

UTILIZATION OF INSECTICIDE TREATED NETS AMONG PREGNANT WOMEN ATTENDING ANTENATAL CLINIC IN SELECTED PRIMARY HEALTH CENTRES IN JOS NORTH LOCAL GOVERNMENT AREA, PLATEAU STATE, NIGERIA

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ABSTRACT

BACKGROUND

Malaria is a life threatening parasitic infectious disease that is endemic in over 100 countries of the world. Pregnant women are vulnerable because of their reduced natural immunity. The ante natal clinic (ANC) provides a unique opportunity for interventions to prevent malaria in pregnancy with the use of insecticides treated nets. This study is to determine the utilization of insecticide treated nets among pregnant women attending ANC in selected primary health care centres in Jos.

METHODS

The study was conducted in Jos metropolis, the administrative and commercial seat of Plateau State among two hundred and fifty (250) pregnant women attending antenatal clinic at primary health centres selected by multi stage sampling technique. Data was obtained by the use of structured interviewer administered questionnaire and analysed using SPSS statistical package.

RESULTS

Eighty four (33.6%) of the respondents were aged 26-30 years, 69 (27.6%) were house wives and 132 (52.4%) had completed secondary education. Majorities were Christians, 206 (82.4%) and married 223 (89.2%). Seventy four (29.6%) had good knowledge of ITN and the relationship between knowledge and educational status of respondents was found to be statistically significant, $p=0.0381$. One hundred and eighty (72.0%) of the respondents said their source of information on ITN was from the media, 226 (90.4%) said they own at least one ITN, 202 (89.4%) said they got the net freely without incurring any cost. One hundred and sixty nine (67.7%) respondents who own an ITN utilized them last night with 80 (32.4%) using it with consistency.

CONCLUSION

The knowledge, ownership and utilization of insecticide treated nets among pregnant women attending antenatal care clinic in selected primary health care centres in Jos North local government area is high.

Keywords: *Malaria, insecticide treated nets, Ante natal clinic.*

INTRODUCTION

Malaria is a life threatening parasitic infectious disease that is endemic in over 100 countries of the world [1-4]. In Nigeria it accounts for 63.4% of all reported disease and at least half of the population suffer from at least one episode of malaria each year [4-6]. It is also the reason for hospital attendance in 7 out of every 10 persons seen in Nigerian hospitals and sadly it accounts for 11%, 25% and 30% of maternal, infant and child mortality in the country respectively [4,6,7]. Pregnant women are vulnerable because of their reduced natural immunity [8-10]. They are more likely to suffer from complications of malaria than non-pregnant women. Malaria in pregnancy is associated with the risk of anaemia, abortions, still born, premature delivery, intra uterine growth retardation and neonatal deaths. About 70% of pregnant women in Africa make one or more ante natal clinic visits during pregnancy [9-11], this provides a unique opportunity for interventions to prevent malaria in pregnancy. These include the use of insecticides treated nets (ITN) and intermittent preventive therapy (IPT) [8,10,12].

Nigeria and many African countries have made significant efforts in subsidizing the provision of ITN to target population including pregnant women but the success of malaria control is weight down by problems of delivery, distribution, usage and even acceptance of this method [13]. In a survey carried out in Nigeria in 2003, it was reported that ownership of mosquito nets was not wide spread as

only 17% of household reported the own an ITN [14]. Current use of malaria preventive measures during pregnancy in Nigeria is low and calls for serious consideration [15]. A recent review of community acceptance of bed nets has shown that various factors influenced the use of bed nets, including cultural, behavioural, demographic factors, ethnicity, accessibility, gender relations and seasonality of malaria [15].

This study is to determine the utilization of ITN among pregnant women attending ANC clinic in selected primary health care centres in Jos North Local Government Area, Plateau State.

METHODS

The study was conducted in Jos metropolis, the administrative and commercial seat of Plateau State. It is a cosmopolitan settlement that is divided into twenty wards. It has a population of about 429, 300. It is graced with many social amenities and also the location of many tertiary institutions like university of Jos, School of forestry, and college of accountancy. The local government has many public and private health institutions like Plateau State Specialist Hospital, Jos University Teaching Hospital and Evangel Hospital including twenty nine public primary health centres that offer different range of promotive, preventive, curative and rehabilitative services.

Using the formular $N = Z^2 pq/d^2$ where N= minimum sample size, Z= standard normal deviate, p= proportion of women with ITN and q= proportion of women without ITN, a minimum sample size of 236 women was obtained. Using a multi staged sampling technique, two hundred and fifty (250) pregnant women attending antenatal clinic in Jos north LGA who consented were used in this study.

In the first stage, three Primary Health Centres namely Jos township, Tudun Wada and Lamingo were randomly selected by non replacement balloting as study PHCs. In the second stage, a list of all women attending ANC was obtained from all the clinics. It showed an average monthly attendance of 250, 150 and 100 women for PHC Township, Tudun Wada and Lamingo respectively which constitute the sampling frame. Proportionate samples of 125, 75 and 50 were taken from the three PHCs at an interval of 2 (by dividing 250 by 125, 150 by 75 and 100 by 50). The first woman to be administered a questionnaire was then randomly selected among the first two women that came to clinic, thereafter, every second, fourth, sixth woman was selected until the minimum sample size was of

obtained. Informed consent was obtained from each respondent before the administration of a questionnaire. Their knowledge of ITN was graded based on their response to questions on what it is, uses, benefits, maintenance, etc with a possible total scores of 9. Scores of 0-3 was considered poor, 4-6 as fair and 7-9 as good knowledge. Data was analyzed using SPSS statistical package.

RESULTS

A total of two hundred and fifty questionnaires were administered to pregnant women attending ANC with a response rate of 100%. Eighty four (33.6%) of the respondents were aged 26-30 years, 69 (27.6%) were house wives and 132 (52.4%) had completed secondary education. Majority were Christians, 206 (82.4%) and married 223 (89.2%), see table 1.

On the knowledge, seventy four (29.6%) had good knowledge, 137 (54.8%) had fair knowledge and 39 (15.6%) had poor knowledge of ITN. The relationship between knowledge and educational status of respondents was found to be statistically significant, $p=0.0381$, table 3.

One hundred and eighty (72.0%) of the respondents said their source of information on ITN was from the media (Television/ Radio) while only 70 (28.0%) cited the hospital as their source. On ownership of ITN, 226 (90.4%) said they own at least one ITN while 24 (9.6%) do not. Of these, 202 (89.4%) said they got the net freely without incurring any cost while 24 (10.6%) bought the nets from open sources. One hundred and sixty nine (67.7%) respondents who own an ITN utilize them last night, against 81 (32.4%) who did not. When asked how often they use of the ITN, 80 (32.4%) use it with regularity every night, 67 (29.6%) almost every night, 69 (30.5%) use it for a few nights while 10 (4.4%) did not use it even once (Table 3). There is no statistically significant relationship between ownership and utilization of ITN, $P= 0.08136$, table IV.

DISCUSSION

From the result, it can be appreciated that majority of the women owned an insecticide treated net. This finding is similar to findings in a study done in Northern Ethiopia among a predominantly rural population [16]. However, it contrast the findings in the studies carried out in Nigeria on determinants of ITN, ownership and utilization among 2348 pregnant women [17] and also at Kinshasha, Dominican Republic of Congo among pregnant women attending ANC for the first time [18]. The disparities could be as a result of the free insecticide treated nets freely

distributed by the state government to all primary health care centres and the recent high turnout of pregnant women for antenatal.

On assessment of knowledge, only a few had poor knowledge of insecticide treated net with the majority having fair and good knowledge. This agrees with a study conducted in Kenya among 220 pregnant women attending antenatal clinic [19], but differs from a study done in south western Nigeria where knowledge was found to be poor among respondents [20]. The difference observed could be as a result of the different settings of the study with this study being in an urban setting and the higher literacy level that is obtainable. Moreover, majority of the respondents 191 (75.2%) have attained secondary or tertiary level of education.

Utilization of insecticide treated net among respondents was found to be good as nearly three quarters slept under a net the previous night. This finding agrees to findings of a study conducted in Infakara, Tanzania where bed net coverage is high with a high level of utilization [21]. It is however in disagreement with findings of a study conducted in Northern Nigeria which found utilization to be low [22]. This could also be as a result of low literacy level or even rejection of the nets as a result of lack of awareness of its importance in the prevention of malaria.

Table I: Socio- demographic characteristics of respondents (n= 250)

Parameter	Frequency	Percentage
Age (years)		
16-20	20	8.0
21-25	84	33.6
26-30	96	38.4
31-35	36	14.4
36-40	13	5.2
41-45	1	0.4
Occupation		
House wife	69	27.6
Trader	65	26.0
Farmer	23	9.2
Student	51	20.4
Civil servant	29	11.6
Others	13	5.2
Educational status		
None	3	1.2
Primary	56	22.4
Secondary	132	52.4
Tertiary	59	22.8
Religion		
Christianity	206	82.4
Islam	44	17.6
Marital Status		
Single	27	10.8
Married	223	89.2

Table II: Relationship between knowledge and educational status of respondent

Level of education	Knowledge		
	Good	Fair	Poor
None	1(0.4)	2(0.8)	-
Primary	16(6.4)	30(12.0)	10(4.0)
Secondary	31(12.4)	80(32.0)	21(8.4)
Tertiary	26(10.4)	25(10.0)	8(3.2)
Total	74(29.6)	137(54.8)	39(15.6)

$\chi^2= 92.3$; $df= 6$; $p=0.0381$

Table III: Information on insecticide treated nets

Information	Frequency	Percentage
Source of information		
Media (TV/Radio)	180	72.0
Family and friends	75	30.0
Campaigns	50	20.0
Hospital	70	28.0
Ownership of ITN		
Yes	226	90.4
No	24	9.6
Source		
Freely	202	89.4
Bought	24	10.6
Utilization		
Yes	169	67.6
No	81	32.4
Uses		
Every night	80	32.4
Almost every night	67	29.6
A few nights	69	30.5
Not even once	10	4.4

Table IV: Relationship between ownership and utilization of ITN

Ownership of ITN	Utilization of ITN	
	Yes	No
Yes	139 (90.3)	73 (90.1)
No	16 (9.5)	8 (9.8)
Total	169 (100.0)	81 (100.0)

$\chi^2=0.06$; $df=1$; $p= 0.8136$

CONCLUSION

The knowledge, ownership and utilization of insecticide treated nets among pregnant women attending antenatal care clinic in selected primary health care centres in Jos North local government area is good. Government and other partners should sustain the efforts in health education and distribution of treated nets and also reach out to other women outside the metropolis so that the high knowledge, ownership and utilization can be achieved across the state.

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