covered more clothes	0	0
Removed extra clothes	19	27.1
Bathed Child with cold water	24	34.3
Administered drugs	22	31.5
Sought health care immediately	5	7.1

The majority (24) 34.3% of respondents gave a cold bath to their children when they developed fever while (22) 31.5% administered drugs.

TABLE 28: DRUGS ADMINISTERED TO CHILDREN WHEN THEY DEVELOPED FEVER (n=22)

DRUG	FREQUENCY	PERCENTAGE (%)
Panadol	17	77
Coartem®	3	14
Fansidar	2	9
TOTAL	**22**	**100**

Majority (17) 77%of the respondents used panadol for the treatment of fever among under five children while (3)14% used coartem®.

TABLE 29: RESPONDENTS' SOURCE OF MEDICINE ADMINISTERED AT HOME (n=22)

SOURCE	FREQUENCY	PERCENTAGE (%)
CHW	2	9
Friend	3	14
Shops	6	27
Left over drugs	11	50
TOTAL	**22**	**100**

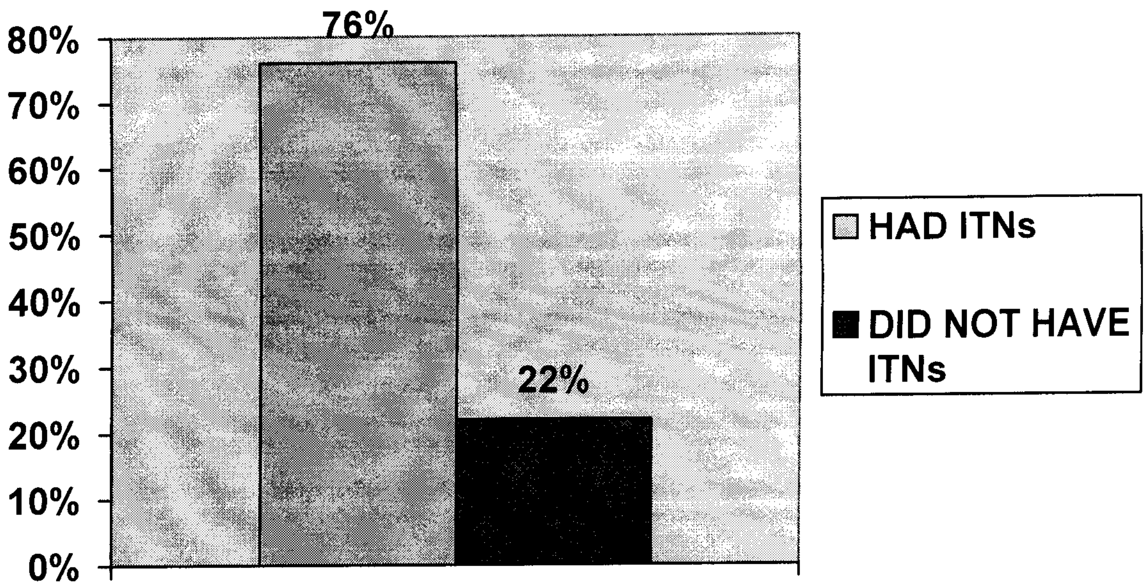
The majority (11) 50% of the respondents used left over drugs while (6) 27% got the drugs from shops.

TABLE 30: RESPONDENTS' RESPONSE ON THE AFFORDABILTY OF DRUGS (n=22).

AFFORDABLE	FREQUENCY	PERCENTAGE (%)
Yes	15	68%
No	7	32%
TOTAL	**22**	**100**

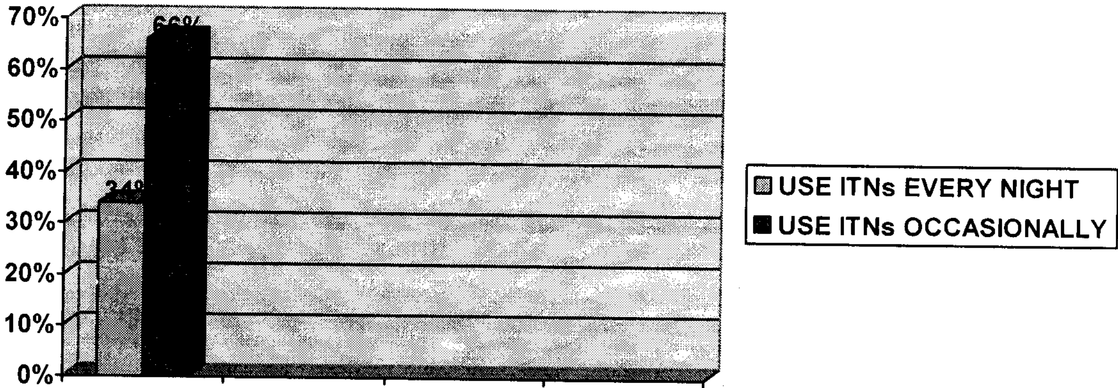
The majority (15) 68% stated that drugs were affordable while (7) 32% stated that there were not affordable.

FIGURE 10: RESPONDENTS WHO HAD ITNS FOR THEIR UNDER FIVE CHILDREN



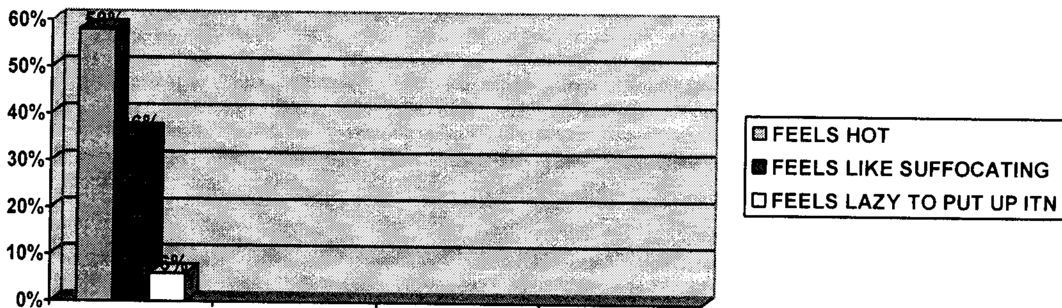
The majority (39) 78% of the respondents had ITNs while (11) 22% did not have.

FIGURE 11: PRACTICES OF RESPONDENTS ON USE OF ITNs EVERY NIGHT



(17) 34% of the respondents stated that their under five children slept under ITNs every night while (33) 66% stated they utilised their ITNs occasionally.

FIGURE 12 RESPONDENTS' REASONS FOR THE OCCASIONAL UTILISATION OF ITNs



Majority (29) 58% stated that they use ITNs occasionally because they make them feel very hot, (18) 36% stated that they feel like suffocating while (3) 6% stated that the feel lazy to put up ITNs.

TABLE 31: DISTRIBUTION OF RESPONDENTS BY THEIR PRACTICES IN MANAGEMENT OF FEVER DUE TO MALARIA

PRACTICES TOWARDS MANAGEMENT OF FEVER DUE TO MALARIA	FREQUENCY	PERCENTAGE
Good	22	44
bad	28	56
TOTAL	**50**	**100**

The majority (28) 56% of respondents had bad practice while (22) 44% had good practices.

SECTION E

TABLE 32: LEVEL OF KNOWLEDGE ON MANAGEMENT OF FEVER DUE TO MALARIA IN RELATION TO AGE (n = 50)

KNOWLEDGE	AGE RANGE				TOTAL
	Less than 19 years	20 – 29 years	30 – 39 years	40 – 49 years	
High	3 (42.9%)	18 (90%)	8 (61.5%)	9 (90%)	38 (76%)
Moderate	-	2 (10%)	5 (34.5%)	-	7 (14%)
Low	4 (57.1%)	-	-	1 (10%)	5 (10%)
TOTAL	**7 (14%)**	**20 (40%)**	**13 (26%)**	**10 (20%)**	**50 (100%)**

Majority (18) 90% of respondents whose age range was between 20 – 29 years, had high level of knowledge, (9) 90% between 40 – 49 years had also high level of knowledge while the majority (4) 57.1% of those who had low levels of knowledge were in the age range 19 years and below.

TABLE 33: LEVEL OF KNOWLEDGE ON MANAGEMENT OF FEVER DUE TO MALARIA IN RELATION TO LEVEL OF EDUCATION

(n = 50)

LEVEL OF KNOWLEDGE	LEVEL OF EDUCATION				TOTAL
	None	Primary	Secondary	Post secondary	
High	6 (50%)	26 (83.9%)	5 (83.3%)	1 (100%)	38 (76%)
Moderate	2 (16.7%)	4 (12.9%)	1 (16.7%)	-	7 (14%)
Low	4 (33.3%)	1 (3.2%)	-	-	5 (10%)
TOTAL	**12 (24%)**	**31 (62%)**	**6 (12%)**	**1 (2%)**	**50 (100%)**

The majority (26) 83.9% of respondents with primary education had high levels of knowledge. (5) 83.3% with secondary education also had high levels of knowledge, (4) 33.3% of respondent with no education had low level of knowledge.

TABLE 34: LEVEL OF KNOWLEDGE ON MANAGEMENT OF FEVER DUE TO MALARIA IN RELATION TO MARITAL STATUS (n = 50)

LEVEL OF KNOWLEDGE	MARITAL STATUS				TOTAL
	Single	**Married**	**Divorced**	**Widowed**	
High	7 (50%)	27 (87%)	1 (50%)	3 (100%)	38(76%)
Moderate	5 (35.7%)	2 (6.5%)	-	-	7 (14%)
Low	2 (14.3)	2 (6.5%)	1 (50%0	-	5 (10%)
TOTAL	**14 (28%)**	**31 (62%)**	**2 (4%)**	**3 (6%)**	**50 (100%)**

The majority (27) 87% of married respondents had high levels of knowledge. 6.5% had moderate levels of knowledge while (2) 6.5% of respondents of the same marital status had low levels of knowledge.

TABLE 35: ATTITUDE IN RELATION TO AGE (n = 50)

ATTITUDE	AGE				TOTAL
	Less than 19 years	20 – 29 years	30 – 39 years	40 – 49 years	
Positive	_	10 (50%)	5 (38.5%)	4 (40%)	19(38%)
Negative	7 (100%)	10 (50%)	8 (61.5%)	6 (60%)	31(62%)
TOTAL	**7 (14%)**	**20 (40%)**	**13 (26%)**	**10 (20%)**	**50 (100%)**

The majority (10) 50% of respondents in the age range 20 – 29 years had positive attitude while the other (10) 50% had negative attitude. All the respondents (50) 100% who were below 19 years had negative attitude.

TABLE 36: ATTITUDE IN RELATION TO MONTHLY INCOME (n = 50)

TYPE OF ATTITUDE	MONTHLY INCOME (ZMK)				TOTAL
	<100 000	100 000 – 300 000	400 000 – 600 000	Don't know	
Positive	4 (12.9%)	10 (71.4%)	2 (100%)	3 (100%)	19 (38%)
Negative	27 (87.1%)	4 (28.6%)	-	-	31 (62%)
TOTAL	**31 (62%)**	**14 (28%)**	**2 (4%)**	**3 (6%)**	**50 (100%)**

The majority (10) 71.4% of respondents who earned between K100, 000 and k300 000 had positive attitude while (4) 28.6% of the same monthly income range had negative attitude.

TABLE 37: ATTITUDE IN RELATION TO MARITAL STATUS (n = 50)

ATTITUDE	MARITAL STATUS				TOTAL
	Single	Married	Divorced	Widowed	
Positive	2 (14.3%)	15 (48.4%)	1 (50%)	1(33.3%)	19(38%)
Negative	12 (85.7%)	16 (51.6%)	1 (50%)	2 (66.7%)	31(62%)
TOTAL	**14 (28%)**	**31 (62%)**	**2 (4%)**	**3 (6%)**	**50 (100%)**

The majority (16) 51.6% of married respondents had negative attitude while (15) 48.4% of the same marital status had positive attitude. (12) 85.7% of respondents who were single had negative attitude while (2)14.3% had positive attitude.

TABLE 38: ATTITUDE IN RELATION TO LEVEL OF EDUCATION (n = 50)

ATTITUDE	LEVEL OF EDUCATION				TOTAL
	None	Primary	Secondary	Post secondary	
Positive	1(8.3%)	11(35.5%)	6 (100%)	1 (100%)	19(38%)
Negative	11(91.7%)	20 (64.5%)	-	-	31(62%)
TOTAL	**12 (24%)**	**31 (62%)**	**6 (12%)**	**1 (2%)**	**50 (100%)**

All (50)100% respondents with secondary and post secondary level of education positive attitude while (11)35.5% of respondents with primary level of education had positive attitude and 64.5% had negative attitude.

TABLE 39: ATTITUDE IN RELATION TO LEVEL OF KNOWLEDGE (n = 50)

ATTITUDE	LEVEL OF KNOWLEDGE			TOTAL
	High	Moderate	Low	
Positive	17 (44.7%)	2 (28.6%)	-	19(38%)
Negative	21 (55.3%)	5 (71.4%)	5 (100%)	31(62%)
TOTAL	**38 (76%)**	**7 (14%)**	**5 (10%)**	**50 (100%)**

(17) 44.7% of the respondents with high level of knowledge had positive attitude while (21) 55.3% had negative attitude.

TABLE 40: PRACTICE IN RELATION TO AGE (n = 50)

PRACTICE	AGE				TOTAL
	Less than 19 years	20 – 29 years	30 – 39 years	40 – 49 years	
Good	3 (42.9%)	16 (80%)	2 (15.4%)	1 (10%)	22 (44%)
Bad	4 (57.1%)	4 (20%)	11 (84.6%)	9 (90%)	28 (56%)
TOTAL	**7 (14%)**	**20 (40%)**	**13 (26%)**	**10 (20%)**	**50 (100%)**

80% of the respondents in the age range 20 -29 years had good practice while 20% within the same age range had bad practice.

TABLE 41: PRACTICE IN RELATION TO LEVEL OF KNOWLEDGE (n = 50)

PRACTICE	LEVEL OF KNOWLEDGE			TOTAL
	High	Moderate	Low	
Good	21 (55.3%)	1 (14.3%)	-	22 (44%)
Poor	17 (44.7%)	6 (85.7%)	5 (100%)	28 (56%)
TOTAL	**38 (76%)**	**7 (14%)**	**5 (10%)**	**50 (100%)**

The majority (21) 55.3% of respondents with high level of knowledge had good practice while (17) 44.7% of the same knowledge level had bad practice.

TABLE 42: PRACTICE IN RELATION TO LEVEL OF EDUCATION (n = 50)

PRACTICE	LEVEL OF EDUCATION				TOTAL
	None	Primary	Secondary	Post secondary	
Good	2 (16.7%)	14 (45.2%)	5 (83.3%)	1 (100%)	22 (44%)
bad	10 (83.3%)	17 (54.8%)	1 (16.7%)	-	28 (56%)
TOTAL	**12 (24%)**	**31(62%)**	**6 (12%)**	**1 (2%)**	**50 (100%)**

The majority (5) 83.3% of the respondents who had attained secondary education had good practice while (1) 16.7% of the same educational level had *bad practice. (10) 83.3% % of the respondents who had no education had bad* practice and (2) 16.7% had good practice.

TABLE 43: PRACTICE IN RELATION TO TIME TAKEN TO REACH HEALTH FACILITY (n = 50)

LEVEL OF PRACTICE	TIME TAKEN		TOTAL
	1 -2 hours	3 – 4 hours	
Good	22(53.7%)	-	22 (44%)
Poor	19 (46.3%)	9(100%)	28 (56%)
TOTAL	**41(82%)**	**9(18%)**	**50 (100%)**

53.7% (22) of the respondents who had to walk 1 – 2 hours to reach the nearest health facility had good practice while (19) 46.3% with the same walking time had

bad practice. All (9) 100% of the respondents who had to walk 3 – 4 hours had bad practice.

CHAPTER FIVE

5.0 DISCUSSION OF FINDINGS AND IMPLICATIONS FOR THE HEALTH CARE SYSTEM

5.1 INTRODUCTION

The study was aimed at determining the Knowledge, attitudes and practices of mothers and caretakers in the home management of fever due to malaria among under five children.

5.1: CHARACTERISTICS OF THE SAMPLE

The results of the study are based on a sample of 50 mothers and care takers who brought their under five children with fever due to malaria to Chongwe Referral Health Centre and Chalimbana Rural Health Centre

The mothers and caretakers age ranged between 17 to 49 years with the majority (40%) aged between 20-29 years followed by 26% who were aged between 30-39 years. The sex was dominated by female (94%). This goes to show the gender reality of the Zambian society where child care is seen to be the responsibility of women folk.

All the respondents were Christians by faith. This shows the dominance in terms of Christianity in the district which could be due to the fact that during the pre- independence era, mission hospitals were the main source of health care (CSO, 2003). These missionaries may have contributed to the transformation of Zambians into Christians.

The marital status was mainly comprised of married (82%), widowed (6%), divorced (4%) and single (8%). This is a true reflection of marriage being an important socio cultural activity in Zambia where most individuals would like to get married at a certain age. The higher number of married couples could also be attributed to a strong belief held on the institution of marriage. In an African set up culturally, if one is not married, he/she is not given the respect he/she deserves by society.

The number of under five children per family among respondents ranged between 1 – 3. the majority (56%) of respondents had 2 under five children in their families, 32% had1, 12% had 3 and none of the respondents had more than three. These findings correspond with findings in the ZDHS which found that 60% of all currently married women want to have another child, with 21% wanting to have a child within 2 years (CSO,2003). This indicates a potential need for family planning services as well as intensifying child health services at all levels of health care with regards to prevention and early treatment of childhood illnesses including fever due to malaria. This will promote the health and well being of the under five children.

In terms of education, 24% never had any education, 62% had primary education, while those who attained secondary education were 12% and 2% had post secondary education.

These results can be attributed to inaccessibility of secondary education by the majority of school going population in rural parts of the country. The other factor could be that there are inadequate secondary schools and high poverty levels in rural areas (CSO, 2003). This finding could also be attributed to the fact that parents do not consider the education of the girl child as important. They would rather send them into early marriages than send them to school. This shows that higher education is not so much regarded for the girl children who drop out of school at primary level.

These findings also correspond to the WHO report which noted that women and girls are commonly discriminated against in terms of access to education, employment, health care and inheritance (WHO, 2000a)

Regarding occupation, only 6% were in formal employment, 4% self employed and the rest were either mere housewives (50%) or unemployed 12%. This means that the economic status of the district is poor. This is also supported by the fact that 62% of the respondents do not have any form of income. The findings of this study are confirmed by CSO, 2003 report that revealed unemployment levels in the country were as high as 68.2% regardless of whether they had basic education or none at all.

5.2: DISCUSSION OF VARIABLES

5.2.1: KNOWLEDGE

Knowledge according to Hornby (2000) is defined as "a state of knowing about a particular fact or situation".

In order to manage the condition well, an individual needs to understand what it is, how it is transmitted, how it is treated and know certain measures that can be undertaken to minimise it's impact. Knowledge about management of fever due to malaria was elicited from the mothers and care takers through questions in section B of the questionnaire (appendix 1).

The results of this study show that majority of the respondents 76% had high levels of knowledge on management of fever due to malaria, 14% had moderate levels of knowledge and 10% had low levels of knowledge (Figure 7, page 55). 83.3% of respondents with secondary education had high levels of knowledge, 16.7% had moderate levels of knowledge and

none had low levels of knowledge. Among respondents with primary education, 83.3% of respondents had high levels of knowledge 12.9% had moderate levels of knowledge while 3.2% had low levels of knowledge. Those with post secondary education 100% had high levels of knowledge while those with no education 50% had high levels of knowledge, 16.7% had moderate levels of knowledge and 33.3% had low levels of knowledge. These findings show that efforts have been done in the area of dissemination of the management of malaria. This corresponds with the RBM survey which revealed that the knowledge levels about malaria were generally high (87%), (MOH, 2005). This answers objective number 1, which sought to determine the levels of knowledge among mothers and care takers towards home management of fever due to malaria among under five children.

The study further revealed that all the respondents (100%) had heard about fever due to malaria and the majority (88%) of the respondents stated mosquitoes as the cause for malaria, 22% stated that malaria was due to other causes like sugar cane (2%), harmful spirits (8%), being soaked by rains (2%). This in general shows that almost 22% of the mothers and care takers either have misconceptions or they do not actually know what causes malaria. This is a challenge to the health sector in the district.

In terms of knowledge of the symptoms of malaria, the majority 29.9%, identified body hotness, 31.2% identified loss of appetite, 26.2% cited vomiting, and 11.4% cited diarrhoea as the symptoms of malaria. Only 1.4% of the respondents cited convulsions as a symptom of malaria.

When asked about the danger signs of the illness 50% cited not feeding well as the most danger sign while 48.8% cited persistent fever and only 1.2% cited convulsions as the danger sign of the illness. This ties with the RBM survey which revealed that knowledge of danger signs of malaria

among women aged 15-45years was not good as it was mainly limited to such signs as "not feeding well"(34%), (RBM, 2004).

In relation to the source of health information, 82% of the respondents stated that their source was the health centre, 10% stated mass media, 6% stated CHWs and 2% stated friends. When asked whether the source told them on how to control fever due to malaria, 76% of the respondents stated that they were told while 24% stated that they were not told. Among those who were told, 42.4% stated that they were told to give a cold bath, 39.4% were told to give an antipyretic to control the temperature. All the respondents (100%) were told on how to prevent the child from having fever due to malaria. 92% stated use of ITNs, 6% stated indoor residual spraying and 2% stated closing windows and doors early. The results show that the health facilities are still the main source of health information in rural communities and this also ties with the findings of the RBM survey. Therefore, the health facilities' capacity should be built to meet this challenge.

With regard to whether or not respondents perceive IEC to improve utilisation of health facility, 80% stated that IEC improves utilisation of health facility while 20% stated that it did not. Among the respondents who stated that it improves utilisation of health facility, 40.9% stated that they learnt how to prevent malaria, 24.7% stated they learnt the cause of malaria while 15% stated that they learnt the drugs to use for fever due to malaria. To some extent, the results of this study are contrary to the study results conducted Mwilau, (2003) who found that general knowledge of respondents on malaria was inadequate due to lack education and communication on malaria and its prevention from healthcare providers. In this study the high level of knowledge is attributed to effective health education against malaria at health centre level.

In relation to knowledge of medicines for the treatment of fever due to malaria, 92% cited coartem® , fansidar and quinine and none stated

chloroquine. In terms of knowledge of dosages for coartem for a child who is three years, 52% did not know the dosage, while 22% correctly stated the dosage as 1 tablet, 2 times per day for three days, 26% cited other dosages. This means that 78% did not know the dosage for coartem. This is worrying especially in so far as compliance is concerned. It may also show a weakness from the health service point of view in that counselling of patients is inadequate. With regards to fansidar, the study revealed that only 42% knew the dosage, i.e.; 1 tablet stat. 58% did not know. Therefore, the general picture with regard to caretaker's knowledge of dosages either for coartem® or fansidar is poor. This ties with the study done in Nigeria on management of fever due to malaria among the under five children which revealed that mothers and caretakers had good knowledge about malaria disease and its management especially on the drugs but their knowledge on dosages of drugs was quite low 18%. A study conducted on Home Treatment Practices of Childhood Malaria by Mothers in an Urban Setting in South West Nigeria, discovered that IEC is very important in that the success of RBM strategy reduction depends on the knowledge of mothers and care takers. This knowledge can be acquired by giving IEC. There is therefore need for appropriate education of mothers about proper drug usage for home management of malaria (Alabi, 2005).

5.2.2: ATTITUDE

Hornby, (2000) defined attitude as the way that one thinks and feels about something or the way one behaves towards some body".

Section C of the questionnaire (appendix 1) contains questions which facilitated the identification of the respondents' attitude towards management of fever due to malaria. Attitude in the management of fever by mothers and care takers plays an important role in the success of managing the illness.

Attitude of clients depends on knowledge which they have on management of fever due to malaria thus prevention, treatment and care will depend on the attitude as the inner feelings of people affect their outside environment.

The study revealed that majority of the respondents (62%) had negative attitude towards management of fever due to malaria, and (38%) had positive attitude (Figure 9, page 61). This answered objective number 2 which sought to identify the attitude of mothers and caretakers towards home management of fever due to malaria among under five children. This study revealed that when asked for the stage at which they would seek help when a child is ill, (32%) stated immediately child develops fever, (30%) stated failure of drugs to control body temperature while (38%) stated child not feeding well. Therefore, overall child not feeding well and fever are regarded as important signs for taking a child to the health facility.

Regarding whether or not fever is perceived as a dangerous symptom of the illness, (96%) perceived that fever was a dangerous symptom while (4%) did not perceive it to be dangerous. The higher percentage of those who perceive fever as a dangerous symptom of the illness should be taken advantage of to educate them on other aspects of disease management.

When asked on the reasons why they considered fever to be a dangerous symptom, the majority (46%) stated the risk of the child dying, 50% stated that child may stop feeding well, 4% stated that child may progress into convulsions while none stated brain damage. This corresponds with the respondents response for the stage of seeking medical care where 38% stated as child not feeding well.

When asked about the first source of health care, (56%) stated medical centre, (4%) stated CHWs (6%) cited having consulted prophets while (54%) administered drugs at home.

Most (54%) of the mothers and care takers resorted to administering antipyretics at home due to the fact that they understand the control of body temperature. Overall, the study found out that the health seeking behaviour of respondents was poor leading to poor management of fever due to malaria among children under five years. The study therefore failed to reject the hypothesis that stated that the poorer the health seeking behaviour, the poorer the home management of fever due to malaria among under five children by mothers and caretakers.

When asked about their perception as to whether cultural beliefs prevent utilisation of health facility, 22% believed that cultural beliefs do prevent utilisation of the health facility while 78% believed that they do not. For the 22% who believed that cultural beliefs prevented utilisation of the health facility, 16% stated that convulsion are due to witchcraft while 6% stated that most people use traditional medicine for the treatment of fever due to malaria. This corresponds with the RBM survey where the herbalist was the most cited second opinion sought (31%).

When we analyse the respondents attitude in relation to age, the results showed that the higher the age, the positive the attitude. This is confirmed by the results, which showed that 100% of respondent below the age of 19 years had negative attitude while 50 % of respondents between 20-29 years had positive attitude and 50% had negative attitude. This could be attributed to the fact that older respondents have had an experience on child rearing as compared to the younger ones.

Regarding the attitude of respondents in relation to monthly income, the majority (71.4%) who earned K100 000- K300 000 had positive attitude while 28.6% of the same monthly income range had negative attitude. The higher the house hold income the better the attitude. Presumably because it helps to meet the opportunity cost of meeting the health care needs. this is also revealed in the ZDHS where 21% reported that a house hold member was denied care for a health facility because there were unable

to pay (CSO, 2003). This has an effect on the attitude people seeking health care.

The level of knowledge was also discovered to have an effect on the respondent's attitude. 44.7% of respondents with high knowledge had positive attitude while 100% of respondents with low levels of knowledge had negative attitude. The results showed that respondents who had higher levels of knowledge also had positive attitude towards management of fever.

It was also found that among those who were married 48.4% had positive attitude while 85.7% of the single respondents had negative attitude. This may be due to the support and encouragement they receive from their spouses. The other reason may be that married women usually frequent antenatal clinics and under five clinic where IEC is usually given and therefore they have high levels of knowledge and a positive attitude towards management of fever due to malaria.

The study also revealed that the level of education also had an effect on the attitude of respondents. 35.5% of respondents with primary education had positive attitude towards management of fever, 100% of respondents with secondary education, and 100% of respondents with post secondary education also had positive attitude towards management of fever. The high number of those with basic and secondary education is therefore an important factor for respondent attitude towards management of fever due to malaria. This finding entails that there is need to intensify the education of the girl child as they are in most cases the caretakers of the children. They need to have some education in order to develop a positive attitude towards the care and management of ill children.

PRACTICE

Practice refers to what people do or not just having ideas or theories (Hornby, 2000).

Questions to determine practice of mothers and care takers towards management of fever due to malaria were included in section D of the questionnaire (Appendix 1). The study revealed that 44% of respondents had good practice while 56% had bad practice (Table 31, page 66). This section answered objective number 3 which sought to identify practices reagarding home management of fever due to malaria among under five children by mothers and caretakers.

The study showed that in order to control the temperature, the majority of respondents, 34.3% bathed their children with cold water, 31.5% administered drugs, 27.1% removed extra clothing and 7.1% sought health care immediately. Among the 31.5% respondents who administered drugs majority (77%) used panadol, 14% used coartem, while 9% used fansidar. When asked about the source of drugs 50% stated left over drugs, 27% stated that they bought the drugs from the shops, 14% got the drugs from friends while 9% got their drugs from CHWs.

From the above description, we can see that the respondents utilised the options for reducing fever to a greater degree than seeking medical attention immediately as reflected in table 38. This practice has implications in that while it's a good practice to administer first aid at home, on the other hand, it may lead to mothers and caretakers delaying in seeking medical attention leading to serious complications of the disease.

In terms of medicines the respondents gave during the current illness of their children, panadol was the most cited drug used. While in the short term the fever could be resolved, it again leads the mothers to delay in

seeking medical attention. This type of practice, coupled with the attitude on health seeking where only 7.1% sought medical care, there is a danger of complications due to delay in seeking medical care which may lead to death of young children. However this needs to be investigated because the study did not investigate whether or not mothers delayed in seeking treatment. The other thing to be noted is that treatment aspects are not prominent in the IEC package given to the caretakers. This is evidenced in the poor knowledge of dosages of coartem ® and fansidar.

The source of medicine administered at home was mainly left over drugs. This has some implications on compromising with compliance to treatment leading to drug resistance. The fndings of this study corresponds with a study done in Malawi on the qualitative analysis of factors affecting the health seeking behaviour and patient preferences on anti-malarial drugs which revealed that the first source of care when fever episodes occurred was left over drugs and drugs bought from grocery shops. This standard suggests low compliance with official guidelines for treatment of malaria (Kunkwenzu , 2005).

Respondents who purchased drugs from shops, 68% stated that drugs were affordable, while 48% stated that drugs were not affordable. This could be attributed to the fact that the mostly used drug; panadol was quite cheap and was going at K100 per dose.

Regarding respondents practice in relation to level of education, those who had some higher education 21 (42%) had good practice than those who had no education. We can therefore conclude that the higher the education level, the better the practice towards management of fever due to malaria.

The study also revealed that those who had opportunity to receive IEC had good practice than those who did not have. There is therefore need

for health care providers to intensify IEC on management home management of fever due to malaria to improve practice at home level.

The study also showed that 68% of respondents had ITNs which they bought at subsidised prices of K3 000 each for their under five children while 32% had no ITNs. Those who did not have ITNs stated that they could not afford to purchase ITNs while others stated that ITNs were not always available at the health centre. These two factors may contribute to low utilisation of ITNs by mothers and care takers in the prevention of fever due to malaria. The CSO, 2002 report supports these findings, as it revealed that most rural women were involved in agriculture and their income is seasonal.

Regarding the practice on the use of ITNs among respondents, 32% stated that they used ITNs every night while 68% stated that they used ITNs occasionally. The majority (68%) of respondents who occasionally used nets stated that ITNs made them to feel very hot while others stated that they feel like suffocating when they sleep under ITNs. These mothers and care takers put their children at risk because generally they sleep with their babies hence they expose them to mosquito bites which cause fever due to malaria.

In relation to age and practice of respondents, 80% of respondents in the age range 20-29 years had good practice while 20% within the same age range had bad practice. This could be attributed to the fact that this age group was the majority (40%) in the sample.

The study further revealed that there was a relationship between practice and the levels of knowledge. Among the 76% respondents who had high levels of knowledge, 55.3% had good practice while 44.7% had bad practice. 14.3% of respondents with moderate levels of knowledge had good practice while 85.7% of respondents in the same age group had bad practice. All the respondents (100%) who had low levels of knowledge

had bad practice. We can therefore conclude that the lower the knowledge, the poorer the practice of mothers and care takers towards management of fever due to malaria.

In relation of the level of education and practice of respondents16.7% with no education had good practice while 83.3% had bad practice, Among those with primary education, 45.2% had good practice while 54.8% had bad practice 83.3% of respondents who had attained secondary education had good practice while 16.7% had bad practice and all 100% of the *respondent with post secondary education had good practice These* results show that the higher the level of education, the better the practice. Education status helps people to understand health matters and adopt positive behaviour.

5.4 IMPLICATIONS TO THE HEALTH CARE SYSTEM

The implications of this study are related to the problem under study, its objectives and hypothesis. The study revealed that 76% of the respondents had high levels of knowledge. This includes those with post secondary, secondary, primary and those without any education. This implies that the respondents had high levels of knowledge regarding mgt of fever due to malaria in under five children.

Another interesting aspect of the finding of the study shows that 62% of the study respondents had negative attitude especially among the under 19 year olds.

Another study finding focused on the practice of the study respondents. This noted that 56% of the study respondents had bad practice. In summary, despite having high levels of knowledge, respondents were found to have negative attitude and poor practice. These findings now

have implications on the different aspects of nursing care under education, administration, practice and research.

EDUCATION

Since the respondents have high level of knowledge, negative attitude and bad practice in management of fever due to malaria among under five children, it means that the health care system needs to develop capacity in health care providers on communication skills. The health care providers need to conduct targeted health education messages considering their socio-economic and demographic factors. In this way, the clients will be able to internalise the education messages. They will then be able to make decisions based on information given.

The level of education has been revealed to be very low. Most of the respondents have neither been to school or have ended up with primary education. The implication to this is that, the health care system should package the IEC materials in a simplified form in order to make mothers get the meaning from the messages.

The study has also revealed that a gender imbalance in terms of child care is still prominent. There is therefore need for the health care system to incorporate gender education in the health care programmes in order to sensitise males on the importance of them being involved in child care.

Levels of poverty were revealed to be high. The implication is that many sick children may not access treatment early due to low income levels in the families. Probably, the health care system should consider improving the levels of health care at community level so that the mothers and caretakers can access treatment easily.

PRACTICE

The findings of the study showed that 56% of the respondents had bad practice in conjunction with negative attitude. Knowledge and attitude attributes should be reflected in practice. Therefore the health care system needs to identify best practices at the community level for mothers with under five children. This can be done through return demonstrations or role plays after discussions with mothers on management of fever due to malaria among children under the age of five years.

The study revealed that among respondents practices towards use of drugs, the commonly used drugs were left over drugs (50%). This has an implication as far as compliance is concerned because the assumption is that somebody who did not complete the course of treatment left the drugs. The other implication could be that the dispensing of drugs should be controlled so as to prevent use of left over drugs.

ADMINISTRATION

Levels of poverty were revealed to be high. The majority (62%) of the respondents' monthly income was K100 00. the implication is that many sick children may not access treatment early due to low-income levels in the families. This implies that the administrators at district level in the health care system should consider improving the levels of health care at community level so that the mothers and care takers can access treatment easily.

In terms of the source of information, the health centre was the most (82%) cited source. This implies that the administrators in the health care system should provide training to the staff so that they have adequate knowledge to give to mothers and caretakers through IEC messages.

The IEC package which health care providers were giving to mothers and caretakers did not contain enough information on the component of dosages for Coartem® and Fansidar as well as on danger signs of the illness. This is a challenge to the administrators at DHMT. This implies that administrators should provide necessary IEC materials to the health facility staff in order to enable them give mothers and caretakers an appropriate package, which is essential for the improvement of the health of the children.

RESEARCH

The findings of this study has shown that there are various factors such as bad management practices and negative attitude that impede the home management of fever due to malaria among under five children. These factors should further be investigated through research. This implies that the DHMT should come up with creative ideas and be innovative in this area. There should be a cost centre created at district level which should have funds for health centre staff to carry out research on malaria.

CONCLUSION

The study sought to determine the knowledge, attitude and practice of mothers and caretakers towards home management of fever due to malaria among children under five years. The objectives of the study have been met and hypotheses have been proven.

It was revealed that there are a number of factors influencing home management of fever due to malaria and these include the level of education, the attitude of respondents and caretakers as well as the practice.

It was discovered that most (76%) of the respondents had high levels of knowledge towards home management of fever due to malaria among under five children. This is good because majority of the people know what fever due to malaria is, what the cause is, how it is treated and the drugs to give, but the practice and attitude was found to be negative

5.5 RECOMMENDATIONS

The study has identified gaps in knowledge attitudes and practices among mothers and care takers towards management of fever due to malaria among under five children.

This is a challenge to the health workers in the district. In order to overcome these challenges, personnel holding key positions have been identified to take the following actions:

DISTRICT HEALTH OFFICE

- District Health Office together with health centre staff should carry out regular technical support visits to the NHCs to monitor malaria prevention programmes within the community.

- Intersectoral collaboration must be promoted by DHMT in order for other line ministries and NGOs interested in malaria control to combine their strengths and fight against malaria. Line ministries like the Ministry of Agriculture, Ministry of Community and Social Welfare as well as Ministry of Education.

- There is need to carry out a similar study on a large scale in the whole district to obtain more accurate information on management of fever due to malaria.

HEALTH CENTRE

- Health care providers should continue providing IEC to mothers and care takers on the management of fever among under five children at home as health centres were the most cited source of information.

- IEC messages should emphasise much on the dosages of fansidar and Coartem® as knowledge on dosages was seen to be inadequate among the respondents.

- There is need to improve communication skills at the health centre level through capacity building. All the health care providers should be oriented in communication skills.

COMMUNITY LEVEL

- There is need to empower the community with measures on how to control fever due to malaria in the community through the use community health volunteers like TBAs, CHW, as well as NHCs.

- There is need for health centre staff to organise capacity building sessions for the NHCs, CHWs and malaria prevention agents in the community.

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

- There is need to involve all the influential people in the community like the village headmen, councillors and traditional healers in the fight against malaria.

DISSEMINATION OF FINDINGS

According to Hornby, (2000), dissemination refers to the spread of information knowledge and other findings so that it reaches many people.
Dissemination of findings will be done through written report. The researcher will make five (5) copies of the report. The copies of the research will be distributed to the Department of Post Basic Nursing (PBN), University of Zambia Medical Library, Ministry of Health, Chongwe District Health Office and one copy will be kept by the researcher.

LIMITATIONS OF THE STUDY

- The Study sample was too small due to the limited time and financial resources available for the study. As a result of this, generalisation of the findings should be made with caution in relation to the general population.

- Funding was inadequate and could not allow the researcher to conduct a large scale study.

- The study was carried out within a short specified time, which made it impossible for the researcher to conduct focus group discussions to obtain more information on the study problem.

REFERENCES

1. Adjuik, S., Mabeza, G.F. and Wilkes, T. J. (2003): Towards an Atlas of Malaria Risk in Africa, First Technical Report, Durban (pp. 61-66).

2. Alabi, O. (2005): Home Treatment Practices of Childhood Malaria by Mothers in an Urban Setting in South West Nigeria, Department of Clinical Pharmacy, University of Ibadan, Ibadan (pp. 176).

3. Barnes, A. and White, K. (2004): Efficacy of Chemoprophylaxis in Preventing Plasmodium Falciparum Parasitaemia in Malawi, Blanytre (pp. 33).

4. CBoH (2003):Guidelines for the Diagnosis and Treatment of Malaria in Zambia. Lusaka (pp.18-29).

5. Chanda D. (2000): A Study on Bridging the Practice Gap between Health Centre Providers and Community Based Agents in Lusaka Urban, Lusaka (pp. 24).

6. CSO, (2001-2002): Zambia Demographic and Health Survey, CSO, Lusaka (pp. 1-3).

7. HMIS (2005-2006): Chongwe District Health Strategic Plan, Chongwe.

8. Hornby, A. S. et al (2000): Oxford Advanced Learner's Dictionary, 76th Edition, Oxford University Press, New York (pp. 65, 971, 1352).

9. Kunkwenzu E. (2005): Qualitative Analysis of Factors Affecting Selection of Health Seeking Behaviour of Patient's Preferences of Anti-Malarial Drugs, Zomba (pp. 274).

10. Matovu, F. and V. Wiseman, V. (2005): A Study to Determine Barriers to Seeking Treatment for Malaria in Kasama Urban, Kasama (pp. 68).

11. MOE (2004): National Child Health, Policy Lusaka (pp. 24-25).

12. MoH (2003): National Health Strategic Plan, Lusaka(pp. 16, 36).

13. MOH, (1992): National Health Policies and Strategies (Health Reforms), Lusaka (pp. 21-23).

14. Mponda, H. Mshinda, H. (2005): Community Perception on the Use of Anti Malarial Drugs in the Home Management of Malaria in Rural Tanzania, Ifakara Health Research Centre, Ifakara (pp. 151).

15. Mwilau, M. (2003): Factors Contributing to Non Utilisation of ITNs in Mansa District, Mansa (pp. 33).

16. National Malaria Control Program (2000): Malaria Treatment Guidelines, Lusaka (pp. 66-67).

17. National Malaria Control Program (2001): Strategic Plan for Rolling Back Malaria in Zambia Lusaka (pp. 39-40).

18. NMSP (2006): National Malaria Strategic Plan, Lusaka (pp. 11-13).

19. Nwaorgu, O. (2005): Management of Fever Due to Malaria among Children 0-18 months by Mothers and Care givers, Nigeria (pp. 283 -284).

20. Olumese, P. (2005): Predictive Symptoms in Diagnosis of Malaria, College of Medicine, University of Ibadan (pp.426).

21. Polit, D.F. and Hungler, B. P (1995): Essentials of Nursing Research Methods, Appraisal and Utilisation, Lippincott, Philadelphia (pp.33 – 656).

22. Treece, E.W. and Treece, J.W (1986): Elements of Research in Nursing, 4th edition, Mosby, Philladelphia (pp. 511).

23. WHO (1997): Integrated Management of Childhood illnesses, Geneva (pp.7-8)

24. WHO (1999): A training Guide for District Health Workers on Malaria Control in Tropical Africa, Geneva.

25. WHO, RBM (2006): Coming to Grips with Malaria in the New Millenium. WHO Report Geneva (pp. 13-16).

26. WHO/UNICEF, (2002): Practical Chemotherapy in Malaria, WHO Practical Technical Report Series Report Number 805 Geneva.

APPENDIX I

UNIVERSITY OF ZAMBIA

SCHOOL OF MEDICINE

DEPARTMENT OF POST BASIC NURSING

QUESTIONNAIRE (INTERVIEW SCHEDULE)

A STUDY TO DETERMINE KNOWLEDGE, ATTITUDE AND PRACTICES OF MOTHERS AND CARETAKERS TOWARDS HOME MANAGEMENT OF FEVER DUE TO MALARIA AMONG UNDER FIVE CHILDREN IN CHONGWE DISTRICT.

Date of interview______________________________________

Serial number____

INSTRUCTIONS TO THE INTERVEWER

1. Introduce yourself
2. Explain purpose of interview
3. Ensure no names or address of respondents will be written down
4. Ensure respondents are free when answering questions throughout the interview and explain assurance of confidentiality and anonymity.
5. Tick in the space provided and fill in the space provided according to responses.

SECTION A: DEMOGRAPHIC DATA

FOR OFFICIAL USE ONLY

1. Gender of respondent.
   a. Male
   b. Female

2. How old were you on your last birthday?
   a. Less than19 years
   b. 20 – 29 years
   c. 30 – 39 years
   d. 40 – 49 years
   e. More than 50 years

3. What is your marital status?
   a. Single
   b. Married
   c. Divorced
   d. Widow

4. What is your religion?
   a. Christian
   b. Moslem
   c. Hindu
   d. Others, specify________________

FOR OFFICIAL

USE ONLY

5. What is your highest level of education?
   a. No education
   b. Primary education
   c. Secondary
   d. Post secondary

6. What do you do for your living?
   a. Formally employed
   b. Self employed
   e. Unemployed
   f. Farmer
   g. House wife

. What does your spouse do to earn a living?
   a. Unemployed
   b. Formally employed
   c. Self employed

How many under five children do you have in your family?

a. 1
b. 2
c. 3
d. More than 3

FOR OFFICIAL USE ONLY

9. How much is your monthly income?
   a. Less than K100 000
   b. K101 –K200 000
   c. K201 000 – K300 000
   d. K301 000 – K400 000
   e. K401 000 – K500 000
   f. Above K500 000

SECTION B: KNOWLEDGE

10. Have you ever heard of fever due to malaria?
   a. Yes
   b. No

11. If answer is yes, what is malaria?

____

12. What do you understand causes malaria?
   a. Mosquitoes
   b. dirty water or food
   c. sugar cane
   d. Harmful spirits
   e. Don't know

FOR OFFICIAL ONLY USE

9. What are the symptoms of malaria in young children under five years of age?
   a. Hot body
   b. Convulsions
   c. Diarrhoea
   d. Loss of appetite
   e. Vomiting
   f. Others, specify____________________

10. What danger signs of illness would tell you that your child should be taken to a health facility?
   a. Convulsions
   b. Passing dark urine
   c. Not feeding well
   d. Persistent fever
   e. Others, specify ______________________________

11. Where do you get your IEC on malaria from?
   a. Health centre
   b. CHW
   c. Mass media
   d. Friend

12. Did the source tell you on how to control body temperature when it is high?
   a. Yes
   b. No

FOR OFFICIAL USE ONLY

13. If yes, how do you control body temperature when it is high?

____

14. Did the source also tell you on how to prevent fever due to malaria?

a. Yes

b. No

15. If yes how do you prevent fever due to malaria?

____

16. In your own opinion, do you think IEC improves utilisation of health facility?

a. Yes

b. No

17. If the answer is yes, how does it improve utilisation of health facility?

____

18. What medicine can you give your child when he /she develops fever due to malaria?

a. Chloroquine

b. Coartem, fansidar, quinine

c. Septrin

d. Others, specify ____________________

FOR OFFICIAL USE ONLY

19. For a child who is 3years, how much coartem are you supposed to give?____________________

20. For a child who is three years, how much fansidar are you supposed to give? ____________________

SECTION C: ATTITUDE

21. At what stage would you seek medical attention when the child has fever due to malaria?
    a. Immediately child develops fever
    b. Child stops feeding
    c. When drugs fail to control the high fever.

22. Do you think that fever is a dangerous symptom?
    a. Yes
    b. No

23. Why do you think it is a serious problem?
    a. Child may start convulsing
    b. Child may develop brain damage
    c. Child may die
    d. Others, specify ____________________

FOR OFFICIAL USE ONLY

24. What was your first source of health care when child developed fever?
    a. Medical centre
    b. CHW
    c. Prophet
    d. self treatment

25. What is the distance from your home to the nearest health centre?
    a. 0 – 5km
    b. 6 – 10km
    c. More than 10 km

26. Does distance hinder you from accessing health services?
    a. Yes
    b. No

27. Do you think that cultural beliefs about fever Prevent mothers from utilising the health services when children develop fever due to malaria?
    a. Yes
    b. No

28. If the answer is yes, what cultural beliefs prevent utilisation of health facility ______________________

____

FOR OFFICIAL USE ONLY

SECTION D: PRACTICE

29. Describe to me what you did to the Child when the body was hot and the Child was ill?
    a. Covered the Child with more clothes
    b. Removed extra clothing from the Child
    c. Bathed Child with cold water
    d. Gave antipyretic
    e. Sought medical care

30. Which medicine did you use to treat your child with fever?________________________

31. Where did you get the medicine you used?
    a. Community Health Worker
    b. Health centre
    c. Shop
    d. Left over drugs

32. Do you normally afford or access such drugs?
    a. Yes
    b. No

33. Do you have ITNs for your under five children in your home?
    a. Yes
    b. No

34. If the answer is yes, how often do you use ITNs?
    a. Every night
    b. Occasionally

THANKYOU FOR YOUR COOPERATION AND PARTICIPATION

END OF INTERVIEW

MARKING KEY

APPNDIX II

SECTION B: KNOWLEDGE

Question Number	Question	Answer	Score
10	Have you ever heard about fever due to malaria?	a	1
11	If yes, what is malaria	Correct definition	1
12	What do you understand causes malaria	a	1
13	What are the symptoms of malaria in young children?	a, b, c, d	4
14	Where do you get your IEC on malaria from?	a, b, c,	3
16	How do you control body temperature when it is high?	Any 2 correct responses	2
18	How do you prevent fever due to malaria?	Any 2 correct responses	2
19	Do you think IEC improves utilisation of health facility	a	1
20	If yes, how does it improve utilisation of facility	Correct response	1
21	What medicine can you give to your child when he/she develops fever due to malaria	b	3
22	For a child who is 3 years, what is the dosage for coartem®	Correct response	1
23	For a child who is 3 years, what is the dosage for fansidar	Correct response	1
	TOTAL SCORE		**21**

	SECTION C: ATTITUDE QUESTIONS		
	At what stage do you seek medical attention when your child has fever?	a	1
	Do you think that fever is a dangerous symptom?	a	1
	If yes, why do you think it is a dangerous symptom?	a, b, c,	3
	What was your first source of health care when child developed fever due to malaria?	a, b	2
	Do you think that cultural beliefs about fever prevent mothers from utilising the health services when children develop fever	b	1
	If yes, what cultural beliefs prevent utilisation of health services?		0
	TOTAL SCORE		**8**

	SECTION D: PRACTICE QUESTIONS		
estion nber	Question	Answer	score
	Describe to me what you did to your child when the body was hot?	b, c, d, e	4
	Which medicine did you use to treat the child with fever	Any antipyretic or anti-malarial	2
	Where did you get the medicine from	a, b	2
	Do you normally afford to buy drugs	a	1
	Do you have ITNs for your under five children	a	1
	If answer is yes, how often do you use them	a	1
	TOTAL SCORE		11

APPENDIX III: WORK PLAN SCHEDULE

TASK TO BE PERFORMED	DATES	PERSONNEL ASSIGNED TASK	DAYS REQUIRED
Literature review	Continuous	Investigator	Continuous
Formulation of research proposal	10th April to 4th August, 2006	Investigator	20days
Clearing from national funding authority	5th August to 12th August	Investigator	7days
Conducting pilot study	29th September to 31st September	Investigator	3 days
Data collection	4th September to 4th October	Investigator/research assistant	30 days
Data analysis	10th October to 10th November	Investigator	30 days
Report writing	11th November to 11th December	Investigator	30 days
Draft report to PBN	12th December to 26th December	Investigator	14 days
Finalizing Report	27th December to 27th January	Investigator	30 days
Monitoring and evaluation	continuous	Investigator	Continuous

APPENDIX IV: GANTT CHART

ACTIVITY	RESPONSIBLE PERSON	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	JAN	FEB	MA
Developing of research proposal	Researcher												
Literature review	Researcher												
Data collection	Researcher												
Finalising research proposal	Researcher												
Clearance	Researcher												
Pilot study data collection	Researcher												
Data collection	Researcher												
Data analysis	Researcher												
Report writing	Researcher												
Draft report to PBN	Researcher												
Finalizing report	Researcher												
Dissemination, monitoring and evaluation	Researcher												

PPENDIX V: BUDGET FOR A RESEARCH STUDY

em	Quantity	Unit Cost (K)	TOTAL cost (K)
ationery			
eam of paper	3	25,000	75,000
encils	4	300	1,200
ens	4	1,000	4,000
otebook	2	5,000	10,000
skettes	2	3,000	6,000
apler	1	15,000	15,000
aples	1	5,000	5,000
ppex	1	7,500	7,500
lculator	1	30,000	30,000
p Chart	1	40,000	40,000
ibbers	2	1,000	2,000
ler	1	1,000	1,000
x file	1	12,000	12,000
lders	2	2,000	4,000
btotal			202,900
cretarial services			
ping research proposal	50 pages	2,500	125,000
ping research interview	12 pages	2,500	30,000
hedule	52 x 12	200	120,800
otocopying interview schedule	pages	2,500	250,000
ping research report	100 pages	200	80,000
otocopying research report	100 x 4		
btotal			**605,800**

Item	quantity	Unit cost	TOTAL cost
Binding services Research proposal Research report	2 4	10,000 30,000	20,000 120,000
Subtotal			**140,000**
Field expenses transport	1	50,000	50,000
Meal allowances Researcher Workshop dissemination of research results	1x10 days 1 day	50,000	500,000 300,000
Subtotal			1,150,000
Sub grand TOTAL			**2,098,700**
Contingency 10% of Subtotal			209,870
Grand TOTAL			**2,3085,70**

BUDGET JUSTIFICATION

Researcher's Honororium

This will be needed for the researcher to cater for transport and meals since the health centre is far from where the researcher stays.

Stationery

The researcher will need to carry out research, paper for typing, pen and pencil for tippex for making corrections, stapler and staples for securing

papers together, folder and clips for filing research documents. A calculator will be used during data analysis.

Secretarial Services

These will help to type, photocopying the questionnaires and reports as well as binding.

10% Contingency of TOTAL amount

The 10 % contingency will help in case of rise in prices in the course of the research.

University of Zambia

School of Medicine

Department of Post Basic Nursing

P.O. Box 50110

LUSAKA

14th August, 2006

The District Director of Health

Chongwe Health Board

P.O. Box 25

CHONGWE

UFS: The Head of Department

Department of Post Basic Nursing

P.O. Box 50110

LUSAKA

Dear Sir/Madam,

Re: REQUEST FOR PERMISSION TO COLLECT DATA

I am a final (4th) year student in the Department of Post Basic Nursing Department of the School of Medicine at the University of Zambia.

In partial fulfillment of the award of Bachelor of Science degree in Nursing, I am required to carry out a research study. My topic of study is "Factors contributing to poor management of fever due to malaria among under five children by mothers and care takers in Chongwe District".

My study population will be mothers and care takers bringing their children to the health centre presenting with fever due to malaria. The sample size will be 50.

I therefore request for your permission to administer the questionnaires to the mothers and care takers reporting to Chongwe Rural Health Centre and Chalimbana Rural Health Centre with children suffering from fever due to malaria.

I intend to carry out this exercise in your district from 27th August to 31st September 2006.

Your assistance will be highly appreciated.

Yours faithfully,

Kaluba Dynes Chinyama