KNOWLEDGE, ATITTUDES AND PRACTICES (KAP) OF MOTHERS/CARE GIVERS CONCERNING THE MANAGEMENT OF MALARIA IN CHILDREN AGED 5-17 YEARS AT NNAMDI AZIKIWE UNIVERSITY TEACHING HOSPITAL NNEWI, ANAMBRA STATE NIGERIA.

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ABSTRACT

Background: Malaria in children is of great public health importance. The role of mothers/care givers in the management and control of malaria in children cannot be over emphasized.
Aim: To evaluate the knowledge, attitudes and practices (KAP) of Mothers/care givers concerning the management and control of malaria infection in children aged 5-17 years.
Materials and Methods: This is a descriptive; cross- sectional study.156 mothers/care givers who visited Nnamdi Azikiwe University Teaching Hospital with their children aged 5-17 years were randomly recruited. A structured questionnaire was interviewer- administered to capture information on biodata and level of awareness of certain aspects of malaria management and control.
Results: Majority (86.5%) of the participants were fully aware that malaria was caused by mosquito bites. Most of the participants (82.7%) were aware that insecticide treated bed nets (ITNs) were used to prevent malaria infection but only a few of them (19.2%) actually used ITNs regularly. A reasonable fraction of the participants (14.7%) never owned or used ITNs. Most of the participants who did not use ITNs said that it caused excessive heat and made sleep uncomfortable while a very little fraction (1.3%) claimed that ITN disturbed their sleep at night.

About hospital seeking habit, 17.9% of the mothers/care givers visited hospital each time their children felt sick while the majority (82.3%) did otherwise.
Conclusion/recommendation: The study concludes that whereas the knowledge of mothers/care givers was high, the attitudes and practices were poor probably due to misconceptions which were real or imaginary. Health education needs to be intensified to improve the situation and promote the health of the children.

Key Words: malaria, children, mothers, knowledge, attitude, practices, Nnewi.

INTRODUCTION

Malaria in children has become a significant public health problem in both advanced and developing countries. The prevalence of malaria in children varies from one study centre to another depending on the location of study, the age of the children studied and the sample size employed [1-7], Malaria is an ancient disease with a lot of myths and beliefs associated with its causation and management. The early Europeans on expedition in Africa believed that malaria was due to the bad air in the swamps hence the name" mal-aria" meaning "bad air". It was in the year 1880 that a French surgeon known as Alphonso Charles Laveran discovered the malaria parasite plasmodium [8]. Even today, people still have different perceptions about malaria disease and its management, depending on the culture and level of development. Following the discovery of the real cause of malaria, scientists all over the World have embarked on a lot of researches leading to the modern concepts about the management and prevention of malaria disease especially in children where the disease wreaks havoc. Most women recognize common symptoms and signs of malaria in children and often take measures to treat before deciding to seek help from health centres or hospitals if symptoms persist. Preventive measures in malaria include the use of insecticide treated bed nets (ITNs) but a lot of factors including poverty, misconception and other socioeconomic considerations militate against its popular use. In a study in pregnant women by Ukibe et al (2013)[9], most participants were aware of the use of ITNs to prevent malaria and actually possessed one but failed to use it possibly due to some of the reasons afore mentioned above. The knowledge of mothers and other caregivers about malaria in children, its cause and control or treatments can vary according to the culture and educational background. The later will determine their attitudes and practices when there is malaria incidence.

The present study was therefore designed to evaluate the knowledge, attitudes and practices of women or care givers of children aged 5-17 years concerning the management and control of malaria at Nnamdi Azikiwe University Teaching Hospital, Nnewi, using the Paediatrics Outpatient Clinics, between November 2024 and July 2025.

MATERIALS AND METHODS

Study Area: The study was conducted at the Paediatric Clinic of Nnamdi Azikiwe University Teaching Hospital, Nnewi, Anambra state, Nigeria, between November 2024 and July, 2025. Anambra state is located in the Southeastern region of Nigeria, on latitude 6.01^{O} N and longitude 9.10^{o} E. It is bounded by Delta State to the West, Enugu state to the East, Imo and Rivers states to the South and Kogi state to the North. All these states are the catchment areas of the hospital. Nnewi is the 3rd largest city of Anambra state with Awka and Onitsha ranking higher in population and urbanization.

Study Design: This is a descriptive, cross-sectional study and the participants comprised of women or care givers who presented at the Paediatric Outpatients Clinics of Nnamdi Azikiwe University Teaching Hospital with their children who had symptoms of malaria. Children aged 5-17 years were included

Study Population: A total of 156 participants were randomly recruited. The sample size was determined using Cochrans formula for computing sample size with reference to the study by Ogolo et al (2015) in Anambra state; having a Prevalence value of 10.3% with a sample size of 300.

Thus:

N = Z(PQ)/d

Where N = minimum sample size required

Z = reference of normal distribution for desired confidence interval at 1.96% for 95% confidence interval

P = Standard deviation of the maximum expected prevalence

Q = 1 – p

D = desired level of precision (i.e. margin of error = 0.05)

Substituting N= (1.96) X0.103X0.897(0.05)^{2} = 156

Questionnaire Administration: A structured questionnaire was interviewer-administered to the mothers /care givers to capture information on bio-data and knowledge attitudes and practices of mothers and care givers concerning management of malaria infection in children

Statistical Analysis The version 16 of SSPS statistical package was used and simple ratios and percentages were used

Consent and Ethical Approval: Ethical clearance was obtained from institutional Ethics Board of Nnamdi Azikiwe University Teaching Hospital Research Ethics Board. Consultation and permission to conduct the study was obtained from Health Offices as appropriate. Written informed consent was obtained from every participant.

RESULTS

Table 1: Socio-economic data of Respondents- Mothers/Care givers interviewed

Occupation	**Number Interviewed**	**Percentage %**
Petty Trading	98	63
Farmers	18	12
Teachers	31	20
Professionals/Business Executives	9	6
Total	156	100
Educational background	**Number Interviewed**	**Percentage %**
Primary Education	36	23
Secondary Education	62	40
Tertiary Education	58	37
Total	156	100
Residential Accommodation	**Number Interviewed**	**Percentage %**
Single room	38	24
Flat	89	57
Duplex	29	19
Total	156	100

Figure 1: Perception of Cause of Malaria in Children

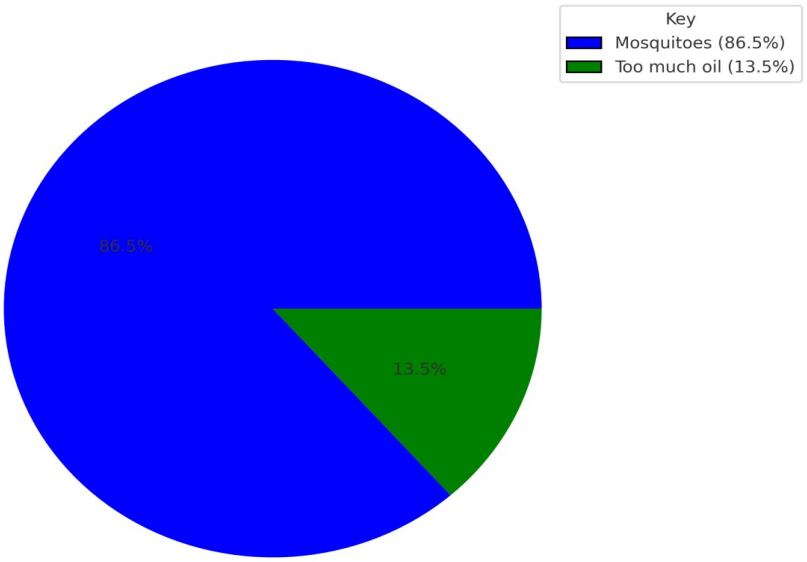


Figure 2: Knowledge of Use of ITNs to Prevent Malaria

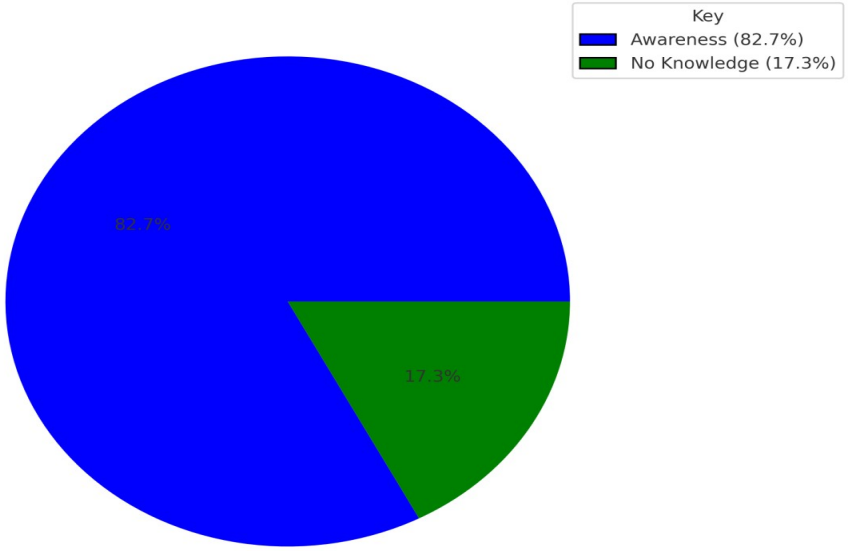


Figure 3: Frequency of Use of ITNs

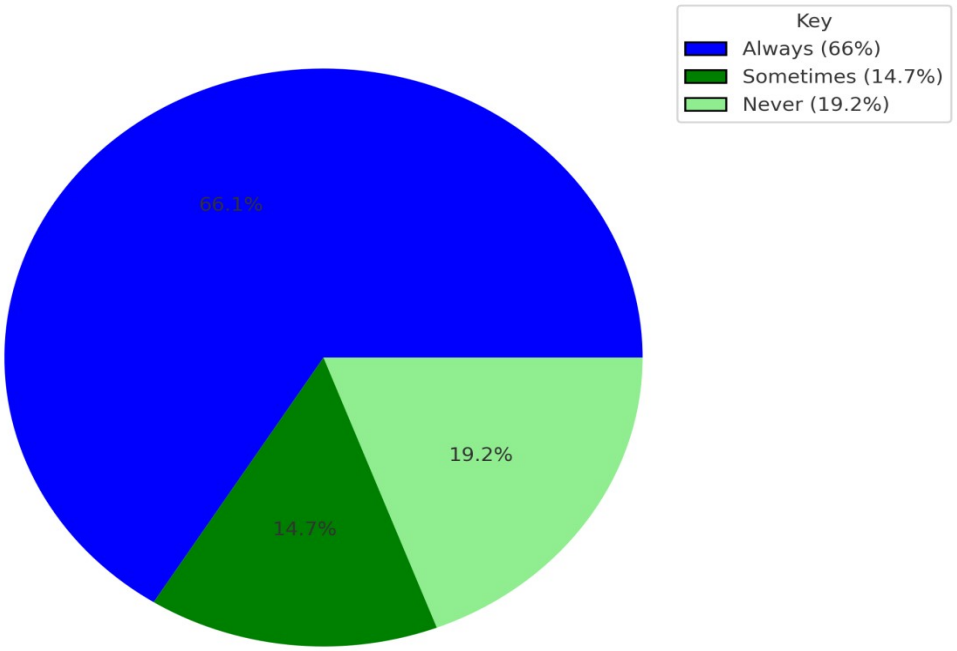


Figure 4: Reasons for Non-Use of ITNs

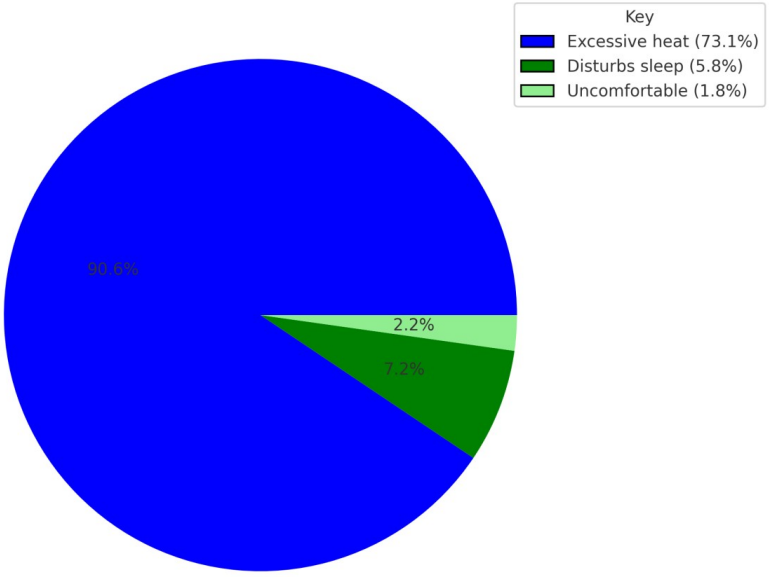
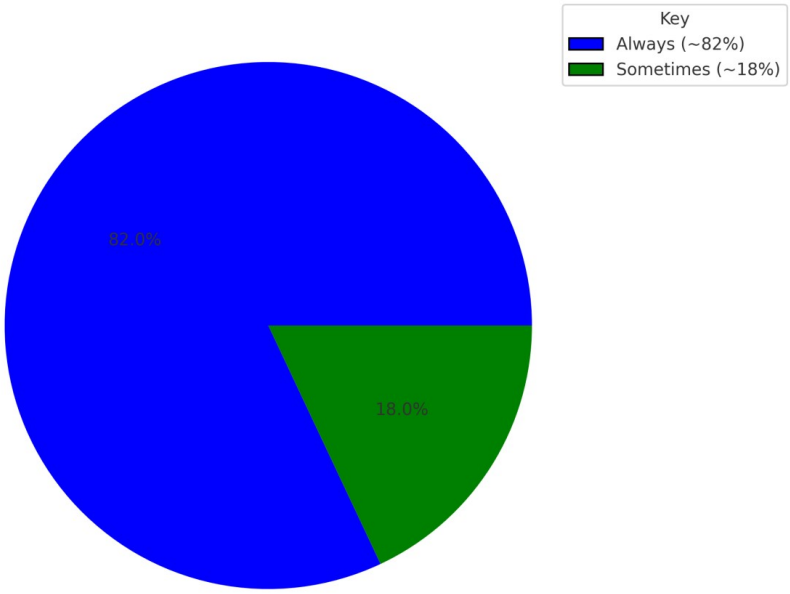


Figure 5: Frequency of Visiting Hospital When Sick



DISCUSSION

This study (Fig 1) revealed that most of the participants (86.5%) were well informed about the actual cause of malaria which is mosquitoes .This could be attributed by the fact that a high percentage of the respondents had secondary (40%) or tertiary (37%) education as shown in table 1 above This implies that most of them are informed and would take measures to protect their children from mosquito bites through use of insecticide treated bed nets (ITNs) or other environmental measures like clearing bushes around their houses and removing sites for breeding of mosquitoes. These classes of people are also more likely to reside in good accommodations located in environment friendly areas where mosquito bites will be less frequent. This is also shown in table 1 above where 57% of the respondents resided in flats and a reasonable number (19%) resided in duplexes. It is worthy of note that small proportion of the participants (13.5%) still believed that malaria was caused by taking too much oil in diet. Considering the fact that this study was conducted in an urban area, this figure is alarming because it would have doubled had it been that the study took place in a remote village where most uneducated people live. This belief may lead the mothers or care giver to take actions which may be detrimental to the health of the children.

The result (Fig 2) also showed that majority of the women (82.7%) were fully aware that insecticide treated bed nets (ITNs) are used to protect children from mosquito bites and hence reduce the incidence of malaria

infection. This can also be explained by the high literacy level noted in table 1 above. On the other hand, a significant proportion of the respondents (17.3%) were not aware of the use of ITNs to protect their children from suffering frequent attacks of malaria. This study does not preclude the fact that some women from remote villages whose literacy levels are low may also visit the Teaching Hospital on referral basis. In a similar study conducted in pregnant women by Ukibe et al (2013)[7], 93% of the respondents were fully aware of the use of ITNs to prevent malaria infection. In this cited study, most of the women actually possessed ITNs but failed to use them for one flimsy excuse or the other. In the present study, (Fig 3 and 4) out of the number of participants that had ITNs, only19.2% used it always, 66% used the nets sometimes while 14.7% never bothered to use the nets. The reasons for not using ITNs included excessive heat (73.1%), discomfort (5.8%) and disturbance of sleep (1.3%). A previous study[7] corroborates this finding.

Several studies conducted elsewhere in Nigeria and other places reported awareness figures ranging from 36% to 91%[8-13.] Although the level of awareness of the use of ITNs was very high, the actual use was very poor. For instance, only 19.2% of the respondents used ITNs consistently. The failure of some women to use ITNs may be attributed to socio-economic factors ranging from poverty, poor accommodation, lack of where to hang the nets, low level of education and possibly some other factors [14-16]. This is corroborated by table 1 above which shows that 23% of the respondents had only primary education and 24% lived in single room which may not be suitable to hang ITNs.

Finally, the result (Fig 5) showed poor attitude to hospital attendance by the mothers/care givers (17.9%) whereas the majority of the respondents (82.1%) attended hospital infrequently. This may be attributed to the fact that the study site is a tertiary institution which serves as a referral centre for complicated cases. Moreover, many cases of uncomplicated malaria might end up at the primary and secondary levels of care. Socioeconomic factors such as poverty may also play some roles.

CONCLUSION

Whereas the knowledge of the respondents concerning the management of malaria in the study population was adequate, the attitudes and practices were defective. Intensive health education is necessary to address this anomaly.

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Conflicts of interests: There is no conflict of interests.

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