RELATIONSHIP BETWEEN HOUSEHOLD BEHAVIOUR AND MALARIA PREVALENCE IN ZAMFARA STATE NIGERIA: A QUALITATIVE STUDY

Maigemu Ahmad Y.¹*, Kalthum Haji Hassan.²

¹School of Government, College of Law Government and International Studies Universiti Utara Malaysia 06010, UUM Sintok Kedah, Malaysia

*Corresponding author: Ahmad Yahaya Maigemu, Room 204 Block C, DPP Proton Universiti Utara Malaysia, 06010, UUM Sintok Kedah, Malaysia, ahmad95084@gmail.com

ABSTRACT

Background: Malaria is a serious disease and a major public health problem, which causes the death of children and adults worldwide. Malaria is a risk for 97% of Nigerian population. There is an estimated 100 million malaria cases with over 300,000 deaths per year in Nigeria. The diseases contributes to an estimated 11% of maternal mortality account for 60% of outpatient visits and 30% of hospitalizations among children under five years of age in Nigeria despite targeted interventions to eliminate malaria in the country.

Materials and Methods: This is a qualitative research used to interview participant of the study in order to seek their perception and experiences about human behaviour as a caused of malaria prevalence in Zamfara state North Nigeria. Semi-structure interview was used as instrument for this study. Interview was conducted with 20 respondents. Thematic method was used for data analysis.

Result: Finding of this study shows that malaria cases and prevalence was largely causes as a result of poor household behaviour on the measures taking to control the disease. Similarly, household behaviour increased the chances of producing mosquito which is the causal agent of transmitting malaria among the population and hence increased its prevalence

Conclusion: The result from this study reveals that human attitudes and behaviour in Zamfara state North West Nigeria not only play a critical role in the influence of malaria prevalence, but these attitudes and behaviours also play a role in its control and management

Keywords: Human behaviour, Malaria, Prevalence, Zamfara, Nigeria
1.0 Introduction

Malaria is a serious disease and a major public health problem, which causes the death of children and adults worldwide. In 2012, there were 207 million cases of malaria globally, with majority of cases occurring in sub-Saharan African region (WHO, 2013). Malaria is a major public health problem in Nigeria where it accounts for more cases and death than any other country in the world. Malaria is a risk for 97% of Nigerian population (FMH, 2007). There is an estimated 100 million malaria cases with over 300,000 deaths per year in Nigeria (WHO, 2012). The diseases contributes to an estimated 11% of maternal mortality account for 60% of outpatient visits and 30% of hospitalizations among children under five years of age despite targeted interventions to eliminate malaria in the country (WHO, 2011). Despite being a country which has targeted malaria elimination as a public health priority, malaria remains a major health problem in Nigeria. Those intervention targeted to eliminate malaria largely concentrate on health priority without reference to the behaviour and belief system of the human societies affected (Amzat, 2009).

This human behaviour that is ignored by policy and programmes of malaria control can dictate and influence the risk of the disease for individual and communities. For example people in malaria endemic countries (Nigeria included) and especially those that are poor often cannot afford the decent environment with all the provision (such as frequent fumigation, waste disposal provision/facilities and waste water maintenance as well as available and effective preventive measures) that would keep them from expose to mosquito (Bos & Mills 1997). Human activities in such cases can create breeding sites for larvae such as stagnant water, indiscriminate waste disposal and lack of fumigation near the household (Ityavyar & Gusau 1999). Those provide alternate sources of breeding mosquito. This paper seeks to explore human behaviour that may contribute to malaria prevalence and cases in Zamfara state North Nigeria using qualitative research method.

1.1 Literature Review

Human behaviour is generally influenced by several factors. Those factors include political, social cultural and economic factors among several others. Those factors have comprehensive and clear connection to societal health and their physical conditions, as well as the threat for contagious diseases like malaria. Whether it is deliberate or otherwise, human behaviour influence and shape the strength of health promoting, disease prevention and management. Human behaviour in other cases influences risk and disease threat while in other instances reducing it. According to Inhorn & Brown (1990) human behaviour have frequently without knowing assisted the increase of contagious diseases prevalence through pattern of behaviour or through adjustments in the fundamental association between infectious disease instruments, their human and animal hosts, and the environment where those interactions among disease hosts and human activities occur (Inhorn & Brown, 1990).

Therefore, human behaviour on the major causes of malaria like behaviour on environmental fumigation, behaviour on waste disposal practices also contribute in shaping how their humans activities in such serve as epidemiological predictors of health and disease prevalence patterns. Although people's behaviour may increase malaria risk, to change such behaviour is not easy. Certainly, a lot of reasons were given on how and why particular behaviours are present and have substantial advantage in places relatively different from health. MacCormack (1984) stated that the main explanation for why people do not recognize and
believe in new form of health behaviour is as a result that the behaviour being promoted is either not convenient or somehow difficult, which consequently generated unnecessary side effects, or does not give observable and evidence results (MacCormack, 1984).

The people's behaviour and contact to parasites or vectors or parasites, including their activities of increasing or decreasing breeding of such vectors are clearly important for transmission of disease and comprise essential and needed immediate threat factors. This paper emphasize that people's behaviour and their activities on malaria control on the causal agent of the vector parasites are in the same way critical and constitute essential possibility for the spread of disease prevalence. These fundamental risks must be addressed by any effort put in place to control malaria on a worldwide scale.

Despite the critical possibility of human behaviour for the spread of disease prevalence, human behaviour is lacking behind on the issue of malaria control and prevention. According to Etkin (1991) contemporary malaria control programs deviate little from their early design, and that a lot of researches end up that human behaviour ought to have been engaged into consideration at the program's inception. Because failure to address even reasonably apparently with the behavioural aspect consumes the practical erudition and ability of mosquito control skill management (Etkin, 1991).

Furthermore, Brown (1997) has also established that there has been little written about human behaviour and malaria control in the modern rebirth of malaria. This gap created as a result of the focus of public health and malariology on the parasite and the mosquito vector. The greater image has been neglected by public health focus such that increased rates of malaria prevalence, even though openly influenced by shift in the parasite and vector, are further caused by human behaviours. Those behaviours are both associated to individual environmental practices patterns and large scale sociological phenomena (Brown, 1997). Malaria and diseases control management can be studied from a biological aspect and sociocultural point of view, and, without a doubt, substantial and significant studies has been done in each of these areas, but with most focus to the biological sphere of the disease control (Inhorn & Brown, 1990). It is in view on the above that this study focuses on the human behavioural aspect on how human behaviour affects overall disease prevalence demonstrating their significance for malaria control and prevention activities. Therefore, the main objective of this paper is to explore human behaviour as a caused of malaria prevalence in Zamfara state North West Nigeria.

2.0 Materials and Methods

Interview technique is used in this research in order to seek respondent’s perception and experiences about human behavioural practices and malaria prevalence. Qualitative research is a method of investigation engaged in different academic disciplines, traditionally in sociology, and many other social and administrative sciences. Qualitative research aims to collect an in-depth understanding of social behaviour and the causes of such behaviour. The qualitative research technique explores the why and how not just what, where and when. According to Kalthum (2008), Sekaran (2003) qualitative research design incorporate extensive use of verbal and developing full information on comparatively few cases. It is also provide accurate information from social event and picture conclusions from available data.
The reason for qualitative study was to disclose and make details on the phenomena and to achieve in-depth understanding of the research subject. In this current study it was set to achieve in-depth understanding on the situation of human behavioural practices as a cause of malaria prevalence in Zamfara state North West Nigeria.

2.1 Interview Protocols

Designing interview protocols is very vital for researchers that are going for qualitative research method. The main purpose of this is to guide the researcher to conduct the interview successfully without any difficulty. Therefore, some tips provided by Stacy A. Jacob (2012) for conducting interview were adapted and strictly adhere by this study. The tips for the interview provided by Stacy A. Jacob (2012) are as follows:

1. Start with your script
2. Collect Consent
3. Use some types of recording device and only take brief notes so we can maintain eye contact with your interviewee
4. Arrange to interview your respondents in a quiet, semi private place
5. Be sure that both you and interviewee block off plenty of interrupted time for the interview
6. Have a genuine care, concern and interest for the people you are interviewing.
7. Use basic counselling skills to help your interviewees feel heard
8. Keep it focused
9. Listen, listen and listen
10. End with your script

Interview guide was used as instrument for this study. It covers questions regarding the topic of this study. Interview was conducted with 20 respondents that participated in the study. Among the interviewee are household members across the state and malaria control stakeholders. Stakeholders that participated in the interview include three staff from Zamfara state Roll Back Malaria (RBM) office, three staff from state ministry of health and two staff from Direct Delivery Information Captured (DDIC) which is a piloting program for distribution of malaria commodities. Other two staff from Malaria Action Plan for States (MAPS) Zamfara state office was interviewed. Five respondents from Non Governmental Organisations (NGOs) and another five respondents from community and household members were also interviewed respectively.

This interview was conducted with sole aims of exploring household behaviour as caused of malaria prevalence. The systematic collection, ordering, description and interpretation of textual data generated are strictly used to ensure the quality of this research.

2.2 Thematic Analysis

This process of thematic analysis involved the familiarising with data that is transcribing data by reading and re-reading. This is followed by generating initial codes in a systematic fashion across the entire data set. After searching for themes by gathering all data relevant to each code, the next is to reviewing themes checking in the themes work about the coded. Later defining and naming theme and overall story the analysis tells. Generating clear definitions and names for each theme and finally producing the report. After transcribing the recorded version of the interview, this study arranged those into themes for simple thematic analysis of
the results. Two themes were generated for this study. Those themes are generated during the interview. The table below shows the themes generated for this study and their codes.

<table>
<thead>
<tr>
<th>Table 1: Themes</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>MP01 Causes Malaria Prevalence</td>
</tr>
<tr>
<td>2</td>
<td>HB02 Human Behaviour and Malaria Prevalence</td>
</tr>
</tbody>
</table>

The aim of this paper is to explore the connection between household behaviour and malaria prevalence. As a result the above two themes emerged during the interview. The first theme (malaria prevalence) explained the situation of malaria cases in Zamfara state. That is to say the theme assist to find out if at all there is prevalence of malaria cases in Zamfara or not. This theme leads to generate the second theme (human behaviour and malaria prevalence). The second theme explains the relationship between household behaviour and malaria prevalence in the study area. The following sections present the findings of this study.

3.0 Result

3.1 Causes Malaria Prevalence

Malaria prevalence was the first information reveal by participants of this study. Majority of the interviewees disclosed the rate of malaria and its prevalence in Zamfara state. Among the participant who respondent on the issue of malaria prevalence was a advocacy, communication and social mobilization desk officer of Zamfara state ministry of health. The respondent stated that:

Actually the prevalence of malaria in Zamfara state is not exceptional in Zamfara as it is in the other states. I can say the percentage is about 90 to 97% of malaria prevalence especially in some strategic areas in Zamfara state. We ha ha have 14 LGAs. We have some areas that are more prevalence than the others regional status of the environment (MP01- ACSM Desk Officer).

After the above respondent stated the situation of malaria, he further indicates that areas that are more prone to malaria cases are as result of human behavioural activities. He averred that:

You see if you look at the areas and places where malaria cases is high, you can find out that it is duly as a result of the behaviour of the people of those areas. Take for example many household members in the city centers dump and discarded waste materials indiscriminately. Many of the households also dump refuses in the waterway system provided for the passage of waste gushing water. You see this behaviour create an avenue for holding waste water and subsequently provided mosquito. With this sort of behaviour such kind of places produce more malaria cases compare to others (MP01- ACSM Desk Officer).
Respondent from NGOs working for malaria activities and in Zamfara stated how malaria prevalence is in the state. The respondent cited an example with prevalence of malaria among those that are tested positive with the disease on their visit to medical health facilities. The respondent stated during the interview that:

Honestly malaria is disturbing people here in Zamfara state. We are using one test that through it we can understand that it is malaria. We are doing it and through it we can find it is malaria. So if we used those that are tested with positive malaria parasite we can conclude that the disease is still having high prevalence (MP01- NGOs Respondent).

Same respondent informed that:

If you look at the behaviour of people with regard to hospital and medical services visit, one can conclude that such behaviour is largely increases the rate of malaria among the people. Because people especially head of the household are not willing to visit hospital when notice any sign or symptoms of malaria. They have the behaviour of visiting the hospital only when the disease situation is worst. This with on doubt increases the prevalence of malaria among the household members (MP01- NGOs Respondent).

However, another interviewee from Zamfara state Roll Back Malaria (RBM) who is also the state deputy manager of the program informed during the interview that malaria in the state is still high but if comparing with what was happening in the previous years back there is some element of progress toward decrease in the disease prevalence. The respondent attributed this progress to household behaviour in some strategic places. The respondent mentioned that:

There is a disease reduction in terms of the rate of malaria. This is as a result of household behaviour in some places of engaging into the activities of preventive measures of malaria cases. For example look at the people in the GRAs, many of the household in such places have the behaviour of making their environment neat and clear. This type of their behaviour decreases the rate of mosquito production in the area. That is way the rate of malaria cases is very less in the area if compare with other areas who do not care of making their environment clean and tidy. As a result of this kind of their behaviour you can see the rate of malaria is also highly decreasing (MP01- Deputy Manager RBM).

Interview with household respondent informed that due to the public enlightenment people resort into malaria preventive behaviour which lessens the prevalence of malaria. The respondent stressed that:

Due to the enlightenment campaign people now begin to change and adopt health care seeking practices especially with regard to malaria control and prevention service. It is now that household begin to understand the value of using some of malaria preventive mechanisms like insecticide treated bed net. Household behaviour of using nets significantly reduces the level of
malaria cases and prevalence. Unlike before that people behaviour is not encouraging using net (MP01- Household Respondent).

Another household respondent indicate that:

Before this time I am not using drugs for malaria treatment. I have the behaviour of not using any prevention measure when I myself or any member of my household is suffering from malaria. But not I was encouraged at the first time to use such prevention measures and I use it. Today I even encourage other people to adopt health seeking behaviour by using malaria drugs even for prevention purposes (MP01- Household Respondent).

A data bank manager at state ministry of health reported to this study the number of registered malaria cases in Zamfara. The manager opined that:

For the prevalence of malaria in Zamfara state I can say as of last quarter of September, we have about 103,584 person with confirmed uncomplicated malaria in the state or I can say across the state and we have some that are highly clinical without test for over 46,000 and those that have severe malaria in the state as of September 2013 (MP01- State data bank manager)

Same respondent also indicated that:

Those high clinical malaria cases is solely as a result of the people behaviour of not patronising the mechanism put in place for the control and prevention of malaria. One can find out that still there is a lot of household misconception about malaria. This kind of misconception is that in one hand encourages the rate of malaria to be high. Because the misconception contribute to their behaviour of not making any effort to prevent their self from the disease (MP01- State data bank manager)

Interview with one of the community members in Zamfara state lamented that malaria disease is very stressful among the community members causing a lot of suffering to both adult and children in the community without exception. The respondent shared his experiences with the researcher during the interview on the prevalence of malaria in the community where he informed that:

Malaria in this community is a disease of serious concerned. You see it not leave the adult talk less of children. It is even worse than children due to their immune nature. Many children die unnecessarily due to that disease. I cannot tell you the number but I know malaria is the major challenge we are facing because it affect you in one way or the other every day as a household head or member. So you see many children die event adult so that is the situation (MP01- Household Respondent).
Same respondent also indicated that:

Some time we people are to blame ourselves. Because to be sincerely speaking our behaviour seriously contribute to malaria morbidity and mortality as mentioned earlier in our discussion. How can you have a disease and choose to remain with it despite being inform that there is a measure available to take care of such disease. So to me such kind of behaviour seriously gives chances to high malaria prevalence cases (MP01-Household Respondent).

3.2 Human Behaviour and Malaria Prevalence

The general objective of this paper is to investigate the human behavioural practices and how they increase malaria prevalence in Zamfara state. In order to achieve this objective interview was conducted to participant of this study and discussed various human behaviour as causal agent of malaria prevalence in the study area.

Interview with household respondent informed the researcher that human behaviour and their attitude to the environment influence the malaria prevalence in the state. According to the respondent those attitude contributed to breed mosquito which is sole and causal agent of malaria transmission among human population. The respondent stated that:

Attitude of our people actually contributed in the sense that we have attitude of uncleanness of our environment. We use to live in dirty environment. We don’t care of clearing of our environment which actually contributed in the increased of malaria in the community (HB02-Household Respondent).

Same respondent further stated that:

Attitude and behaviour of our people to patronize hospital or clinic nearby whenever they feel sign and symptom of malaria is a major concern which encourage malaria prevalence in our society. Instead of them to visit hospital whenever they noticed malaria symptoms but they like to do presumptive treatments which actually lead to a lot of death and other clinical damages. So those are the issues with regard to human behaviour that increases disease prevalence in the community (HB02-Household Respondent).

Respondent from malaria control office stated the household behaviour with regard to services available for malaria control. The respondent averred that:

Honestly, people are satisfying and they following all what they have been thought. At all times and they practice it and also see its impact. They are cautious about rules of using what we use to give them usually whenever there is attack and you know they abide by all rules and dose recommended for them by medical expert. So you see that one alone help to reduce disease prevalence (HB02-State Official).
On the other hand interview conducted with some NGO working on malaria control and prevention stated that:

Household member’s behaviour encourages the prevalence of the disease if we are to look at their activities of encouraging poor health habit that provide a conducive environment for mosquito production. The interviewee stated that activities of many of the household and community members favoured malaria prevalence within that community especially due to the poor environmental and sanitary activities (HB02- NGO Respondent).

Another NGO respondent informed that:

I can tell you that people fail to do well because of their behaviour of poor health habits. Many of the female in the household do not care about making environment clean to avoid the possibility of producing mosquito. Or you see many wives in the houses that have no good health habit which she does not care about all those protection. So you see even the activities of male household members encourage malaria prevalence. For example you can see so many houses with open watercourse at the same time rearing of animal and cattle’s. So you see all those provide a conducive environment for mosquito to breed (HB02- NGO Respondent).

Similarly, a household respondent the researcher that:

Human behaviour with regard to sanitary environmental practices and their behaviour of using protection and control measures seriously contributed to the malaria prevalence in the state. People are not very conscious about the danger of dirty environment. That is why you see the rate of malaria and other communicable diseases is very high here (HB02- Household Respondent).

Another household respondent informed that:

Malaria prevalence as I told you was increased mainly due to the some aspect of the behaviour of our people. For instance, like lack of sanitation, stagnant water, and gutter blockage is all the behaviour that increase the prevalence of mosquito and anywhere with abundance of mosquito you cannot separate that place with high malaria prevalence. So in that case our people behaviour in managing their environment is without doubt very poor (HB02- Household Respondent).

Same respondent also reveals that:

Another human behaviour that increases the prevalence of malaria in the community includes the refusal of the client or household members to accept the present control mechanisms that are provided for the protection and control of the disease. I can tell you that many of our people you see here do not patronize what is currently used today for malaria. If people are
not taking adequate care to protect their self from the disease, the prevalence of that disease must be also higher (HB02- Household Respondent).

In a similar scenario another household respondent stated that:

You see like those human behaviour of not using drugs is what make its prevalence to be high. Because as mosquito is biting you all the times, it causes you to have the disease. But if there is net and you are using it, it can take care. But the situation is reversed as a lot of them have sort to behaviour of not using those control and prevention measures provided. So tell me how can you avoid malaria prevalence with someone who is always bite by a mosquito due to its abundance and he is not using any possible prevention and protection measures. So malaria prevalence must be high due to such kind of behaviour, unless if those kind of behaviour change (HB02- Household Respondent).

Furthermore, a household respondent suggested a way and behaviour that people shall adopt to lessen or decrease the prevalence of malaria. The respondent stated in his own words in the following information:

For example for those people that are financially vibrant they can buy insecticide chemical and spray their house every 2-2 day so that to try killing the mosquito. This is a human behaviour in trying to reduce the prevalence of the disease or killing the causal agent of the disease. Or maybe you used the available resources at ones disposal for any of the protection is all behaviour of protecting self from mosquito which surely reduces malaria prevalence (HB02- Household Respondent).

Same respondent added that:

But when you do not do those two things and you leave your window open you allow mosquito in your house flying here and there you don’t do anything is also a human behaviour that of sure encourages malaria prevalence. In that case many people allow to stay with what they are sure will make them to be more prone to malaria. All those activities and human action believe to be a contributing factor for the prevalence of the disease shall highly encourage to be avoided (HB02- Household Respondent).

Official from state malaria control office stated the effort they are making for behaviour change:

there are effort of forming a team to work as volunteers at different level across the state for sensitisation of people toward changing their behaviour on malaria control activities. We call them community volunteers. They work at Local Government Areas (LGAs) and they are volunteering to reach different wards across the LGAs. So they help in mobilizing or going to house to house and visit the entire people living in the household where they pass key malaria messages. They pass key messages as if malaria or if you
are living in dirty environment, like they are telling them on how to maintain their cleanliness, sleeping in the net, not having the net. So they pass these key messages in the houses and telling the pregnant women about visit to hospital and the household to allow their pregnant women to go to health facilities, that is the facility within their catchment. So they can pass that information to them. All those with sole effort to bring their behaviour into health seeking practices that we believe to likely help to reduce malaria cases and prevalence (HB02- State Official).

4.0 Discussion

Though there are divergent statements on the issue of malaria prevalence in Zamfara state among those that are interview, but majority of them mentioned in one way or the other the high prevalence of the disease among the community live on that particular place. Those findings is therefore, consistent with Roll Back Malaria and World Health Organization report that Malaria is a risk to more than 40% of the world's community, and out of the more than 300 million severe cases each year between 1.1 and 2.7 million people die every year (RBM, 2002; WHO, 2000). The huge common of malaria cases (90%) are in sub-Saharan Africa, where malaria amount to 10% of the whole disease load. Children under five and pregnant women are most at risk, resulted to rigorous medical and clinical malaria episode and consequently death (WHO, 2002; RBM/WHO, 2000). Malaria represents virtually 25% of all childhood mortality in Africa (WHO, 2000). This is also in line with WHO (2012) that burden of malaria in Nigeria increased as World Health Organization (2012) report that 90% of the mortality rate in Nigeria is as a result of malaria (WHO, 2012). This condition make WHO to placed Nigeria with utmost rank in terms of malaria disease burden in sub-Saharan Africa (Olowookere et al., 2013; WHO, 2012).

From the above findings of the human behaviour and prevalence of malaria disease in Zamfara state North West Nigeria, the results shows a consistence relationship with McInerney (2002) who found out that human attitudes and behaviours not only play a critical role in the influence of malaria prevalence, but these attitudes and behaviours can also play a role in its control and management (McInerney 2002). Similarly the findings is consistent with findings of Inhorn and Brown (1990) which stated that human behaviour have an effect on health encouraging and influencing disease preventing actions or conducts, in some cases mounting danger and in others dropping it. Noted by Inhorn and Brown (1990) human groups have often inadvertently assisted the increase of communicable and other aspect of diseases by the means of their human behavioural conduct and practices within their community and environment. According to Inhorn and Brown (1990) those critical association between human behaviour and their hosts to the diseases is a vital in the promoting the prevalence of those diseases within the environment (Inhorn & Brown 1990). Respondent from the state malaria control office informed during the interview with him measures taking by authority concerned to address the issue of negative human behaviour that seem as one of the causal agent that increases malaria prevalence in the community.
5.0 Conclusion and Recommendations

This study reveals the high malaria prevalence within the community under study. Those malaria cases and prevalence was largely causes as a result of poor household behaviour on the measures taking to control the disease in one hand and their behaviour that increased the chances of producing mosquito which is the causal agent of transmitting malaria among the population and hence increasing its prevalence. In conclusion generally therefore, the general public has to stay conscious, vigilant and responsive to behaviours that contributed to the high malaria prevalence in their community. It is recommended to the government that revolutionary and comprehensive approach of malaria control shall include and integrated human behaviour into priority towards instituting effective health policies aimed at fighting against the scourge of malaria.

Acknowledgement

Ethical approval, authority approval, grants or sponsorship an acknowledgement to individual I would like to acknowledge the effort and contribution of the respondents from Zamfara state Roll Back Malaria office, through State Ministry of Health to the success of this study. The household head respondents also hereby acknowledge.

Declaration I declare that no conflict of interest is declared

References


