



UNIVERSITY OF MALAWI
KAMUZU COLLEGE OF NURSING
BASIC STUDIES DEPARTMENT

***UTILISATION OF INSECTICIDE TREATED NETS AMONG THE
UNDER FIVE CHILDREN OF MGUBO AND MAYADI CATCHMENT
AREAS OF MCHINJI DISTRICT***

**RESEARCH PROPOSAL SUBMITTED TO FACULTY OF NURSING
IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE
BACHELOR OF SCIENCE DEGREE IN NURSING EDUCATION**

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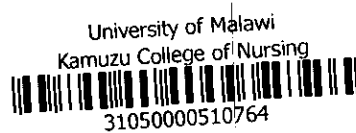
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14TH JULY 2010

DECLARATION

I hereby declare that this research proposal is original and developed from my own effort and that it has never been presented elsewhere for a degree program.

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DEDICATION

This research proposal is dedicated to my one and only beloved son Rowland Takondwa. It has been too much for you boy. Leaving you at 7 months and 4 years for my diploma and my degree respectively, I know you were denied motherly love, but that encouraged me and for sure mum is going to pay you for that.

I am eternally grateful to my beloved husband Samuel, for his patience, understanding and tolerating our separation during the school days, and also for the material, financial and emotional support he gave me.

I love you guys!

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GOD BLESS YOU ALL PEOPLE!

LISTS OF ABBREVIATIONS

DHO- District Health Office

DHS - Demographic and Health Survey

HMIS-Health Management Information System

IMCI- Integrated management of child hood illnesses

ITN- Insecticide Treated Nets

IPT-Intermittent preventive treatment

IRS- Indoor residual spraying

LLIN -Long lasting insecticide treated net

MDHS-Malawi Demographic Health Survey

MOH- Ministry of Health

NGO-Nongovernmental organisation

NMCP-National Malaria Control Programme

PSI- Population Services International

RBM- Roll Back Malaria

UNDP-United nation's development fund

UNICEF- United nation children fund

USAID-United states agency for international development

WHO-World Health Organisation

OPERATIONAL DEFINITIONS

Bed Net- is a material made of nylon, polyester, polyethylene and synthetic with cotton mixture with different shape, size and used to protect people against insect bites.

Insecticide Treated Mosquito Nets- nets treated with insecticide to kill or irritate mosquitoes and used as physical barriers.

ITN utilization- The use of standardized properly hanged (mounted) over the bed or the sleeping area.

Target group-groups which are nationally identified as high risk and given priority for ITN utilization, these include pregnant women and children under five years of age, community affected by emergency and all others living in malarious area.

Vulnerable Population- in this study refers to the under five children and pregnant women

Malaria control- Reducing the malaria disease burden to a level at which it is no longer a public health problem.

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ABSTRACT

BACKGROUND

This study seeks to establish use of ITN's among the under five children of Mgubo and Mayadi catchments areas of Mchinji district as a measure of controlling malaria. The study will also compare use of ITN's in the two areas, Mgubo a squatter area and Mayadi an affluent area, to establish whether social status affects its use. This will contribute in finding the best method of ensuring ITN's are utilized by the under fives in the communities and also help to improve health of the under fives by reducing incidences of malaria cases thereby reducing child mortality which is very high in Malawi. Utilization of Insecticide Treated Nets (ITN's) is the principal strategy for malaria prevention in areas where sustained vector control is required. Impact of insecticide-treated bed nets (ITNs) on preventing malaria may be minimized if vulnerable populations do not use them. Malawi is one of the countries in Sub-Saharan Africa with very high numbers of under five children deaths. Despite numerous interventions, the estimated infant mortality rate remains to be 110 per 1000 children (world health statistics, 2009).

AIM

The study will be done with a purpose of investigating whether ITN's that are distributed among under five children are utilized and factors affecting its utilization. The study can be an evaluation tool for policy makers in establishing the effectiveness of the Malaria control programme.

RESEARCH DESIGN AND METHODS

A non experimental methodology with a quantitative approach will be used to gather data during the study. Subjects will be selected using a non probability convenient sampling method to avoid biases.

OBJECTIVES

The main objective of the study is to explore use of insecticide treated nets among under five children. This will be accomplished through the following specific objectives;

1. To assess level of knowledge of the care takers of the under fives on the importance of using insecticide treated nets,
2. To determine factors that promote use of ITN.
3. To identify barriers to utilization of ITN.

4. To identify ways through which ITN use can be promoted.

STUDY SETTING

The sample size for the proposed study will be drawn from Mayadi and Mgubo villages of Mchinji District.

STUDY SUBJECTS

30 households of under-five children in the proposed areas will be subjects in this study.

DATA COLLECTION

The care taker of under-five in each house hold will be interviewed for all information about the household, including net ownership and utilization.

Interviews will be conducted in the first week of the month of September using a structured questionnaire which will be in Chewa languages. Observations will be done on the type of bed net, condition of the net whether it is torn or burnt. Proper Consent will be sought from the respondents and privacy and confidentiality will be respected during data collection process.

DATA MANAGEMENT

Data will be analysed manually and will be presented using graphs, percentages, pie charts and frequency tables.

DISSEMINATION OF FINDINGS

Research report will presented to the research committee of Kamuzu College of Nursing, Mchinji District Health Office and Assembly for their actions respectively.

CHAPTER ONE

1.1 INTRODUCTION

Malaria is a parasitic infection caused by plasmodium falciparum, which is transmitted by mosquito. As of 2009, there were about 243, 000,000 cases of malaria and about 863 000 deaths occur due to malaria worldwide. 85% of the world wide malaria cases occur in African countries and 89% of the total worldwide deaths due to malaria occur in Africa. It is one of the top five causes of mortality in sub-Saharan region and Malawi inclusive, and it accounts for 90% of the deaths that occur among the under five children. It is estimated that a child dies every 30 seconds due to malaria in Africa (World Malaria Report, 2009).

Malaria is a leading cause of morbidity and general malaria mortality rate in Malawi. According to World Health Statistics (2009), 35% of all Out Patient Department (OPD) consultations are due to malaria and accounts for 40% of hospital admissions (HMIS bulletin, 2007).

The Ministry of Health in Malawi adopted strategies for controlling malaria in Malawi, among them is the use of Intermittent Preventive Treatment (IPT) in pregnant women, prompt case management, and vector control, through Insecticide Treated Nets (ITN) use and indoor residual spray. Countries in sub-Saharan met in April 2000 in Abuja, Nigeria and set a target to have 60% of populations at risk sleeping under ITN's by 2005 and aimed at eradicating malaria by 2010. Government of Malawi responded in 2002 by forming partnership with PSI through donations from USAID, UNICEF, to increase availability of ITN.

In Mchinji, statistics shows that since 2006, Malaria cases among the under five children have been increasing each year despite the increase in number of ITN's being distributed as well as being sold by PSI in shops.

Studies done both outside Malawi and within Malawi have shown that ITN's have been underutilized hence the purpose of this study is to establish ITN use among the under five children of Mgubo and Mayadi catchment areas of Mchinji District. This will contribute in finding the best method of ensuring ITN's are utilized by the under fives in the communities and also help to improve health of the under fives by reducing incidences of malaria cases thereby reducing child mortality which is very high in Malawi.

1.2 BACKGROUND

Insecticide treated nets (ITN's) is an effective and cost effective means of preventing malaria. An insecticide-treated net is a mosquito net that repels, disables and/or kills mosquitoes coming into contact with insecticide on the netting material. There are two categories of ITNs; conventionally treated nets and Long-Lasting Insecticidal Nets (LLIN). A conventionally treated net is a mosquito net that has been treated by dipping in Pyrethroid insecticides. To ensure its continued insecticidal effect, the net should be re-treated after three washes, or at least once a year. A long-lasting insecticidal net is a factory-treated mosquito net made with netting material that has insecticide incorporated within or bound around the fibers. The net must retain its effective biological activity without re-treatment for at least 20 WHO standard washes under laboratory conditions and three years of recommended use under field conditions.

All mosquito nets act as a physical barrier, preventing access by vector mosquitoes and thus providing personal protection against malaria to the individual(s) using the nets. Pyrethroid insecticides, which are used to treat nets, have an excito-repellent effect that adds a chemical barrier to the physical one, further reducing human-vector contact and increasing the protective efficacy of the mosquito nets.

Malaria is a leading cause of morbidity and mortality in Malawian children under the age of five years, accounting for more than 40% of child (<5 years of age) deaths.

Government of Malawi through National Malaria Control Programme (NMCP) works towards preventing Malaria through use of intermittent preventive treatment (IPT) in pregnant women, prompt case management, and vector control, through ITN use and indoor residual spray.

Roll Back Malaria(RBM), a global partnership initiated by WHO, UNDP, UNICEF and the World Bank in 1998 supports malaria prevention interventions as well in Malawi. It supports the government of Malawi, other development agencies, NGOs, and private sector companies through provision of resources to control malaria. The Roll Back Malaria Initiative identified the under-fives as one of the high risk groups for malaria, and uses the following strategies to fight malaria in this group; diagnosis of malaria cases and treatment with effective medicines, vector control through distribution of insecticide-treated nets (ITNs), more specifically long-lasting insecticidal nets (LLINs) and Indoor Residual Spraying (IRS).

ITN's were introduced in Malawi in 1995 and implementation started in 1998. In November 1998, USAID contracted Population Services International / Malawi to design and implement a social marketing ITN programme in the country. In brief, the strategy involved selling a more expensive blue conical net (with insecticide treatment kit) to consumers at \$5-6 through private sector outlets, targeting those who can afford a commercially priced net. A subsidized green rectangular net (with a kit) was made available to pregnant women and children under five years for \$0.6, through public health facilities. The nets were branded and heavily promoted to the public through a range of mass media and interpersonal communications channels.

By January 2003, ITNs were being delivered through commercial outlets and public health facilities in all 27 districts of the country. During the 12 month period (October 2002 – September 2003), a total of 942,000 nets were sold of which 8% were blue conical nets, 16% were unbranded green rectangular nets delivered via community-based channels and 76% were green rectangular nets delivered through public health facilities.

In 2006, Government of Malawi, through National Malaria Control Programme (NMCP) changed policy on distribution of insecticide treated nets. Instead the Government of Malawi introduced free net distribution through health facilities and free mass ITN distribution and abolished the community based distribution strategy. The free nets are given to pregnant mothers and new born babies up to those less than one year old. ITN'S are also distributed to poor people identified by chiefs through mass free campaigns. According to World health statistics (2009), 23% of under five children were using ITN's.

ITN retreatment campaigns are done on yearly basis organized by NMCP and funded by UNICEF. By the year 2009, PSI has sold 572,160 nets and NMCP has distributed 8,100,000 nets in the country. Currently ITN's are being supplied in the Health facilities including Mchinji, the area of study, by Mulli Brothers for both LLIN and conventionally treated nets.

However though ITN use is an effective strategy in malaria prevention, studies have shown that ITN use has challenges as well. Most ITN users find to be too involving as it needs to be hang on daily basis, it also becomes difficult to use when somebody sleeps on the mat instead of bed. ITN's are also effective when it is treated with insecticides, however people prefer to use it un treated as insecticide causes allergies, have a strong smell and makes people dyspneic.

Malaria is also a leading cause of admissions, and deaths in Mchinji district. From 2006 to 2009, Malaria cases increased from 51,796 to 163 960 (an increase of 31.6%), Malaria deaths from 208 to 406 (an increase of 51.2%) among the under fives.(Refer to table 1).

The study will be done in two sites Mgubo and Mayadi villages. Mchinji district is found in the central region of Malawi and is bordered by Zambia and Mozambique. It has a total population of 456,314 of which 77,573 are the under five children. Mchinji has a mixture of Chewa, Ngoni and Senga tribes. Mgubo is served by Ludzi community mission hospital and Mchinji District hospital and their major source of nets is the health facility and free mass ITN distribution. Mayadi is served by Mchinji district hospital, Banja la mtsogolo and ITES private clinic. Its main source of nets is the health facility and the socially marketed nets. Approximately 376,154 nets (82.5%) have been distributed in the district through mass free distribution and 69,628 (17.5%) through health facility distribution to the new born babies since 2006. Despite good coverage of ITN's in Mchinji, statistics show that there is an increase in cases of malaria and deaths due to malaria among the under five children from the year 2006 (Refer to table 1 below).

Clearly, just increasing coverage will not be enough unless people use treated nets correctly and consistently, rates of malaria death and illness will not be reduced. This supports the researcher's assumption that under-five children do not use insecticide treated nets to prevent themselves from malaria.

TABLE 1 Distribution of ITN's in Mchinji

YEAR	ITN DISTRIBUTION	MALARIA CASES	MALARIA DEATHS
2006	H.facility 22,340 Distribution by Mass campaign 50,004	51,796	208
2007	H.facility 81,18 Distribution byMass campaign 80,050	69, 549	324
2008	H.Facility 18,842 Distribution by mass campaign 100,100	93,940	342
2009	H. facility 20,459 Distribution by Mass campaign 146,000	163,960	406

1.3 PROBLEM STATEMENT

Use of insecticide treated nets is one of the strategies used in reducing the burden of malaria in Malawi. Since 2006, Malawi government distributes ITN's to the under five children free of charge. Despite them being distributed free of charge, studies have shown that they are being underutilized which contributes to high incidence of malaria among the under five children.

A number of studies have demonstrated that the use of insecticide-treated nets (ITNs) is effective in reducing malaria-related morbidity and mortality. A 25% reduction in all-cause mortality for children one to nine years of age was detected during the first year of the Gambian National Bed-net Program.

In Kilifi District, Kenya, a 33% reduction in mortality and a 44% reduction in hospital admissions for severe malaria were also found. Although these trials have demonstrated that ITN's are an effective malaria control strategy, there have been many challenges to ITN utilization when trying to implement large-scale ITN programs.

Statistics in Mchinji show that malaria cases and deaths have increased in four years by 96.5% and 55% respectively, despite increase of ITN distribution and sales by 130% from 2006 to 2009. Therefore it is essential to determine whether those ITN's are really used when provided.

1.4 OBJECTIVES OF THE STUDY

BROAD OBJECTIVE

To explore use of insecticide treated nets among under five children in Mgubo and Mayadi catchments areas of Mchinji district..

SPECIFIC OBJECTIVES

1. To assess level of knowledge of the guardians on the importance of using insecticide treated nets,
2. To determine factors that promotes use of ITN.
3. To identify barriers to utilisation of ITN.
4. To identify ways on how ITN use can be promoted

1.5 SIGNIFICANCE OF THE STUDY

The study is very important because data obtained will be of much benefit to the health sector, the community as well as to the policy makers in fighting malaria , a number one killer of under five children.

The research results are going to help the policy makers (MOH and NMCP) to review and formulate new strategies aiming at improving utilisation of ITN's. The research results will provide baseline data to the health sector for the monitoring and evaluation of use of malaria prevention strategies especially ITN use.

The findings will also help the health sector especially in Mchinji to put in place mechanisms that will help improve ITN use in the district. i.e. Health education campaigns to address the barriers to use of ITN's.

Data collected will assist Mchinji district health office (DHO) to come up with ways in promoting ITN use especially among low social status people.

This is going to help the community understand importance of using ITN's as a preventive measure against malaria and how to use them. The research findings will also help the community to change their attitudes towards use of ITN's.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

Literature review refers to the activities involved in identifying and searching information on a topic and developing an understanding of the state of knowledge on the topic (Polit and Hungler, 1999). Burns and Groves (2009), states that a review of literature is conducted to generate an understanding on what is known about a particular situation or phenomenon and the knowledge gaps that exist. General information about ITN's and relevant literature is to be given in this section. The review has been presented according to the themes being addressed for easy understanding of the problem.

Literature has shown that there are several studies done on utilisation of insecticide treated nets worldwide but most of them in Africa probably because malaria is common in Africa.

2.2 IMPACT OF MALARIA ON HEALTH, ECONOMY AND EDUCATION

In 2004, globally 107 countries and territories have reported that they own areas at risk of malaria transmission and 3.2 billion people were living at risk. It is also estimated that around 350-500 million clinical disease episodes occur annually. Most of these are caused by *Plasmodium falciparum* which is accountable for more than one million deaths each year. Malaria contributes synergistically to morbidity and mortality in areas where both infections are highly prevalent.

Recent studies had shown some evidences that malaria and poverty are intimately connected. Currently malaria is given as a cause of poverty in poor countries with intensive transmission. Not only malarial countries are poor, but their economic growth is reducing. WHO report (2009) has showed that the disease is estimated to be responsible for an estimated average annual reduction of 1.3% in economic growth for those countries with the highest burden.

Gullup et al noted that malaria and poverty are intimately connected such that areas with severe malaria are almost all poor and continue to have poor economic growth. Malaria accounts for about 30% of outpatient attendances in Malawi and as a result government resources are stretched in the provision of treatment and prevention services. The annual cost of malaria to the average Malawian household was estimated at US\$35.39. The paper also showed that the poor pay more for malaria treatment compared to the rich.

Agriculture accounts for 43% of the Growth Domestic Product (GDP) and employs 85% of the labour force. With about 90% of Malawi's population in the rural and dependent on

experienced by members of the population has a direct negative impact on the economy of the country.

Malaria associated productivity losses and reduction in profits in the private sector particularly tourism and construction industry, stem from a sick workforce and sick pay costs. In addition, the threat of malaria negatively affects visitors to Malawi. Consequently, the country's economic performance is damaged by the cited economic burdens of malaria. In fact it is estimated that the government of Malawi spends US\$2.7 million per annum in treating malaria cases, inpatients and outpatients inclusive. All these factors have a negative effect on the country's gross domestic product and socio-economic development.

Malaria is a frequent cause of absenteeism in school, not only of students but also teachers, resulting in poor scholastic performance on the part of the student and a negative impact on the ability of the teachers to work hard, either because they are themselves sick or because their children are sick. In some children cerebral malaria may lead to cognitive impairment or neurological sequelae that negatively impact on their educational attainment.

Africa remains the region that has the greatest burden of malaria cases and deaths in the world. Two-third (66%) of African population is at risk of malaria.

Malaria is one of the top ranking causes of morbidity and mortality in Malawi. More than two-thirds of population lives in malaria endemic areas. The seasonal peaks fall between November and June. It is one of the main causes of hospitalization and death in all corners of the country. Over 35% of all Out Patient Department (OPD) consultations are due to malaria for both children and adults and 40 % of hospital deaths in under five children (HMIS Bulletin August 2007).

Malaria is also one of leading causes of in-patient admissions in hospitals in Malawi and accounts for 40 % of all hospital admissions. In general new under five malaria cases expressed as a proportion to the total under five proportion have been increasing since 2004 to date. It rose by 30% over the period between 2004/05ad 2005/06 before declining by one percent in 2006/07 and it further increased by 14% in 2007/08

2.3 ITN USE FOR PREVENTION OF MALARIA

In the absence of any vaccine, and with the problems associated with drug resistance, prevention of malaria has to return to basic principles such as mosquito eradication measures and the use of Mosquito nets over beds for protection. Globally, malaria control policies and strategies vary with local malaria endemicity.

Mosquito net utilization had shown impacts on malaria control in parts of India, China, and Africa. In Africa, where the burden of malaria is greatest, scaling up access to treatment and prevention began even more recently. With respect to progress on

prevention, the number of ITNs distributed has increased 10 fold during past 3 years in more than 14 African countries in which Malawi is inclusive.

The study done in high risk area of Malaysia has shown that ITNs distribution and improved diagnosis and treatment services reduced malaria incidence 28 fold between 1995 and 2003.

WHO in 2005, reported that ITN utilization has demonstrated a reduction in under five children mortality by up to 25%. Similarly, other study has identified that proper use of ITNs can reduce mortality in children by an average of 17% and incidence of severe and mild malaria episodes by 45- 48% worldwide.

The effectiveness of ITNs assessment in Aleta Wondo Woreda, Southern Ethiopia had shown that ITN has an overall protective efficacy of 18% against all causes of child mortality and 50% of malaria disease episodes. Large studies of ITNs in the Gambia, Ghana and Kenya have indicated that the use of this simple technology can reduce over all child mortality by 17%- 63%.

The same study in Kenya had shown that ITNs reduced death from life threatening malaria by 44%, lowered the hospitalization of children with malaria by 41% and child hood death by 33%

2.4 ITN UTILISATION

A study was done in Tanzania to determine household ownership and use of insecticide treated nets among target groups. Steady increases in net coverage indicators were observed over the three year study period. Between 2005 and 2007, household ownership of at least one net increased from 44% to 65%, and ownership of at least one insecticide treated net doubled from 18% to 36% in the same period. Among infants under 1 year of age, use of any net increased from 33% to 56% and use of an insecticide treated net increased from 16% to 34%

Another study was again conducted by Gashaw Dagne to assess knowledge and utilization of insecticide treated mosquito nets among freely supplied households in Wonago Woreda in Southern Ethiopia. The studies revealed that of the 944 freely supplied ITNs to 638 households, 649 (68.8%) were reported as being used by households. The use of at least one ITN was reported by 482 (75.5%) households, and under-five children who slept under ITN in the previous night were 452 (58.0%).

The survey done in Ghana on ITN use among under 5 years children showed that the proportion of children and pregnant women who slept under ITN the previous night of survey was 34.8% and 34%, respectively. Similar study done in the areas of rural Burkina Faso, self-reported compliance was 66% and 98% during dry and rainy season, respectively. These were further confirmed by direct observation and found to be only 34% and 79%, respectively.

The study done in Uganda on knowledge, Attitude and Practices related to malaria and insecticide treated nets had shown that majority (71.5%) of the respondents know that children five years or under are at greater risk of malaria, but only 9.9% reported that pregnant women are also at risk. Only 24.6% of respondents cited the use of mosquito nets as best prevention method and 17% did not know how to prevent malaria at all. Although nets were viewed positively, nearly half (42.8%) nets found in the households during the survey were not in use.

The study done in rural Burkina Faso had shown that the proportion of ITN found to be tacked correctly under mat/mattress during direct observation was 10% and 34% during the dry and rainy season surveys, respectively. It was further seen that self report utilization of ITNs tends to be over reported compared to direct observation. The study done in Rural Burkina Faso has shown that among self-reported compliance of 66%, only 34% of under five children were confirmed sleeping under bed net by direct observation.

World Health Organization estimate that only less than 10% of at risk children and women in Africa regularly sleep under ITNs. Survey conducted from 1999 to 2004 across 34 countries, have shown that the median proportion of children under 5 years of age using ITNs was only 3% (ranging from 0.1%-63%). Other Surveys conducted in 2002-2004 showed remarkable increase in Eritrea (63%) and Malawi (36%). In selected areas of Senegal, household ownership of ITNs increased from 11% in 2000 to 41% by 2004. Urban and relatively wealthy households are far more likely to own ITN than rural poor, in which people are at higher risk of malaria

John Kadzandira and Allistar Munthali to determine the progress Malawi has made towards achieving the Abuja conference targets, did a study in Malawi. This was achieved through assessment of coverage and utilization of ITN's for malaria prevention for under fives and pregnant women and this was achieved by assessing factors that prevent people from using ITN's, determining the proportion of under five and pregnant women with reported fever in previous two weeks, accessing correct and appropriate treatment within 24 hours of onset of fever. Results revealed that 35.55% of under fives used ITN's the previous night.

Malawi follow up survey report on community and household IMCI (2004) revealed that 59% of under five children slept under ITN's as compared to the baseline 48%. It also showed that use is seasonal with households storing them in low transmission season in all districts. It further showed that there was a shift from shops being the main source of bed nets to health facilities.

A study was done by Grevasio Chamatambe to determine factors for insecticide treated nets policy change and its implications to communities in Malawi. The study revealed that there was a sharp decline in household bed net ownership from 3 to 1.2 nets per house hold in December 2004 and May 2008 respectively. The trend of net decline was also noted in number of nets registered before net re-treatment campaigns in 2004,

2005, 2006 and 2007 in Chikweo area and Machinga District as whole. The study shows that the malaria burden is increasing following the decline in household bed net ownership. The study revealed that 21% of the households did not have nets, 44% of households had a net per household, 25% had 2 nets and 10 had more than 2 nets. The study also noted that 28% of the nets were in good state of repair (not torn). 48% of the study population slept under net during the previous night of which 14.2% were under-five children representing 61% of all under-five children in the study population. Out of 42 cases who had malaria, 36% had no nets, 48% cases occurred in households with torn nets, 14% cases occurred in households with one good net, 2% cases in households with 2 good nets and no cases in households with 3 or more good nets.

By March 2004 approximately 43% of the households in Malawi owned at least one net. The northern region had proportionately more households with a net (56.1%) compared to the central (35.7%) and southern regions (45.7%). Districts along Lake Malawi had very high net ownership compared to the other districts. In the Southern Region districts along Shire River also had high net ownership. At national level, so far only Karonga, Likoma, Nkhosakota and Salima districts have achieved the Abuja target with over 60% of their under-five children and pregnant women sleeping under an ITN in the night prior to interview.

Data from the Malawi DHS 2000 revealed that bed nets used by adults are often newer and more recently treated with insecticide than those used by children. Recent surveys show that while the use of ITNs has increased nationally it has done so more in the rich than the poor

2.4.1 Determinants of ITN use

Studies done in most parts of Africa showed that availability of separate bedroom significantly increased the use of ITN by households. In addition, possession of two or more ITNs and perception that ITN prevents from mosquito bite were significantly associated with utilization of ITNs by households and under-five children.

A study was conducted by Mugish, F. and Aranaite, J. on sleeping arrangements and ITN use among the under fives. Results indicated that children use mosquito nets primarily because they happen to share a bed with their parents. A child who shares a bed with the mother is 21 times more likely to use a mosquito net than his/her counterpart.

A similar study was done to assess utilization of insecticide-treated nets by under-five children in Nigeria by Oresanya et al (2008). The findings were that utilization of any net by children under-five was 11.5% and 1.7% for ITN. Predictors of use of any net among under-five children were fever in the previous two weeks, presence of health facility in the community, level of education of the care giver.

A study was done to determine use of insecticide-treated nets (ITNs) following a malaria education intervention in Piron, Mali by Rhee, M. et al, and the findings were that ITN

use was significantly greater in participants who had received the educational intervention (48%) as compared to individuals who did not. Knowledge levels about malaria significantly increased for each individual after the educational intervention although there was no difference found between educational and control groups.

Michelle Rhee, Mahamadou Sissoko, Sharon Perry, Willi McFarland, Julie Parsonnet and Ogobara Doumbo in 2003 conducted a study on Use of insecticide-treated nets (ITNs) following a malaria education intervention in Piron, Mali: a control trial with systematic allocation of households. The study revealed that Forty-nine percent of households who received the educational component impregnated their nets in comparison to 35% of households who did not. In individual analysis, ITN use was significantly greater in participants who had received the educational intervention as compared to individuals who did not.

2.4.2 Factors that hinder ITN use

Most research findings shows that common reasons for failure to use the ITN were: people are lazy to hang them up, no bed room, too small, a cause of heat and lack of enough air when slept under it, mosquito not seen in the house, ITN was torn, not enough ITN's in the house.

Evidence from social marketing activities in Malawi revealed that when overall net ownership was around 20%, urban net ownership was much higher (28.8%) than rural net ownership (6.4%). Holtz also found that only 3.3% of rural children and 24% of urban under-five's slept under a net on the night before the survey. Net ownership had also been related to the educational levels of household members with net ownership being less common in households where the head/caretaker had not completed primary school and in homes where the house had mud walls or a grass roof.

Holtz et al. also showed that knowledge and appropriate use of ITNs was lower in rural (poorer) compared to urban (less poor) households in Malawi, that poverty was the most important barrier to net use and that net re-treatment rates were lower in rural (16%) than in urban (35%) households. There is some evidence to suggest that children, who are especially vulnerable to malaria, are not given priority access to malaria prevention.

2.6 SUMMARY OF LITERATURE REVIEW

From the literature review it shows that malaria has a negative impact on people's health and economy. It is also evident that use of ITN's is very effective in reducing incidences of malaria among the under fives. Some of the factors promoting its use is, knowledge of ITN being a preventive measure against malaria, availability of separate bed room in the house and presence of more than one net in the house hold, educational level of the user, incidence of malaria in the household. It has also shown that use is seasonal and that people in urban areas are more likely to own a net than people in the rural areas.

Some of the factors that hinder ITN use in most of the households, users lacked air when they have slept under it, is because they forgot to hang the net when sleeping, it causes too much heat, it is too small to sleep in, no separate bed room was available, no enough nets in the house, Although it is proved that ITN use reduces malaria incidences, it clearly shows that ITN's are being under utilized by the under five children in Malawi.

CHAPTER THREE

3.0 THEORETICAL FRAMEWORK

3.1 Introduction

A conceptual framework is a frame of reference that is a base for observations, definitions of variables, research designs, interpretation and generalization (Polit and Hungler, 1999). Conceptual model helps the researcher knit together observations and facts into an orderly manner and helps to draw together and summarize accumulated facts from isolated and separate investigations. It also provides basis for predicting the occurrence of phenomena. Conceptual framework makes the research findings meaningful and generalisable and helps to present research findings in a coherent and orderly manner. The conceptual framework for this study was based on Health promotion Model by Pender (1987). Health promotion is defined as activities directed toward the development of resources that maintain or enhance an individual's wellbeing (Polit and Hungler, 1999). This model was chosen because it emphasises on health promotion and preventive care. The conceptualisation seems to have the most relevance for subjects under study. The model provides conceptual basis for understanding the many factors that affect the health behaviour of individuals. According to Polit and Hungler (2008) Pender's Health promotion model is a model for explaining and predicting the health-promotion component of life style. The health promotion model describes the multidimensional nature of persons as they interact within their environment to pursue health. The Health Promotion Model encompasses two phases: a decision making phase and an action phase. In the decision making phase, the model emphasizes seven cognitive perceptual factors that compose primary motivational mechanisms for acquisition and maintenance of health promoting behaviours, for example, perceived barriers to health promoting behaviours, and five modifying factors that indirectly influence patterns of health behaviour (situational influences).

In the action phase, both barriers and cues to action trigger activity in health promoting behaviour (Polit and Hungler, 1999). According to Alligood (2008), the main factors (as identified by Pender) are cognitive perceptual factors and the modifying factors. Cognitive perceptual factors determine how a person perceives participating in those behaviours that are meant to promote health. Modifying factors are those factors in a person's environment which can influence him or her to change the initial thoughts leading to an action. The modifying factors can be biological, physical, and even social factors in an environment. The Pender's Health Promotion Model helps in proper assessment of an individual whilst considering the factors that can be given a special focus when providing supportive environment meant to improve one's health.

3.2 Diagrammatic presentation of HPM conceptual model

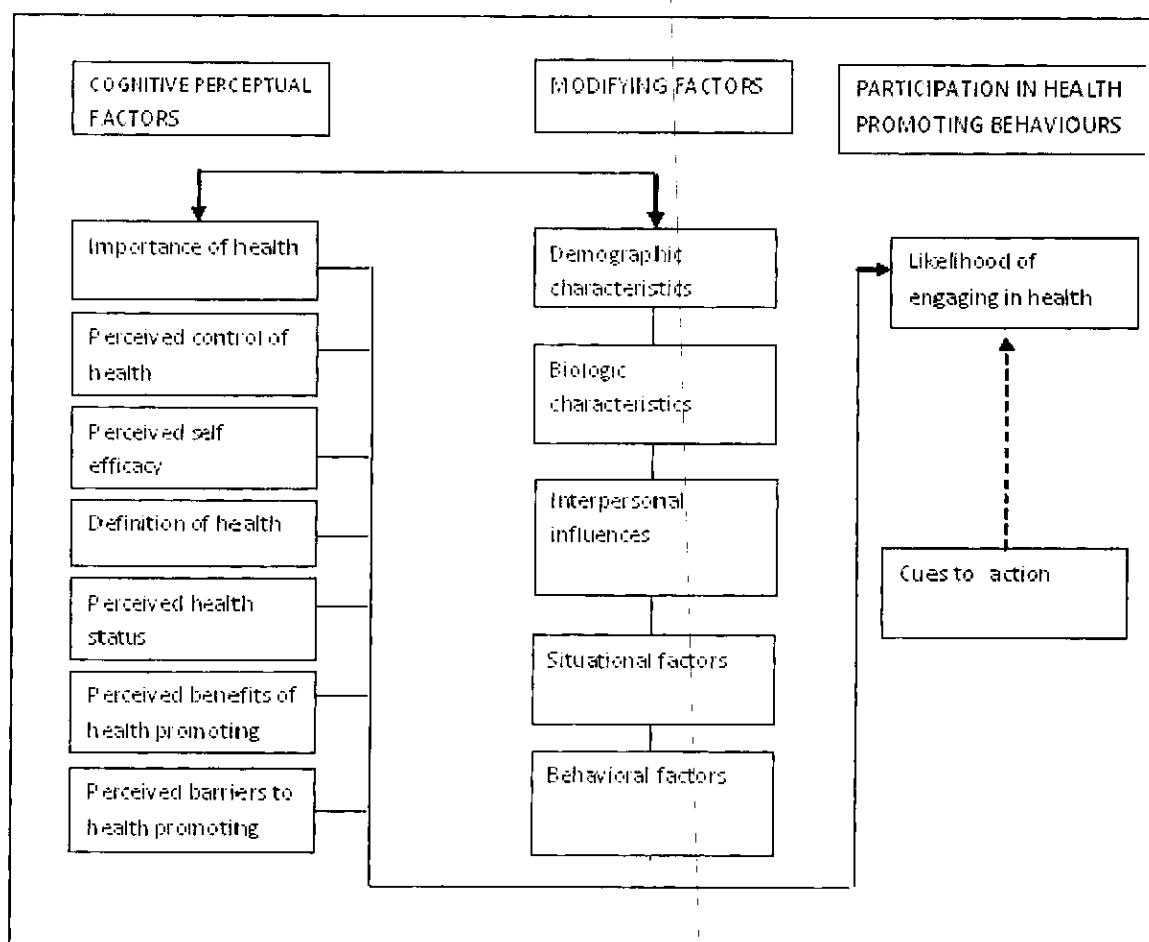


FIG. 1 Adapted from Polit and Hungler (1999)

3.3. Application of the model

Health promotion model by Pender has been applied to this study in that when caretakers of under five children are utilising insecticide treated nets, they are being influenced by the cognitive perceptual factors or the modifying factors.

Importance of Health

Cognitive perceptual factors will help care takers of the under five children to value the importance of health, thereby, pursuing health promoting behaviours. In this case, utilising insecticide treated nets to protect the under five children against malaria. Otherwise, if they won't see the value of health, they cannot pursue the benefits of health promoting behaviours, hence may not use the ITN's. Therefore it is necessary to change and improve on the cognitive factors for some body to modify risk behaviours.

Perceived control of health

Factors like declining health status related to frequent attacks of malaria influence an individual to start seeking promotional health services, for example, utilising ITN's as a prevention measure against malaria.

Perceived self efficacy

This simply means judgment of personal capability to organize and execute a health promoting behaviour. Perceived self-efficacy influences perceived barriers to action, so higher efficacy result in lowered perceptions of barriers to the performance of the behaviour. A caretaker who has fear of unknown on the use of ITN's will not use ITN's. This acts as a barrier to them. Examples related to such fear of unknown could be that one feels very hot when she or he uses an ITN, it irritates ones skin, it does restrict ones movements when using it.

Definition of Health

Health can be defined as a state of well-being and not merely the absence of disease. A healthy (competent) individual will always have goals aimed at achieving optimum health by pursuing health-promoting behaviours. He will strive to maintain structural integrity and harmony with relevant environments. If the caretaker doesn't value goals for optimum health will display incompetence in self care by not seeking health promoting behaviours, for example utilizing insecticide treated nets.

Perceived Health Status

This can also promote ITN use in a way that if one perceives his or herself to be at risk of malaria.

Perceived benefits of action

When the care taker engages in a particular behaviour, like using ITN, she will anticipate a positive outcome that will occur from the health behaviour. If she realizes no positive outcome, then she might be demoralized and this will act as a barrier.

Perceived barriers to action

Some caretakers will harbour negative imaginations and myths about use of ITN's that will prevent them from utilizing the nets.

Modifying Factors

Modifying factors can either influence the caretakers to use the ITN's or not.

Demographic characteristics

Demographic variables, for example, age, sex, race, can influence an individual to seek health promoting behaviour. Studies have shown that women will seek health promoting opportunities more than men. Again as an individual is growing older, he or she intends to be concerned with her health, hence she seeks health promoting behaviour. Demographic characteristics can influence caretakers to use ITN's or not.

Interpersonal influences

This is also one of the modifying factors. Interpersonal influences refer to cognition concerning behaviours, beliefs, or attitudes of the others, and include norms, social support and modeling (vicarious learning through observing others engaged in a particular behaviour). A caretaker with good interpersonal relationship will learn and enquire about ITN's from health care providers, peers, neighbors and sometimes family members. Depending on what influence she obtains, she might be encouraged to use ITN's or not.

Situational factors: which are modifying factors can also influence caretakers to use ITN's or not. Situational factors are personal perceptions and cognitions of any given situation or context that can facilitate or impede behaviour. This includes perceptions of options available, demand characteristics, and visual features of the environment in which a given health promoting is to take place. All these factors can either influence caretakers to use ITN's or discourage them depending on their perception.

Prior related behaviours

This is the frequency of the same behaviour in the past. Direct and indirect effects on the likelihood of engaging in health promoting behaviours.

Personal factors

Categorised as biological, psychological and socio cultural. These are predictive of a given behaviour and shaped by the nature of the target behaviour being considered. For example age, gender, education status can affect ones use of ITN's.

Participation in health promoting behaviours

Cues to Action

Cues to action include mass media campaigns, health education from health workers, and advice from other. All these can provide information and influence caretakers to use ITN's as a health promoting behaviour.

Likelihood of Engaging in health: the likelihood of taking recommended preventive health action (utilising ITN's) by caretakers will depend on all the above factors.

CHAPTER FOUR

4.0 RESEARCH METHODOLOGY

4.1 Introduction

This is the overall plan for obtaining answers to the research question. It spells out the basic strategies that the researcher adopts to develop information that is accurate and interpretable (Polit and Hungler, 1999). This chapter will discuss the research design, sample size, sample setting, data collection and the instrument to be used, ethical consideration and limitation of the study.

4.2 Research design

A research design is a blue print for conducting a study that maximizes conduct over factors that could interfere with the validity of the findings (Burns and Grove, 2009).

A non-experimental descriptive methodology with a quantitative approach will be used to gather data during the study. Subjects will be selected using a non-probability convenient sampling method to avoid biases. A non-experimental research does not involve experimental manipulation of the independent variable because it is unethical to do so in nursing research. The study will be conducted using quantitative comparative descriptive design the purpose of which is to establish the magnitude of the problem among the subjects. A quantitative study design is a study in which data collected is in numeric form (Polit & Hungler, 1991). Comparative descriptive studies examines and describes differences in variables in two or more groups that occur naturally in their settings. (Burns and Grove, 2009). A questionnaire with closed ended as well as open-ended structured questions will be used as an instrument for collecting data.

4.3 Study setting

Study setting refers to a location for conducting research (Burns and Grove, 2009)

Study will be done in Mayadi and Mgubo villages of Mchinji district. Mgubo is about 20 Kms from Mchinji Boma, is a typical village whose population main source of income is farming. According to Mchinji hospital's head-count register, Mgubo has 1694 inhabitants, of which 396 are the under fives in 369 households.

Mayadi is located at the centre of Mchinji and is part of Mchinji town which is an urban setting. Hospital head count statistics indicate that it has a total population of 2,116, 240 are under five children in 283 households. Most inhabitants are senior civil servants and well to do business people. Subjects will be drawn from two sites to compare ITN use among them as their social status is different. The subjects will be studied right in their own natural setting, which is where they will be found. Burns and Grove (2009), defines

a natural setting as uncontrolled, real life settings where studies are conducted. A natural study setting does not manipulate the environment of the subjects as a result subjects are more free and flexible to give accurate information.

4.4 Study population

A population refers to the entire set of individuals having some common characteristics (Burns and Grove 2005). The population include target and accessible population. A target population refers to all individuals who meet the criteria for inclusion while the accessible population consists of the individuals who conform to the criteria and are available for a particular study (Polit and Huhgler 1999). In this study the target population will be all under five children and households which have under-five children.

4.5 Study sampling

Sampling is the process of selecting a proportion of the population to represent the entire population (Polit and Hungler, 1999). Non probability convenience sampling method will be used to obtain the subjects of the study. In probability sampling, respondents are selected by non random methods. It entails the use of the most conveniently available people as subjects in the study. The sample of 30 under five children, 15 from each site will be used.

4.6 Sample size

30 under five children and their house holds, 15 from each site (Mgubo and Mayadi) will be drawn.

4.7 Data collection instrument

A structured questionnaire will be developed as a tool for data collection from subjects to facilitate easy analysis. The questionnaire will contain open and closed ended questions in Chewa and Senga languages.

4.8 Pretesting

The pretesting of the questionnaire will be done at Maula village in order to establish the appropriateness, acceptability, validity, reliability, of the questionnaire and also to identify flaw or assess time requirements. Five questionnaires will be used for this purpose

4.9 Data collection

Data collection is systematic way of gathering information relevant for the research purpose or question (Burns and Grove 2003).

Information will be collected using a structured questionnaire with closed and open ended questions. The researcher will carry out interviews alone at all two sites to ensure consistency in asking questions. The interviews will take approximately 30-45 minutes.

The questionnaire will also be self administered to those who can read and write.

Data will also be collected through direct observation on ITN availability and use in all households. Observations will be done on the type of bed net, condition of the net. Observation will be done to collect data because study done in Burkina Faso showed that self-reported ITN utilization among under five children were over reported when compared with direct observation.

4.10 Data management

Data will be analysed manually using descriptive statistics and will be presented in graphs, tables and pie charts.

4.11 Ethical considerations

Permission to conduct the study will be sought from Mchinji District Health Office, Mchinji District Assembly and traditional authority Zulu. The participants will be informed of the purpose of the study, the procedures and its significance and its benefits. Consent will be sought before incorporating the individuals in the study. Those who agree to participate in the study will sign a consent form. Participants will be allowed to ask questions and withdraw from the study if they wish to do so in the course of the study. All the information collected will be treated as confidential, only the researcher, the supervisor, and the respondents will have access to the questionnaires. Subject will be assured of anonymity and confidentiality by using identification numbers and not names. The interview will be done in a conducive and private environment where the subjects will exercise their rights of expression without interference.

4.12 Dissemination of results

The final report will be presented as partial fulfillment of the Bachelor of Science in Nursing Education degree to Department of Basic Studies, Kamuzu College of Nursing. The research findings will also be communicated to the DHO, Malaria coordinator and the entire staff of Mchinji District Hospital. Copies of the report will be available at KCN library and Mchinji district Hospital library.

4.13 Study strengths and limitations

Strength of the study

This study will rely on the combined collection of self-reported information and direct observation of the condition of the nets and how they are hung.

Limitation of the study

Limitations of the study are restriction or problems that may decrease the generalisability of the study (Burns and Grove, 2009).

Non random sampling will reduce generalisability of the research findings.

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6.0 APPENDICES

Appendix 1

UNIVERSITY OF MALAWI
KAMUZU COLLEGE OF NURSING

QUESTIONNAIRE

**TITLE: *A STUDY ON UTILISATION OF INSECTICIDE TREATED
NETS AMONG THE UNDER FIVE CHILDREN OF
MGUBO AND MAYADI VILLAGES***

Village: _____

Code Number: _____

Instructions

1. Introduce your name, and the purpose of the visit to the household
2. Request the willingness of the respondent for interview and observation of bed nets. (Based on the consent form)
3. Data collector must fill his/her name, put signature properly.

A. SOCIO-DEMOGRAPHIC CHARACTERISTICS

(Tick where appropriate)

No	Question	Response
1)	Sex of respondent	1() Male 2() Female
2)	Age of the respondent (In years)	1() 18-25 2() 26-35 3() 36-45 4() 46-55 5() 56 and above
3)	Educational status	1() Illiterate 2() Read and write 3() Standard 1-8 4() Form 1-4 5() Tertiary education
4)	Religion	1() Christian 2() Moslem 3() Others
5)	Tribe	1() Ngoni

- 2() Chewa
3() Senga
4() Others
- 6) Source of income 1() Farming
 2() Business
 3() Monthly salary
 4() If other, specify
- 7) No of people in the house hold 1() 1-2
 2() 3-5
 3() 5-7
 4() 7-10
 5() More than 10
- 8) No of children in the house 1() 1- 2
 2() 3-5
 3() 6-8
 4() more than 8
- 9) Age of the youngest child 1() 0-1
 2() 2-3
 3() 3-4
- 10) Who frequently suffers from malaria in the house? 1() U/5 children
 2() older children

3() Adults

4() Old aged

9) Does the household own ITNs?

1() Yes

2() No

10) If **YES**, to above (9), how many?

1() 1

2() 2

3() 3&>

11) If **YES**, (9) above and it is not permanent,
and it has been used for more than a year,
have you retreated it?

1() Yes

2() No

12) If **NO**, to (11) above, what is the major
reason?

1() No retreatments kit

2() Lack of information

3() Forgotten

4() Not comfortable with insecticide

5() Other

1) How many nets are not torn?

1() 1

2() 2

3() 3& >

14) Source of the net

1() Free

2() Bought

3() Other sources, specify

15) If free, source

1() Health facility

2() Mass campaign

3() Others, specify

B. ASSESSING LEVEL OF KNOWLEDGE OF CARETAKERS

1) How do we acquire malaria?

1() Mosquito bite

2() Bad season

3() If other, specify

2) What measures are used to prevent malaria? 1() Proper disposal of

wastes

2() Source reduction

3() Drugs (prophylaxis)

4() ITN utilization

5() Not known

6() If other, specify

3) Who are at high risk of malaria in the household? 1() U/5 children

2() Pregnant women

3() Adults

4() Old aged

5() If other, specify

4) Who uses ITN in the house?

1() Children only

2() Adults only

3() Children and adults

4() Old age

5() Pregnant women

6() others, specify

5) For how long have they been using ITN's? 1() < 1 year

2() 2-5 years

3() > 5 years

6) When should one use ITNs?

1() Every night

2() Rainy season

3() Dry season

4() When mosquitoes are
present

5() Others specify

7) How did you learn about ITN use?

1() Community members

2() Health facility

3() Community health workers

4() Educational programmes

C. ASSESSING USE OF ITN'S

1) Did the under five child sleep under bed net
previous night? (For those who own)

1() Yes

2() No

2) If no to above, why?

1() No mosquito seen

2() Forgotten

3() Did not want

4() Not hanged

5() No bed room

6() If others, specify

3) With whom does the under five child share sleeping place? 1() Siblings

2() Parents

3() None

4) Who ensures the child sleeps under the net? 1() Parents

2() Siblings

3() Self

D. DETERMINING FACTORS THAT FACILITATE OR

HINDER ITN USE.

1) What do you think make people
use ITN's?

1() Presence of mosquito

2() Cold weather

3() Possession of two or more

Nets

4() Perception that ITN

Prevents from mosquito

bite

5() Others, specify

2) Does sleeping under bed net cause any problem? 1() Yes

2() No

- 3) If **YES**, to above, what are the major problems?
- 1() No comfort
 - 2() Causes too much heat
 - 3() Restricted movements
 - 4() Irritates the skin
 - 5() If others, specify

- 4) Are the nets readily available at the health facility?
- 1() Yes
 - 2() No

- Are the nets readily available in shops?
- 1() Yes
 - 2() No

- If yes to above, are they accessible to you?
- 1() Yes
 - 2() No

- 4) What do you think would make someone not to use of ITN?
- 1() Absence of mosquito
 - 2() Lack of knowledge
 - 3() Net not in good condition
 - 4() Unavailability of separate bed room
 - 5() Less number of ITN in the house hold
 - 6() No place to hang the net
 - 7() Makes the bed room

Untidy

8() Laziness to hang up the net

9() Others, specify.

F. IDENTIFYING WAYS ON HOW ITN USE CAN BE PROMOTED

1) What do you think should
be done to encourage people use ITN? 1() Health education

Programmes

2() Scale up ITN distribution

3() Frequent re treatment

4() Distribute triangular nets

5() Others specify .

Appendix 2

CHECKLIST

This check list is used for the observation of the household's bed nets conditions, proper utilization by under five children who own ITN's and those who responded to be utilizing them.

No	Points to be observed	Observation Code
E1	Number of beds or places of sleep	E1.1 One E1.2 Two E1.2 Three and above
E2	The number of bed nets observed in the household	E2.1 One E2.2 Two E2.2 Three and above
E3	Number of beds /places of sleep observed with bed nets	E3.1 One E3.2 Two E3.3 Three and above
E4	The type of bed nets that house hold own	E4.1. Re treatable E4.2. Permanently treated

E5	Is the bed net hanged(placed) properly over the bed or sleeping area	E5.1. Yes E5.2 No E5.3. Other Specify
E6	Is there any hole in the bed net	E6.1. yes E6.2. No

Name of the interviewer /Observer Signature_____ Date_____

Appendix 3

A) MBIRI YA PA KHOMO

Funso

Yankho

1)Woyankha

1() Mamuna

2() Mkazi

2)Zaka za oyankha

1() 18-25

2 () 26-35

3 () 36- 45

4 () 46-55

5 () > 56

3)Maphunziro a oyankha

1() Wosaphunzira

2 () Amalemba ndi kuwerenga

3 () Pulayimale

4 () Sekondale

5 () Sukulu ya ukachenjede

4) Chipembedzo

1() Mkhirisitu

2() Wachisilamu

3() zina

5) Mtundu

1() Ngoni

2() Chewa

3() Senga

4() Zina

6) Njira yopezera ndalama

1() Kulima

2() Malonda

3() Malipiro a pa mwezi

4() Zina

7) Chiwerengero cha anthu pakhomo 1() 2-5

2() 6-10

3() > 10

8) Chiwerengero cha ana pa khomo

1() 1- 2

2() 3-5

3() 6-8

4() > 8

9) Zaka za mwana wamng'ono

1() 0-1

2() 2-3

3() 3-4

10) Ndani amadwala malungo mowirikiza pakhomopo 1() Ana

ochepera zaka

zisanu

2() Ana okulirapo

3() Akulu

4() Okalamba

11) Kodi pa khomo pano muli ndi ukonde?

1() Eya

2() Ayi

12) Ngati eya, angati?

1() 1

2() 2

3() 3>

13) Ndi maukonde angati amene ali osang'ambika? 1() 1

2() 2

3() 3& >

14) Munaupeza bwanji ukondewu?

1() ulere

2() Kugula

15) Ngati ndi waulere, munalandira kuti?

1() Kuchipatala

2() Pakampeni ya maukonde

3() Zina

**B) KUFUFUZA ZOMWE OYANKHA AMADZIWA PA NKHANI YA MAUKONDE
OPEWERA UDZUDZU**

1) Kodi malungo amafala bwanji?

1() Kulumidwa ndi udzudzu

2() Nyengo yoipa

3() Zina

2) Ndi njira ziti zomwe tingagonjetsere malungo? 1() Kutaya

3) Ndi ndani yemwe ali pa chiopsyezo
Cha malungo pa khomo pano?

4) Amagwiritsa ntchito ukonde wopewera

Malungo pa khomo pano ndindani?
okha

5) Akhala akugwiritsa nchito nthawi yaitali bwanji? 1() osaposerazaka zisanu

2() pakati pa zaka ziwiri ndi
zisanu

zinyalala

moyenera

2() Kupha udzudzu

3() Kugwiritsa ntchito

mankhwala

4() Kugwiritsa ntchito

ukonde

5() Sakudziwa

6() Zina

1() Ana ochepera zaka zisanu

2() Amayi oyembekezera

3() Akulu

4() Okalamba

5() Ena (tchulani)

1 () Ana ochepera zaka zisanu

2() Amayi oyembekezera

3() Akulu okha

4() Akulu ndi ana ocheperazaka

zisanu

5() Okalamba

6() Ena (tchulani)

3() kuposera zaka zisanu

6) Ndi nthawi yiti yomwe timayenera kugwiritsa nchito ukonde?

1() Usiku ulionse

2() Nthawi ya dzinja

3() Nthawi ya chilimwe

4() Pomwe udzudzu ukuoneka

5() Nthawi ina tchulani

7) Kodi munadziwa bwanji nkhani ya ukonde opewera udzudzu?

1() Anthu a mmudzi

2() Ku chipatala

3() A zaumoyo a mmudzi

4() Mauthenga osiyana siyana

**C) KUFUFUZA KAGWIRITSIDWE NTCHITO KA UKONDE OPEWERA
UDZUDZU**

1) Kodi ana osachepera zaka zisanu anagwiritsa nchito ukonde usiku wapitau?

1() Inde

2() Ayi

2) Ngati ayi, chifukwa chiyani?

1() Kunalibe udzudzu

2() Kuyiwala

3() Sunapachikidwe

4() Kusafuna

5() Palibe chipinda

3) Kodi ana ochepera zaka zisanu amagona ndi ndani?

1() Ana anzawo

2() Makolo

3() Okha

4) Ndi udindo wandani kuonetsetsa kuti ana ochepera zaka zisanu agona mu ukonde?

1() Ana anzake

2() Makolo

3() Okha

D) KUPEZA ZOMWE ZINGALIMBIKITSE KAPENA KUKANIKITSA KUGONA MU UKONDE

1) Kodi mukuganiza kuti ndi zinthu ziti zomwe zimapangitsa anthu kugwiritsa ntchito ukonde?

1() Nyengo yozizira

2() Kukhala ndi maukonde oposa imodzi pakhomu

39) Kukhulupirira kuti ukonde umateteza malungo

4() Zina, tchulani

Appendix 4

WORKPLAN

Activity	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sept	Oct	Nov	Dec
Topic selection and formulation												
Formulation of objectives and planning of methods												
Literature review												
Proposal development												
Proposal submission												
Pretesting and data collection												
Data collection												
Data analysis and interpretation of results												
Report writing and submission of dissertation												
Dissemination of results												

Appendix 5

TABLE OF BUDGET PLAN

STATIONERY					
ITEM			AMOUNT		COST
PLAIN PAPER RIMS			5 RIMS AT MK900		MK4500-00
LEAD PENCILS			5 PENCILS AT MK30 EACH		MK150-00
PENS			5 @ MK50		MK250-00
FLASH(USB)			1 @ MK9000		MK9000-00
MEDIUM ENVELOPES			30 @ MK30		MK900-0
LARGE ENVELOPES			20 @ MK50		MK1000-00
SHARPENER			1 @ MK100		MK100-00
STAPLES			1 BOX @ MK500		MK500-00
PUNCHING MACHINE			1 @ MK1000		MK1000-00
ERASORS			2 @ MK100		MK200-00
FOLDERS			5 @ MK200		MK1000-00
RULER			1 @ MK100		MK100-00
			SUBTOTAL		MK17700-00
SECRETARIAL SERVICES					
TYPING OF LETTERS			3 @ MK100		MK300-00
TYPING OF PROPOSAL			1 COPY @ MK2000		MK2000-00
PHOTOCOPYING AND BINDING OF PROPOSAL			5 COPIES @ MK1100		MK5500-00

PHOTOCOPYING AND BINDING OF DISSERTATION			5 COPIES @ MK2000		MK10000-00
PHOTOCOPYING OF QUESTIONNAIRES			40 COPIES @ MK100		MK4000-00
PRINTING OF REPORT			1 @ MK400		MK400-00
			SUBTOTAL		MK22200-00
TRANSPORT AND TELEPHONE EXPENSES					
DATA COLLECTION			MK2000		MK2000-00
CELL PHONE BILLS			MK3000		MK3000-00
			SUBTOTAL		MK5000-00
LUNCH EXPENSES			RESEARCHER @ MK1000/DAY		MK4000-00
CONTINGENCY ALLOWANCE			MK6000		MK6000-00
			SUBTOTAL		MK10000-00
			GRANDTOTAL		MK54900-00

JUSTIFICATION OF THE BUDGET

Stationary

Preparation for the research proposal and dissertation will need enough stationery. Enough paper rims will be necessary for collecting information from different literature, for preparing proposal, questionnaires and for writing a report. Stationery accounts for about 32% of the total budget.

Secretarial services

About 40% of the budget will be used for secretarial expenses as money will be required for typing, printing, binding and photocopying of the proposal and final dissertation. As it is not possible to do everything alone due to limited time, the researcher will hire somebody to type. The documents are very important, hence the need to have them bound and look presentable.

Transport

The researcher will need money to travel to Mayadi and Mgubo villages for data collection hence an allocation of a total of MK2000 translating into about 4% of the budget.

Cell phone expenses

The researcher will need to phone her Supervisor to book appointments for different meetings regarding the research study. This accounts for 5% of the budget.

Lunch

A sum of MK4000 will be spent on lunch for the researcher. This represents about 7% of the budget.

Contingency

About 11% of the budget (MK6000) will be used for incidentals which cannot be planned for, for example frequent hikes in prices of materials and costs of services.

Appendix 6

INFORMED CONSENT (English version)

I am Victoria Minofu, Bachelor of science mature entry year two student of Kamuzu college of Nursing. I am doing research on use of insecticide treated nets as a preventive measure against malaria. You are being asked to take part in the research study. I am asking you to take part because you have an under five child. Please read this form carefully and ask any questions you may have before agreeing to take part in the study.

If you agree to be in this study, I will conduct an interview with you. The interview will include questions about your bibliography, whether you own a net or not, and how it is used. The interview will take about 30-45 minutes to complete. With your permission, I would also like to have a look at your nets right at the place where it is hang.

There is the risk that you may find some of the activities to be sensitive. There are no benefits to you but your participation is likely to help me find the answer to the research question and there may be some benefits to the society in future.

The records of this study will be kept private. In any sort of report I make public, it will not include any information that will make it possible to identify you. Any information about you will have a number on it instead of your name. Research records will be kept in a locked file, only the researcher will have access to the records.

Taking part in this study is completely voluntary. You may skip any questions that you do not want to answer. If you decide not to take part or to skip some of the questions it will not affect you in any way. If you decide to take part, you are free to withdraw at any time.

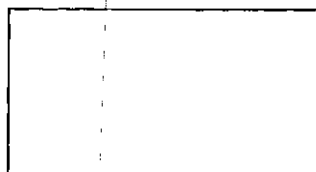
If you have any questions or concerns regarding your rights as a subject in this study, you may contact the research committee of Kamuzu college of Nursing on 01

I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any questions that I have asked have been answered to my satisfaction. I consent voluntarily to participate as a participant in this research.

Your Signature _____ Date _____

Day/month/year

Thumb print of participant



Statement by the researcher

I have accurately read out the information sheet to the potential participant, and to the best of my ability made sure that the participant understands what will be done. I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participant have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily.

Name of Researcher _____

Signature of Researcher _____

Date _____

Day/month/year

Appendix 7

CONSENT FORM (Chichewa version)

Ine ndine **Victoria Minofu** ophunzira wa pa sukulu ya za ukachenjede ya Anamwino pa Kamuzu koleji. Ndikupanga kafukufuku pa za kagwiritsidwe ntchito ka ukonde oteteza ku udzudzu ngati njira imodzi yopewera malungo. Mukufunsidwa kutenga nawo mbali mukafukufukuyi. Ndikukupemphani kutenga nawo mbali chifukwa pakhomu pano pali mwana ochepera zaka zisanu. Chonde werengani mosamala pepalali ndipo funsani mafunso omwe mungakhale nawo musanavomere kulowa nawo mukafukufukuyi.

Mukavomera kulowa nawo mukafukufukuyi ndidzacheza nanu. Mukucheza kwathu ndidzakufunsani mafunso ambiri yanu ndi ya pa khomo pano, kudziwa ngati muli ndi ukonde kapena ayi ndiponso m'mene mumagwiritsira ntchito. Kucheza kwathu kutenga mphindi makumi atatu kapena anayi ndi mphambu zisanu. Ndi chilolezo chanu, ndidzafuna kuona nawo ukonde/maukonde anu pomwe mumamangirira.

Pali chiopsyezo choti mukhoza kuona zina za zochitika mukafukufukuyi ndi zodziwa zinsinsi zanu. Palibe phindu lililonse kwa inu polowa mukafukufukuyi, koma zidzathandiza kuti ine ofufuza ndipeze mayankho pa vuto lomwe ndinalipeza ndiponso pakhoza kukhala phindu mtsogolo muno dera la kwanu kuno.

Mapepala akafukufukuyi adzasungidwa pamalo obisika. Pamene ndikufuna kulengeza zotsatira za kafukufukuyi, sindidzanena chilichonse chosonyeza kuti inu mudalowa nawo mukafukufukuyi. Mayankho onse ochokera kwa inu adzaonetsa nambala osati dzina lanu. Ofufuza yekha ndi amene adzadziwe mayankho anu.

Kulowa nawo mukafukufukuyi ndi kochita kufuna. Mukhoza osayankha funso lomwe simukufuna kuyankha. Ngati simukufuna kulowa nawo mukafukufukuyi kapena simukufuna kuyankha funso lina, sizikukhudzani munjira iliyonse. Ngati mulowa nawo mukafukufukuyi, muli ndi ufulu otulukamo nthawi iliyonse.

Ngati muli ndi funso kapena ndemanga yokhudza ufulu wanu ngati otenga nawo mbali mukafukufukuyi, mukhoza kuyimba telefoni ku bungwe loona zakafukufuku ku sukulu ya anamwino ya Kamuzu pa **01751622/01751200**.

Ine ndawerenga uthengawu kapena andiwerengera. Ndinali ndi mwayi ofunsa mafunso okhudza kafukufukuyi ndipo mafunso onse omwe ndinafunsa ndayankhidwa mokhutitsidwa. Ndavomereza kulowa nawo mukafukufukuyi.

.....
DZINA LANU

.....
TSIKU

Appendix 8

CLEARANCE LETTER

University of Malawi

Kamuzu college of Nursing

Private Bag 1

Lilongwe

30th June, 2009

The Chairperson,

Research Publications Committee,

Kamuzu college of Nursing

Private Bag 1

Lilongwe

Dear Sir/Madam,

APPROVAL FOR CLEARANCE

I am a second year mature entry student pursuing a bachelor of nursing science in education at Kamuzu college of Nursing. In partial fulfillment for award of the degree, I am required to conduct a research study. The title of my study is: **UTILISATION OF INSECTICIDE TREATED NETS AMONG THE UNDER FIVES.**

The purpose of this letter is to seek your approval to conduct the study at Mayadi and Mgubo villages in Mchinji district.

I look forward to hearing from you.

Yours faithfully,

VICTORIA LIMBANI MINOFU

STUDENT RESEARCHER

Appendix 9

LETTER TO THE DISTRICT HEALTH OFFICE

Victoria Limbani Minofu
Kamuzu College of Nursing
Private Bag 1
LILONGWE
30th June 2010

The District Health Officer
Mchinji District Health Office
P.O. Box 36
Mchinji
Dear Sir

PERMISSION TO CONDUCT RESEARCH AT MAYADI AND MGUBO CATCHMENT AREAS

I am a mature year two student pursuing a Bachelor of Science Degree in Education at Kamuzu College of Nursing. In partial fulfilment of the degree award, I am expected to conduct a research study titled: **UTILISATION OF INSECTICIDE TREATED NETS AMONG THE UNDER FIVE CHILDREN**, hence the request. Therefore the aim of writing this letter is to seek your permission for me to conduct the study in the designated area.

I look forward to your favourable consideration.

Yours faithfully

VICTORIA LIMBANI MINOFU

STUDENT RESEARCHER

Appendix 10

LETTER TO THE DISTRICT COMMISSIONER

Victoria Limbani Minofu

Kamuzu College of Nursing

Private Bag 1

LILONGWE

30th June 2010

The District Commissioner

Mchinji District Assembly

P0 Box 1

Mchinji

Dear Sir

PERMISSION TO CONDUCT RESEARCH AT MAYADI AND MGUBO CATCHMENT AREAS

I am a mature year two student pursuing a Bachelor of Science Degree in Education at Kamuzu College of Nursing. In partial fulfilment of the degree award, I am expected to conduct a research study titled; **UTILISATION OF INSECTICIDE TREATED NETS AMONG THE UNDER FIVE CHILDREN**, hence the request. Therefore the aim of writing this letter is to seek your permission for me to conduct the study in the designated area.

I look forward to your favourable consideration.

Yours faithfully

VICTORIA LIMBANI MINOFU

STUDENT RESEARCHER