

COMMUNITY PERCEPTIONS ABOUT MALARIA, MOSQUITO AND USE OF INSECTICIDES TREATED BEDNETS IN MBO LGA OF AKWA IBOM STATE, NIGERIA



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ABSTRACT

The study on Community Perceptions about Malaria, Mosquito and Insecticides Treated Bednets (ITNs), in Mbo Local Government Area of Akwa Ibom State, Nigeria, was conducted between July and November, 2012. The people's knowledge, attitudes and perception about malaria, and the use of ITNs were assessed. A total of 1000 questionnaires were randomly administered to the respondents using qualitative and quantitative methods. The most frequently mentioned symptoms of malaria reported were general body pains and aches 257 (25.7%), coloured urine 198 (19.8%) and headache 190 (19%). Seventy percent (70%) of the 1000 respondents said that malaria is caused by mosquito bites. All the respondents believed that mosquitoes (are thought to) breed in stagnant water and that malaria could be prevented, precisely 495 (49.5%) mentioned the use of mosquito net over the bed, 245 (24.5%) preferred netting of windows and doors with mosquito nets, 150 (15%) ticked drugs while 111 (11%) preferred use of insecticide as a preventive measures. The use of bednets was common in the study community, 100% of the study population has seen bednet before but not all have slept under it. The study emphasized the importance of the promotion of insecticide treated bednets, acquisition, utilization and sustenance as a barrier to the nuisance caused by mosquito.

INTRODUCTION

Malaria is one of the most serious vector-borne disease affecting millions of people in the tropics. In spite of major efforts undertaken for its control, an increase in malaria incidence has occurred in the last 30 years, primarily caused by socio-economic under development, drug and insecticide resistance. In Akwa Ibom State, Nigeria malaria is responsible for one in four child deaths and poses a great economic burden on household and government. It also causes maternal death, abortion, still birth, premature delivery and anaemia (Opara *et. al*, 2004).

Community perceptions relating to causation, transmission, prevention and treatment are the main socio-cultural factors that can influence malaria control (Agyepong, 1992). The success of malaria control programmes at present relies on community perceptions of the disease, incorrect beliefs or inappropriate behaviour can interfere with the effectiveness of a control measure such as vector control chemotherapy (Deressa *et.al*, 2002).

In order to overcome the pending crisis in lack of adequate intervention methods bednets treated with insecticides were re-introduced in the latter part of the 1980s. Bednets were to protect the user(s) against the bite of infected mosquitoes, and hence contribute to a reduction of transmission risk to mosquito transmitted disease incident. It was reported that untreated bednets did not provide adequate protection, presumably because the mosquito could bite the occupants through the netting, or nets would often be torn because of excessive use, thus giving mosquitoes easy access to a blood host (Bojang, 1997). Treatment of net with a small deposit of a long-lasting insecticide could overcome these problems. It was soon observed that the use of insecticide-treated bednets (henceforth termed ITNs) provided adequate protection against malaria infections, particularly in children.

The World Health Organization (WHO) has adopted the use of ITNs as one of the main strategies for malaria control in their roll back malaria programme (WHO, 2000). At present ITNs are being applied to many malaria-endemic regions worldwide and their use has replaced the use of indoor house operating with insecticide in many countries. The world Health Assembly advocated the large scale use of insecticides for malaria in 1995.

Bednets have been used traditionally to protect people from the nuisance caused by nocturnal biting insects (Mills, 1998). In Gambia West Africa, such net are considered at part of the cultural traditions, although it is not clear how long ago and for what reasons the people in that country started using nets (Curtis, 1999). After the introduction of synthetic insecticides during World War II, it was soon realized that bednets impregnated with insecticides might provide better protection against mosquitoes and hence malaria infection than untreated nets. The American Navy conducted an experiment with the use of insecticide treated nets, using the insecticide DDT. It was found that insecticides treated bednets caused a significant reduction in malaria – attributable morbidity and mortality, especially in young children (WHO 1995, Bojang 1997). In malaria endemic countries the use of insecticides treated bednets is being promoted as an effective method for reducing malaria transmission risk (Curtis 1999).

There has been a considerable number of studies about the knowledge, attitudes and practices (KAP) relating to malaria in different parts of the world (Ongore *et.al.*, 1989). Most of these studies on KAP survey indicate that misconceptions concerning malaria still exist and practices for the control of malaria have been unsatisfactory.

Some barriers identified to the proper and consistent use of bed nets relating to their acceptability include; that multiple nets can be impractical to mount in small village houses; they are inconvenient and stuffy during the dry season; that they are incompatible with sleeping around a fire in the cold or wet season; that they hinder night time activities and mobility; fear of the side effects of the chemical, lack of mosquito biting nuisance, lack of fear for malaria, and non-belief in the benefit of disease prevention also the use of bed nets may require changes of established sleeping patterns and a re-organization of domestic space (Winch, 1997).

The use of Insecticide Treated Nets and house spraying represent a quantum leap on the use of physical barriers and chemicals in malaria control. Mosquito nets treated with pyrethrio insecticides provide a remarkable degree of protection against malaria in Africa. Excellent results were obtained from field trial in Imo State (Maxwell, 1999). Curtis (1999), showed that both methods reduced the prevalence of anaemia and the number of malaria-infective mosquitoes biting each night by 90%. ITN was however found more cost-effective, and households preferred the treated bednets to house spraying. ITN reduces child mortality and the incidence of mild and severe malaria.

Even though a lot of work has been done on KAP, few studies have been reported in the rural communities of the South Southern, Nigeria. The present study was undertaken to collect baseline data relating to knowledge, attitude and practice about malaria and bednets in a rural communities of Akwa Ibom State, Nigeria.

This study was to find out the people's perceptions about malaria vector in Mbo Local Government Area, Akwa Ibom State. And the compliance and acceptability of insecticide treated bednets in the community.

MATERIALS AND METHOD

The study area, Mbo Local Government Area (LGA) is located in the south-east corner of Akwa Ibom State and lies between the latitude 4.41° and 4.40°N and longitude 8.10° and 8.17° East. Mbo is bounded in North by Oron LGA, in the west by Urue Offong Oruko LGA, in the east by Cameroon Republic and in the south by Eastern Obolo LGA. The majority of the

people living in the area engaged in agricultural activities as primary occupation, fishing/trading while few are civil servant

An integrated approach, which employs both quantitative and qualitative research methodologies, was used for both data collection and the analysis of knowledge, attitudes and practice about malaria and the use of ITNs in study population. Quantitative Information was obtained using structured questionnaire administered randomly on selected subjects from the target population. The population of Mbo LGA as at 2006 census was 104,012, the headquarter Enwang contributed to 9.800 (94.21%). Quantitative data from completed questionnaires were checked manually for consistency and completeness in a tallied form after which the percentage of responses was calculated.

RESULTS

Table I indicates that a total of 1000 people participated in the study, out of which 570 (57%) were females and 430 (43%) were males. 27% of the respondents were farmer, others were students (23%), civil servant (18%), Trader (12%) unemployed (12%) and skilled worker (8%). On the education status of the respondents, 60% had secondary education, 21.4% had primary education and 18.8% had post secondary education.

Table 1: Demographic characteristics of the study population
Characteristics

	Age range	No.	(%)
(a)	10 – 19	109	10.9
	20 – 29	228	22.8
	30 – 39	208	20.8
	40 – 49	200	20.0
	50 – 59	103	10.3
	60 – 69	152	15.2
	Total	1000	100
(b)	Gender		
	Male	430	43
	Female	570	57
Total	1000	100	
(c)	Occupation		
	Farmer	270	27
	Students	230	23
	Civil servant	180	18
	Trader	120	12
	Unemployed	120	12
	Skilled workers	80	8
Total	1000	100	
(d)	Education		
	Primary	214	21.4
	Secondary	600	60.0
	Post secondary	186	18.6
Total	1000	100	

When the respondents were asked the cause of malaria, majority of the respondents attributed it to mosquito (70.1%), other responses were Bad water (17.5%), Bad weather (3.9%), Bad food (3%) Gas flaring (3%), oil spillage (1.5%) and wastes (1%). (Table 2).

A total of 89% of the respondents, visit hospital, 45% indulge in self treatment while 5% consult spiritual church. A total of 89% of the respondents admitted that the treatment was effective (Table 2).

Table 2: Common illness and knowledge about the cause and treatment seeking behaviour (N = 1000)

Variables	Frequency	(%)
Common illness in described		
Malaria	1000	(100)
Causes		
God's anger	0	0
Witchcraft	0	0
Bad food	0	0
Neighbour's curse	0	0
Wicked people	0	0
Variables		
Bad weather	39	(3.9)
Bad food	30	(3)
Bad water	175	(17.5)
Gas flaring	30	(3)
Oil Spillage	15	(1.5)
Waste	10	(1)
Mosquito	701	(70.1)
Treatment option		
Self treatment	450	(45)
Hospital/Health centre/dispensary	500	(50)
Spiritual church	50	(5)
Yes	890	(89)
No	110	(11)
TOTAL	1000	100

Analysis of knowledge about signs and symptoms of malaria showed that most of the respondents (25.7%) recognized general pains and aches, followed by pass out coloured urine (19.8%), fever (19%), Headache (18%) cough and catarrh (16%) and vomit (1.5%). On the remedy of malaria, those that used medicine were significantly higher (77%) than those who use herbs (9%) rely on prayer (7%), good food (4%) and enough rest (3%)

Table 3: Knowledge About The Symptoms And Remedy For Malaria (N = 1000)

Variable	Frequency	(%)
Fever	190	(19)
Headache	180	(18)
Vomit	15	(1.5)
General body pains and aches	257	(25.7)
pass coloured urine	198	(19.8)
Cough and catarrh	160	(16)
Remedy For Malaria		
Herbs	90	(9)
Prayer	70	(7)
Good water	40	(4)
Good food	30	(3)
Medicine	770	(77)
TOTAL	1000	100

A total of 44% of the respondents adopted mosquito net over the bed for the prevention of malaria, others preferred mosquito net on windows/doors (34%), insecticide (17%), drugs (5%). 100% of the respondents knew mosquito bednet used for the control of malaria. 100% of the respondents have seen a mosquito bednet before. On the other hand, a total of 49.5% preferred insecticide treated bednet as a control measure against malaria,

On sanitation, majority of the respondents (80%) do not clean their surroundings regularly.

Table 4 Malaria Prevention/Control And Bednets (N = 1000)

Variable (Preventive measures)	Frequency	(%)
Stop drinking drugs	50	(5)
Mosquito net on windows/doors	340	(34)
Mosquito net over the bed	440	(44)
Insecticide	170	(17)
Stagnant water	1000	(100)
You know bednet?		
Yes	1000	(100)
No	0	(0.0)
Have you used bednet		
Yes (Insecticide treated	1000	(100)
No	0.	(0.0)
Variable	Frequency	%
Did you notice any side effect?		
Coughing	255	(25.5)
Choking breath	290	(29.0)
Stuffy nostril	410	(41.0)
No side effect	45	(4.5)
Do you have net fixed on windows and doors		
Yes	950	(95)
on windows only	320	(32)
on door only	150	(15)
on both	480	(48)
no	50	(5)
Would you like to sleep under an ITN as a measure to prevent malaria		
Yes	780	(78)
No	220	(22)
Would you like to pay for bednet?		
Yes	864	(86.4)
No	136	(13.6)
preferred preventive control measure		
Insecticide spraying	110	(11)
Insecticide treated bednet	495	(49.5)
Net on windows and doors	150	(15)
Drugs		
TOTAL	1000	100

Table 5: Malariogence activities and sanitation, (n = 1000)

Variables	Frequency	(%)
Plants around the house		
Banana	430	(43)
Pineapple	140	(14)
Cocoyam	200	(20)
Palm tree	180	(18)
Other (specify) pawpaw	50	(5)
TOTAL	1000	100
Where do you store water for domestic purpose?		
Pot	355	(35.5)
Jerrycan	480	(48)
Basin	60	(6)
Tank	105	(10.5)
TOTAL	1000	100

Variables	Frequency	(%)
Do you cover water storage Container?		
Yes	920	(92)
No	80	(8)
TOTAL	1000	100
How often do you clean your surroundings?		
Once a week	100	(10)
Twice a week	50	(5)
Once in two weeks	50	(5)
Irregularly	800	(80)
TOTAL	1000	100
Where do you keep empty can?		
Around the house	170	(17)
Waste bins	730	(73)
Anywhere	100	(10)
TOTAL	1000	100

The determination of the level of awareness on the preventive methods revealed that 100% of the respondents acknowledged that cleaning their surrounding and the use of bednet would prevent malaria. 100% of the respondents admitted that there was community environmental sanitation exercise in the area although 55% reported that sanitation is irregular. On the other hand 100% of the respondents agreed that government brought information/awareness programme on malaria prevention and control to the area.

Table 6 Community Control Strategy , (n = 1000)

Variables	Frequency	(%)
Method of Preventing malaria		
Yes	1000	(100)
No	0.0	(0.0)
Community environmental sanitation		
Yes	55	(5)
No	0.0	(0.0)
How regular is it done?		
Once a week	450	(45)
Twice a week	0.0	(0.0)
Once in two weeks	0.0	(0.0)
Irregularly	550	(55)
Does government bring information on malaria prevention and control		
Yes	1000	(100)
No	0	(0.0)
Available channels of Information dissemination		
Town crier	150	(15)
Radio	200	(20)
Television	300	(30)
Newspaper	160	(16)
Billboard	50	(5)
Churches	40	(4)
School	50	(5)
Age grade	50	(5)
Most effective channels rank		
Television, radio, newspaper	440	(44)
Television, radio school	210	(21)
Towncrier, billboard, school	250	(25)
Age grades, churches, radio	100	(10)
TOTAL	1000	100

DISCUSSION

The results of this study have shown that Mbo people have good knowledge of the deleterious effects of malaria, including effect on pregnant women and children < 5 years. This finding is in agreement with the report on roll back malaria (WHO 2000). Tyagi *et al* 2005, Ahoilu *et al* (1997)

The result also showed that knowledge about the symptoms of malaria was low, even though people were able to recognize the common symptoms of malaria (general body pains, fever, coloured urine, headache, cough and catarrh). The observation agrees with the report of Binka and Adongo (1997) Afolabi (1996) Minquel *et al.* (1999), and Evans (1997) and Goodman *et al.* (2004). On the cause of malaria, most of the respondent implicated mosquito bites as a possible mean of transmission of malaria. This is consistent with the report of Deressa *et al.* (2002) and Jolines *et al* (1996).

CONCLUSION AND RECOMMENDATION

The benefit of using insecticide-treated bednets in Mbo LGA has been shown. The use of bednets was common in the study community, 100% of the study population has seen bednet before but not all have slept under it. The study emphasized the importance of the promotion of insecticide treated bednets, acquisition, utilization and sustenance as a barrier to the nuisance caused by mosquito. The government of the day should help to promote a bednet friendly environment or society by embarking on free distribution of bednet or distributing them at highly subsidized rate.

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