

**THE UNIVERSITY OF ZAMBIA  
SCHOOL OF MEDICINE  
DEPARTMENT OF POST BASIC NURSING**

**A STUDY ~~TO~~ DETERMINE KNOWLEDGE, ATTITUDE AND  
PRACTICES TOWARDS MALARIA PREVENTION IN MISISI  
COMPOUND – LUSAKA.**

**BY**

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To all I say, **THANKYOU.**

## **ABSTRACT**

The aim of the study was to determine knowledge, attitudes and practices of residents of Misisi compound towards the prevention of malaria. The general objective was to find out what the community was doing in preventing and controlling malaria and what difficulties they were encountering.

Literature review was done from the global, regional and national perspectives both empirically and theoretically and was based on the factors causing malaria and methods of prevention with special regard to community activities and participation.

A descriptive study using a structured interview schedule and focus group discussion was used. A systematically selected random sample of 50 heads of household participated in the study, after a pilot study was conducted on a systematically selected random sample of 10 heads of households of Kanyama compound.

Data was collected in a period of 10 days from the 20<sup>th</sup> to the 30<sup>th</sup> of August 2000. The data was analysed manually and presented in tables and cross tabulations. It was hoped that this information would be used by the relevant authorities to enable them make decisions on strategies to use for preventing and controlling malaria.

The study results revealed that majority of the respondents had adequate knowledge on the cause, treatment and prevention of malaria and 50% of these respondents got their information from health centres.

The study also revealed that despite the high levels of knowledge in the respondents, 56% of them had a negative attitude towards malaria prevention with 46% putting the responsibility of prevention on health workers. It was also observed that education did not have an impact that could change the attitude of respondents towards malaria prevention because the study showed that 46% of those who attained formal education had a negative attitude.

The study also revealed that practices of malaria prevention were quite poor due to the negative attitude that respondents had and/or the low economic status of most of the respondents which was compounded by the poor construction of the houses they lived in.

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

- The need for health workers at the clinics to have close links with the community members so that they help the community identify the problems they face and together with the health workers set strategies on how to implement preventive measures.
- The need for the National Malaria Control Centre to extend the program of 'Roll Back Malaria' as quickly as possible to all residential areas especially the shanty compounds of Lusaka where the residents live in abject poverty and cannot afford to implement all preventive measures.

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## **LIST OF ABBREVIATIONS USED IN THE STUDY**

**CBOH** – Central Board of Health

**CSO** - Central Statistics Office

**Et al** - And Others

**LUDHD** - Lusaka Urban District Health Board

**MOH** - Ministry of Health

**NMCC** - National Malaria Control Centre

**U.N** - United Nations

**WHO** - World Health Organisation



## DECLARATION

I, *Munalula Akakulubelwa*, hereby declare that the work presented in this study for the Bachelor of Science in Nursing has not been presented either partially or wholly for any other degree.

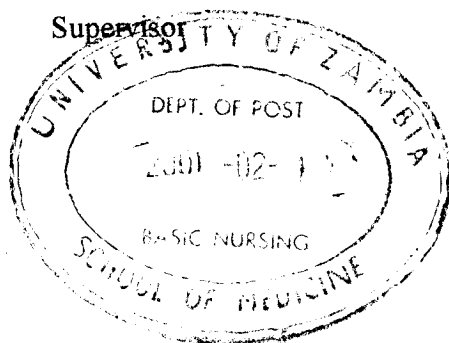
Signed *Munalula* .....

Candidate

Date *14<sup>th</sup>* February, 2001 .....

Signed *Thelele* .....

Date *15<sup>th</sup>* Feb 2001 .....



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## STATEMENT

I hereby certify that this study is the result of my own labour and independent investigation. The various sources to whom I am indebted are clearly indicated throughout the text and in the bibliography.

Signed.....*Daniela*

Date *14<sup>th</sup>*..... February, 2001 .

## **DEDICATION**

In loving memory of mum and dad

And

To my 'baby' Biku Elizabeth.

## **CHAPTER ONE**

### **INTRODUCTION AND STATEMENT OF THE PROBLEM**

#### **1.0 INTRODUCTION**

##### **1.1 BACKGROUND INFORMATION**

Malaria is a serious illness caused by a plasmodium parasite. There are four types of plasmodium parasites that can cause malaria in humans and these are plasmodium falciparum, plasmodium malariae, plasmodium vivax and plasmodium ovale. In Zambia, 95% of malaria cases are caused by plasmodium falciparum, which is the parasite, associated with severe malaria (NMCC, 1999).

Malaria is by far the world's most important tropical parasitic disease. There are 300-500 million cases of, and 1.5-2.7 million deaths from malaria every year, the worst affected being poorest countries and those living under the most difficult circumstance (WHO, 1995). Most malaria cases and deaths (90%) occur in sub-Saharan Africa, mainly in young children. Malaria epidemics are common in Africa, and have occurred recently among refugees from the conflict in the Great Lakes area and in Southern African countries (UN report, 1998). This scourge has not spared Zambia being one of the poor countries in sub-Saharan Africa.

Malaria is endemic in all of Zambia and is a leading cause of morbidity and mortality. It is the most common cause of outpatient attendance and hospital admissions in all age groups. The incident has increased steadily over the years from 226.9 per 1000 people in 1984 to 398.8 per 1000 population in 1998 (NMCC and CBOH, 2000). The mortality rate

has sharply increased, more than doubling from 13.9 per 1000 in 1978 to 51.3 per 1000 in 1994 (MOH, Health Statistics, 1976-1998). These figures are actually an underestimation of the true epidemiological picture of malaria in the country as they represent only the reported cases from public health institutions excluding information from the private practitioners and people who treat themselves when they fall ill with malaria. Malaria is also responsible for significant economic losses, absenteeism and general disabilities in the population.

From the historical review of malaria situation at both local and global levels, it is clear that malaria in Zambia has been, is and will for sometime to come continue to be the most important public health problem. This is because of a number of precipitating factors, which favor the reproduction and development of both the malaria vector and the parasite such as a suitable climate and the emergence of drug resistance to the common anti-malarial drug-chloroquine. The other factor is that malaria is viewed as a medical rather than a public health problem. The malaria problem has also been made worse by disease virulence and loss of immunity in populations. As a result of the above factors, the current health picture shows that malaria tops the five major causes of suffering and deaths in Zambia, others being upper respiratory tract infections, measles, diarrhea and malnutrition (MOH, 1996).

Misisi is a shanty compound in Lusaka urban and is found within Kamwala health center catchment area. Misisi compound is an illegal settlement, which was not planned for by the Lusaka city Council and is therefore not serviced by the Lusaka city council

(Kamwala Health Center action plan, 1998). The compound has been in existence since 1947 when only a few people settled there but eventually grew into a large compound with a very big number of habitats. The population of Misisi is estimated to be around 43, 974 (CSO, 1998). Misisi is about 1 km from the town center and about 500-600 meters from Kamwala health center. It is situated between Kafue road on the south and the southbound railway line on the northern side. The neighboring communities are Chawama, Kuku and Frank compounds on the south, Kamwala township on the eastern side, Chibolya compound on the western side and Kamwala shopping complex on the northern side (Kamwala health center action plan, 1998).

Most of the residents of Misisi compound are self-employed, that is they either sell goods at the market or engage in street vending. Most women are housewives and supplement the family income by selling foodstuffs at their homes or in the market. A good number of men spend most of their time drinking at the taverns so their wives have to look for means of providing for their families alone (Kamwala Action Plan, 1998).

The social economic status of the people of Misisi compound is very low mostly because of their low education level, for this reason they tend to have little access to well paying professional job opportunities. Poor sanitation is one major problem that needs urgent attention with a situation where 10-15 families use one pit latrine. Most of the houses are of poor quality and are incomplete posing a danger to the habitats (Kamwala action Plan, 1998).

## **1.2 STATEMENT OF THE PROBLEM**

Every year, malaria causes clinical illness, often very severe and over a million people die from it (WHO, 1993). It threatens a lot of people, undermining the health and welfare of many families, endangering the survival of children, debilitating the active population and straining both countries and people's scarce resources yet malaria is a preventable and curable disease.

Following political independence in 1964, Zambia was one of Sub-Saharan Africa's most prosperous countries and achieved significant progress in the provision of free social services to its citizens. This included residual spraying of houses with insecticides. Environmental management measures were also in use for arresting vector propagation by eliminating open water surface and vegetation growth. A program of mass prophylaxis especially among school children was also in use. However, the economic decline that began in the mid 1970's coupled with the Structural Adjustment Program of 1991, led to a reversal in the situation. The poor economic status of the people is most likely to have an adverse effect on the transmission of malaria and the increase in the cases being admitted to health institutions.

Misisi is one of the shanty compounds in Lusaka urban. It has a population of about 43,974 and the majority of this population are not in formal employment and their level of education is low meaning that the majority of the population are poor (Kamwala Action Plan, 1998), and may not afford some preventive measures such as spraying of

houses and the purchase of impregnated bed nets. Many may not afford to take care of their health needs especially with the introduction of user fees in health centers and the collapse of residual insecticides spraying programs. The mushrooming of Misisi and many other shanty compounds could also have led to a rapid increase in the incidence of malaria because the available meager resources for control of mosquitoes are not sufficient to adequately cover these areas. From the researcher's observations, the living standards in these compounds are low and the incidence of infectious and parasitic diseases is likely to be high. The majority of houses in these shanty compounds are incomplete making it easy for mosquitoes to move in and out encouraging the vector to host contact. Studies have been conducted and programs implemented to address the problem of high incidence of malaria but they often have not had the desired impact and have only consumed the available resources that are usually not adequate (Chimumbwa, 1996).

Despite preventive measures being put in place, malaria is still the most common cause of hospital admissions. According to the Ministry of health 1976-1998 Bulletins of Health statistics, malaria accounts for 19.6% of the total hospital admissions meaning that malaria is alone responsible for mortalities and morbidities in proportions that are beyond all other diseases.

Malaria remains the leading cause of morbidity in Lusaka district with malaria incidence ranging between 38% and 43% (LUDHD; action Plan, 1999). Several cases of malaria including severe malaria have been reported occurring in great numbers ranging from 597



cases to 1249 per month at Kamwala clinic and most of the patients who reported with malaria to this clinic are those from Misisi compound (Kamwala Clinic Action plan, 1998). The study will therefore endeavor to determine the knowledge residents of Misisi compound have as well as determine their attitude and practices towards malaria prevention. This will help in setting strategies that will empower this community to make their own deliberate programs to prevent and control malaria in their locality as the way forward taking into account their available resources.

Misisi like many other shanty compounds in Lusaka is considered an illegal settlement meaning not much attention is paid to avert health threatening situations and yet the effect of disease on these people is putting a strain on the resources of the Ministry of health. The research therefore seeks to establish if there is a malaria control program in place in this compound and determine how it is being implemented.

Factors that are likely to contribute to the high incidence of malaria in Misisi compound will be discussed as follows: -

**1. Socio- economic status:**

The majority of the population in Misisi compound is less likely to have adequate financial resources because most of them do not have adequate skills to enable them get into well paying jobs. They may be semi-literate since most of them come from villages while following relatives for possible assistance in securing jobs in the big city. They may be involved in menial jobs and 'piece work' to make ends meet. It is these inadequate financial resources which may not enable them carry out preventive

measures in malaria prevention, such as, purchase of mosquito repellents, sprays and bed-nets. When they fall sick, they may seek medical attention from the clinic only to be informed that they can not be attended to because they do not possess a medical scheme or that there are no medicines and are therefore expected to buy. Many times these people just return home and wait for nature to take its course because they have no means of buying the prescribed medicines. There are only a few residents in the compounds who have the resources to afford items such as insecticides, mosquito repellents and bed-nets. These are able to seek medical attention because they have the means to purchase the medical schemes and buy drugs when required.

## **2. Traditional practices:**

Many Zambians who have migrated to town come with imbedded traditions and culture and it is most likely that some people prefer seeking help from traditional healers than from health centers because traditional healers offer cheaper services and have more time for their clients. This is so because there are many traditional healers stationed in almost every corner of the compounds and so the doctor to patient ratio is small meaning that they can afford to spare even 1 hour for each client. Some culture and traditional beliefs bar the clients from taking conventional medicine because they believe this will make 'spirits' unhappy. Educated people are also found to fall victim to such beliefs.

### **3. Lack of knowledge:**

The next factor that could contribute to the high incidence of malaria is lack of education. While people who are educated are economically independent and can afford to implement the needed preventive measures, people with little or no education are most likely to be poor and can not afford to implement these preventive measures. They are also less likely to adhere to the advice given during health education talks because they do not understand the importance of these preventive measures the way educated people would. Lack of knowledge can also lead to non-compliance with malaria treatment. They are most likely to stop treatment after they start to feel better because they do not understand the implications of not completing the prescribed course.

### **4. Service factors:**

Another factor that is likely to lead to the increase in malaria incidence is the continuous shortage of drugs and diagnostic reagents in health care facilities where the infected are not adequately and effectively treated. These people are allowed to move around with the parasite posing the risk of spreading the parasites to other people. Mendis et al (1990) state that the malaria sufferer in the community serves as a pool for re-infection of other residents.

The negative attitude of some members of staff towards the clients has also led to clients shunning the health centers. On the other hand, members of staff do not take time to educate their clients on the preventive measures against the disease and yet Nyawa (1994) in his study stated that knowledge on malaria is essential to the

community as it is only when the community members have appreciated the dangers of the disease that they can embark on malaria control strategies.

#### **5. Unhygienic surroundings and incomplete houses.**

Many surroundings in Misisi compound have pools of water and rubbish heaps near homes and these could provide breeding places for mosquitoes. Some houses that are occupied are incomplete and could also promote the vector to host contact leading to the people contracting the disease. This is supported by the study conducted by Schofield and White (1984) that showed that housing conditions including environmental factors such as proximity to breeding sites contribute to the increase in malaria cases. Mendis et al (1998) also stated that individuals living in houses with an incomplete roof, windows without shutters and doors with holes were subject to repeated malaria infections while others in houses without these characteristics experienced little infection.

#### **6. Attitude of the people**

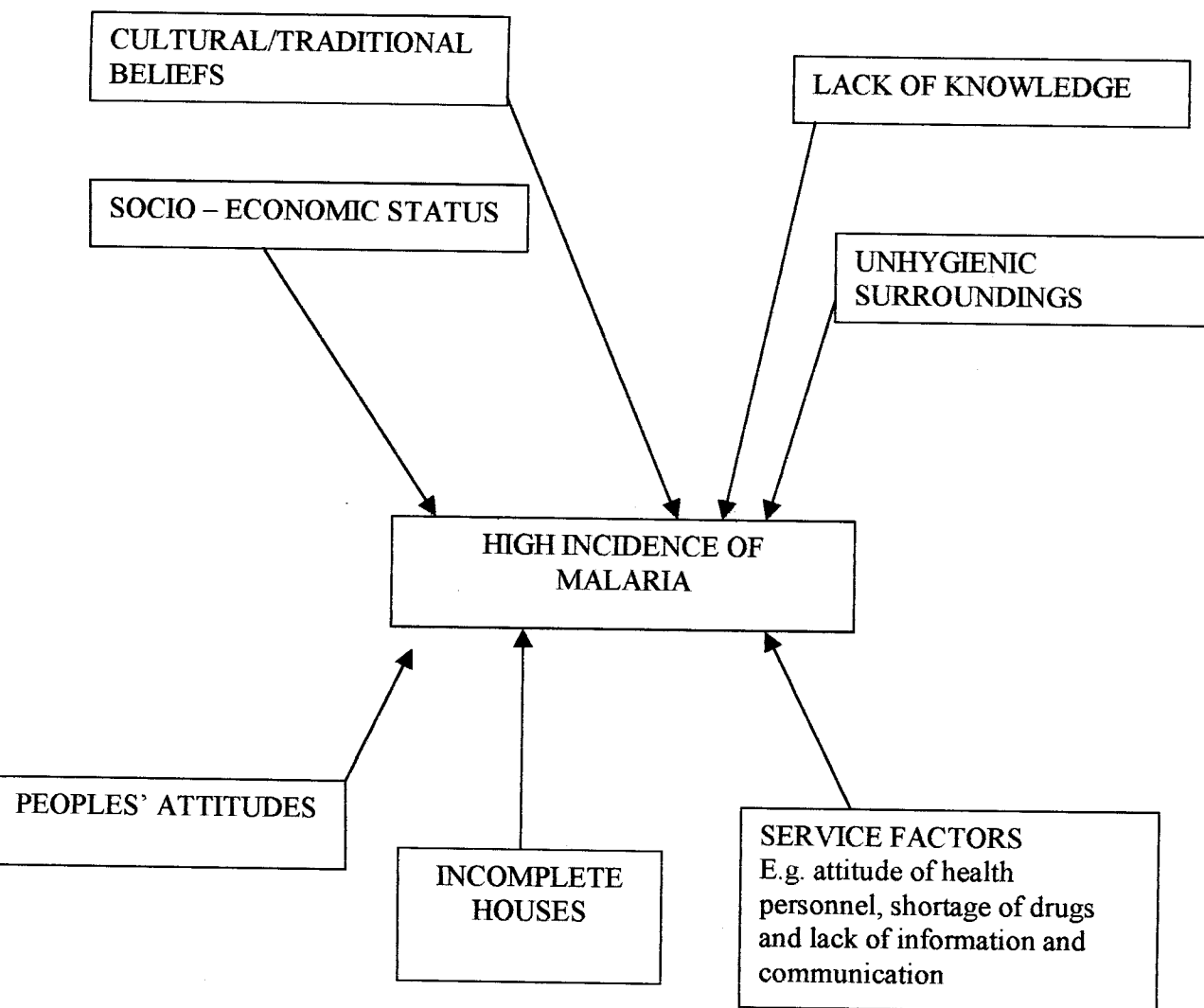
Lastly resident's negative attitude could also have contributed to the high morbidity and mortality rates. They could have the knowledge but they do not utilize this knowledge in a way that would improve their health. Some of the practices are rooted in what they have been taught by their ancestors and these remain unchanged despite correct information being given by health workers. Some of these negative

attitudes and behaviors on malaria prevention and control could have developed over a period of time and these include:

- indiscriminate disposal of garbage near homes
- windows and doors not closed in time in the evenings
- leaving pools of water without filling them up and
- not wearing protective clothing in the evenings.

Health workers have given Information Education and Communication (IEC) on malaria prevention on these areas and until residents change their attitudes, they will continue to suffer from malaria and its debilitating effects.

**1.3 DIAGRAM OF FACTORS CONTRIBUTING TO HIGH INCIDENCE**  
**OF MALARIA**



## **1.4 JUSTIFICATION**

The importance of malaria prevention is to prevent mortality and reduce morbidity and its social and economic consequences. An insight into the factors contributing to high incidence of malaria will greatly help the policy makers in planning the preventive measures to be put in place in Misisi compound so as to meet the desired objectives. The results will also help the health workers especially those at the Ministry of Health and National Malaria Control Center set strategies on how to implement the preventive measures against malaria.

## **1.5 HYPOTHESIS**

- Inadequate knowledge on the causes and prevention of malaria has led to the increase in malaria cases.
- Negative attitude of the community members towards the prevention of malaria has led to the high morbidity and mortality rates.
- Poor practices in the prevention of malaria have led to the increase of malaria cases.

## **1.6 OBJECTIVES OF THE STUDY**

### **GENERAL OBJECTIVE**

To determine what people in Misisi compound know about malaria, its prevention and control and what they were doing to control it as individuals, families and as a community.

### **SPECIFIC OBJECTIVES**

- ♦ To determine the knowledge residents have towards the causes, treatment and prevention of malaria.
- ♦ To determine their source of information and knowledge about malaria.
- ♦ To establish the attitudes of the residents towards the prevention of malaria.
- ♦ To identify problems faced by residents in the prevention of malaria.
- ♦ To identify the residents' practices towards malaria prevention and treatment.
- ♦ To make necessary recommendations to relevant authorities for improvement of the malaria situation.

### **OPERATIONAL DEFINITION OF TERMS**

For the purpose of this study, the following terms are defined as follows: -

- ♦ **Knowledge:** information or facts that one has in mind about something.
- ♦ **Attitude:** A stand taken by a person over a given issue. The way the person thinks, feels or behaves.
- ♦ **Practice:** The actual doing of something rather than having ideas or theories.
- ♦ **Morbidity:** The number of sick individuals
- ♦ **Mortality:** The number of deaths in a particular period of time and place.
- ♦ **Prevention:** the act of stopping something from happening.
- ♦ **Determine** to find out about something.



## 1.7 **VARIABLES USED IN THE STUDY**

### **INDEPENDENT VARIABLE:**

This is a variable that influences other variables. It is perceived as contributing to or preceding a particular outcome. The following independent variables will be used in the study.

Knowledge

Attitude

Practice

### **DEPENDENT VARIABLE:**

This is the outcome variable. It reflects the effect or response to the independent variable. These are the dependent variables;

Age

Education level

Income

Marital status

**INDICATORS AND CUT-OFF POINTS FOR VARIABLES**

**Table 1**

<b>VARIABLE</b>	<b>INDICATOR</b>	<b>CUT-OFF POINT</b>
Knowledge	High	Responses to questions with score 5 and above
	Average	Responses to questions with score 3- 4
	Low	Response to questions with score 2 and below
Attitude	Positive	Acceptance of preventive measures
	Negative	Non-acceptance of preventive measures
Practice	Practicing	Practicing one or more of the preventive measures
	Not Practicing	Not implementing any of the preventive measures
Age	Old	35-44 years and above
	Middle	25-34 years
	Young	15-24 years
Marital Status	Married Single Divorced Widowed	

VARIABLE	INDICATOR	CUT-OFF POINT
Education	High	Grade 12 and above
	Intermediate	Grade 8 – 12
	Low	Grade 1- 7
	None	Below grade 1
Economic status in terms of monthly income	High	K300,000.00 and above per month
	Medium	K200,000.00 –K250,000.00 per month
	Low	K100,000.00 and less per month

## **CHAPTER TWO**

### **2.0 LITERATURE REVIEW**

#### **INTRODUCTION**

Malaria has tormented humanity since prehistoric times and continues to cause severe social and economic progression in most developing countries, Zambia included. It is predominantly a third world disease which western drugs and pesticides have lamentably failed to conquer (Mwanza, 2000). “The treadmill of chemicals and resistance has cost the Third World billions of dollars and it is claimed that 51 out of 60 malaria carrying mosquitoes – the anopheles – exhibits this costly resistance” (Mwanza, 2000).

So much has been said and written about malaria, its prevention and control worldwide. It draws a lot of attention in that it is a major public health problem that accounts for many deaths when it can actually be prevented. However, it is not only a public health problem but it also represents a serious obstacle for the socio –economic development as it interferes with industrial and agricultural development. (Rajos, et al, 1992). The Sunday Times of Zambia of April 23, 2000 also reported that according to the world health Organisation, economic consequences of malaria in the developing world have continued to rise and the disease is seen to be one of the major contributors to worsening poverty in developing Countries and underdevelopment in the sub-Saharan region. The cost of malaria including lost work time and money spent on treatment, reduces the growth rate of most sub – Saharan African countries by more than one percentage point each year.

## 2.1 GLOBAL PERSPECTIVE

Malaria is one of the World's most devastating diseases. "More than half of the World's population lives in endemic areas and an estimated 1.5 – 2.7 million people die from the disease each year" (WHO, 1995). The most recent estimates by World Health Organization (1995) show that there has been 300 – 500 million Clinical cases each year with countries in tropical Africa accounting for 90% of these.

Sunday Times of Zambia, April 23, 2000 in a report, "Malaria; A Third World Disease" put the global figures as follows.

- Sub – Saharan Africa 270 – 480 million cases including 140 – 280 million cases in under fives.
- South Asia 2.6 million reported clinical cases, including 2.1 million in India.
- West Asia and Oceania 1 million reported Clinical cases, of which 500,000 in Thailand, Vietnam and the Solomons.
- The Americas 2.2 – 5.6 million clinical cases, including 1.1 – 2.8 million in Brazil.
- Europe including the former USSR 12,000 cases mainly in Turkey.

The above figures may show that the hope to win the battle over malaria is still some decades of years away but there is still hope that one day the disease will certainly be wiped out from our planet. Mwanza in the same paper reports that Scientists in the USA are reported to have developed an antigen, a protein which muster the body's defences against the invading parasite.

It is possible to eradicate malaria as long as mosquitoes are defeated and those infected are effectively treated. This was seen in a study conducted in Trinidad and Tobago in 1965 entitled, "Spatial and Temporal Patterns of imported malaria cases and local transmission in Trinidad", it showed that these areas were declared free of malaria but in 1984, 114 imported cases and 15 relapse cases were detected. These were successfully treated and this area remained malaria free for 25 years until an outbreak occurred again in 1991 brought about by one adult male who was infected in Perdaneles (Chadee and

Kitron, 1999). This then is an indication that as long as those infected are not effectively treated and the mosquitoes are not eradicated, this fight will continue for years without success.

Knowledge on malaria prevention dates back in history. "Herodotus (484 –525 BC) observed that parts of Egypt, above the marshes, people slept in loft towers which mosquitoes could not reach. In the 13<sup>th</sup> Century, Marco Polo noted that the wealthy residents of Coromandel Coast in India slept on bed stands with curtains which could be closed at night. Later, mosquito nets and window screens were regarded as protection not only from mosquito bites but also from miasmatic exhalation (bad air) then thought to cause malaria." (MOH, 1993). From this information, it can be noted that ancient people carried out some protective measures against mosquito bites and 'bad air' which they thought caused malaria but did not come up with what really causes malaria until 1897 when special control of malaria started with the discovery of malaria parasites in 1880 and mosquito vectors in 1887(Park, 1986).

Wherever malaria is, it interferes with human progress and development. Only by bringing it under control can its disrupting effect come to a standstill. The World Health Organization in their report titled "Preventive action and intensification of the struggle against malaria and diarrhea diseases" put in place a global malaria control strategy aimed at preventing mortality and reducing morbidity and its social and economic consequences through the progressive improvement and strengthening of national and local capabilities. This strategy had four basic elements and these were:

- To provide early diagnosis and prompt treatment.

- To plan and implement selective and sustainable preventive measures, including vector control.
- To detect earlier, contain or prevent epidemics.
- To strengthen local capacities in basic and applied research so as to permit and promote the regular assessment of a country's malaria situation in particular the ecological, social and economic determinants of the disease (WHO, 1995-2000).

WHO allocated US \$20 million to intensify the implementation of this program and by mid 1997, 47 of the 49 malaria endemic countries in Africa had completed national plans of action for malaria control. World wide, over 90 percent of countries affected by malaria are at various stages of implementing appropriate malaria control programs thus meeting the target set in 1995 (WHO 1995 – 2000).

## 2.2 REGIONAL PERSPECTIVE

In tropical Africa where malaria is deeply entrenched, more than 373 million people live in endemic areas where plasmodium falciparum is the dominant parasite. According to WHO (1995), Malaria causes more than 1 million deaths and produces often debilitating clinical illness in 250 – 450 million people in Africa. The impact of malaria is not limited to clinical malaria, parasitemia or malaria related death but also interacts in many ways with a constellation of other illnesses and conditions. Certain population subgroup are more affected than others and thereby at higher risk. This fact is seen in the study that was conducted by Mc Gregor in 1994 in Nigeria entitled "Epidemiology, malaria and pregnancy". He found that women have decreased resistance to malaria during pregnancy and so during pregnancy, malaria episodes are more frequent and infections are more severe.

Despite efforts to control malaria in Africa, the incidence has increased steadily over the last decades. This could be due to lack of knowledge, negative attitude towards prevention of malaria or due to other factors such as drug resistance or impoverished economies resulting in inadequacies in essential drugs and control tools. A global study

that was conducted by the World Health Organisation in 1994 showed that malaria affects mostly the poorest countries and those living under the most difficult circumstances. In other areas of the world, serious problems remain in frontier areas of economic development and in countries affected by social disruption (WHO, 1995) Asenso-Okyere reports in the study he conducted in Ghana in 1994 entitled "Socio-economic factors in malaria control" that knowledge of people's perceptions of malaria and of the socio – economic implications of the disease is of considerable value when control programs are being implemented because these will be planned to suit the capabilities of the community members.

In many parts of the African region, many people are still ignorant of what causes malaria. In Ghana, Kwando (1994) conducted a study entitled "People and health, social economic factors in malaria control" and found that many people perceive malnutrition, excessive heat, excessive drinking, flies, fatigue, dirty surroundings, unsafe drinking water, bad air and poor personal hygiene as causing malaria. Some of the adults think malaria can be transmitted through sharing crockery or beds, by over crowding in bedrooms, through sex, as a result of snoring or by stepping on the urine of infected persons. In most cases, such ignorance is attributable to low education levels.

In June 1997, the Assembly of Heads of State and Government of the Organisation of African Unity adopted the Harare Declaration on Malaria Prevention and Control in the context of African economic recovery and development. In the declaration, the assembly pledged to consider malaria control a priority reaffirmed its endorsement of the global malaria control strategy and the actions of WHO in its implementation. It called upon member states to give political support to malaria control, to develop and implement plans of action for malaria prevention and control and to ensure well – co-ordinated multi sectoral action (WHO 1995).



### 2.3 ZAMBIAN PERSPECTIVE

The high incidence of malaria is one of the major public health problems in Zambia (Wenlock 1979), and is causing great concern to health authorities and communities at large. Malaria is not just a rural health problem but also prevalent in urban areas such as Lusaka. Mwambazi and Keller (1983) in their study "Malaria and Child Feeding in Urban Zambia", conducted in Lusaka speculated that nearly half of Zambia's population would be urban dwellers and live in high density residential areas mainly squatter compounds, where living standards are poor and incidence of infectious and parasitic diseases are substantial.

From observation, Misisi Compound is one of these high-density areas in Lusaka. Furthermore, many houses in this compound remain only partially constructed and the environmental sanitation very poor. Marsden (1967) in the study entitled "Malaria diminishing but still dangerous" conducted in Kitwe view partially constructed houses as being easily accessible to mosquitoes than the complete houses. This study is also supported by the study conducted by Gunawardena et al (1998) in which they observed the association between poorly constructed houses and the higher risk for malaria. The study showed that when the houses were structurally improved, malaria was reduced by 36% in the whole population and by 75% in the communities whose houses were improved. Poor environmental sanitation also encourages mosquito breeding and so increase the chance of spread of malaria. This factor could also contribute to the high incidence of malaria in Misisi Compound.

Jamison and Feacham (1991) in their study, "The effects of period of malaria control" conducted in Kenya hold the view that open sewage water creates a breeding place for mosquitoes. They further state that pit latrines are other important breeding places especially if they are dug to reach the water level and these are the only types of toilets in use in Misisi Compound. According to the above discussion, one might say that the high incidence of malaria in Misisi Compound can be attributed to the environment of the compound, the partially constructed houses, pit latrines and the use of pits for garbage disposal.

It has long been believed that malaria mosquitoes breed and rest in maize fields. As a result, the mosquito Extermination Act of 1944 banned the growing of maize near residences. This was disputed by Watts and Bransby Williams (1978) in a study entitled "A community perspective on the efficacy of malaria prevention in Lundazi District", where they found that the malaria mosquito did not breed or rest in maize leaf axils. They therefore advised local authorities that slashing of maize plants should not be carried out in the name of malaria control because it had nothing to do with it.

It was also long believed that malaria mosquitoes breed and rest in tall grass. Local health authorities and communities still focus prevention efforts on slashing grass around residences. A study conducted by Milimo in 1997 entitled "Ethnographic study of malaria in Zambia" however has shown this to be false (NMCC, CBOH 2000).

During the dry season when there is little water available, mosquitoes rest and breed in cool damp places. They may also be found anywhere that has retained a little water such as water tanks, manholes and cisterns, tree holes and even small puddles made by animal hoofs or human footprints. Penny Dickinson reported on the Roll Back Malaria project on Focus report on Zambia National Broadcasting Corporation on 7<sup>th</sup> November 2000 that a mosquito can breed even in 5 millilitres of water.

In another study conducted in Samfya District in 1996 by Chimumbwa on knowledge, attitude and practices towards malaria prevention, community members listed as common causes of malaria mosquitoes, bad air, bad water and insect bites. Others were unhygienic habits, rain and change of residential places. Only about 6% of the sample said they did not know what caused malaria. This study shows that some people have knowledge about the causes of malaria but the majority still have very little knowledge. In the same study, Chimumbwa also looked at the perception of malaria that people had and the intervention on its prevention. He reported that many families rely on self medication once they suspect malaria such as hot fermentation with herbs boiled with sand. Medical services are sought only when they develop chills and body weakness. If they experience

nightmares, it is attributed to supernatural causes for which they seek help from spiritualists. This study shows that with incorrect means of treatment, the possibility of having the disease spreading is very high.

## **CONCLUSION**

Practices in the prevention of malaria mainly depend on the attitude and knowledge the community members have concerning the disease. During the first part of the last century, large anti-malarial campaigns led to the eradication of malaria in many areas and to a controlled situation in others. Currently, there are epidemics in many parts of the tropical world. This reminds us of how quickly this disease can strike and how great its devastating effect can cause untold suffering and tragedy if correct means of prevention and treatment are not taken.

## **CHAPTER THREE**

### **3.0 METHODOLOGY**

#### **3.1 INTRODUCTION**

Methodology is the process concerned with the development, testing and evaluation of research instruments and methods used in research investigations. This helps to improve the reliability and validity of data collection tools.

#### **3.2 RESEARCH DESIGN**

A non-intervention descriptive study was used in this research project. A descriptive study is a study in which the relationship between variables is examined. No attempt is made to determine cause and effect relationships. A descriptive study was used in this study because data had to be systematically collected and presented in order to give a clear picture of what exactly people in Misisi Compound were practicing towards the prevention and control of malaria. The study was both qualitative and quantitative as it sought to explore the knowledge the residents had and the practices that the residents were undertaking as well as to reflect the attitude of residents with respect to the practices they were undertaking.

### **3.3 STUDY SETTING**

The study was conducted in Misisi Compound, which is a residential area in the city of Lusaka with a high incidence of malaria. The compound has a population of about 43, 974 and constitute mostly people of low-income status (CSO, 1998). Only few of those involved in selling merchandise have a medium income. Most of the houses in Misisi Compound are self-constructed and some of these houses are partially constructed with small windows that are not covered in most cases.

The population characteristics of the residents of Misisi ranged from those who had attained medium education to those who were illiterate; hence the variation in the life styles and health related behaviours. This residential area was chosen because of the high incidence of malaria. It was hoped the activities of the community regarding prevention and control of malaria would be established as well.

### **3.4 STUDY POPULATION**

The study population included households both male and female living in Misisi Compound. The sample comprised heads of households – these were chosen, as they are the breadwinners in the families.

### **SAMPLE SIZE**

A total of 50 heads of households were interviewed. A small sample was selected due to the limited time within which the research was to be completed and due to the inadequate funds.

### **3.5 SAMPLING METHOD**

A systematic sampling method was used to select households because it allows every household an equal chance of being included in the study. To be able to get the sampling interval number, the sample size was divided by the total number of households (study population). The method involved was selecting every 10<sup>th</sup> unit of the population after selecting the first unit randomly.

### **3.6 DATA COLLECTION AND TECHNIQUE**

#### **DATA COLLECTION**

Data collection is the procedure used for collecting information. The procedure used should be systematic, well planned and well co-ordinated. In this study data was collected in August 2000. A structured interview schedule and focus group discussions were used. These two techniques were used because they complement each other.

#### **DATA COLLECTION TECHNIQUE**

### **3.7 INTERVIEW SCHEDULE**

A face to face interview that involved oral questioning was conducted using an interview schedule. A questionnaire with closed-ended questions was used on which responses to predetermined questions were recorded. This was so as to prevent miscoding of respondents. The interview schedule was picked on as a data collection tool because of the following advantages:

- There is a higher response rate than written questionnaires.
- It permits for clarification of questions that are not clear.
- It is suitable for use with illiterates.
- It saves time as there is no need to go back to the respondents to collect the questionnaires.
- It is easier for the researcher to make observations on the environment and pick up non-verbal cues.
- All questions are likely to be answered.

### **FOCUS GROUP DISCUSSION**

This is a qualitative research method that offers specialized techniques for obtaining in-depth responses about what people think and how they feel. It enables the researcher to gain insight into attitudes, beliefs, motives and behaviors of the target population. Qualitative research is conducted to answer the question 'why' whereas quantitative research addresses the questions of 'how many or how often'. The qualitative research process is one of discovery as well as being interpretive. There are both conceptual and practical reasons for using qualitative research.

The primary conceptual reason is that it provides greater depth of responses, and therefore, greater understanding of issues under study such as issues of sexuality. The general focus group discussions can be executed and analyzed quickly in the absence of data processing capabilities or computers. Because of its flexibility, the study design can

be modified while it is in progress. It also provides a direct link with the respondents. Focus group discussions generate interaction between the researcher and the respondents by allowing new and valuable ideas to emerge.

This is a group discussion that comprised of a maximum of 12 participants comprising of respondents with the same socio-economic background. This discussion lasted 1 - 1½ hours and the participants were encouraged to talk freely. This helped gather information on how the community perceived the disease. All that was discussed was recorded by a secretary. A total of 4 focus group discussions were conducted.

### **3.8 ETHICAL CONSIDERATION**

In order to conduct the study in Misisi Compound, the researcher sought written permission from the relevant authorities, which are the Lusaka City Council and the Community leaders. Verbal permission was sought from the participants and they were informed of their rights. The purpose and nature of the study was explained to the participants as well as how the findings were to be utilized. They were assured of confidentiality and anonymity by advising them that their names were not going to be included in the questionnaires.



### **3.9. PILOT STUDY**

A pilot study is a small-scale study, which is conducted before the main study on a limited number of subjects from a population with similar characteristics as that intended for the actual project but not from the actual study population. The purpose of the pilot study is to investigate the feasibility of the proposed study and to detect possible flaws in the data collecting instruments.

The researcher conducted a pilot study in Kanyama Compound from the 7<sup>th</sup> to the 11<sup>th</sup> of August 2000 to pretest and assess the validity of the data collection tool. 10 subjects were selected for the pilot study using a systematic sampling method. The feasibility of the sampling procedure was assessed as well as the appropriateness of the format of the questionnaire. Following the pilot study, two more questions were added to the instruments while other questions were re-written for clarity.

## **CHAPTER 4**

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

#### **4.1 DATA ANALYSIS**

This chapter is concerned with the presentation of data that was collected from the residents of Misisi compound involving 50 heads of households. The data was checked for completeness and accuracy. It was analyzed manually using data master sheets. Quantitative data was analyzed by first ordering the responses according to the research objectives and hypothesis then categorized and summarized so that interpretations could be made.

Information from the focus group discussions was reviewed and completed. It was then listed according to the key statements for easy analysis.

#### **4.2 PRESENTATION OF FINDINGS**

The study findings will be presented in table form, that is; frequency tables and cross tabulations. This has been found appropriate because the tables summarize the results in a meaningful way, which facilitates understanding of the study findings.

With the use of a scientific calculator, percentages were rounded off to the nearest one decimal place.

**FREQUENCY TABLE FOR DEMOGRAPHIC DATA**

**TABLE 2**

VARIABLE	<u>FREQUENCY</u>		TOTAL
	MALE	FEMALE	
<u>AGE</u>			
15-24 years	2 (4%)	8 (16%)	10 (20%)
25-34 years	4 (8%)	5 (10%)	9 (18%)
35-44 years	8 (16%)	16 (32%)	24 (48%)
45years and above	0 (0)	2 (4%)	2 (4%)
Do not know	0 (0)	5 (10%)	5 (10%)
<u>TOTAL</u>	14 (28%)	36 (72%)	50 (100%)
<u>MARITAL STATUS</u>			
Single	3 (6%)	3 (6%)	6 (12%)
Married	11 (22%)	19 (38%)	30 (60%)
Divorced	0 (0)	1 (2%)	1 (2%)
Widowed	0 (0)	11 (22%)	11 (22%)
Separated	0 (0)	2 (4%)	2 (4%)
<u>TOTAL</u>	14 (28%)	36 (72%)	50 (100%)

<b><u>EDUCATIONAL LEVEL</u></b>			
No education	1 (2%)	6 (12%)	7 (14%)
Primary	3 (6%)	21 (42%)	24 (48%)
Secondary	9 (18%)	9 (18%)	18 (36%)
College	1 (2%)	0 (0)	1 (2%)
University	0 (0)	0 (0)	0 (0)
<b><u>TOTAL</u></b>	14 (28%)	36 (72%)	50 (50%)
<b><u>OCCUPATION</u></b>			
Casual worker	3 (6%)	1 (2%)	4 (8%)
Professional	0 (0)	0 (0)	0 (0)
Business	3 (6%)	18 (36%)	21 (42%)
Unemployed	6 (12%)	17 (34%)	23 (46%)
Retired	2 (4%)	0 (0)	2 (4%)
<b><u>TOTAL</u></b>	14 (28%)	36 (72%)	50 (100%)
<b><u>FAMILY INCOME</u></b>			
K300,000.00 and above	0 (0)	3 (6%)	3 (6%)
K200,000.00-k250,000.00	2 (4%)	4 (8%)	6 (12%)
K100,000.00 or below	12 (24%)	29 (58%)	41 (82%)
<b><u>TOTAL</u></b>	14 (28%)	36 (72%)	50 (100%)

<b><u>HOUSEHOLD SIZE</u></b>			
Above 12	0 (0)	1 (2%)	1 (2%)
9-12	0 (0)	9 (18%)	9 (18%)
5-8	7 (14%)	16 (32%)	23 (46%)
1-4	7 (14%)	10 (20%)	17 (34%)
<b><u>TOTAL</u></b>	14 (28%)	36 (72%)	50 (100%)

Table 2 shows that majority of the respondents are aged between 35-44years (48%) and majority (48%) had primary school education. Most of the respondents (60%) are married and 46% are unemployed. 82% of the respondents have very low income.

**FREQUENCY TABLES**

**RESPONDENTS WHO HAVE HEARD ABOUT MALARIA**

TABLE 3

<b>HAVE HEARD ABOUT MALARIA</b>	<b><u>FREQUENCY</u></b>		<b>TOTAL</b>
	<b>MALE</b>	<b>FEMALE</b>	
Yes	14 (28%)	34 (68%)	48 (96%)
No	0 (0)	2 (4%)	2 (4%)
<b>TOTAL</b>	14 (28%)	36 (72%)	50 (100%)

This table shows that 96%(48) of the respondents have heard about malaria and the 4%(2) who have not heard about malaria are females.

**RESPONDENT'S SOURCE OF INFORMATION**

TABLE 4

SOURCE OF INFORMATION	FREQUENCY	PERCENTAGE
Hospital/clinic	24	50
At home	18	37.5
Mass media	3	6.3
From experience (self)	2	4.2
School	1	2.08
<b>TOTAL</b>	48	100

This table shows that 50% (24) of the respondents got their information about malaria from the health centers followed by 37.5% (15) from family members.

**RESPONDENT'S KNOWLEDGE ABOUT HOW A PERSON GETS INFECTED WITH MALARIA**

TABLE 5

HOW ONE GETS INFECTED WITH MALARIA	FREQUENCY	PERCENTAGE
Eating contaminated food	4	8
Breathing bad air	0	0
Being soaked in the rains	8	16
Beaten by an infected mosquito	28	56
Do not know	7	14
Others	3	6
<b>TOTAL</b>	50	100

This table shows that 56% (28) of the respondents know that malaria can be transmitted through a bite from an infected mosquito while 16% (8) believe malaria is transmitted by being soaked in the rains.

**RESPONDENT'S RESPONSE ON HOW THEY KNOW THEY ARE SUFFERING FROM MALARIA**

**TABLE 6**

<b>SIGNS AND SYMPTOMS</b>	<b>FREQUENCY</b>	<b>PERCENTAGE</b>
Passing watery stool	2	4
Feeling body pains and fever	42	84
Slight vaginal bleeding	0	0
Others	3	6
Do not know	3	6
<b>TOTAL</b>	<b>50</b>	<b>100</b>

This table shows that 84% (42) of the respondents know they are suffering from Malaria by experiencing body pains and fever

**WHAT RESPONDENTS STATE IS THE TREATMENT FOR MALARIA**

**TABLE 7**

<b>TYPE OF TREATMENT</b>	<b>FREQUENCY</b>	<b>PERCENTAGE</b>
Traditional medicine	4	8
Chloroquine	45	90
Lying in the sun	1	2
Others	0	0
<b>TOTAL</b>	<b>50</b>	<b>100</b>

This table shows that 90% (45) of the respondents believe malaria can be cured by chloroquine followed by 8% (4) who believe it can be cured by traditional medicine.

**WHO RESPONDENTS THINK TREATS MALARIA EFFECTIVELY**

TABLE 8

<b>WHO TREATS MALARIA EFFECTIVELY</b>	<b>FREQUENCY</b>	<b>PERCENTAGE</b>
Traditional healers	3	6
Medical personnel	42	84
Self	4	8
Do not know	1	2
<b>TOTAL</b>	<b>50</b>	<b>100</b>

This table shows that 84% (42) of the respondents think malaria is effectively treated by medical personnel and 6% (3) by traditional healers. 8% (4) of the respondents believe in treating themselves.

**WHO RESPONDENTS THINK IS RESPONSIBLE FOR MALARIA**

**PREVENTION**

TABLE 9

<b>PERSON RESPONSIBLE FOR MALARIA PREVENTION</b>	<b>FREQUENCY</b>	<b>PERCENTAGE</b>
Community members	6	12
Health workers	23	46
Council workers	3	6
Self	7	14
Combined effort of all	11	22
<b>TOTAL</b>	<b>50</b>	<b>100</b>

This table shows that 46% (23) of respondents think health workers are responsible for malaria prevention while only 14% (7) believe in individuals being responsible.



**RESPONDENTS WHO HAVE SUFFERED FROM MALARIA**

TABLE 10

HAVE SUFFERED FROM MALARIA	FREQUENCY	PERCENTAGE
Yes	46	92
No	4	8
TOTAL	50	100

This table shows that 92% (46) of the respondents have at one time suffered from malaria.

**PRECAUTIONS THAT RESPONDENTS TAKE AGAINST MOSQUITO BITES**

TABLE 11

PRECAUTIONS TAKEN	FREQUENCY	PERCENTAGE
Mosquito nets	21	42
Wearing protective clothing	0	0
Closing windows/doors early	1	2
Insecticides	16	32
Nothing	12	24
TOTAL	50	100

This table shows that 42% (21) of the respondents use mosquito nets to protect themselves from mosquito bites.24% (12) of the respondents on the other hand do not take any precautions.

**REASONS RESPONDENTS GAVE FOR NOT TAKING PRECAUTIONS  
AGAINST MOSQUITO BITES**

TABLE 12

REASONS FOR NOT TAKING PRECAUTIONS	FREQUENCY	PERCENTAGE
Treatment against malaria is available	0	0
Can not afford	8	66.7
Mosquitoes still bite even if you practice preventive measures	0	0
Others (do not know how)	4	33.3
<b>TOTAL</b>	<b>12</b>	<b>100</b>

The table shows that 66.7% (4) of those who do not take precautions against mosquito bites say they cannot afford it.

**METHODS RESPONDENTS USE INORDER TO PREVENT BREEDING  
PLACES FOR MOSQUITOES.**

TABLE 13

METHODS USED	FREQUENCY	PERCENTAGES
CLEARING DITCHES	13	26
Cut grass short	3	6
Both of the above	21	42
None of the above	6	12
OTHERS	7	14
<b>TOTAL</b>	<b>50</b>	<b>100</b>

The table shows that 42% (21) of the respondents clear ditches and cut the grass in the surroundings to prevent breeding places for mosquitoes.

**RESPONDENT’S METHODS OF REFUSE DISPOSAL**

TABLE14

WHERE GARBAGE IS DISPOSED OF	FREQUENCY	PERCENTAGE
Dust-bin with a lid	2	4
Dust-bin without a lid	12	24
Rubbish pit	33	66
Heaps besides the house	3	6
Littered all over the place	0	0
TOTAL	50	100

The table shows that 66% (33) of the respondents dispose of their refuse in rubbish pits.

**RESPONDENT’S LEVEL OF KNOWLEDGE IN RELATION TO THEIR AGE**

TABLE 15

AGE	LEVEL OF KNOWLEDGE			TOTAL
	HIGH	AVERAGE	LOW	
15-24years	6 (12%)	1 (2%)	3 (6%)	10 (20%)
25-34years	2 (4%)	6 (12%)	1 (2%)	9 (18%)
35-44years	8 (16%)	11 (22%)	5 (10%)	24 (48%)
45years and above	-	-	2 (4%)	2 (4%)
Do not know	1 (2%)	-	4 (8%)	5 (10%)
TOTAL	17 (34%)	18 (36%)	15 (30%)	50 (100%)

The table shows that 30% (15) of the respondents were less knowledgeable about malaria with majority- 10% (5) being in the age group 35-44years.

**RESPONDENT’S LEVEL OF KNOWLEDGE IN RELATION TO  
EDUCATIONAL LEVEL.**

TABLE16

EDUCATION LEVEL	LEVEL OF KNOWLEDGE			TOTAL
	HIGH	AVERAGE	LOW	
No education	-	1 (2%)	6 (12%)	7 (14%)
Primary	10 (20%)	8 (16%)	6 (12%)	24 (48%)
Secondary	7 (14%)	8 (16%)	3 (6%)	18 (36%)
College	-	1 (2%)	-	1 (2%)
University	-	-	-	-
<b>TOTAL</b>	17 (34%)	18 (36%)	15 (30%)	50 (100%)

This table shows that respondents with no education and those with primary education have low knowledge of the prevention of malaria -12% (6%) respectively.

**LEVEL OF KNOWLEDGE IN RELATION TO SOURCE OF KNOWLEDGE  
ABOUT MALARIA PREVENTION**

TABLE 17

SOURCE OF KNOWLEDGE	LEVEL OF KNOWLEDGE			TOTAL
	HIGH	AVERAGE	LOW	
Hospital/clinic	11 (22%)	6 (12%)	6 (12%)	23 (46%)
Home	3 (6%)	12 (24%)	3 (6%)	18 (36%)
Mass media	1 (2%)	-	2 (4%)	3 (6%)
Others	2 (4%)	-	4 (8%)	6 (12%)
<b>TOTAL</b>	17 (34%)	18 (36%)	15 (30%)	50 (100%)

The table shows that 22% (11) of respondents with high knowledge on malaria prevention received it from the hospital/clinic.

**RESPONDENT’S LEVEL OF KNOWLEDGE IN RELATION TO SEX**

TABLE 18

SEX	LEVEL OF KNOWLEDGE			TOTAL
	HIGH	AVERAGE	LOW	
Male	8 (16%)	5 (10%)	1 (2%)	14 (28%)
Female	9 (18%)	13 (26%)	14 (28%)	36 (72%)
TOTAL	17 (34%)	18 (36%)	15 (30%)	50 (100%)

The table shows that the majority of women- 28% (14) had low knowledge on malaria prevention.

**ATTITTUDE IN RELATION TO AGE**

TABLE 19

AGE	ATTITUDE		TOTAL
	POSITIVE	NEGATIVE	
15-24years	5 (10%)	5 (10%)	10 (20%)
25-34years	4 (8%)	5 (10%)	9 (18%)
35-44years	12 (24%)	12 (24%)	24 (48%)
45years and above	-	2 (4%)	2 (4%)
Do not know	1 (2%)	4 (8%)	5 (10%)
TOTAL	22 (44%)	28 (56%)	50 (100%)

The table shows that 56% (28) of the respondents have a negative attitude towards prevention of malaria with the majority 24% (12) being in the age group 35-44years.

**ATTITUDE IN RELATION TO LEVEL OF EDUCATION**

TABLE 20

LEVEL OF EDUCATION	ATTITUDE		TOTAL
	POSITIVE	NEGATIVE	
No education	3 (6%)	4 (8%)	7 (14%)
Primary	11 (22%)	13 (26%)	24 (48%)
Secondary	7 (14%)	11 (22%)	18 (36%)
College	1 (2%)	-	1 (2%)
University	-	-	-
TOTAL	22 (44%)	28 (56%)	50 (100%)

This table shows that 26% (13) of the respondents who have a negative attitude towards malaria prevention are those with primary education.

**Z/RESPONDENTS' ATTITUDE IN RELATION TO LEVEL OF KNOWLEDGE**

TABLE 21

LEVEL OF KNOWLEDGE	ATTITUDE		TOTAL
	NEGATIVE	POSITIVE	
High	7 (14%)	10 (20%)	17 (34%)
Average	11 ( 22%)	7 (14%)	18 (36%)
Low	10 (20%)	5 (10%)	15 (30%)
TOTAL	28 (56%)	22 (44%)	50 (100%)

This table shows that majority-20% (10) of the respondents with high level of knowledge have a positive attitude towards prevention of malaria. 20% (10) of those with low knowledge had a negative attitude.

**RESPONDENT’S PRACTICE IN RELATION TO AGE**

TABLE 22

AGE	PRACTICE		TOTAL
	PRACTICING	NOT PRACTICING	
15-24years	8 (16%)	2 (4%)	10 (20%)
25-34years	7 (14%)	2 (4%)	9 (18%)
35-44years	15 (30%)	9 (18%)	24 (48%)
45years and above	1 (2%)	1 (2%)	2 (4%)
Do not know	3 (6%)	2 (4%)	5 (10%)
TOTAL	34 (68%)	16 (32%)	50 (100%)

The table shows that 68% (34) of the respondents institute the preventive measures with the majority being in the age group 34-44years (30%)

**RESPONDENTS’ PRACTICE IN RELATION TO LEVEL OF KNOWLEDGE**

TABLE 23

LEVEL OF KNOWLEDGE	PRACTICE		TOTAL
	PRACTICING	NOT PRACTICING	
High	13 (26%)	4 (8%)	17 (34%)
Average	11 (22%)	7 (14%)	18 (36%)
Low	10 (20%)	5 (10%)	15 (30%)
TOTAL	34 (68%)	16 (32%)	50 (100%)

The table shows that out of 68% (34) of respondents practicing preventive measures in malaria prevention, 26% (13) have high knowledge.

**RESPONDENTS’ PRACTICE IN RELATION TO ATTITUDE**

TABLE 24

ATTITUDE	PRACTICE		TOTAL
	PRACTICING	NOT PRACTICING	
Positive	16 (32%)	6 (12%)	22 (44%)
Negative	18 (36%)	10 (20%)	28 (56%)
TOTAL	34 (68%)	16 (32%)	50 (100%)

The table shows that the majority-20% (10) of the 36% (18) with a negative attitude do not practice preventive measures for malaria.

**RESPONDENTS' PRACTICE IN RELATION TO INCOME**

TABLE 25

INCOME	PRACTICE		TOTAL
	PRACTICING	NOT PRACTICING	
High	5 (10%)	-	5 (10%)
Medium	5 (10%)	2 (4%)	7 (14%)
Low	24 (48%)	14 (28%)	38 (76%)
<b>TOTAL</b>	34 (68%)	16 (32%)	50 (100%)

This table shows that 28% (14) of the respondents who do not practice preventive measures are from the low-income class. All the respondents from the high-income class- 10% (5) practice preventive measures.



## **CHAPTER 5**

### **5.0 DISCUSSION OF FINDINGS AND HEALTH SYSTEMS IMPLICATIONS**

#### **5.1 INTRODUCTION**

The results of this study were based on the analysis of responses from fifty (50) heads of households of Misisi compound in Lusaka Urban. The research study sought to determine the knowledge, attitude and practices towards malaria prevention in Misisi compound. The study was prompted by the high incidence of Malaria cases at Kamwala clinic, which indicated that the majority of these patients were from Misisi.

The findings of the study and the implications for the health care system will be presented in this chapter.

#### **5.2 CHARACTERISTICS OF THE SAMPLE**

The study covered 50 heads of households, which is approximately 0.1% of the total population of the area (50/43,974). Out of the 50 respondents interviewed, 72% were females and 28% were males. The study focused on heads of households because these are the people concerned with the care of other family members. The majorities (48%) of the respondents were aged between 35-44 years. It was observed that 48% of the respondents had primary school education with 14% with no education at all. The low level of education could have an effect on the level of understanding the residents had on the importance of malaria prevention and the effects of the disease on its victims.

The marital status of the respondents varied, it comprised of the single, married, divorced, widowed and separated as is shown in table 2 and the majority (60%) of the respondents were married. Most of the respondents were married because a lot of respect is attached to marriage in Zambian culture. Of the 60%, 38% of the married were females and these are the carers mostly involved in prevention of malaria.

The study results showed that 46% of the respondents were unemployed and 42% were in small-scale business resulting in 82% of the respondents having low or no income. Lack of employment and low income would suggest that respondents have limited access to resources needed for the prevention of malaria.

It was observed that 46% of the households had many household members with 5-8 members in each household. This could lead to an increase in the transmission of malaria as was shown in the study conducted by El Samani et al (1987) in Sudan which indicated that children from families with more than 5 family members had a higher risk of malaria. This is attributed to the fact that infective mosquitoes among those that enter a house may infect more than 1 person on the same night. This finding is also supported by the study by Lindsay et al (1995) which states that infected mosquitoes tend to bite with higher frequency and crowding may make life easier for the probing mosquito.

### **5.3 KNOWLEDGE**

According to the study results, 96% of the respondents had heard about malaria and 50% of the respondents obtained their information from health centers followed by 37.5% from home. The source of information could be attributed to the information, Education and Communication (IEC) that takes place between care providers and clients who seek the health services. There is also sharing of information between family and community members when one falls ill. These findings show that majority of the respondents have been taught about malaria but the incidence is still high meaning that learning has not taken place as there is no modification in the learner's behaviors.

The study also shows that 56% of the respondents are aware that malaria is caused by mosquito bites. However, misconceptions about causes of malaria exist such as the 16% who believe that malaria was caused by being soaked in the rains. Unfortunately, 14% of the respondents had no idea about how one gets infected with malaria. This poses as a danger because it means that these respondents will not take the appropriate measures to prevent the disease.

The results in table 6 page on page 35 show that 84% of the respondents recognize the signs and symptoms of malaria as fever and feeling of body pains. With the mushrooming of makeshift chemists, there is a possibility that respondents could be treating themselves as shown by the 8% in table 8 on page 36 at the onset of fever and body pains which could be as a result of other diseases such as flue or pneumonia posing the danger of drug resistance. On the other hand, it is encouraging that respondents can

identify the signs and symptoms of malaria which means that they can seek medical advise in good time.

The study results (90%) show that chloroquine is the most widely recognized malaria drug as shown in table 7 on page 35. However, 8% of the respondents use traditional medicine, which include herbal drinks or mixtures for rubbing on the body and steaming with boiling leaves as was found out in a focus group discussion. Others believe that lying in the sun is treatment for malaria.

Generally, the level of knowledge on malaria prevention was found to be high in respondents in age group 35-44years. This could be attributed to many years of experience through family members or themselves falling ill. This is the opposite of those 45years and above and for those who did not even know their ages who exhibited ignorance about malaria prevention. Level of knowledge was also high in those who had formal education compared to those who did not have education at all. This could mean that it is easy for those who are educated to understand what is taught about malaria as compared to those who are not educated. This could also imply that schools are involved in health education campaigns on the prevention of malaria. Despite the fact that there are other sources where respondents got their information from, the study found that respondents who got their information from health centers had high levels of knowledge as compared to the other sources: 22% from health centers, 6% from home, 2% from mass media and 4% from other sources which include own experience. This is because health workers who give information in health centers have adequate knowledge on

malaria so when teaching the clients, they cover all the aspects of the disease starting from what malaria is, its cause, treatment and how it can be prevented where as the other sources could have covered only one aspect of the disease. It was observed in table 4 page 34 that despite the wide coverage that the mass media has, very few respondents got their information through this channel. This may mean that not much publicizing on prevention of diseases is done through this mode.

The study showed that majority of the women (28%) had low levels of knowledge. This could be attributed to the fact that in the past, parents preferred sending male children to schools rather than female children because they believed that the females would eventually get married and be cared for by their spouses. This practice will however slowly fade away with the current promotion of girl child education. This observation is worrying because women are usually the ones who are care givers when a family member falls ill and the ones who are more concerned with the well being of family members hence responsible for prevention of malaria in the family members.

Knowledge is a pre-condition for the success of any program. This is so because knowledge on any disease outcome and its prevention help people to have better understanding and compel them to be active and prevent it (Milambo, (1994). Nyawa in his paper entitled ‘ special paper on Malaria’ (1994) stated that “knowledge on malaria is essential to the community. It is only when the community members have appreciated the dangers of the disease that they can embark on malaria control strategies”.

It can therefore be concluded that the residents of this community had adequate knowledge to be able to appreciate the dangers of malaria as has been discussed in the above findings. The results on knowledge about malaria are similar to the study results found in the study done by Rajos et al (1991) in Columbia entitled, 'Strategies For Malaria Control in Colombia', where they found out that 85% of the subjects knew the causes of malaria, 91% could state the breeding places for mosquitoes and 83% knew how the disease could be prevented but still the incidence was rising.

The results therefore dispute the hypothesis that states that inadequate knowledge on the causes and prevention of malaria has led to the increase in malaria cases.

#### **5.4 ATTITUDE OF RESPONDENTS TOWARDS MALARIA PREVENTION**

The study results show that 56% of the respondents had a negative attitude towards malaria prevention especially those in the age group 35-44 years who make up 24% of the sample. This could be attributed to the fact that during their lifetime, respondents have carried out activities in established ways and would not want to change their attitudes even with advice. It was observed that while malaria is not just a medical but also a public health problem, 46% of the respondents believe health workers are the ones responsible for malaria prevention (Table 9, page 36).

It was found out in the focus group discussion that most of the respondents would not take part in community projects aimed at preventing malaria even if one was to be implemented. The respondents gave reasons such as lack of cooperation from other community members, being too busy with their businesses and lack of interest for not

doing so. It must be borne in mind that effective community action is fundamental to the reduction and control of the incidence of malaria, therefore, the importance of active community participation need to be emphasized to the residents of Misisi compound because community participation forms the permanent base for the control of malaria cases in the community. This observation is supported by a study conducted by Gioglio et al (1976) entitled 'Malaria Eradication in Guyana' in which they reported that "a community that begins to understand their health status objectively may be moved to take a series of preventive measures". For malaria to be properly controlled there is need for joint efforts between council workers, health workers and the community themselves to form a comprehensive strategy.

It was observed in the study that those who attained primary and secondary school education- 26% and 22% respectively make up the majority of those with a negative attitude. This could mean that education did not have an impact that could have led to change of attitude in the respondents. There is therefore need to educate the people on the need to change their attitude and behaviors and this requires thorough explanations on the importance of following what has been taught at health centers and in schools. Community leaders also need to be involved in identifying problems so that they understand and accept the importance of controlling malaria and appreciate the need to change their attitude.

These study findings are therefore in support of the hypothesis which states that negative attitude of the community members towards the prevention of malaria has led to the high

morbidity and mortality rates.

### **5.5 PRACTICES OF MALARIA PREVENTION**

The study reveals that 68% of the respondents state that they practice preventive measures with 42% stating that they use mosquito nets and 32% who stated they use insecticides. It was however observed that majority (48%) of those who stated that they practice preventive measures are those with low or no income at all (Table 25, page 45). This could imply that the respondents were giving responses basing on the knowledge they had and not what they were practicing because it is possible that the respondents did not have the financial resources to purchase these items.

The practice in Misisi compound, as was found out in a focus group discussion, is that people tend to sit outside in the evenings where they are easily bitten by mosquitoes as the houses usually do not have adequate room where family members can relax before retiring to bed. When asked about use of protective clothing, none of the respondents stated that they use any form of protective clothing and it is possible that most respondents get infected through mosquito bites due to exposure especially in the evenings before retiring to bed.

It was also observed that while 68% of the respondents took preventive measures against mosquito bites, 24% of the respondents stated that they did not take any precautions against mosquito bites because they could not afford to do so and 8% stated that they did not know what measures to take. This could explain the high incidence of the disease in the area because those who did not practice preventive measures were exposed to



mosquito bites hence prone to suffer from malaria and are capable of transmitting the infection to others. These findings are supported by the study conducted by Mendis et al (1990) in which they observed that the malaria sufferer in the community serves as a pool for re-infection of other residents through mosquito bites.

The study observed that majorities of the houses in the community were incomplete and others had uncovered windows. This could also have contributed to the high incidence of malaria as they influence mosquito entry and human to vector contact. The world Health Organization (WHO) report on vector control for Malaria (1995) states that incomplete houses with walls, wide or unscreened vents, open windows and doors and no ceiling favor the entry of mosquitoes. Mud or unplastered walls with cracks and crevices and thatched roofs or walls also provide favored resting sites for mosquitoes. This is supported by the study conducted by Gunawardena et al (1998) who observed that there is an association between poorly constructed houses and higher risk of malaria infection. The Lusaka City Council who are responsible for planning and construction of settlements and housing therefore need to be enlightened on the conditions that increase the risks of exposure to mosquitoes so that they may consider taking appropriate preventive actions by allowing only well planned for houses to be constructed in designated sites.

The study also sought to determine methods respondents used to prevent breeding places for mosquitoes and 42% of the respondents mentioned clearing of ditches and cutting grass short, 6% mentioned cutting of grass alone, 26% mentioned clearing ditches and

12% did not do anything while the remaining 14% stated cleaning of the surroundings. Even though majority of the respondents mentioned clearing of ditches as a way of preventing breeding places for mosquitoes, it was observed that stone crushing is one major source of income for most residents of Misisi compound and there were many ditches around the compound left when rocks were dug out for crushing. These ditches are likely breeding sites for mosquitoes as most of them contain a reasonable amount of water. This observation is supported by the study conducted in Kenya by Jamison and Feacham (1991) which holds the view that open sewage water creates a breeding place for mosquitoes. The study further state that pit latrines are other important breeding places especially if they are dug to reach water level.

The study results also show that respondents with high levels of knowledge stated that they were practicing preventive measures and those who had low levels of knowledge were not practicing preventive measures (Table23, page43). This could mean that knowledge helps people to have a better understanding of what is taught about malaria and compel them to take an active part in its prevention as was stated in the study conducted by Milambo (1994). It was however suprising to note that majority of the respondents who stated that they were practicing preventive measures were those with a negative attitude and this could mean that respondents based their responses on the knowledge they had and not what they practiced.

The findings in the study concerning practice support the hypothesis that states that poor practices in the prevention of malaria has led to the increase in malarial cases.

## **CONCLUSION**

The study findings revealed that majority of the respondents had adequate knowledge on the cause, treatment and prevention of malaria but the implementation of these preventive measure were hindered by either the negative attitude that the respondents had and/or the low economic status of most of the respondents. It appears therefore that malaria in Misisi compound will continue to be a leading cause of morbidity unless residents' attitudes change towards prevention and control.

### **5.6 HEALTH SYSTEMS IMPLICATIONS**

According to the results gotten from the study, there is a probability that more and more people will suffer from malaria while some people will continue dying from the disease if the present situation continues. The implication on the health system is that increasing number of cases will continue to put a strain on the already stretched resources of the Ministry of Health who might eventually fail to manage the increasing demand. There is therefore need for health workers to reinforce and intensify health education to the community members to make them change their attitude towards malaria prevention and also to enlighten them on the fact that it is only through joint collaboration between the council, health workers and community members that the disease can be prevented.

The information that respondents gave on the implementation of preventive measures could have an effect on the statistics needed by health centers and the Ministry of Health in terms of planning of programs. The Ministry of Health should therefore put in place a

monitoring process through community health workers to ensure implementation of the preventive measures. Health workers especially those conducting research studies should also find ways of making verifications on information that they receive from their clients so that they have correct information that would help them to plan effectively.

Lack of utilization of the knowledge that respondents have in instituting preventive measures calls for intensive health education by health workers working closely with key people in the community such as church leaders, traditional birth attendants, politicians and community leaders who would help in sensitizing other community members on the dangers of poor practices towards the prevention of malaria. These key people should also be involved in identifying the community problems so that they can explain in clear terms to the other community members and make them understand and accept the importance of controlling malaria and appreciate the need to change their attitude. By so doing, they will lead more healthier and productive lives.

## **CHAPTER 6**

### **6.0 CONCLUSION AND RECOMMENDATIONS**

#### **6.1 CONCLUSION**

The study sought to determine the knowledge, attitude and practices towards malaria prevention in Misisi compound in Lusaka Urban because of the increasing number of cases reporting to Kamwala clinic.

The study revealed that 95% of the respondents had adequate knowledge on the cause, treatment and prevention of malaria due to the information, education and communication that takes place between health workers and clients who seek the services and also through sharing of information between family members. The study however revealed that despite the high levels of knowledge, 56% of the respondents had a negative attitude towards malaria prevention with 46% putting the responsibility on health workers for malaria prevention.

The study revealed that education did not change the attitude of respondents towards malaria prevention as the study showed that 46% of those who attained formal education had a negative attitude towards malaria prevention.

The study also revealed that practices of malaria prevention were quite poor due to the negative attitude that the respondents had and/or the low economic status of most of the respondents compounded by the poor construction of the houses in the compound. It

therefore appears that Malaria will continue to cause disease and deaths in Misisi compound unless residents change their attitude towards malaria prevention and control.

## **6.2 RECOMMENDATIONS**

In view of the findings of the study, the recommendations are given as follows:

1. There is need to carry out a similar study on a large scale in other high density areas experiencing the same high incidence of malaria in Lusaka Urban so that the findings can be generalized to the whole population of residents in high density areas.
2. There is need for the National Malaria Control Center to extend the program of 'Roll Back Malaria' as quickly as possible to all residential areas especially the shanty compounds of Lusaka where the residents live in abject poverty and cannot afford to implement preventive measures.
3. There is need for health workers at the clinic to have close links with the community members so that they help the community identify the problems they face and together s set strategies on how to implement preventive measures.
4. There is need for the council to make a hasty decision on the existence of illegal settlements – either to demolish them or to legalize them as the state of the houses need to be reviewed. The non-legality of their existence also makes investment by non-governmental organizations and multi-sectoral collaboration difficulty.
5. There is also need to set up a monitoring structure through community health workers to monitor the implementation of preventive measures.
6. There is need for comprehensive health education through the media so that people are well informed about the perils of malaria.

### **6.3 LIMITATIONS OF THE STUDY**

- The major limitation was that the study had to be completed within a given time.
- The funds allocated to the research project were inadequate and this compelled the researcher to have a small sample; thus the difficulty in generalizing the findings to all residents in high- density areas.

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**QUESTIONNAIRE ON KNOWLEDGE, ATTITUDE AND PRACTICES  
TOWARDS PREVENTION OF MALARIA (Structured interview schedule)**

**Questionnaire number:.....**

**Date:.....**

**5.1 INSTRUCTIONS TO THE INTERVIEWER**

- 1. Introduce yourself to the respondents.
- 2. Explain purpose of the interview.
- 3. Ensure respondents are free when answering questions throughout the interview.
- 4. Tick in the space provided according to respondent's given answer.

**SECTION A**

**DEMOGRAPHIC DATA**

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- |   |        |     |
|---|--------|-----|
| 1. Sex  | Male   | [ ] |
|   | Female | [ ] |
| 2. How old are you?                             |        | [ ] |
| a) 15-24  |        | [ ] |
| b) 25-34  |        | [ ] |
| c) 35-44  |        | [ ] |
| d) Do not know                                  |        | [ ] |
| 3. What is your marital status?                 |        |     |
| a) Single                                       |        | [ ] |
| b) Married                                      |        | [ ] |
| c) Divorced                                     |        | [ ] |
| d) Widowed                                      |        | [ ] |
| e) Separated                                    |        | [ ] |
| 4. What is your highest educational attainment? |        |     |
| a) No education                                 |        | [ ] |
| b) Primary                                      |        | [ ] |
| c) Secondary                                    |        | [ ] |
| d) College                                      |        | [ ] |
| e) University                                   |        | [ ] |

5. What is your occupation?

- a) Casual worker [ ]
- b) Professional [ ]
- c) Business [ ]
- d) Unemployed [ ]
- e) Others specify .....

6. What is your family's monthly income?

- a) K 300, 000.00 and above [ ]
- b) K 200, 000.00 – K 250, 000.00 [ ]
- c) K 100, 000.00 and less [ ]

7. How many are you in the household?

- a) Above 12 [ ]
- b) 9-12 [ ]
- c) 5-8 [ ]
- d) 1-4 [ ]

### **QUESTIONS ON KNOWLEDGE**

8. Have you ever heard of a disease called malaria?

- a) Yes [ ]
- b) No [ ]

9. If your answer is yes, which was your source of information?

- a) Hospital/clinic [ ]
- b) At home [ ]
- c) Mass media [ ]
- d) Others specify .....

10. How does a person get infected with malaria?

- a) By eating contaminated food [ ]
- b) Breathing bad air [ ]
- c) Being soaked in the rains [ ]
- d) By being beaten by an infected mosquito [ ]
- e) Not known [ ]
- f) Others specify .....

11. How would you know you are suffering from malaria?

- a) By passing watery stool [ ]
- b) By feeling body pains and fever [ ]
- c) Slight vaginal bleeding [ ]
- d) Others specify .....

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12. Can malaria be treated?

- a) Yes ☐
- b) No ☐

13. If yes, what is the treatment of malaria?

- a) Traditional medicine ☐
- b) Chloroquine ☐
- c) Lying in the sun ☐
- d) Others specify ☐

14. Where can you obtain malaria treatment?

- a) Traditional healers ☐
- b) Medical personel ☐
- c) Self ☐
- d) Others specify ☐

15. How can malaria be prevented?

- a) By avoiding stagnant water ☐
- b) Taking anti-malaria drugs ☐
- c) Closing windows and doors early ☐
- d) Using mosquito nets ☐
- e) Improving personal hygiene ☐
- f) Nothing ☐
- g) Others specify ☐

**QUESTIONS ON ATTITUDE**

16. Do you think malaria is a serious health problem?

- a) Yes ☐
- b) No ☐

17. If yes, explain

.....  
.....

18. Do you work together as a community to prevent and control malaria?

- a) Yes ☐
- b) No ☐

19. If no, explain

.....  
.....  
.....

12. Can malaria be treated?

- a) Yes ☐
- b) No ☐

13. If yes, what is the treatment of malaria?

- a) Traditional medicine ☐
- b) Chloroquine ☐
- c) Lying in the sun ☐
- d) Others specify ☐

14. Where can you obtain malaria treatment?

- a) Traditional healers ☐
- b) Medical personel ☐
- c) Self ☐
- d) Others specify ☐

15. How can malaria be prevented?

- a) By avoiding stagnant water ☐
- b) Taking anti-malaria drugs ☐
- c) Closing windows and doors early ☐
- d) Using mosquito nets ☐
- e) Improving personal hygiene ☐
- f) Nothing ☐
- g) Others specify ☐

### **QUESTIONS ON ATTITUDE**

16. Do you think malaria is a serious health problem?

- a) Yes ☐
- b) No ☐

17. If yes, explain

.....

18. Do you work together as a community to prevent and control malaria?

- a) Yes ☐
- b) No ☐

19. If no, explain

.....

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20. If the answer to question 18 is yes, what activities do you do to prevent malaria?

.....

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21. Who do you think is responsible for prevention of malaria?

- a) Community members [ ]
- b) Health workers [ ]
- c) Council workers [ ]
- d) Combined effort of all [ ]

22. If the Ministry of Health had to organize a malaria prevention campaign, would you join the campaign?

- a) Yes [ ]
- b) No [ ]

23. If no to question 22, explain

.....

### **QUESTIONS ON PRACTICE**

24. Have you ever suffered from malaria?

- a) Yes [ ]
- b) No [ ]

25. If yes to question 24, who treated you?

- a) Self [ ]
- b) Medical personnel [ ]
- c) Traditional healer [ ]
- d) Others specify .....

26. Do you take any precautions against mosquito bites?

- a) Yes [ ]
- b) No [ ]

27. If yes, what precautions do you take against mosquito bites?

- a) Using mosquito nets [ ]
- b) Wearing protective clothing [ ]
- c) Closing windows and doors early [ ]
- d) Insecticides [ ]
- e) Nothing [ ]

28. If you do not take any precautions against mosquito bites, explain why?

- a) Treatment against malaria is available [ ]
- b) Can not afford [ ]
- c) Even if you practice, mosquitoes still bite [ ]
- d) Others specify .....

29. As a family, do you use any method to kill mosquitoes in the house?

- a) Yes [ ]
- b) No [ ]

30. If yes, which method do you use to kill mosquitoes in the house?

- a) Insecticides [ ]
- b) Traditional herbs [ ]
- c) None [ ]
- d) Others specify .....

31. If you do not use any of these methods, what are the reasons?

- a) There are no mosquitoes [ ]
- b) Treatment for malaria is available [ ]
- c) Can not afford [ ]
- d) Even if you use something, mosquitoes still bite [ ]
- e) Others specify .....

32. How can you prevent breeding places for mosquitoes?

- a) Clearing ditches [ ]
- b) Cut grass short [ ]
- c) Both of the above [ ]
- d) None of the above [ ]
- e) Others specify .....

33. Where do you dispose off your garbage?

- a) In a dust-bin with a lid [ ]
- b) In a dust-bin without a lid [ ]
- c) In a rubbish pit [ ]
- d) Heaps besides the house [ ]
- e) Littered all over [ ]

THANK YOU  
END OF QUESTIONNAIRE

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use only



## **FOCUS GROUP DISCUSSION GUIDE**

---

1. I will introduce myself and ask each member of the group to introduce themselves.
2. I will explain the purpose of the focus group discussion

### **KNOWLEDGE**

3. What causes malaria?
4. How is malaria transmitted?
5. How can malaria be prevented?
6. How can malaria be treated?

### **ATTITUDE**

7. Do you follow what you are taught on malaria prevention?

### **PRACTICES**

8. If at all you or any member of your family suffered from malaria, who treated you?
9. What measures do you take to prevent malaria?
10. What are the effects of malaria on its victims?
11. What activities do you undertake to generate income?

# Lusaka City Council

Director of Public Health  
Telegrams: "CITY"  
Telephone: 252480  
Ext.  
Verbal Enquiries to:  
Mr .....



PUBLIC HEALTH SERVICES DEPT.  
CIVIC CENTRE  
P.O. Box 30789  
LUSAKA  
Republic of Zambia

Reference:

Your Ref: SSBK/1dtc  
PHD/6/1/8

11th July, 2000

Ms. Akakulubelo Munalula  
University of Zambia  
School of Medicine  
Department of Post Basic Nursing  
P.O. BOX 50110  
LUSAKA

Dear Sir,

re: RESEARCH STUDY

Reference is made to your letter dated 20th June 2000 concerning the above captioned subject matter.

May I inform you that my office has no objection to your research study on the topic knowledge, Attitudes and Practices towards the prevention of Malaria in Misisi Compound.

Yours faithfully,

A handwritten signature in black ink, appearing to be 'Dr. Chibesa S Wamulume'.

Dr. Chibesa S Wamulume  
DIRECTOR OF PUBLIC HEALTH

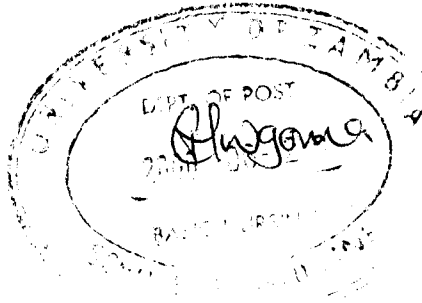
CC. The Director of Health - LUDHMT.

Ms Akakulubelwa Munalula  
University of Zambia  
School of Medicine  
Department of Post Basic Nursing  
P.O. Box 50110  
LUSAKA

June, 2000

The Assistant Social Secretary  
Lusaka City Council  
P.O. Box 51612  
LUSAKA

U.f.s. The Head  
Department of Post Basic Nursing  
School of Medicine  
LUSAKA



Dear Sir/Madam,

RE: **RESEARCH STUDY: REQUEST TO COLLECT DATA**

I am a Fourth Year Student in the School of Medicine, Department of Post Basic Nursing, of the University of Zambia pursuing a Bachelor of Science Degree.

In partial fulfilment for a degree programme, I am required to carry out a research study for me to graduate. My research topic is:-

***"Knowledge, Attitudes and practices towards the prevention of Malaria in Misisi Compound."***

I intend to collect data from a systematically selected sample between July and August 2000. The purpose of this letter is to kindly ask for permission to enable me carry out the study in the above mentioned compound.

Thanking you in anticipation.

A handwritten signature in cursive script, appearing to read 'Mungalula'.

Munalula Akakulubelwa  
Student