

Knowledge and Practice of Malaria Prevention/Control Among Pregnant Women in Imo State University Teaching Hospital (IMSUTH) Orlu, Imo State, Nigeria

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Abstract

The morbidity and mortality from malaria are still unacceptably high in the developing countries, especially among the vulnerable groups like pregnant women, despite all control efforts. The knowledge about the preventive measures of malaria is an important preceding factor for the acceptance and use of malaria preventive measures by community members. Therefore, this study assessed the knowledge and practices malaria among pregnant women in Imo State University Teaching Hospital, Orlu, Imo State. The study adopted a descriptive survey design. The target population of the study were 8,973 pregnant women that visited the hospital during the time of study with a sample size of 1021. During ante natal visit or at delivery, self-constructed and validated questionnaire were given to the pregnant women to get information regarding knowledge and practices of malaria prevention amongst this group. Data were analyzed using SPSS version 16. Associations between variables were tested using a Chi-square with the level of statistical significance set at 5%. The findings revealed that 77.5% of the respondents had knowledge of the causes of malaria. Surprisingly 71.8% still believe that malaria is caused by so much intake of fried and/oily meals. 72.8% of the respondents had knowledge of the signs and symptoms of malaria of which fever, loss of appetite, change of skin colour and body/joint pain were rated higher. 77.4% indicated that malaria is transmitted through mosquito bite. Majority (74.9%) of the respondents had knowledge of preventive measures of malaria of which use of insecticide spray, use of anti-malaria drugs, use of mosquito nets, closing of windows and doors, cutting of grasses near the compound and use of protective clothing were rated higher. Few (40%) of the respondents had knowledge of use of periodic fumigation as a preventive measure of malaria. Very few (28.5%) of the respondents had knowledge of the consequences of malaria during pregnancy. Very few (19.4%) always engage in activities to prevent/control malaria, 48.7 % indicated that they sometimes engage in activities to prevent malaria whereas 43.5% never engaged in any activity to prevent malaria. The study went further to compare associations between knowledge and practices of malaria prevention. The finding revealed significant association between malaria knowledge and malaria practices ($X^2 = 65.87$; $P < 0.05$). Although respondents exhibited knowledge of causes, mode of transmission, signs and preventive measures of malaria but they lack knowledge on consequences of malaria during pregnancy. Some also believe that malaria is caused by too much intake of oily and fried foods and also staying under the sun for too long. Thus, there is need to raise awareness and also educate all women of child-bearing age about preventing malaria during pregnancy.

Keywords: Knowledge, practice, malaria, malaria prevention/control, pregnant women.

INTRODUCTION

Globally, an estimated half of world populations are at risk of malaria. Malaria is endemic in Africa with an estimated 80% of cases and 90% of deaths of the global burden occurring there, especially amongst children and pregnant women. Together, the Democratic Republic of the Congo and Nigeria account for over 40% of the estimated total of malaria deaths globally (World Health Organization (WHO), 2012). Malaria is a major public health problem in Nigeria with an estimated 100 million malaria cases and over 300,000 deaths per year. It accounts for 60% of outpatient visits, 30% of hospitalizations among children under 5 years of age, and 11% maternal mortality (Nigeria Malaria Fact Sheet, 2011).

In order to prevent malaria in pregnancy, current WHO guidelines recommend a multi-pronged approach including both preventive and curative measures (WHO, 2007; WHO, 2008). The Focused Antenatal Care approach recommends the use of insecticide-treated nets (ITN) early in pregnancy and a minimum of two treatment doses of sulphadoxine-pyrimethamine (SP) as intermittent preventive treatment in pregnancy (IPTp) (WHO, 2008).

Despite these recommendations, effective access to malaria prevention in pregnancy remains limited in Nigeria. According to Nigeria Demographic and Health Survey (2008), only 11.8% of pregnant women slept under an ITN, and only 6.5% of pregnant women had taken the recommended two doses of SP during pregnancy (Adeneye, Jegede, Mafe & Nwokocha, 2007). Accordingly, the prevalence of malaria in pregnancy remains high, with recent estimates suggesting prevalence rates of close to 50% in the second and third trimesters. Twelve years after the first Abuja declaration, Nigeria failed to halve the malaria burden in 2010. In the next 2 years leading up to the Millennium Development Goals' (MDG) deadline, Nigeria is still recording high prevalence (98.4%) of malaria (Ako-Nai & Adesiyan, 2012), hence it is doubtful if Nigeria could halt malaria by 2020 and begin to reverse the incidence.

The failure to consider community's knowledge, attitudes, and practices (KAP) about malaria has contributed to the inability of programs to achieve sustainable control (Tyagi, Roy & Malhotra, 2013). People's behavior may increase malaria risk, but to

change such behavior is not easy. Indeed, there are many reasons why particular behaviors exist and they often are tied to considerable benefits in areas quite distinct from health. Thus, it is not usually the case that "these people don't know any better", but rather that their native logic and rationality make sense within the realities and limitations of their local circumstances (Heggenhougen, Hackethal & Vivek, 2013).

The understanding of the possible causes, modes of transmission, and individual preference and decision-making about the adoption of preventive and control measures vary from community to community and among individual households (Adongo, Kirkwood & Kendall, 2005). There have been a considerable number of reports about knowledge, attitudes, and practices relating to malaria and its control from different parts of Africa. Studies focusing on the current practices of malaria prevention and treatment options in the population are sparse. Thus, it is expedient to evaluate current knowledge of malaria prevention practices and management options as well as the uptake of the management options. In most high-burden countries (including Nigeria), ITN coverage is still below agreed targets (Minja & Obrist, 2005). This may be related to the perception of its use among the community members. The knowledge about the preventive measures of malaria is an important preceding factor for the acceptance and use of ITN for malaria control by the community members.

The contribution of studies to knowledge of malaria prevention and control has not received much attention in Orlu, Imo State, Nigeria (Onwujekwe, Uzochukwu, Ezumah & Shu, 2007). Orlu is among the hard-to-reach regions with huge health problems including maternal health services. Therefore, this study assessed the knowledge, attitudes and practices of malaria prevention among pregnant women in Imo State University Teaching Hospital, Orlu, Imo State, Nigeria.

MATERIALS AND METHODS

The study was carried out at Paediatrics and Obstetrics unit of Imo State University Teaching Hospital (IMSUTH), Orlu, Nigeria, from February 2014 to June 2017. Orlu is a city in Nigeria which lies on the geographical coordinates of 5° 47' 0" N, 7° 2' 0" E. Orlu (Igbo: *Orlu*) is the third largest city in Southeast

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Nigeria, Imo State with an estimated population of 220,000. The climatic condition of the area is characterized by two distinct seasons, the wet and the dry seasons. The former takes place between April and October, while the latter occurs from November to March. Malaria transmission in the area is perennial but usually at the peak towards the end of the rainy season. The IMSUTH is a tertiary centre located in Orlu, south eastern Nigeria and a centre of excellence in infectious diseases and immunology. It also serves as a referral site for south eastern states. IMSUTH is the only Tertiary Health Institution owned by Imo State Government and the only Teaching Hospital in the state.

The study protocol was reviewed and approved by the Ethical Clearance Committee of Imo State University Teaching Hospital, Orlu. Verbal consent was received from each participant before data collection. The study population were made up of pregnant women in their reproductive age (16–55years) who attended ante natal clinic or delivered of their babies at IMSUTH during the time of study; February 2014 to June 2017. This is made up of eight thousand nine hundred and seventy three (8,973) women. Taro Yamane formula for sample selection was used to get a sample size of

1,021. The study adopted descriptive survey design. Stratified sampling technique was also used together with simple random sampling. The women were grouped into weeks of antenatal visits and each week simple random sampling were used for those that came for antenatal visit to ensure equal chance of participation. Each morning, consenting women who met the study criteria were assigned numbers serially as they reported at the antenatal clinic. A client was then picked at random from the first three eligible attendant. Every third eligible attendant from the one picked was given questionnaire to fill. Any woman who had filled questionnaire had her antenatal folder/ card marked KP to avoid repeat recruitment during any subsequent clinic attendance. A self-constructed questionnaire was used as the instrument for data collection. Six research assistants/data collectors (2 staff nurse midwife and 1 senior nursing officer each at the labour ward and antenatal clinic of the hospital) were used. Statistical analysis of generated data was carried out using SPSS for windows version 16, percentages were also calculated. Statistical comparisons and test of significance between positive and negative groups were calculated using the Chi-square test. Differences were considered significant at $P < 0.05$.

RESULTS

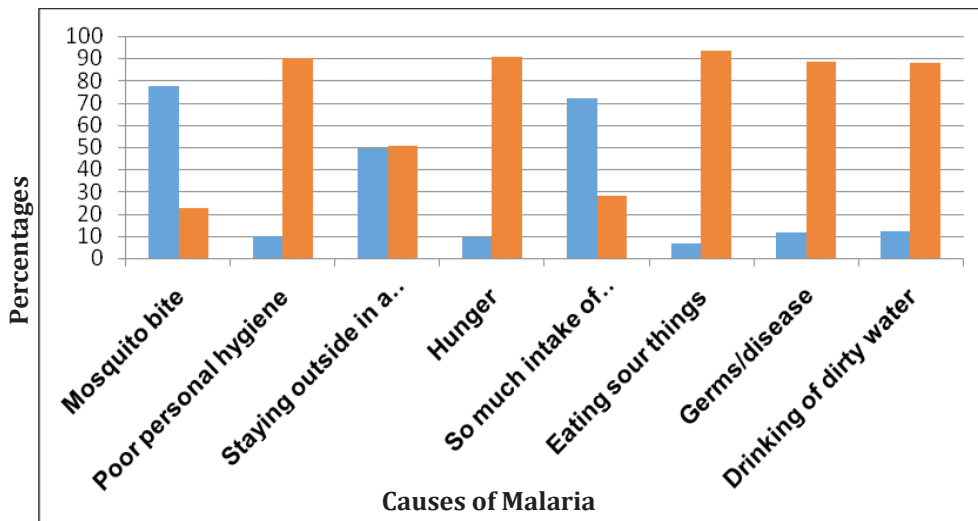
Table 1. Socio-demographic characteristics of the study participants ($n = 1021$)

Variables	Category	F	%
Age groups (years)	16 – 25	504	49.4
	26 – 35	418	40.9
	36 – 45	81	7.9
	46 – 55	18	1.8
Gravidity	Primigravida (1 st Pregnancy)	281	27.5
	Multigravida (2 nd to 4 th Pregnancy)	605	59.3
	Grand Multigravida (5 th to 6 th Pregnancy)	92	9.0
	Great-grand Multigravida (7 th pregnancy & above)	43	4.2
Level of Education	No Formal Education	0	0
	Primary Education	101	9.9
	Secondary Education	662	64.8
	Tertiary Education	258	25.3

Table 1 shows the demographic characteristics of pregnant women, respondents that fall within the age brackets of 16 – 25 years were highest (49.4%) followed by those within 26 – 35 years age group which constitute 40.9% of the population whereas 46 – 55 years age groups were the lowest (1.8%). For gravidity, multigravida were the highest (59.3%)

whereas great-grand multigravida constitute were the lowest (4.2%). For level of education, all the respondents had formal education with secondary level of education having the highest frequency (64.8%) whereas those with primary level education had the lowest frequency (9.9%).

Research Question1: What is the Knowledge of Malaria Prevention/Control Among Pregnant Women in Imo State University Teaching Hospital, Orlu, Imo State, Nigeria?

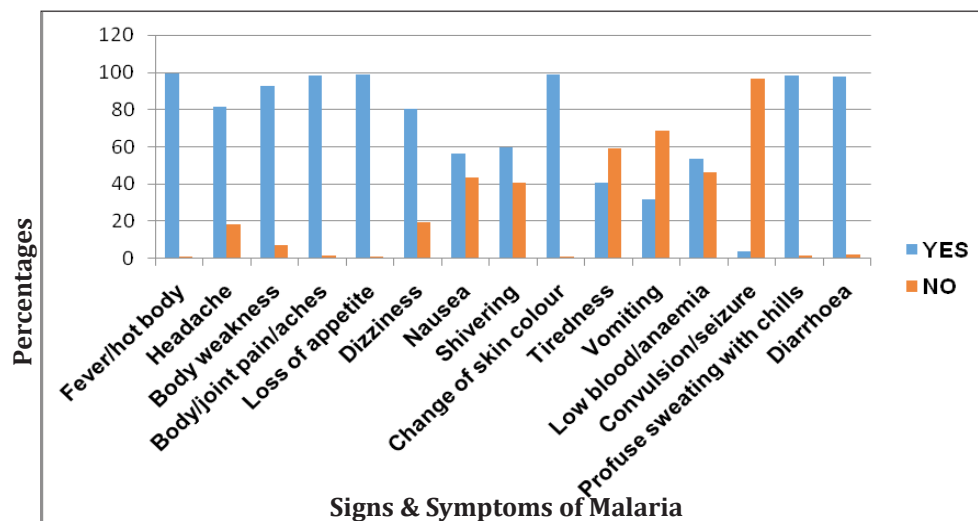


NB: Multiple Responses

Figure 1. Respondents knowledge of causes of malaria

Figure 1 revealed the knowledge of causes of malaria from the respondents. They were asked to respond to each of the options provided, thus, 77.5% indicated that mosquito bite causes malaria, 71.8% opined that malaria is caused by so much intake of fried and/oily meals, 49.2% indicated that malaria is caused by staying outside in a very cold weather. 12.2% of the

respondents opined that malaria is caused by drinking of dirty water, 11.5% indicated that malaria is caused by germs/disease, 9.9% affirmed that poor personal hygiene causes malaria, 9.2% opined that hunger causes malaria whereas 6.4% of the respondents were of the opinion that malaria is caused by eating sour things.



NB: Multiple Responses

Figure 2. Respondents knowledge of signs/symptoms of malaria

Figure 2 revealed the knowledge of signs and symptoms of malaria from the respondents. They were asked to respond to each of the options provided, thus, 99.1% indicated fever as a sign/symptom of malaria. other signs and symptoms indicated by the respondents from the highest magnitude include; loss of appetite,

and change of skin colour (98.9%), body/joint pains (98.2%), profuse sweating with chills (98.1%), diarrhoea (97.7%), body weakness (92.9%), headache (81.7%), dizziness (80.2%), shivering (59.5%), nausea (56.3%), low blood (53.7%), tiredness (40.8%), vomiting (31.6%), and convulsion/seizure (3.7%). On

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the average, 743 (72.8%) of the respondents were able to indicate all the signs and symptoms of malaria that

were listed, this shows that 72.8% had knowledge of signs and symptoms of malaria.

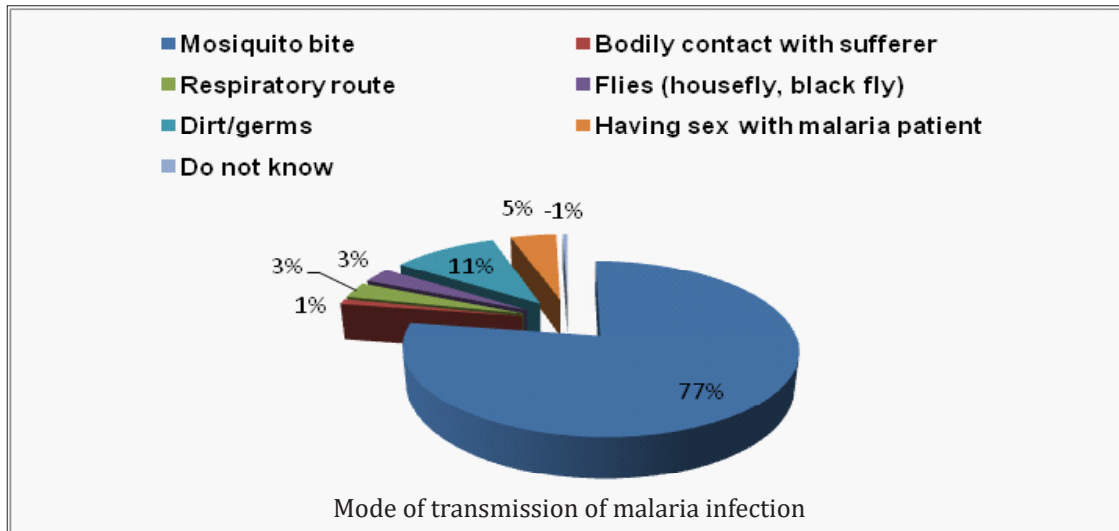


Figure 3. Respondents knowledge regarding transmission of malaria

Figure 3 revealed the knowledge of respondents regarding transmission of malaria. Out of 1021 women, 790 (77.4%) correctly identified that the mode of transmission of malaria is through mosquito bite. 22.6% of the respondents identified other options listed as a mode of transmission of malaria

which include from the highest magnitude; dirt/germs (10.6%), having sex with malaria patient (4.6%), via respiratory route (3.0%), flies e.g. housefly, blackfly (2.9%), bodily contact with sufferer (1.0%), 0.5% do not know how malaria is transmitted.

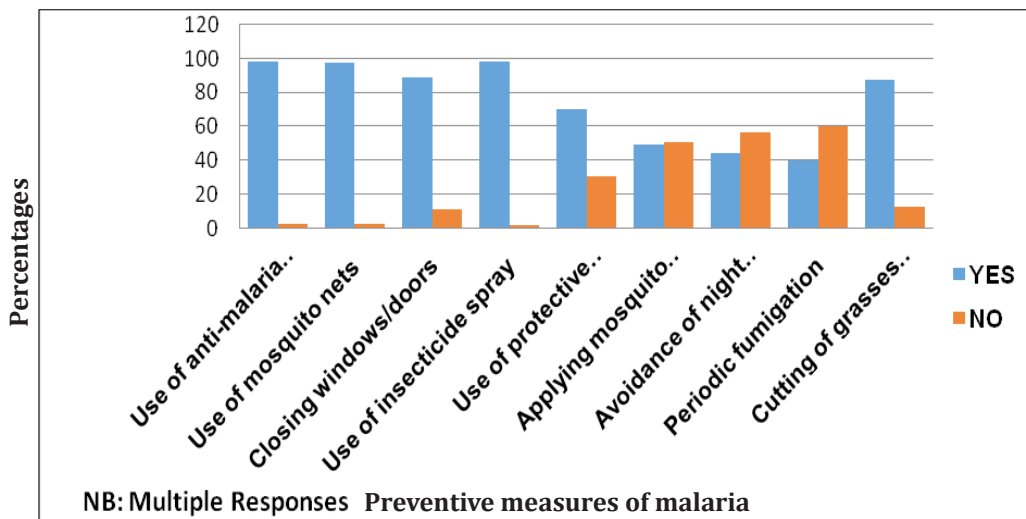


Figure 4. Respondents knowledge on prevention of malaria

Figure 4 revealed the knowledge on prevention of malaria from the respondents. They were asked to respond to each of the options provided, thus, the respondents identified the following in order of magnitude as preventive measures of malaria; use of insecticide spray (98.6%), use of anti-malaria drugs (98.0%), use of mosquito nets (97.8%), closing of windows/doors (89.0%), cutting of grasses near

the compound (87.5%), use of protective clothing (69.9%), applying of mosquito repellants (49.1%), avoidance of night outings (43.9%), and periodic fumigation (40.4%). On the average, 765 (74.9%) of the respondents were able to indicate all the preventive measures of malaria that were listed, this shows that 74.9% of the respondents had knowledge of preventive measures of malaria.

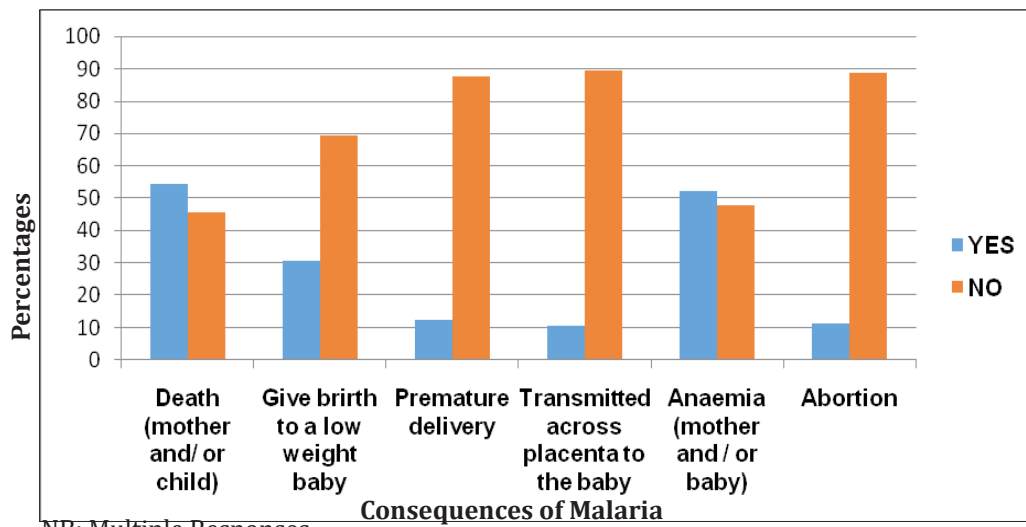


Figure 5. Respondents knowledge on the consequences of malaria

Figure 5 revealed the respondents' knowledge on consequences of malaria during pregnancy. They were asked to respond to each of the options provided, thus, 54.4% of the respondents indicated that malaria during pregnancy results in death of mother and/ or baby, 52.3% opined that malaria during pregnancy leads to maternal and/fetal anaemia, 30.5% of the

respondents affirmed that malaria in pregnancy results in low birth weight baby, 12.3% indicated that malaria in pregnancy causes premature delivery, 11.2% opined that it leads to fetal abortion and 10.6% opined that malaria in pregnancy is transmitted across placenta to baby (10.6%).

Research Question2: What is the Extent of Practice of Malaria Prevention/Control Among Pregnant Women in Imo State University Teaching Hospital, Orlu, Imo State, Nigeria?

Table 2. Respondents practices of malaria prevention/control measures

Item Question	Always (%)	Sometimes (%)	Never (%)
Sleep in a mosquito net	80 (7.8)	497 (48.7)	444 (43.5)
Other members of the household sleep in mosquito net	57 (5.6)	511 (50.0)	453 (44.4)
Check for holes/repair mosquito nets	75 (7.4)	528 (51.7)	418 (40.9)
Use mosquito repellent coils	94 (9.2)	481 (47.1)	446 (43.7)
Use anti-mosquito spray in your house	515 (50.5)	473 (46.3)	33 (3.2)
Clean/cut bushes around your house	343 (33.6)	614 (60.1)	64 (6.3)
Drain stagnant water near your house	109 (10.7)	687 (67.3)	225 (22.0)
Visit the health centre when you fall sick	234 (22.9)	766 (75.0)	21 (2.1)
Fumigate your house against mosquito	114 (11.2)	304 (29.8)	603 (59.0)
Take prescribed anti-malaria drugs	407 (39.9)	585 (57.3)	29 (2.8)
Avoid staying outside the house at night	153 (15.0)	363 (35.5)	505 (49.5)
Grand Total	2181	5809	3241
Average (Mean)	198 (19.4)	528 (51.7)	295 (28.9)

Table 2 above revealed the extent of practice of malaria management and prevention/control which showed that out of 1021 respondents, 198 (19.4%) always engage in activities to prevent/control malaria, 528 (51.7%) indicated that they sometimes engage in activities to prevent malaria whereas 295 (28.9%)

never engaged in any activity to prevent malaria. 50.5% of the respondents always use anti-mosquito spray, 39.9% always take prescribed anti-malaria medicine whereas 33.6% always drain stagnant water near their houses. Very few (7.4% and 5.6%) indicated that they always repair/check holes in

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their mosquito nets and other members of the household always sleep in mosquito nets. The respondents indicated sometimes in order of magnitude to the following; visit the health centre/clinic when they are sick (75.0%), drain stagnant water near their houses (67.3%), cut bushes around their houses (60.1%), take prescribed anti-malaria medicine (57.3%), 51.7% and 50.0% check for holes/

repair in their mosquito nets and other members of the household sleeping in mosquito nets respectively. Surprisingly, 59.0% have never fumigated their houses against mosquito, 49.5% do not avoid staying outside the house at night, 43.7% and 43.5% have never used mosquito repellent coils and never slept inside mosquito net respectively.

Table 3. Association between malaria knowledge and malaria practices

Extent of practice	No. examined N = 1021 (%)	Knowledgeable N = 676 (%)	Not knowledgeable N = 345 (%)
Always	198 (19.4)	161 (23.4)	37 (10.7)
Sometimes	528 (51.7)	372 (55.0)	156 (45.2)
Never	295 (28.9)	143 (21.2)	152 (44.1)
Total	1021	676 (66.2)	345 (33.8)

$$\chi^2 = 65.87; P < 0.05$$

Table 3 above revealed association between malaria knowledge and malaria practices, out of 676 respondents that have knowledge on malaria prevention/control, 23.8% indicated that they always engage in activities to curb malaria infection, 55.0% sometimes engage in such activities whereas 21.2% do not engage in any activity to curb malaria infection. Also, out of 345 women that do not have knowledge of malaria, 10.7% and 45.2% indicated that they always and sometimes engage in activities to prevent malaria respectively, whereas 44.1% of the women opined that they never engaged in any activity to prevent malaria infection. Chi-square test of association revealed that there is significant relationship between malaria knowledge and malaria practices ($\chi^2 = 65.87; P < 0.05$).

DISCUSSION

Knowledge of Malaria Prevention/Control During Pregnancy

This study revealed that 77.5% indicated that mosquito bite causes malaria. 71.8% opined that malaria is caused by so much intake of fried and/oily meals. This is not surprising as most people in this part of the country, south east, Nigeria believe that malaria is caused by so much intake of fried and/oily meals which gave malaria a local name, "iba". Also, 72.8% had knowledge of signs and symptoms of malaria. The respondents indicated the following in order of magnitude as signs and symptoms of malaria: fever, loss of appetite, change of skin colour,

body/joint pains, profuse sweating with chills, diarrhoea, body weakness, headache and dizziness. Furthermore, 77.4% correctly identified that the mode of transmission of malaria is through mosquito bite, 74.9% of the respondents had knowledge of preventive measures of malaria. Only 28.6% of the respondents had knowledge of the consequences of malaria during pregnancy. Summarily, 66.2% of the respondents have good knowledge of malaria. This study concurs with the study by Fuge, Ayanto & Gurmamo (2015) who found out that overall knowledge and attitude towards malaria and ITNs of their participants was fairly good; 74.3 % of the mothers had good knowledge and 51.1 % of them possessed positive attitude. Nevertheless, majority of them (65.6 %) responded that it is transmitted due to too much intake of oily food, poor personal hygiene and environmental sanitation.

This study also corresponds with that of Hlongwana, *et al* (2009) report that 99.7% of their respondents correctly associated malaria with mosquito bites and 90% reported that they would seek treatment within 24 hours of seeing the first symptoms of malaria. This finding is also in line with a research study by Sing, *et al* (2014) who found that knowledge of the role of mosquitoes in malaria transmission was 11.8% and cause of malaria was 9.6% among the study population. Comprehensive knowledge about malaria prevention measures was high (90%).

A cross-sectional study by Joshi & Banjara (2008) revealed that 86% of respondents have heard about

malaria but only 50% responded fever with chills as the sign and symptom of malaria, 73% responded that mosquito bite causes malaria transmission and 74% respondents considered that malaria is the fatal disease but very few have knowledge that the treatment of malaria in time can save life. More than 50% did not have information on availability of free treatment of malaria in Nepal. Still 16% were found consulting traditional healers for the treatment.

Poor knowledge (28.6%) on consequences of malaria in pregnancy found out in this study corresponded with the assertion of Rumisha, Zinga, Fahey & Wei (2014). They found out that over half (58.9%) of the respondents were not aware of effect of malaria on a pregnant woman and that knowledge on the effect of malaria to the unborn baby among mothers was generally poor. The reason for this finding may not be far-fetched as most respondents are not familiar with health issues; they often attribute any consequence to witchcraft or spiritual attack from the enemy.

Extent of Practice of Malaria Prevention and Control

This study showed that 19.4% always engage in activities to prevent/control malaria, 51.7% indicated that they sometimes engage in activities to prevent malaria whereas 28.9% never engaged in any activity to prevent malaria. A little above 50% of the respondents always use anti-mosquito spray, 39.9% always take prescribed anti-malaria medicine, 33.6% always drain stagnant water near their houses. Very few (7.4% and 5.6%) indicated that they always repair/check holes in their mosquito nets and other members of the household always sleep in mosquito nets. The study further found out that the respondents indicated that they sometimes engage in activities to prevent/control malaria in order of magnitude to the following; visit the health centre/clinic when they are sick (75.0%), drain stagnant water near their houses (67.3%), cut bushes around their houses (60.1%), take prescribed anti-malaria medicine (57.3%), 51.7% and 50.0% check for holes/repair in their mosquito nets and other members of the household sleeping in mosquito nets respectively. Surprisingly, 59.0% have never fumigated their houses against mosquito, 49.5% do not avoid staying outside the house at night, 43.7% and 43.5% have never used mosquito repellent coils and never slept inside mosquito net respectively.

Association between Knowledge and Practices of Malaria Among the Participants

The finding on association between malaria knowledge and malaria practices revealed that of the respondents that have knowledge on malaria prevention/control, 23.8% indicated that they always engage in activities to curb malaria infection, 55.0% sometimes engage in such activities whereas 21.2% do not engage in any activity to curb malaria infection. Chi-square test of association revealed that there is significant relationship between malaria knowledge and malaria practices ($\chi^2 = 65.87$; $P < 0.05$). Malaria knowledge and its control were observed to be moderate among the study population. This result is in contrast to previous findings of other similar studies (Deressa, Ali & Enquoselassie, 2014; Chovatiya, Gajera & Soni, 2013; Munguti, 2008; Adongo, Kirkwood & Kendall, 2005), and in agreement with other similar studies (Abate, Degarege & Erko, 2013; Iriemenam, *et al*, 2011; Adedotun, Morenikeji & Odaibo, 2010). There was gaps in knowledge by 0.5% of the respondents stating that they did not know the mode of transmission and more than half (77.4%) of the study participants mentioned bites of mosquito as a mode of malaria transmission. Only a small proportion of respondents correctly mentioned the consequences of malaria during pregnancy. Thus, the knowledge level of respondents about the mode of malaria transmission was high when compared to the findings in previous studies reported across Africa (Adera, 2013; Amron, 2013; Ako-Nai & Adesiyun, 2012; Adedotun, Morenikeji & Odaibo, 2010; Joshi & Banjara, 2008). This may be attributable to good level of education and self-experience of malaria of the participants. Knowledge of mosquito behavior is important to take appropriate malaria preventive actions and it was relatively high among participants of the present study.

This study has demonstrated that the respondents had a good knowledge about malaria signs and symptoms. Majority of the respondents mentioned fever (with shivering) as the most common symptom of malaria and is consistent with observations from other similar studies (Chovatiya, Gajera & Soni, 2013; Okwa, Bello & Olundegun, 2011; Joshi & Banjara, 2008; Munguti, 2008). This high level of awareness of the clinical features of malaria might be due to increased access to mass media, health education by health workers, and self-experience of malaria. Environmental

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vector control through elimination of the vector habitat at an early stage is an important primary preventive measure for malaria. In this study, the respondents had good knowledge on environmental preventive measures, consistent with other studies in Nigeria (Amron, 2013; Iriemenam, *et al*, 2011) and in Ethiopia; Abate, Degarege & Erko, 2013). The knowledge thus translates into improved practice of preventive measures; as indicated by the respondents in this study. This might be due to respondents' level of formal education.

Knowledge of the use of bed net as a preventive measure against mosquito bite was high among the respondents (97.8%) in this study, but only 56.5% reported use of any bed nets (ITNs or non ITNs). The remaining 45.5% were aware of their effectiveness in prevention of malaria but could not use them due to cost, unavailability, causing excessive heat etc. Similar high level of knowledge on preventive use of bed net had been observed in other studies in Ethiopia (Abate, Degarege & Erko, 2013; Kaliyaperumal & Yesuf, 2009) and in Malawi (Masangwi, *et al*, 2012). The awareness of ITNs was high among respondents, but only 7.8% of respondents were actually using it all the time. The added advantage of treating bed nets with residual insecticides should be made known to the communities. Since the cost, availability and excessive heat is reported as major reason for its low utilization in this study and in other study in Nigeria, (Amron, 2013; Iriemenam, *et al*, 2011; Jombo, *et al*, 2010; Ahmed & Hossain, 2007) government should consider subsidizing mosquito nets to enable all families to invest in them, also net manufacturers should endeavour to carry out research on what actually causes this excessive heat and then work on it.

Knowledge of use of hospital for treatment was advocated by 98.0% of the respondents, which is similar with a studies by Abate, Degarege & Erko (2013); Alvarado, *et al*, (2006) and Tavrow, Shabahang & Makama (2003). This might reflect issues of accessibility and quality in the health facilities. But in practice 22.9% of the respondents reported always going to hospital for treatment while 77.0% and 2.1% sometimes and always use home treatment/herbal medicine and use of dagoyaro herbs respectively, which is consistent with findings reported from other studies in Nigeria (Fatungase, Amoran & Alausa,

2012; Okwa, Bello & Olundegun, 2011) and other countries (Nsagha, Njunda & Kamga, 2011; Simsek & Kurcer, 2005). The use of home treatment might be because most of them could not afford hospital and needed prompt treatment. Malaria control policies should recognize the role of home treatment/herbal medicine in the management of malaria and provide trainings for the adequate use of antimalarial drugs.

CONCLUSION

This study shows that knowledge of malaria prevention/control translates to good malaria practice. The study further revealed that misconceptions about malaria transmission still exist. Increasing the knowledge about malaria transmission and benefits of using available effective preventive and control measures by the individual, households and the community could contribute much to the overall reduction of the malaria burden. The study recommends sustained health education programme for rural and sub urban dwellers.

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