

Original Article

Field of Study

# Knowledge, Attitude and Practices on Malaria in Kano Metropolis

Ruqayyah Hamidu MUHAMMAD<sup>1</sup>, Bichi Armayau HAMISU<sup>2</sup>, Balarabe Musa BINTA<sup>3</sup>

## ABSTRACT [ENGLISH/ANGLAIS]

A survey was conducted within Kano metropolis, using four hundred standardized questionnaires to assess the Knowledge, Attitude and Practices of the respondents with regard to malaria infection. Females constituted 62.2% of the respondents while 37.8% were males. All of the respondents were educated either formally primary (23%), secondary (27.8%), and tertiary (26.4%) or informally [Qur'anic (22.8%)]. Their ages ranged from 15 to 57. Majority (87.8%) were aware of mosquito as cause of malaria, 57.3% report to hospital for treatment, 26.3% to chemist and 16.5% used herbs for treatment of malaria. The drugs prescribed were Chloroquine (6.3%) Artesunate combination (ACT) constituted (55.1%) and Fansider/ACT was (25.3%). Knowledge of resistance due to dosage noncompliance was poor 186 (38.6%) and strict compliance to drug dosage was 185 (46.3%). The most used preventive major was coil, which accounted for (40.5%), followed by aerosol (24.3%), Bed nets was (14.3%), chemical concoction (12.5%) and others were (8.5%). The level of enlightenment was found to be very impressive as most of the respondents (77.8%) had been enlightened on malaria infection either through Radio, Television or Health workers, however lack of knowledge of resistance due to dosage non-compliance found in this research, is a bad signal for any antimalarial campaign. Therefore awareness campaign should be intensified, especially on dosage non-compliance and sanitation.

**Keywords:** Attitude, knowledge, malaria and kano metropolis

## RÉSUMÉ [FRANÇAIS/FRENCH]

Une enquête a été menée au sein de métropole de Kano, au moyen de quatre cents questionnaires standardisés pour évaluer les connaissances, attitudes et pratiques des répondants à l'égard de l'infection palustre. Les femmes constituaient 62,2% des répondants alors 37,8% étaient des hommes. Tous les répondants ont été éduqués de manière formelle primaire (23%), secondaire (27,8%) et tertiaire (26,4%) ou informelle [coranique (22,8%)]. Leur âge variait de 15 à 57. Majorité (87,8%) étaient au courant de moustique comme cause du paludisme, 57,3% déclarent à l'hôpital pour traitement, 26,3% à 16,5% chimiste et herbes utilisées pour le traitement du paludisme. Les médicaments prescrits étaient chloroquine (6,3%) la combinaison artésunate (ACT) a constitué (55,1%) et Fansider / ACT a été (25,3%). La connaissance de la résistance non-respect dû à la posologie était de 186 pauvres (38,6%) et strict respect de la posologie des médicaments était de 185 (46,3%). Le plus utilisé préventive importante a été la bobine, ce qui représentait (40,5%), suivis par des aérosols (24,3%), de moustiquaires a été (14,3%), chimiques concoction (12,5%) et d'autres ont été (8,5%). Le niveau de l'éveil a été jugée très impressionnant car la plupart des répondants (77,8%) avaient été éclairés sur l'infection palustre, soit par les travailleurs radio, télévision ou de la santé, mais le manque de connaissance de la résistance due à la posologie non-respect constaté dans cette recherche, est un mauvais signal pour toute campagne antipaludique. Ainsi la campagne de sensibilisation devrait être intensifiée, en particulier sur le dosage de non-conformité et d'assainissement.

**Mots-clés:** Attitude, connaissances, le paludisme et la métropole de Kano

### Affiliations:

<sup>1</sup> Nigerian Stored Products Research Institute, Hadejia Road Kano, NIGERIA

<sup>2</sup> Department of Biological Sciences, Bayero University, Kano, NIGERIA

<sup>3</sup> Department of Biological Sciences, University of Abuja, Gwagwalada Abuja, NIGERIA

\* Email Address for Correspondence/  
Adresse de courriel pour la correspondance:  
ruqayyahmohd@yahoo.co.uk

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## INTRODUCTION

Malaria disease is still a major health problem in Nigeria, as in other parts of sub-Saharan Africa (SSA). Estimates show that this parasitic disease accounts for no less than 300,000 deaths and more than 20 million clinical attacks annually [1].

The disease is holo-endemic in Nigeria with intense all year round transmission peaking in the rainy season. During rainy season over 70% of children aged 1-10 years

suffer high rate of disability with associated high parasitic load and splenomegaly [2].

In West Africa the community awareness on the cause of malaria is generally poor. For instance excessive heat and too much alcohol, fatigue, flies and unsafe water were believed to be the causes of malaria in Ghana [3]. In South Eastern Nigeria excessive heat was believed to be responsible for malaria [4]. Among the believes of causes of malaria in South-Western Nigeria were, over working,

sunlight, excessive sex and noise as well as witch craft [5])The perception was found to be poor in Southern and Eastern part of the country. Therefore the study was carried to assess the knowledge, attitude and practice on malaria among Kano metropolitan populace representing the northern part of Nigeria. The study shall also be useful in identifying effective means of preventing and treating the disease that could be peculiar to the region and the people serving as a base line data source for further research.

**MATERIALS AND METHODS**

The research was conducted in Kano Metropolis. Kano falls within latitude 20° North and longitude 12° 30' South of the equator. The population was 2163225 as at 2006 population census, with 964889 males and 1198336 females [6].

The study was conducted between early June to late August 2010, using four hundred (400) questionnaires, which were randomly distributed within the eight local governments of the metropolis i.e. Kumbotso, Gwale, Nassarawa, Municipal, Ungoggo, Fagge, Tarauni and Dala. The tool sought information on the respondents personal data, assessed respondents knowledge of malaria, ways of treating the disease, compliance to drug dosage and ways of preventing the disease and other relevant information.

**RESULTS**

Of the enrolled four hundred (400) respondents, 249(62.2%) were females and 151 (37.8%) were males. Their ages range from 15-57. All of the respondents were either formally educated, primary education 84 (21.0%), Secondary 121 (27.8%) and Tertiary 104 (26.4%) or informally educated (Qur'anic) 91 (22.8%). A number of 232 (58%) were students, 28(7.0 %) teachers, 53(13.3%) civil servants, house wives and 57(14.3%) businessmen. 351 (87.8%) of the respondents were aware of mosquito as the cause of malaria and majority go to hospital for treatment 229 (57.3%) and some go to chemist 105 (26.3%) while others used herbs 66(16.5%).

The level of enlightenment was impressive as most 311(77.8) had been enlightened on malaria, 52 (16.7%) through television, 161 (51.8%) through Radio, 20(6.43.0%) through Radio/Television while 77(25.1%) through health workers. Preventive measures employed by the respondents were coil which account for 162 (40.5%), followed by aerosol 97 (24.3%), Bed nets were 57 (14.3%),

chemical concoction 50(12.5%) and others 34(2.3%). Knowledge of mosquito breeding sites was 381 (95.3%). Knowledge of resistance was 186 (46.5%) and compliance to drug dosage was only 127 (38%). Chloroquine was found to be still in use, as it accounted for 21 (6.3%), ACT was 184(55.1%) and Fansider in combination with ACT accounted for 129 (38.6%). Peels and leaves of some fruits were found to be used in malaria treatment, also leaves of neem, senna and even artesunate and bark of mahogany were found to be used by the people of the region. The results are shown on tables 1-3.

**DISCUSSION**

The high percentage of malaria awareness in the metropolis (87.7%) of the respondents could be to the respondents level of education as known of them had no education at all, either attributed formal or informal (Qur'anic). It may also be as a result of the people's attachments to Radio, and most of the Radio stations in the state broadcast programs that enlighten people on malaria and other diseases in general.

High percentage 162 (40.5%) of the respondents use coil in preventing the disease, this could be attributed to both

**TABLE 1**

Table 1 shows the demographic characteristics of respondents

	Frequency	Percentage
<b>A. AGE</b>		
15-19	60	15.0
20-24	80	20.0
25-29	70	17.5
30-34	144	36.0
35-39	27	6.75
40 and above	25	6.26
<b>B. SEX</b>		
Males	151	37.8
Females	249	62.2
<b>C. EDUCATIONALSTATUS</b>		
Qur'anic	91	22.8
Primary	84	21.0
Secondary	121	30.3
Tertiary	104	26.0
<b>D. OCCUPATION</b>		
Students	232	58.0
Teachers	28	7.0
Civil servant	53	13.3
Business men	30	7.5
House wives	57	14.3

TABLE 2

Table 2 shows the knowledge, attitude and practices of the respondents

	Frequency	Percentage
<b>A KNOWLEDGE</b>		
I CAUSE OF MALARIA		
Mosquito	351	87.8
Too much Sun	22	5.50
Bad water	11	2.75
Lack of sanitation	16	4.0
II KNOWLEDGE OF RESISTANCE DUE TO DOSAGE NON COMPLIANCE		
Yes	186	46.5
No	214	53.5
III ENLIGHTENED ON MALARIA		
Yes	311	77.8
No	89	22.3
IV SOURCE OF ENLIGHTENMENT		
Television	52	16.7
Radio	161	51.8
Radio/television	20	6.43
Health workers	77	25.1
V KNOWLEDGE OF MOSQUITO BREEDING SITES		
Yes	381	95.3
No	19	4.75
<b>B ATTITUDE AND PRACTICES</b>		
I MEANS OF RECEIVING TREATMENT		
Hospital	229	57.3
Chemist	105	26.3
Use of herbs	66	16.5
II OF TYPES HERBS USED		
Boiled peels of pineapple + grapes (citrus)	16	24.2
Boiled leaves of guava, mango + orange	14	21.2
Artesunate Leaves	20	30.3
Neem Leaves	2	3.0
Senna Leaves	10	15.2
Mahogany Bark	4	6.0
III TYPES OF DRUGS PRESCRIBED		
Chloroquine	21	6.3
Fansidar/ACT	129	38.6
ACT	184	55.1
IV STRICT COMPLIANCE TO DRUG DOSAGE		
Yes	127	38.0
No	207	62.0
V PREVENTIVE MEASURES		
Coil	162	40.5
Aerosol	97	24.3
Bed nets (treated & untreated)	57	14.3
Chemical concoction	50	12.5
Others (fan, screening of windows and doors)	34	8.5

cheapness and effectiveness of the coil in knocking down mosquitoes, The fact that knowledge of resistance due to dosage non-compliance was just (46.5%) and strict

compliance to drug dosage was also (46.3%). These two factors could be responsible for the declining sensitivity of *plasmodium* to the array of anti-malarial drugs as has been

shown by [7] and possible relapse of the disease hence the high number of hospital reported cases of the people [8] . It could also be responsible for hyperendemicity of the region as shown by [9]. The use of ACT either singly or in combination with fansider was found to be very impressive suggesting its great acceptance. However

chloroquine was found to be still in use despite the reported resistance of *Plasmodium* to the drug. The use of some leaves and barks of some trees for malaria treatment could be due the documented tradition of Hausa people using herbs to cure many ailments for centuries [11, 12, 13].

**TABLE 3**

Table 3 shows the Knowledge of causes of Malaria by Occupation and Educational qualification

Categories of Respondent	Lack of Sanitation (%)	Too Much, Sun (%)	Bad Water (%)	Mosquito (%)
Qur'anic	5 (31.3)	6 (27.3)	4 (36.4)	76 (21.7)
Primary	7 (43.8)	9 (40.9)	5 (45.4)	63 (17.9)
Secondary	4 (25.0)	7 (31.8)	2 (18.2)	108 (30.8)
Tertiary	0 (0.0)	0 (0)	0 (0)	104 (29.6)
<b>Total</b>	<b>16 (100)</b>	<b>22 (100)</b>	<b>11 (100)</b>	<b>351 (100)</b>
Students	3 (18.8)	4 (18.2)	1 (9.09)	224 (63.8)
Teachers	0 (0)	0 (0)	0 (0)	28 (7.98)
Civil servants	3 (18.8)	8 (36.4)	6 (36.4)	36 (10.3)
House wives	5 (31.3)	6 (27.3)	2 (27.3)	44 (12.5)
Business men	5 (31.3)	4 (18.2)	2 (18.2)	19 (5.41)
<b>Total</b>	<b>16 (100)</b>	<b>22 (100)</b>	<b>11 (100)</b>	<b>351 (100)</b>

**CONCLUSION**

The level of enlightenment on malaria was impressive; even though awareness campaign should be intensified especially to educate the people on the dangers of dosage noncompliance.

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**CONFLICT OF INTEREST**

No conflict of interest was declared by Authors

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