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Malaria in an Urban Slum: A Qualitative Investigation of Perceptions of Adults in Makoko, Lagos, Nigeria

Abstract

Malaria prevention, treatment and control remain a daunting challenge for individuals, communities, government and non-governmental organizations in Nigeria. Against this background, this article examined the perceptions of malaria, its prevention and its treatment among the residents of Makoko, Lagos state, Nigeria. Twenty-five respondents and five key informants comprising health care professionals and community leaders were interviewed. The data were collected using in-depth and key informant interview guides, while the data were analysed using manual content analysis. Some of the respondents perceived malaria as either a disease or an illness, while others associated dirty environment, stagnant water, mosquito, the sun and cold weather with malaria onset. Both orthodox and traditional medicines were used for malaria treatment and prevention. The role of income in malaria prevention and treatment showed that some respondents were ready to pay whatever amount it took to treat and prevent malaria, while others saw low income as a barrier to proper treatment of malaria. There is need to educate the people of the community on the causes of malaria so as to dispel misconceptions held about the causes of malaria and thereby improve their health seeking-behaviour.

Keywords: Income, Makoko, Malaria, Mosquito, Sun

1.Introduction

An estimated 3.3 billion people, almost half of the world population, live in areas where malaria transmission occurs. Malaria is endemic in 107 countries in tropical and subtropical regions, with sub-Saharan Africa having the hardest hit (Roll Back Malaria, 2007). With an estimated 350 to 500 million clinical cases yearly, leading to an estimated 1 million deaths (RBM, 2007). Malaria is the most widely spread infectious diseases and has remained a major public health challenge, particularly in sub-Saharan Africa. Nigeria harbors 25 % of the 91 % of malaria in Africa; hence malaria is a major public health challenge. There are 110 million of clinically diagnosed cases of malaria in Nigeria, malaria kills about 250 000 children under five years old every year; 11% of maternal death is attributed to malaria; while 60% to out-patients visits; and 30% of hospitalization are malaria- related (World Health Organization, 2003). In 2010, there were more deaths in Nigeria due to malaria than any other nation in the world, while in 2015, about 90 % of deaths occur in sub-Saharan Africa, while 35% of malaria deaths occur in just Nigeria and the Democratic Republic of Congo (www.worldmalariaday.org/about/keyfacts.).

Makoko is a slum in urban Lagos, where some people live in thatched houses built on water, while others live in shanty settlements and are bordered on both sides by water that is dirty and stinking. The water serves both as a pit latrine and bathroom for all residents. This environment presents a peculiar and challenging context for combating malaria. Although studies have examined perceptions on malaria prevention and treatment in rural and urban areas in Nigeria (Brieger et al., 2001, Onwujekwe et al., 2005; Akojun et al., 2005 Falade et al., 2006; Idowu, et al., 2008). No study has been conducted among the residents of Makoko to find out their perceptions about causes of malaria, its prevention and treatment, considering the slum environment in which they inhabit. Against this background, this article examined what malaria is all about to the residents of Makoko in terms of causes, symptoms and methods of treatment and prevention of malaria. This is significant and urgent because resources spent on malaria prevention and control, without an adequate understanding of the local perceptions of the malaria may become a waste of funds.

2.Methods

The study used non-experimental research design. The study area was Makoko, which is located in Yaba Local Council Development Area of Lagos State, Nigeria. Makoko is one of the slums of Lagos, where life is lived to the fullest on water. It is a relatively swampy expanse of land which is bordered at both sides by the Lagoon. Makoko has an estimated population of about 20,000, with two major ethnic groups known as the Gun and the Ilaje. The Gun live in thatched houses built on water, while the Ilaje live on land and are involved in petty business, such as sale of fish.

2.1 Sample population and size

The population of the study included males and females, community leaders and health care professionals, all whom reside in Makoko. Key informant and in-depth interviews were used with a total of thirty respondents conveniently sampled (12 males and 18 females). For the key informant interview, there were three nurses and two community leaders. For the in-depth interviews, there were 10 males and 15 females. This population cut across the Gun, Ilaje, Ibo, Ibadan, Abeokuta, Ijebu and Ese-odo people living in the community. Through the use of the purposive sampling procedure, Makoko was purposively selected because of the peculiar nature of the community, characterized with poor housing and sanitation facilities. The purposive sampling procedure was used to select houses and the households from where respondents were selected for interviews. The respondents gave verbal informed consent before any interview.

2.2 Data analysis

Manual content analysis was used to analyze the data from the in-depth and key informant interviews. The data were collected using tape recorder and transcribed and analysed according to the objective of the study, while important responses, expressions and observations were reported verbatim. The data were analysed by categorizing the data into different themes from where conclusions were drawn.

3.Results

3.1 Socio-demographic characteristics

The data showed that the respondents were between the ages of 18 and 82 years. On marital status, 60 percent of the respondents were married, 26 percent were not married and 10 percent were widowers. 60 percent of the respondents were female, while 40 percent were male. Specifically, more females than males were interviewed since females were at higher risk of having malaria owing to pregnancy (Roll Back Malaria, 2007).

3.2 Perceptions of malaria

Various views were held by the respondents about malaria. About half of the respondents interviewed said that malaria was a 'sickness', while others saw malaria as a 'disease', an illness commonly known as i*ba*. Very few of them said that it could kill, but some said it was an infection. Dirty water was associated with malaria. "Dirty water means malaria" as some of the respondents were convinced that anywhere that there is dirty water, there is malaria, and by extension sickness. However, the key informants had different views. One of them saw malaria as "a disease caused by an anopheles mosquito which bites a person and transfers its virus into the body thereby causing malaria." But another had a different view: it is a "a common sickness because of environment."

3.3 Perceived causes of malaria

On what the respondents consider as the causes of malaria, some of the respondents attributed malaria to mosquito bite. For others it was as a result of mosquito bite and dirty environment.

Yet some respondents said it is as a result of sun, cold and dust. Some of the responses from the respondents are, "If environment is dirty malaria go come";

"When cold weather touches me and I have catarrh; malaria follows immediately"; "mosquito and when environment is dirty…." "When there is no ventilation", "I do not know; maybe it is mosquito"; "excessive exposure to sun"; "Stagnant water"; "When dust enters my nose…." The responses show that, although some respondents do not see the environment as the cause of malaria. The respondents were varied in their perceptions, but some of the respondents were not totally ignorant of what causes malaria. It is clear that the respondents had different views of what malaria meant to them. Some of them are "Yes the environment plays a big role and even in Victoria Island there are mosquitoes"; "Our environment is very prone to malaria, as malaria is caused by dirty" "Yes but even if the environment is clean you can contact malaria…"; "My environment is not prone to malaria, maybe all those Gun people… You know they stay on water"; "My own environment does not prompt the breeding of mosquito but whenever I travel on holidays I usually contract malaria."The responses clearly show that misconceptions and ignorant about the causes of malaria exist among the respondents, as some attributed malaria to sun and dust, while some did not see the role of the environment in malaria onset.

3.4 Perceived symptoms of malaria

The most common symptoms of malaria experienced by residents were headache, high body temperature and body ache, as expressed in some of their statements, one of which is "Most pregnant women have headache, while most children have high body temperature"; Most of the respondents saw "headache and feverish conditions as symptoms of malaria." Others attributed it to "yellowish urine and loss of appetite"; some said the symptoms include "body aches, catarrh, vomiting, high temperature, sore throat"; while very few of them said its symptoms include "sluggish body movement, cough and coming in contact with the hot sun or dust."

3.5 Treatment options

Two major forms of treatment pathway were utilized by the members of the community in the treatment of malaria. This is illustrated in their statements, such as; "I make use of orthodox form of treatment and, if my condition does not improve, I resort to traditional form of treatment such as a*gbo*". However, some of them make use of traditional medicine so as to neutralize the effects of drugs, for example: I make use of both traditional and orthodox for treatment of malaria because orthodox medicine usually stays in the body but the usage of traditional medicine flushes out the remnants of the orthodox medicine from the body. Because remnants of orthodox stay in the bones and it make me weak I resort to flushing with traditional medicine. (IDI, Elderly Female) Others made use of orthodox treatment such as Coartem and Artesunate to treat malaria, while Tuxil-D and Neofylin were used to treat cough and catarrh.

3.4 Preventive methods

Malaria prevention among the respondents could be divided into two - the physical prevention of mosquito by indoor spraying of insecticide using either modern or locally made insecticide and the use of *agbo* to prevent the onset of 'malaria in the body'. Most of the houses in the slum areas had house nets, unlike the houses of the fishermen, which were built with planks and as such did not have house nets but rather mosquito nets. The data revealed that common preventive methods used in Makoko were mosquito net, insecticide, *otapaipai and agbo*. No respondent agreed to be using of mosquito coil. Some of them said; "I make use of mosquito nets, but I do not use coil because it causes catarrh"; "I prefer using mosquito nets not coil because it makes one to cough". The fishermen among them did not make use of insecticide or coil. The community leader said: "We live in houses made of planks, so we cannot use insecticides or coil because it won't kill mosquitoes; so we must use mosquito nets." But a women leader said: "We use both mosquito net and *otapaipai*, as we have been taught how to make *otapiapia.*"

A Nurse said: "…mosquito net is what we advise them to use, because people do not like coil but they prefer insecticide…' On the use of mosquito net, an elderly woman had this to say: "…I do not make use of the mosquito nets because it prevents proper ventilation and I also do not make use of coil and insecticide.

"Most of the pregnant and nursing mothers used mosquito net, which was got free after every child birth. However the physical prevention of malaria involved the combination of mosquito nets and insecticide, *otapaipai* and mosquito net, and insecticide and *otapaipai*, while some use only *otapaipai.*

3.5 Occupation, income, malaria treatment and prevention

The most common commercial activities among the people were fishing and sawing planks. Most of the respondents were into selling small commodities, while some others were in the servicing sector, such as hairdressing, bean-cake selling, taxi driver, coconut selling, recharge cards selling, and so on. Almost all the respondents identified income as having a major role to play in accessing a particular health-care facility for the treatment of malaria. For example, an informant said, "Yes, income determines the kind of health-care facility. Some people resort to patronizing the nearby chemist for prompt treatment, while others prefer traditional herbs, all as a result of no money."The data revealed that charges in various health centers are on the high side and, as such, some of the respondents could not afford the cost of treating themselves in hospitals. It is based on this that they subscribe to chemists, drug peddlers and traditional herb sellers. Most importantly, even at general hospitals where drugs are meant to be given out for free, needed drugs for the treatment of malaria are not always available, according to some of the respondents.

Few of the respondents were of the opinion that income cannot be a determinant, since it is commonly said that "health is wealth" and, as such, they could take loans if need be. One of them said ''since I' m working, money cannot be a determinant as health is wealth." Another said, "*Oga* as far as I *dey* work I do not mind which health facility." To these respondents, life is obviously very important, and they were ready to pay any amount of money if they were in a situation that required such. Different amounts were spent by the respondents. These expenses excluded mosquito net but included *otapaipai* and insecticides, which were common among them. The Respondents also said they spend money on mosquito nets but not on a monthly basis, as they generally last for a year. Another set of respondents also spent money on a*gbo* preparation which was said to be costly if it is home-made, is but used in prevention and treatment of malaria.

On what they do to keep their environment clean, most of them praised the government environmental sanitation and said that, apart from the two days observed by Lagos State government (Every Thursday and last Saturday of every month) they ensured their environment was clean. However, they blamed the government for the way their environment was, because the government had refused to continue the good works of Idiagbon era, when gutters were fumigated. They also blamed the government for not providing them with basic amenities.

5. Discussion

Perceptions of malaria were varied, while causes were attributed to mosquito and the environment. The respondents viewed malaria as something that causes dysfunction within the human body, variously describing malaria as a disease or sickness and liken its occurrence to dirty water, stagnant water. They added that malaria even occurs in clean environment in Nigeria. These perceptions are in line with findings from studies that show that formal urban development can typically reduce anopheline mosquito vector densities, but the informal, peri-urban settlements found at the edge of major urban centre in sub-Saharan Africa create condition favourable to anopheline vector breeding (Schilthuis et al. 2007; Pistone et al. 2007; Pavli and Maltezou, 2010).

Some of the respondents attributed malaria to mosquito bite. Some attributed it to the sun and cold weather. However some respondents claimed that the environment has nothing do with malaria. Their knowledge about malaria and mosquito bite may not be unconnected with their location and access to information and campaigns about malaria and its prevention from the mass media. The position of some of the respondents on mosquito bite is in line with the biomedical conception of malaria. The finding on the sun as a cause of malaria in this study is in line with findings from similar studies (Briger et al. 1997; Nebe et al. 2000; Adongo, Kirkwood, Kendall, 2005).

Common symptoms of malaria, as identified by some of the respondents, were fever and headache, yellowish eyes, loss of appetite, body aches, catarrh, vomiting and high temperature. This is in line with findings from other studies (Afyepong and Manderson 1999). Most of the respondents used orthodox and traditional methods for either preventing or treating malaria. This shows mixed results, as some of the respondents used herbal medicine to treat malaria and only resorted to orthodox drugs when the malaria had persisted. This finding agrees with finding by Oladele and John (2005). Some of the respondents used the orthodox method before using herbal medicine to 'cleanse the negative effects of orthodox medicines'. However this contravenes the current guidelines for first-line treatment of malaria, which uses artemisinim-based combination therapies (ACTs).

Unlike Hlongwana et al. (2009), who reported that most respondents mentioned clinic, spraying and the use of bed nets as key malaria preventing measures, preventing mosquito among the respondents in this study involved two stages. The first deals with physically stopping the vector (mosquito) from biting them by using insecticide-treated bed nets, bed net without treatment, window nets and the use of spraying insecticide, and the locally made insecticide called *otapiapia*. The second stage of prevention involves the use of local herbs called *agbo* to prevent the development of the manifestations of the symptoms of malaria. Those whose houses were built on water made use of only the bed nets whether treated or not since their houses were made up of planks and wood, unlike the conventional houses. However, ventilation and fake net were identified as the two major barriers to using the bed nets, unlike what a study in Ghana reported, that found heat and cost of the bed nets as barriers to its usage (Adongo, Kirkwood, Kendall, 2000).

Occurrence of malaria on the average was between 2 and 3 times and takes 3 days on the average to recover. Most of the respondents identified income as a major determinant of the health-care facility to use in treating malaria. A great number of the respondents spent an average of a thousand naira on preventing malaria monthly. The finding agrees with studies that show that a greater proportion of household income is spent on coils, repellents, and aerosols in Burkina Faso (Guiguemde et al., 1994), Ghana (Asante et al. 2006, Songsore, 2003), Tanzania (Hanson, 2004) and the Gambia (Rashed, 2000). Although the respondents associated malaria with mosquito bite and dirty environment, none of them mentioned that the mosquito must have bitten a malaria carrier for this transmission to be effective. There is still need for health education and awareness campaigns on malaria, as there are still misconceptions about malaria, use of local herbs and self-treatment of malaria among the respondents. It is not enough for the people to know what malaria is. They also need to accurately state how the mechanism works in simple language.

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