



Research Article

Awareness and Measures Utilized by Pregnant Women in the Prevention of Malaria in Sub-urban Communities in Eket Local Government Area

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Received: 13 June 2020; **Accepted:** 22 June 2020; **Published:** 16 July 2020

Citation: Emem Okon Mbong, Ekom Ndifreke Edem, Sajjad Hussain. Awareness and Measures Utilized by Pregnant Women in the Prevention of Malaria in Sub-urban Communities in Eket Local Government Area. Journal of Environmental Science and Public Health 4 (2020): 175-183.

Abstract

Malaria remains one of the major causes of morbidity and mortality in Nigeria because the environment favours the multiplication of the parasite causing the disease. About 70% of pregnant women suffer from malaria, which contributes to maternal anemia, low birth weight, still birth, abortions and other pregnancy related complication. Prevention of malaria during pregnancy is a major priority for the roll back malaria partnership. A structured questionnaire was used to elicit information on the knowledge and utilization of

malaria preventive strategies amongst five hundred (500) pregnant women randomly selected for the study. The respondent's knowledge on malaria and its preventive measures was calculated and analyzed using MS excel suite. More than 50% of the respondents were aware of the common signs and symptoms of malaria. Out of 500 respondents, 383 (76.6%) were aware of mosquito bite as the mood of transmission, 22 (4.4%) said mother to the growing fetus (Congenital malaria) and 13 (2.6%) said blood transfusion from an infected persons. Only 30% of the respondents said yes to treatment of malaria with

herbs while 70% preferred treatment using antimalarial drugs like Artesunate and artemether. About 62% use mosquito nets, 68% have door screens, 84.6% use spray insecticides, 2.25% use mosquito coils as prevention methods. The hope is that this information will be useful in pin-pointing the necessary health education and intervention strategies in preventing the malaria in Eket Local Government.

Keywords: Malaria ; Morbidity ; Mortality

1. Introduction

Malaria is highly endemic in sub-Saharan Africa, including Nigeria (Killen et al., WHO, [1, 2]). It remains one of the major causes of morbidity and mortality in Nigeria because the environment favours the multiplication of the parasite causing the disease. The incidence of malaria and associated deaths in Nigeria is reportedly far more than those of any country in the world. This statement was underscored by the report that about 97% of Nigerians stand the risks of having malaria and that an estimated 100 million cases and 300,000 deaths of malaria occurred every year in the country (United State Embassy in Nigeria, [3]). The disease poses significant risks to pregnant women and their offspring and it is found to be responsible for up to 10,000 maternal anemia's associated mortalities every year (Killen et al., WHO, [1, 2]).

About 70% of pregnant women suffer from malaria, which contributes to maternal anemia, low birth weight, still birth, abortions and other pregnancy related complication (Federal Ministry of Health Abuja, [4]). The harmful impact of malaria is most apparent during first and second pregnancies of most pregnant women living in areas of relatively stable

transmission. Knowledge of malaria prevention during pregnancy is important as malaria is perceived as a serious illness. Contact with traditional healers' self-medication is a common feature in African society. Most pregnant women lack knowledge and practice of intermittent preventive measures among pregnant women encouraging as their use of insecticide treated bed net is unacceptably low and this contributes to high infection rates the pregnant women's knowledge and practice of intermittent preventive Treatment (IPTP) is poor as the majority of women do not know supradoxinepyrimethamine (SP) as the drugs recommended for (IPTP) and are not aware that IPTP could be given to pregnant women (Ako-Nai and Adesiyani M, [5]).

Prevention of malaria in pregnancy is a major priority for the roll back malaria partnership. In high transmission areas including Nigeria, the roll back malaria partnership recommends three approaches for reducing the burden of malaria among pregnant women, which are effective case management of malaria infection, use of insecticide treated nets (ITNS) and intermittent preventive treatment in areas of stable transmission, with this recommendation, approach to prevention of malaria in pregnancy changed since the early 2000 moving from weekly to in monthly chemoprophylaxis adopted in the year 2005. Despite improved antenatal care services and the health education provided during these services, the prevalence of malaria in pregnancy continues to be high as portrayed by available statistics from health facilities. This study enumerated the knowledge about malaria prevention amongst pregnant women in sub-urban communities in Eket Local Government Area, Akwa Ibom State.

2. Materials and Methods

The study was conducted at the sub – urban communities in Eket Local Government Area of Akwa Ibom State. Eket is the second largest city in Akwa Ibom state, Nigeria with Co-ordinates 40 390 N70 560E the city is an industrial city, being the thriving hive of oil and gas business. It has a tropical wet, climate with rainy season from March to October and a dry season from November to February. The inhabitants are of several ethnic groups with indigenous occupation of fishing, farming and trading.

2.1 Sampling and data collection

A total number of five hundred pregnant women were randomly selected for the study, a minimum of hundred from each study area. They comprised people from different socio–economic class and educational level. A structured questionnaire was used to elicit information on the awareness and utilization of malaria preventive strategies amongst the women. The questionnaire had five sections including: Socio-demographic data, knowledge about malaria transmission, knowledge about malaria signs and

symptoms, knowledge about malaria treatment and preventive methods against malaria.

2.2 Ethical approval

Permission was obtained from communities before commencement of the study. The procedure of the study was properly explained to the subjects' prior issuance of questionnaire a health practitioner. Consent was sought and received before being included in the study.

2.3 Data analysis

Data was presented as percentages and analyzed with Microsoft Excel.

3. Results

3.1 Demographic data

Table 1 describes the demographic data of all respondents. A total of five hundred respondents turned in the questionnaire out of which 100 (20%) were aged 18 years, 250 (50%) were aged between 19 – 34 years and 150 (30%) were ≥ 35 years. Respondents with secondary education were 320 (64%) followed by 110 (22%) tertiary and 70 (14%) primary education.

Parameters	Frequency	Percentage
Age		
18 years	100	20%
19 – 34 years	250	50%
≥35 years	150	30%
Education level		
Non – formal	-	-
Primary	70	14%
Secondary	320	64%
Tertiary	110	22%
Gravidity		
Primipara	131	26.2%
Multipara	209	41.8%
Grandpara	160	32%
Gestational Age		
5 – 15	65	13%
16 – 25	119	23.8%
25 – 35	181	36.2%
36 – 40	135	27%

Table 1: Demographic data of respondents.

3.2 Knowledge of signs and symptoms of malaria

Table 2 shows that majority of respondents were aware of the common signs and symptoms of malaria as shown in Table 2.

Parameters	Frequency/ Percentage	
	Yes	No
General Body Pains	390 (78%)	110 (32%)
Headache	350 (70%)	150 (30%)
Abdominal Pain	120 (24%)	380(76%)
Anemia	200 (40%)	300 (60%)
Loss of Appetite	400 (80%)	100 (20%)
Fever (with shivering)	450 (90%)	50 (10%)

Table 2: Knowledge of malaria signs and symptoms.

3.3 Knowledge of malaria transmission

Table 3 describes the level of awareness on the mode of transmission of malaria. About 383 (76.6%) of the respondents consented to being aware of mosquito

bite as the mode of transmission, 22 (4.4%) said they are aware of mother to the growing fetus (Congenital malaria) and 13 (2.6%) said they're aware of blood transfusion from an infected persons.

Mode of Transmission	Frequency/ Percentage	
	Yes	No
Mosquito bite (Female <i>Anopheles</i>)	383 (76.6%)	117 (23.4%)
Mother to the growing fetus (Congenital malaria)	22 (4.4%)	478 (95.6%)
Transfusion of blood from infected persons	13 (2.6%)	487 (97.4%)

Table 3: Knowledge of malaria transmission.

3.4 Mode of treatment

As shown in Table 4, only 150 (30%) of the respondents used herbs while 400 (70%) respondents used antimalarial drugs. Artesunate and artemether

were the most frequently used antimalarial drugs. Respondents had a fair knowledge of Intermittent Preventive Therapy.

Parameters	Frequency/ Percentage	
	Yes	No
Mode of Treatment		
Use of Herbs	150 (30%)	350 (70%)
Use of Antimalarial	400 (80%)	100 (20%)
Others	-	-

Table 4: Preferred mode of treatment of malaria.

3.5 Ownership and use of insecticide treated nets

As shown in Table 5, 62% of the respondents claimed ownership of insecticide treated nets out of which only 3 (1%) made daily use of it while 307 (99%) sometimes made use of it. Those who used the ITN

sometimes said ITNs are always very hot. A total of 423 (84.6%) used spray insecticides but only 29 (6.9%) used it daily. Mosquito coil had 11 (2.25%) using it and it was used daily by 6 (54.5%) respondents.

Parameters	Frequency/Percentage	
	Yes	No
Do you have any ITNs?	310 (62%)	
If yes, how often do you use it?	Daily 3 (1%)	Sometimes 307 (99%)
Do you have window/door screen?	340 (68%)	
Do you use spray insecticides?	423 (84.6%)	
If yes, how often do you use it?	Daily 29 (6.9%)	Sometimes 394 (93.1%)
Do you use mosquito coil?	11 (2.2%)	
If yes, how often do you use it?	Daily 6 (54.5%)	Sometimes 5 (45.5%)

Table 5: Ownership and use of insecticide treated nets (ITNs).

4. Discussion

The knowledge and use of malaria preventive measures among pregnant women at antenatal care booking clinics are very important which provides necessary information pivoted to the realization of the target of the Roll Bank malaria program. Most of the participants in this study were literate. This is similar to other findings at Emmanuel hospital in Eket, Akwa Ibom State, South South region (Federal Ministry of Health, [4]). However, the literacy level of the women in this study was high and may be related to the study area.

Educational status is believed to have an association with malaria prevention. In previous studies by Houmsou et al., [6] and Shimaponda-Mataa et al., [7], educational status had been linked with good health awareness and health-seeking behavior, and also studies by (Akaba et al., [8] and Fana et al., [9] shown

improved knowledge on malaria and prevention as of importance among women. Such association according to Fana et al., [9] stresses the role education could have on the overall success in malaria control programs. The outline about their gravidity status and gestational age were means of better understanding the demographic details of the respondents but amazingly, there had been a study by Ankinleye et al., [10] that shows no significant association between gravidity status and knowledge of preventive measures.

The knowledge of the cause of malaria was excellent as 76.6% of the women correctly attributed it to mosquito bites. According to Nwobodo [11] on the cause of malaria as a common infection in Nigeria, despite this good knowledge about the cause, some participants still have some erroneous convictions that malaria could be caused by drinking infected water, working hard under the sun, eating palm oil and

witchcraft. This wrong beliefs no doubt will have negative implications on malaria control programs as energy and resources would be channeled wrongly towards control and prevention of malaria preventive practice.

Respondents in this study had a good knowledge about signs and symptoms of malaria. Majority of respondents (90%) mentioned fever (with shivering) as the most common symptom of malaria which is in line with studies by Deressa and Enquoselassie, [12]; Joshi and Banjara, [13]; Okwa et al., [14]; Chovatia et al., [15]; Singh et al., [16]; Oladimeji et al., [17]. This high level of awareness of the clinical features of malaria might be due to increased access to mass media and self experience of malaria. Other symptoms included headache (70%) which conforms to a study by Konlan et al., [18] with 72%, loss of appetite (80%) which is higher than a study by Singh et al., [16] with 11.2%. This study shows that 76.6% of the study participants had knowledge about mosquito bites as the mode of malaria transmission which conforms to studies by Ako-Nai and Adesiyani, [5]; Amron, [19] and Singh et al., [16] with majority of the participants' being aware of mosquito bite as the mode of transmission. About 4.4% respondents were aware of mother to a growing fetus transmission and 2.6% respondents were aware of blood transfusion from an infected person, as other modes of transmission.

About 62% of the study population used mosquito nets and also knew that malaria was a preventable disease where ITN was the most common preventive measure known by pregnant women. This finding is a little lower than 64% as observed by Singh et al., [16] and 72% by Konlan et al., [18] but higher than 36%

from another study by Musa et al., [20] in Northern Nigeria. The difference between this study and Musas' is due to the high educational level of the clients in Akwa Ibom compared to Kano state. Mosquito spray insecticide technique was used by 84% of respondents which is higher than that of studies by Konlan et al., [18] with 54% usage and 3% usage by Singh et al., [16]. Mosquito coil was found to be used by only 2.2% of respondents which is lower than that of studies by Singh et al., [16] and Kwaku, [21] that observed most of the respondents to use mosquito coil as malaria prevention strategy. This work shows that 68% of respondents used window/door screens as another preventive method.

In this study, the majority of respondents (80%) were seen to prefer antimalarial drugs as means of treating malaria which agrees to studies by Ajayi et al., [22]. Surprisingly, respondents were still seen to prefer herbs to antimalarial drugs and only 30% of the respondents reportedly used herbs as treatment methods. The use of herbs in this study can be likened to a study carried out in Imo State by Ukaga et al., [23] which makes use of herbs as its only means of malaria treatment. On the other hand, when respondents were asked about their personal opinion on herbs usage, majority believed that herb was better off drugs reasons being it's a natural product compared to drugs that is chemically synthesized. However, although ITN provides a simple but effective means of malaria prevention, barriers to its use still exist; which includes uncomfotability, especially due to heat, reduce ventilation, size not fitting to their beds etc.

5. Conclusion

This study has demonstrated that pregnant women both educated and non-educated are aware of malaria, but still don't know the best preventive methods for the disease. Many of them are aware of some symptoms of malaria but there are some level of misconception about how malaria is being transmitted which needs to be totally debunked by intensifying education about malaria transmission. These women need to be educated about the importance of having a better health status. Nigeria's malaria strategic plan should ensure that the knowledge cleft on malaria prevention especially using of ITNs instead of mosquito coils needs to be addressed. This insight will help the policy makers to implement continuous strategic interventions including health awareness and educational programs to attain a minimized malaria menaced community.

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