KNOWLEDGE, ATTITUDE AND PRACTICES ABOUT MALARIA AMONG MOTHERS AND CARE-GIVERS IN ABA SOUTH LOCAL GOVERNMENT AREA, ABIA STATE, NIGERIA

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ABSTRACT

The knowledge of the symptoms, treatment seeking behaviors and management of malaria amongst mothers and care-givers in Aba South LGA in South eastern Nigeria was assessed. A total of five hundred and two mothers and care-givers were interviewed using closed ended pre-tested structured questionnaires, which was administered to community members that fell within the targeted audience. The results of the investigations showed that there was a high level of knowledge of the causal agent of malaria, as 97.01 % attributed it to female anopheline mosquito bites. Radio (56.77%) and the television (20.32 %) was the major sources of information on malaria diagnosis and management strategies amongst the studied population. 54.58 % of the respondents had only secondary level of education. A remarkable mix-up of traditional and orthodox medication in the treatment of malaria was noticed. 53.19 % visited the patent medicine shop each time they fell ill and 37.85 % used local herbs. Some of the herbs were boiled before drinking, inhaled or used to bathe as the case may be, while 5.98 % visited the hospital. Preventive measures against mosquito bites included the use of insecticide spray (15.25%), use of mosquito coils (44.60%), use of insecticide treated bed nets (12.88%) and the use of fumes from Ocimum grattissimum (10.74%) locally called Nchanwu among others. We suggest that government should intensify efforts at reaching the rural dwellers that lack basic health amenities, these can be done by making available anti-malarial drugs, insecticide treated bed nets and finally the provision of intensive health education programmes are advocated to remedy and control malaria.

Keywords: Malaria, Attitudes, Knowledge, Practices, Traditional, Orthodox

INTRODUCTION

Malaria presently remains one of the worst menaces of tropical countries of the world. It is a killer and debilitating disease that affects the physical and economic well-being of people living in endemic areas of Africa (WHO, 2008). The high intensity of the spread of malaria makes it an enormous public health problem. African countries are most hard hit by the disease, where it ravages communities. Malaria, a notifiable, preventable and curable disease is highly endemic in most parts of Nigeria, where the vast majority of cases occur in children under the age of five (Obi *et al.,* 2012). Pregnant women are among those in the higher risk group (Okwa, 2003). Recent global estimate shows that there are between 300 – 500 million

clinical cases of malaria and between 1.50 – 2.70 million deaths attributed to malaria annually (Greenwood *et al*., 2005). Inspite of measures taken against it, malaria has continued to rank high among the most prevalent and severe diseases of the tropics. This is linked to the rapid development and sustenance of resistant strains of the parasite to commonly and affordable anti-malarials making its control difficult. Attempts at different periods by governments and concerned organizations in these regions aimed at control and eradication have not been satisfactory. This perhaps informed the shifts in campaign from eradication to control. Findings have shown that good knowledge, attitude and practices of any public health disease by individuals and communities seems necessary if effective treatment and preventive measures are to be realistic (Iwueze *et al*., 2013). Human behavior affects health promoting and disease preventing activities, increasing risk in some instances and in others reducing it (Erhun *et al*., 2004). Understanding people's perceptions of malaria and the factors which influence this perception must be a central part of mounting successful interventions to the control of malaria throughout the world (Ahorlu, 1997). Malaria-related knowledge, attitudes and practices (MKAP) have been examined in many rural and urban multiethnic populations in Nigeria (Tsuyuoka *et al*., 2001; Dossou-Yov *et al*., 2001; Okrah *et al.,* 2002; Erhun *et al.,* 2004). Within Nigeria, surveys of residents of the Atlantic coast revealed a lack of knowledge and many misconceptions about the transmission and treatment of malaria, which could adversely affect malaria control measures and anti-malarial therapy (Afolabi, 1996). MKAP is thus becoming more important to the design and improvement of malaria control activities, to the establishment of epidemiological and behavioral baselines and to identifying indicators to monitoring intervention programs (Ahmed *et al*., 2009). This paper reports the results of the survey carried out to assess the MKAP of mothers and care-givers in Aba South L.G.A, Nigeria. The specific objectives were to ascertain the levels of knowledge regarding malaria, investigate attitudes and practices in the prevention and control of malaria.

MATERIALS AND METHODS

Study Area: The Study was conducted in selected areas Aba, Aba South LGA of Abia State, Nigeria. Aba is in the tropical rainforest region and is located between latitude 5^0 7^1 N and longitude 7^0 22^1 E (Kalu *et al.,* 2012). The climate is humid with an average daily maximum and minimum temperature of 33^0C and 24^0C, respectively. Aba has an average rainfall of about 2400 mm and has two seasons in the year. The rainy season which is between March – October and the dry season which is between November – February. The average humidity is 90% with an average temperature of 27^0C. Aba area consists of low lying arable land. The people are mainly farmers, traders, craftsmen, artisans and civil servants. Agricultural crops grown include yam, maize, plantain, cassava, oil palm and vegetables. Aba is an urban town surrounded with semi-urban villages in southeastern Nigeria. It has an estimated population of 1,020,900 (NPC, 2006). Most of the surrounding villages within Aba are prone to flooding during the rainy seasons, the presence of which makes them a veritable breeding ground for mosquito vectors of malaria parasites. Obuda Aba is in Aba South and it consists of three villages namely; Umumgbeoji, Okpokoroala and Umuamara villages. Aba South LG. shares boundary on the North and West with Aba North LGA, on the East and South by Ugwunagbo LGA all in Abia State, Nigeria.

Study Design: The study was a community based cross-sectional survey conducted between January and December 2012 in three villages. A two stage cluster sampling at the village level to select sub-villages from where the study samples were drawn. Within the sub-villages, households were randomly numbered and even numbered households were selected for sampling. A total of 240 households with 502 mothers and caregivers were study.

Ethical Approval: Prior to the commencement of the study, an approval was granted by Abia

State Ministry of Health and Aba South LGA Public Health Unit, for the team to carry out the study. The purpose of the study was very carefully explained to the targeted population mainly mothers and caregivers before the questionnaire were administered. Each respondent gave consent to be part of the study before being included in the study.

Data Collection: A structured closed ended and pre-tested questionnaire was administered to 502 mothers and caregivers from 240 households, in which individuals indicated their responses to as many options as they felt convinced. Those who could not read or write were guided by he researcher to respond to the questionnaire. The questionnaire sought from mothers and caregivers information on their knowledge, attitudes and practices towards the control of malaria.

Data Analysis: The data collected were sorted into related groups and analyzed using percentages (Erhun *et al.,* 2004).

RESULTS

Participants' Sex, Occupation and Marital status: The result indicated that 9.96% of the participants were males, while 90.04% were females (Table 1). Distribution by occupations as reported by respondents showed that 14.94% were house-wives, 20.32% were civil servants, 45.82% were traders/business-men, 15.94% were farmers and 2.99% of the respondents were students (Table 2). Educational over 50.00% of the respondent had secondary education (Table 3), and over 90.00% were married (Table 4).

Perceived Causes of Malaria: The result of the investigations showed that 97.01% of the respondents attributed the cause of malaria to mosquito bites, 1.19% of the respondents attributed to witchcraft, while 1.79% attributed it to water (Table 5). A good number of the respondents reported that the term "malaria" is a serious disease if left untreated.

Table 1: Socio-demographic characteristic of mothers and care-givers participants in the survey on knowledge, attitude and practices on malaria control in Aba South Local Government Area, Abia State, Nigeria

Age group	Male	Female	Total	%
20-24	0	5	0	1.00
25-29	0	20	20	3.98
30-34	0	25	25	4.98
35-39	6	35	41	8.17
40-44	5	40	45	8.96
45-49	6	100	106	21.12
50-54	5	78	83	16.53
55-59	12	75	87	17.33
60-64	10	50	60	11.95
65-69	6	20	26	5.18
70-74	0	4	4	0.80
Total	50	452	502	100

Table 2: Occupational status of mothers and care-givers participants in the survey on knowledge, attitude and practices on malaria control in Aba South Local Government Area, Abia State, Nigeria

Occupation	Number	%
House-wife	75	14.94
Civil-servant	102	20.32
Trading	230	45.82
Farming	80	15.94
Student	15	2.99

Table 3: Educational status of mothers and care-givers participants in the survey on knowledge, attitude and practices on malaria control in Aba South Local Government Area, Abia State, Nigeria

Educational status	Number	%
Primary	88	17.53
Secondary	274	54.58
Tertiary	125	24.90
Informal	15	2.99

Table 4: Marital status of mothers and care-givers participants in the survey on knowledge, attitude and practices on malaria control in Aba South Local Government Area, Abia State, Nigeria

Marital status	Number	%
Single	15	2.99
Married	465	92.63
Separated	5	1.0
Divorced	4	0.79
Widowed	13	2.59

Table 5: Knowledge of the malaria causal agent among mothers and care-givers in Aba South Local Government Area, Abia State, Nigeria

Perceived cause	Number	%
Insect bite (Mosquito)	487	97.01
Witchcraft	6	1.19
Dirty water	9	1.79

Table 6: Sources of information about malaria among mothers and care-givers in Aba South Local Government Area, Abia State, Nigeria

Source	Number	%
Health workers	17	3.39
Newspaper	10	1.99
Television	102	20.32
Radio	285	56.77
Parents	50	9.96
Friend	20	3.98
Neighbour	4	0.80
School	14	2.79

Table 7: Symptoms associated with malaria among mothers and care-givers in Aba South Local Government Area, Abia State, Nigeria

Symptoms	Number (%)
Cold (Chills)	502(100.00)
Diarrhoea	0(0.00)
Nausea	495(98.60)
Vomiting	12(2.39)
Headache	502(100.00)
Fatigue	502(100.00)
Dizziness	500(99.60)
Others	480(95.60)

Table 8: Knowledge of repellant and mosquito trapping devices associated with malaria control among mothers and care-givers in Aba South Local Government Area, Abia State, Nigeria

Repellant and mosquito trapping devices	%
Insecticide spray	15.25
Mosquito coils	44.60
Mosquito window net	16.53
Ocimum gratissimum	10.74
Insecticide treated bed net	12.88

Table 9: Modes of malaria treatment among mothers and care-givers in Aba South Local Government Area, Abia State, Nigeria

Modes	Number	%
Visit hospital	30	5.98
Traditional healer	15	2.99
Use of herbs	190	37.85
Patent medicine store	267	53.19

The local names for malaria as reported were '*Akum*' or '*Iba*', while the mosquito is called '*anwunta*'. Their main source of information on the scourge of malaria was from radio programmes (56.77%) (Table 6).

KAP Towards Malaria: All the respondents identified fever which had symptoms that included chills, headache and fatigue as signs of malaria. Other symptoms reported were nausea (98.00%), dizziness (99.60%) and vomiting (2.39%) (Table 7). On the control strategies adopted by residents of the study area, 15.25% of the respondents reported that using insecticide spray was effective and preventive measure against mosquito bite, 44.60 % reported that they use mosquito coils, 10.74 % admitted using the leaf *Ocimum gratissimum* locally called *nchuanwu* as repellant of the vector, 16.53% reported the use of mosquito window net, while 12.88% use insecticide treated bed nets (Table 8).

Health Seeking Behaviour: The result of the survey indicated that 5.98% of the respondents visited hospitals, 2.99 % visited traditional healer, 37.85% of the respondents used herbs which they either boiled or soaked in warm water before drinking or used in bathing or inhaled after boiling. A good number of the respondents (53.19%) admitted to visiting nearby patent medicine store and as well as offering self-medication (Table 9). A list of traditional herbs used for the treatment of malaria indicated that *Azadirachta indica* (51.6%) ranked highest among the respondents. Other herbs reported as being used included *Chromolaena odorata* (18.95%), *Cymbopogon citratus* (9.47%), *Psidium guajava* (7.30%), *Mangnifera indica* (7.30%) and *Ananas sativus* (7.30%) among others (Table 10).

DISCUSSION

Malaria intervention programme aims at preventing mortality and reducing morbidity in areas that are endemic and as well as alleviate socio-economic losses arising from malaria. This will require sustained efforts in frequently

Table 10: Information on herbs used in the treatment of malaria among mothers and care-givers in Aba South Local Government Area, Abia State, Nigeria

English/local name	Scientific name	Number (%)
Akumshorop (Neem)	*Azadirachta indica*	98 (51.6)
Nanimgebi (Awolowo)	*Chromolaena odorata*	36 (19.0)
Achara tea	*Cymbopogon citratus*	18(9.5)
Guava leaf	*Psidium guajava*	7 (3.7)
Mango leaf	*Mangnifera indica*	7(3.7)
Pineapple fruit (unripe)	*Ananas sativus*	7 (3.7)
Plantain leaf	*Musa paradisca*	7 (3.7)
Orange leaf	*Citrus sinesis*	7 (3.7)
Pumpkin leaf	*Telfeiria occidentalis*	7(3.7)
Utazi leaf	*Gongolema latifolium*	3 (1.6)

assessing local malaria situations and the implementation of adequate control measure. Majority of the respondents were within the age range of 45 – 49 years. This is similar to the findings of Adepoju (2005) where he reported the same age range as carried out in Lagos and Ibadan, Nigeria. Furthermore, 92.63 % of the respondents were married mothers, usually mothers and care-givers are the first to diagnose illness in children through their observation and interpretation of bodily and behavioral changes. It is also believed that mothers know when it is most appropriate to administer treatment at home and when it is necessary to consult a health worker (Mwensi *et al.,* 1995). Kaute (1997) outlined the relevance of women's marital status as an indicator for a successful control of infant malaria. Majority of the respondents (97.01 %) attributed the cause of malaria to the bites of mosquitoes, although they could not really say what pathogen in the mosquito bites that led to the cause of malaria. This was in agreement with the findings of Baird (2006) in Java Indonesia where 97.00% of the respondents correctly identified mosquitoes as the vector of malaria. This is where health education becomes very important. Their inability to tell the actual cause of malaria could be attributed to their level of education and general awareness. A good number of the respondents had the knowledge that mosquito breeds in stagnant water but could not really explain the life cycle of the vector. More than half of the respondents (56.77%) got their information about malaria through the radio especially the vernacular promotion programmes. This was similar to the findings of Agyepong and Manderson (1999) in Accra Ghana, where mass education through repeated vernacular radio programme and jingles were effective in reducing the scourge of malaria. The respondents also agreed to hearing about the insecticide treated nets through the radio programmes but were yet to see any physically. Educating community members on the use of insecticide impregnated bed nets and implementing their use is an appropriate intervention measure to achieving the required control of malaria vector in endemic areas (Mathenge *et al.,* 2001; Erhun *et al.,* 2004) like Aba in Nigeria. Thompson (1996) reported that the use of bed nets reduced malaria prevalence in Gambia drastically. Furthermore, 54.58% of the respondents attained secondary level of education, this allowed for effective communication and an understanding of the need for the study. The respondents were involved in different occupations with a good number (45.82%) being traders/business tycoon. This may not be surprising as Aba is a well-known commercial nerve Centre in Nigeria. This was similar to the observation made by Nebe *et al.* (2002) in coastal area of Lagos also a commercial city in Nigeria. Most of the respondents (95.61%) were familiar with the signs and symptoms associated with malaria; this was expected for a population in a malaria endemic area and with 54.58% having been formally educated. However a large percentage admitted to the practice of self-medication; this has been reported as a common practice in

most malaria endemic countries (Curtis and Mnzava, 2000). There was a remarkable mix up of traditional and orthodox medication in the treatment of malaria. A good number of the respondents (53.19%) visited the patent medicine store each time they had the symptoms of malaria. This was similar to the report of Crombie (2002) where infected persons attributed their preference of patent medicine stores to hospitals, arose from undue delay, unending protocols and bottleneck in hospitals before seeing the doctor. And since they were always in a hurry, would prefer the quickest and easiest way which they say was quite effective and reliable, thus only a few visited the hospital (5.98%). The study revealed that 37.85 % of the respondents used herbs which they referred to as '*Ogwu igbd*' as a treatment regimen. This was not new as it has been observed that in most developing countries, the use of traditional medicines and medicinal plants as therapeutic agents for the maintenance of good health was growing progressively (UNESCO, 1996). The use of mosquito coils (49.60%) as a preventive measure against bites from vector was effective in killing the vector and relatively cheaper when compared to other preventive measures with exception to the use of insecticide treated bed nets. Furthermore, fumes from coils may possess respiratory health hazards and as such not usually recommended. Other measures used were insecticides, mosquito window nettings and the use of a local leaf repellant (*nchuanwu*).

Conclusion: The findings of the study indicated that the respondents in Obuda Aba community, Aba South LGA have a high knowledge on the causes, symptoms, treatment and management of malaria. The use of insecticide treated bed nets was not as high as should be expected. It is therefore recommended that government health workers should sensitize the people on appropriate preventive and mosquito control strategies especially on the use of insecticide treated bed nets in order to mitigate the malaria scourge.

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