

**PERCEPTION AND UTILIZATION OF LONG LASTING
INSECTICIDAL NETS AMONG PRIMARY HEALTHCARE
WORKERS IN OSUN STATE, NIGERIA**

By

**ADEOMIADELEYE ABIODUN
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**A THESIS SUBMITTED TO THE DEPARTMENT OF
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(M.P.H.)**

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DECLARATION

I, ADEOMI Adeleye Abiodun, hereby declare that this work was carried out by me under the supervision of Professor A.A. Onayade. This work has not been submitted for any other examination or publication.

ADEOMI Adeleye Abiodun

Candidate

CERTIFICATION

We certify that this research titled “**Perception and Utilization of Long Lasting Insecticidal Nets among Primary Healthcare Workers in Osun State, Nigeria**” was carried out and completed by ADEOMI Adeleye Abiodun in the Department of Community Health, Obafemi Awolowo University, Ile-Ife and under the supervision of Professor A.A. Onayade.

Professor A.A. Onayade

Supervisor

Consultant and Professor,
Department of Community Health,
Obafemi Awolowo University, Ile-Ife

Dr. O. A. Esimai

Head of Department

Department of Community Health,
Obafemi Awolowo University, Ile-Ife

DEDICATION

This work is dedicated to God Almighty, who alone is worthy of all the praise and glory.

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ABBREVIATIONS

ACT	-	Artemisinin Combined Therapy
CHEW	-	Community Health Extension Workers
CHO	-	Community Health Officers
ITN	-	Insecticide treated Bed Nets
JCHEW	-	Junior Community Health Extension Workers
LGA	-	Local Government Area
LLIN	-	Long lasting Insecticidal Nets
NDHS	-	Nigeria Demographic and Health Survey
NGO	-	Non-Governmental Organisation
RBM	-	Roll Back Malaria
SCHEW	-	Senior Community Health Extension Workers
WHO	-	World Health Organisation
WMR	-	World Malaria Report

ABSTRACT

This study assessed the knowledge of primary healthcare workers in Osun State on Malaria and long lasting insecticidal nets (LLINs) as a preventive strategy, and it assessed their attitude towards LLIN. It further determined the level of utilization of LLIN and other Malaria preventive strategies and ascertained the determinants of utilization of LLIN among the primary healthcare workers. This was with a view to providing a better understanding of the knowledge, attitude and practices of these healthcare workers in relation to malaria prevention with LLINs and the factors associated with it.

This descriptive cross sectional study was carried out in Osun State, Nigeria among selected primary healthcare workers in public healthcare facilities in selected Local Government Areas (LGAs). Two hundred and seventy six respondents were selected using multi-stage sampling technique. Data were collected using pre-tested semi-structured questionnaire and focus group discussion (FGD) guide. The quantitative data were analysed using Statistical Package for Social Sciences (SPSS) version 16 while the qualitative data were analysed using content analysis method. Ethical approval for the study was obtained from the Ethics and Research Committee of LAUTECH Teaching Hospital, Ogbomosho. Permission was obtained from the Medical Officers of Health of the selected LGAs. Individual written consent was also obtained from respondents.

All the respondents (100.0%) had heard about LLIN, however 118 (42.8%) had good knowledge on LLIN and only 77 (27.9%) knew that it had been demonstrated to be effective in Nigeria. One hundred and forty two (51.4%) had negative attitude, while 134 (48.6%) had positive attitude towards the use of LLIN. One hundred and seventy five (63.4%) were currently using LLIN, of which only 79 (45.1%) used LLIN daily and 113 (64.6%) slept under LLIN the night before the

survey. Significant determinants of LLIN use were marital status ($\chi^2 = 6.19$; $p = 0.045$), job designation ($\chi^2 = 12.22$; $p = 0.016$) and their attitude towards the use of LLIN ($\chi^2 = 4.04$; $p = 0.045$). The respondents with positive attitude towards LLIN were twice more likely to use LLIN than those with negative attitude (OR 1.66; 95% CI 0.98 - 2.81).

The study concluded that less than half of the primary healthcare workers had good knowledge about LLIN, and positive attitude towards LLIN while about three-fifths of the respondents were currently using LLIN. Attitude towards LLIN was an important determinant of its use, and knowledge on LLIN was a determinant of the attitude. It is therefore recommended that there should be training and re-training of healthcare workers on LLIN, to ensure that they have adequate knowledge, which would translate to improved attitude and consequently the utilization of LLIN.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Malaria has been a major source of morbidity and mortality for all of recorded history (Lover et al. 2011). Malaria continues to be the leading cause of death among the under-five children despite various interventions to control it (World Health Organization (WHO) 2011). It is a leading cause of morbidity and mortality worldwide, particularly tropical Africa where at least 90 percent of malaria deaths occur (United Nations Children's Fund (UNICEF) 2005). Malaria has continued to occupy the centre stage of the global health community over a considerable period of time (Mark et al. 2008). While it has been well controlled in many developed nations, it remains the major infectious disease in many regions of the world (Bhattacharya 2011; Jombo et al. 2011; Lover et al. 2011). In the past decade, several large initiatives have made malaria control one of their primary goals, particularly the Global Fund and the Roll-Back Malaria Programme. There have also been renewed calls to make malaria eradication a global priority (Alonso et al. 2011). Together, these initiatives have greatly increased both awareness and the number of intervention programmes, which has allowed many countries to progress towards achieving Millennium Development Goal (MDG) number 6. The benchmark for MDG goal 6 is to reduce by 2015 malaria transmission rates by two-thirds from their 1990 levels (Lover et al. 2011).

A wide range of tools have been developed to reduce the transmission of malaria, such as the use of Insecticide Treated Nets (ITN), strengthening community health systems for prompt and

correct treatment of infections, the use of fish to control mosquito larvae and presumptive treatment of pregnant women to decrease parasite transmission (Lengeler 2009). Insecticide Treated Nets (ITN) have a track record of reducing malaria related morbidity and mortality, (Lengeler 2009) and hence are increasingly being utilized in sub-Saharan Africa and other malaria-endemic areas (Koudou et al. 2010). Consistent use of ITNs can reduce malaria transmission by up to 90 percent (Gimming et al. 2003) and reduce as much as 44 percent of all-cause mortality among children under five (Lengeler 2009).

It has been demonstrated that the consistent use of ITNs can bring about an overall reduction in child mortality of 17 percent, with six lives saved per every 1,000 children protected (Centre for Disease Control (CDC) 2008). There is also evidence that if more than 80 percent of households in an area sleep under an ITN, malaria transmission is significantly reduced, which can benefit people who do not use an ITN themselves (Centre for Disease Control (CDC) 2008). Sleeping under an ITN can decrease severe malaria by 45%, reduce premature birth rates by 42% and significantly lower all cause child mortality (World Health Organization (WHO) 2009). In fact, the use of ITNs has been said to be the most cost-effective community strategy for malaria prevention and control (Kolaczinski & Hanson 2006; Bhatia et al. 2004).

In the year 2000, African Heads of State and Government converged at Abuja, the Nigeria's capital city, to renew commitment towards eradicating malaria from the continent with the birth of 'Roll Back Malaria' (RBM) programme. Consequently the year 2000-2010 was declared as malaria decade. Some of the cardinal components of the RBM initiative were introduction of ITNs principally for all pregnant women and children under five years, intermittent malaria treatment and prophylaxis, home management of malaria, introduction of Artemisinin Combined

Therapy (ACT) as well as massive health education campaigns among others (Jombo, Mbaawuaga, Anongu, Egah, Enenebeaku, Okwori, et al. 2010). Ten years have just rolled by, but at the expiration of the malaria decade, a survey of malaria prevalence carried out among communities still showed a high prevalence (Bhattarai et al. 2007; Jombo, Mbaawuaga, Anongu, Egah, Enenebeaku, Peters, et al. 2010; Jombo et al. 2011).

The evidence on the effectiveness of LLINs in reducing malaria transmission has grown rapidly in recent years, but the same cannot be said for its utilization rates, yet 91% of the estimated 655,000 malaria deaths in 2010 were in Africa (World Health Organization (WHO) 2011). About 250 million nets have been distributed worldwide in recent years, (World Health Organization (WHO) 2009) yet even in countries with very high levels of household ownership, night-time net usage is often low. Many studies have explored the dynamics of this disparity, especially in sub-Saharan Africa. These studies have identified a wide range of factors in different environments; the most common of these include users reporting being too hot under nets, difficulties hanging nets in traditional houses and not having enough space under nets for all household members (Baume et al. 2009; Batega 2004).

1.2 Magnitude of the Problem

Malaria remains a serious public health problem,(Yewhalaw et al. 2010) causing 1.2 million deaths (Lopez et al. 2001) and 300 to 660 million clinical cases in tropical and subtropical areas each year (Snow et al. 2005). More than 90% of the lethal cases occur in children under five years of age in Africa (Greenwood & Mutabingwa 2002). More than three quarters of global malaria deaths occur in under-five children living in malarious countries in sub-Saharan Africa,(World Health Organization (WHO) 2003) where 25 percent of all childhood mortality



below the age of five (about 800,000 young children) is attributable to malaria (World Health Organization (WHO) 2003). About 30-40 percent of all fevers seen in health centres in Africa are due to malaria with huge seasonal variability between rainy and dry seasons.

For more information, please contact ir-help@oauife.edu.ng

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