Original Research Article

Health-Seeking Behaviour of Malaria Patients in Lagos, Nigeria

Itunu O. Dave-Agboola[1], Joshua I. Raji[2]

[1]Department of Public Health, Texila American University, Nicaragua.
[2]Department of Biological Sciences, Florida International University, Miami, FL.

Corresponding Author: Itunu O. Dave-Agboola

ABSTRACT

Malaria is a major public health challenge and a leading cause of morbidity and mortality in Nigeria especially in its contribution to infant and maternal mortality. The World Health Organization has emphasized that the diagnosis and treatment for malaria should occur within 24 hours of the onset of symptoms to decrease the risk of severe complications and onward transmission. The outcome of malaria in patients largely depends on their health seeking behavior. The pattern of health seeking behavior however depends on sociocultural factors, attitudes and beliefs. This study assessed the health seeking behavior of malaria patients in Lagos, Nigeria with relation to health care Financing. A cross-sectional household survey was conducted in 465 participants in Agege Local Government Area (LGA) of Lagos State, Nigeria. Patients were selected by stratified sampling from 16 wards in Agege LGA. Data were collected by the use of a structured interviewer-administered questionnaire. It was estimated that 78.9% of participants experienced a delay in seeking treatment. This research reports that only 3.9% (18) of respondents had visited a traditional healer, while 84.1% (391) attempted self-treatment by either taking 'left-over' drugs at home or drugs purchased from a convenient shop to relieve malaria. This study confirmed the socioeconomic and demographic vulnerability of the populace, which contributed to difficulties in prompt seeking of medical services, the burden of cost, choices of healthcare providers, methods of funding healthcare and coping strategies.

Keywords: Health, Malaria, Patients, Nigeria, Behavior, Medicine

INTRODUCTION

Nigeria and the Democratic Republic of Congo contribute more than 35% of the global total of estimated malaria deaths. [1] According to the Federal Ministry of Health, Nigeria, Malaria accounts for about 60% of outpatient visits, 30% of hospitalization and it is believed to contribute up to 11% of maternal mortality, 25% of infant mortality, and 30% of under-5 mortality. [2] This disease is estimated to reduce the Gross Domestic Product (GDP) of Nigeria by 40% annually and this costs about 480 billion naira (approximately US$1.5 billion) in out-of-pocket treatments, prevention costs, and loss of man hours. [2] In the bid to manage malaria more effectively, World Health Organization in 2010 issued a guideline that progressed from selected malaria testing to adoption of universal testing including children less than 5 years. [3] The implication of this new guideline is that the diagnosis of uncomplicated malaria should be confirmed using a parasitological test (either microscopy or RDT) prior to treatment in all suspected cases of malaria. [4,5] This has however increased the cost of diagnosis and treatment of malaria on which the country's Healthcare Financing system has an effect

with relation to how citizens are able to afford the services.

The outcome of malaria in patients largely depends on their health seeking behavior. The pattern of health seeking behavior however depends on sociocultural factors, attitudes and beliefs. Cultural factors and beliefs in the supernatural causes of disease, resulting from current or past misdeeds to the gods can be barriers to understanding modern western ideas and practices that might be related to a delay. [6,7] Self-treatment by taking 'left-over' in the house or drugs from a PPMV is a first choice to relieve fever, as reported in many previous studies. [8-10] Some malaria infected patients rely on some indigenous plants to prevent the illness. [11,12] Patients may wait until symptoms become more severe or even complicated before visiting a health facility. Some studies have indicated that self-treatment may occur particularly where initial symptoms experienced are mild, or during the initial period of illness. [8,13,14] However, it can quickly progress to the development of severe symptoms. The success of intervention programs such as insecticide-treated nets (ITNs) largely depends on the cooperation of the target population/community members, such as adhering to instructions on sleeping under a net or remaining indoors during the peak biting times. Vector control through environmental sanitation to reduce mosquito breeding sites also has been part of the advocacy for many developed and developing countries. [15] The ability of malaria patients to afford orthodox treatment also determines the health seeking behavior. The manner by which a country runs her Healthcare Financing system is a critical determinant of how the citizens will benefit from Healthcare services. [16-18] This is due to the fact that access to Healthcare hinges largely on affordability. In Nigeria, healthcare is funded by different mechanisms and these mechanisms determine the extent to which successful healthcare delivery will be achieved. Health care in Nigeria is financed by various means

which includes tax revenue, out-of-pocket payments (OOPs), donor funding, and health insurance (social and community) but in spite of this, Universal Health Coverage is yet to be achieved in Nigeria. To achieve universal coverage in Nigeria there is a need to review the current Healthcare Financing to ensure equity in allocation of resources.

Due to the fact that Universal Health Coverage is yet to be achieved in Nigeria, in many instances, the people have to seek health care services with Out-of–Pocket Payment. Out-of-pocket (OOP) payments have dire consequences for health care access and service delivery which can be catastrophic for the poor. This study seeks to assess the health seeking behavior of malaria patients in Lagos, Nigeria with relation to Health Care Financing. A cross-sectional household survey was conducted in 465 participants in Agege Local Government Area (LGA) of Lagos State, Nigeria.

MATERIALS AND METHODS
Area of study

Lagos State is an urban state located in the south western region of Nigeria on 180km of low-lying coastland stretching across the Atlantic Ocean. Lagos is the most populous state in Nigeria with an estimated population of 21,000,000 million people and an estimated growth rate of 4-8% annually. The state covers a total area of 3,577sq.km with a population density of 16,067 per sq. km. The state comprises 20 Local Government Areas (LGAs) and about 2000 communities. Lagos State is bounded in the North and East by Ogun State of Nigeria, in the West by the Republic of Benin and in the South by the Atlantic Ocean. Lagos is a universal town and has a wider variety of health care providers including public and private hospitals, primary health care providers, PPMVs, and pharmacies. In the rural communities, primary health facilities referred to as health centres and PPMVs are the main health services providers. All government facilities charge user fees, although charges differ depending on the

type of care sought and patients also pay for drugs. There are exemptions for HIV treatment, leprosy and maternal health to an extent.

Sampling and data Collection

A cross-sectional household survey was conducted in 465 participants in Agege Local Government Area (LGA) of Lagos State, Nigeria. Patients were selected by stratified sampling from 16 wards in Agege LGA. Data were collected by the use of a structured interviewer-administered questionnaire.

RESULTS

Table 1 shows the health seeking behavior among malaria patients by their socio-demographic variables. The female gender was found to exhibit less delay in seeking treatment (71.1%) in comparison with their male counterparts (86.7%). The level of education also appears to play a role in the health seeking behavior of respondent as there was less delay (67.5%) among the educated ones than the uneducated ones who delay seeking treatment longer (81.1%). The socioeconomic status as reflected in by the occupation and level of income also reflects less delay in seeking treatment among higher income earners (52.8%) than those who earn less (72.0%).

Table 1: Sociodemographic profile of malaria patients

Factor	N	Delayed seeking treatment (%)
Gender		
Male	174	152 (86.7)
Female	291	207 (71.1)
Age (years)		
<35	246	193 (78.5)
≥35	210	185 (88.1)
Education level		
≥Primary School	287	194 (67.5)
No education	169	137 (81.1)
Occupation		
Non-agriculture	302	196 (64.9)
Agriculture	162	125 (77.2)
Monthly income (USD)		
≤200	412	297 (72.0)
>200	53	28 (52.8)
Marital Status		
Single	112	83 (74.1)
Married	341	244 (71.6)
Divorce/separated	12	8 (66.7)
History of malaria infection		
Yes	397	303 (76.3)
No	68	51 (75.0)

The percentage delay in seeking treatment is illustrated in figure 1. It was observed that those who indulge in self-medication are always the last in seeking other treatment options as they exhibited the highest level of delay (88.4%). This implies that the patients probably seek treatment from other sources such as clinics and traditional healers when treatment at the home front fails.
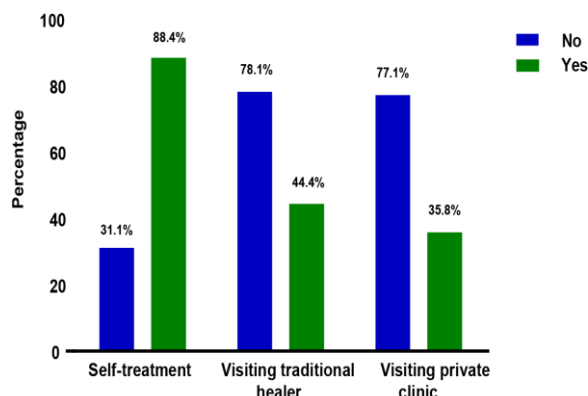

Figure 1: Percentage delay in seeking treatment among malaria patients. Graphs showing the proportion of malaria patients with their preferences for self-treatment. Majority of the population prefer not to visit a clinic or traditional healer.

The health seeking behavior among the respondents was revealed on table 2. Worthy of note is the fact that self-medication was high among the respondents (88.4%). This is possibly because malaria is an endemic illness and people generally believe it can be easily managed at home. However, less people (44.4%) were found to visit traditional healers for treatment. This can be attributed to the increased awareness and public enlightenment on the management of malaria. Interestingly, less people (48%) also visited private clinics for malaria treatment which is due to the high cost implication. Accessibility was also found to be an issue as only 24.1% could access treatment within a distance of 5km. Majority (71.0%) have to get to the treatment facility through a public means of transport while 77.2% will even spend greater than 30 minutes in transit before getting to a treatment facility and the cost of treatment is higher than 5USD for most (78.6%) of the respondents. Those who have social support also showed less delay in

seeking treatment (33.2%) as they are likely to be supported by family and friends to ensure that they get treatment as soon as possible.

Table 2: Treatment seeking behaviour of malaria patient

Factor	N	Delayed seeking Treatment (%)
Self-treatment		
No	74	23 (31.1)
Yes	391	346 (88.4)
Visiting traditional healer		
No	447	349 (78.1)
Yes	18	8 (44.4)
Visiting private clinic		
No	331	255 (77.1)
Yes	134	48 (35.8)
Accessibility of health services Distance (km)		
≤5	195	47 (24.1)
>5	270	194 (71.8)
Transport		
Private transport	124	32 (25.8)
Walking	72	27 (37.5)
Public transport	269	191 (71.0)
Travel time (minutes)		
≤30	386	183 (47.4)
>30	79	61 (77.2)
Cost of visit (USD)		
≤5	231	144 (62.3)
>5	234	184 (78.6)
Social support		
High	295	98 (33.2)
Medium	141	91 (64.5)
Low	29	21 (72.4)

DISCUSSION

Delay in seeking treatment is a significant factor for complications of malaria. This remains a serious problem for people living in Lagos, Nigeria. It was estimated that 78.9% of participants experienced a delay in seeking treatment. This is similar to previous estimates of the proportion of patients who delay seeking treatment, which have been found to be between 68.0 and 91.4% do so. [19-23] This research reports that only 3.9% (18) of respondents had visited a traditional healer, while 84.1% (391) attempted self-treatment by either taking 'left-over' drugs at home or drugs purchased from a convenient shop to relieve malaria. This corroborates the reports of previous studies. [24-27] Patients may wait until symptoms become more serious before visiting a health facility. Some studies have indicated that self-treatment may occur when the initial symptoms are mild, or during the early stage of the illness. [10] Management of mosquito -

the malaria vector in Nigeria is basically by indoor residual spraying of insecticides and use of bed nets. [28,30] Some research efforts are focused on using *Wolbalchia* to control mosquito population. [31,32] However, the prevalence of malaria illness remains a concern.

The decision of malaria patients to seek treatment at a health facility depends on the distance in agreement with studies carried out in Ethiopia and Myanmar. [21,26] The findings also showed that receiving low social support from family or the community was associated with a delay in seeking treatment. Malaria patients who received medium or high levels of social support may seek treatment rapidly following the onset of symptoms, and it may be a factor that helps malaria patients to understand the possible complications and severity of malaria occurring from self-treatment. It may serve to increase the perception of malaria as not being a routine illness, but one with a high risk of developing severe symptoms. The results reported from this study suggest that it is the personal intervention of friends and family as well as mass media messages about malaria which are important. The costs of visiting a health facility, and educational level were found to be significant contributing factors to delay in seeking medical attention among malaria patients.

CONCLUSION

An improvement in the public health care sector in terms of quality of care and availability of resources will encourage people to seek health care services in the public sector and protect them from incurring higher costs and ineffective care in private settings. Properly trained and government paid community-based health workers should also be available to increase access to good quality health-care services. The enhancement of healthcare services cannot prevent households from falling sick and incurring healthcare expenses. [33] The populace needs to be well-oriented about the cues that attract mosquitoes to humans and

the strategies to avoid being bitten. [34] The scope of health policy should be broadened beyond the health sector such as; enhancing the livelihoods of households, protecting the poor from harm and increments in their incomes. This study suggests interventions such as financial empowerment to alleviate poverty through skill acquisition trainings, supporting micro finance schemes and financial support for small and medium-scale enterprises, as Health Care Financing have been found to largely impact the health seeking behaviour of malaria patients.

REFERENCES

1. WHO: World Malaria Report 2015. Geneva: World Health Organization.
2. Federal Ministry of Health: National Malaria Policy. Abuja, Nigeria: National Malaria Elimination Programme2015.
3. WHO. Guidelines for the treatment of malaria. World Health Organization. Geneva, 2010.
4. Baiden F, Malm K, Bart-Plange C, et al. Shifting from presumptive to test-based management of malaria-technical basis and implications for malaria control in Ghana. Ghana Med J. 2014, 48:112–122.
5. WHO. Guidelines for the treatment of malaria. World Health Organization. Geneva, 2015.
6. Neave PE, Soares ML. Barriers to malaria control in rural south-west Timor-Leste: a qualitative analysis. WHO-SEAJPH 2014, 3:41–45.
7. Luxemburger C, Ricci F, Nosten F, Raimind D et al. The epidemiology of severe malaria in an area of low transmission in Thailand. Trans R Soc Trop Med Hyg 1997, 91:256–262.
8. Chaturvedi HK, Mahanta J, Pandey A. Treatment-seeking for febrile illness in north-east India: an epidemiological study in the malaria endemic zone. Malar J 2009,8:301–310.
9. Reilley B, Abeyasinghe R, Pakianathar MV: Barriers to prompt and effective treatment of malaria in northern Sri Lanka. Trop Med Int Health 2002, 7:744–9.
10. Nyamongo IK. Health care switching behaviour of malaria patients in a Kenyan rural community. SocSci Med. 2002, 54:377–386.
11. Akinkurolere, RO, Adedire, CO, Odeyemi, OO, Raji, JI, Owoeye JA. Bioefficacy of Extracts of some Indigenous Nigerian Plants on the developmental stages of mosquito (Anopheles gambiae). Jordan Journal of Biological Sciences2011, 4 (4)
12. Raji JI, Akinkurolere RO. The toxicity of some indigenous plant extracts on the developmental stages of mosquito (Anopheles gambiae). Nigerian Bioscientist, 2010, 1-5. Accessed from: http://nigerianbioscientist.com/publications/
13. Simsek Z, Kurcer MA. Malaria: knowledge and behaviour in an endemic rural area of Turkey. Public Health. 2005, 119:202–208.
14. Das A, Ravindran TKS. Factors affecting treatment-seeking for febrile illness in a malaria endemic block in Boudh district, Orissa, India: policy implications for malaria control. India: policy implications for malaria control. Malar J. 2010, 9:377.
15. Cotter HJ, Sturrock MS, Hsiang J, Liu AA *et al*. The changing epidemiology of malaria elimination: new strategies for new challenges. Lancet, 2013, 382, 900–911.
16. Eme IH, Leibbrandt M. Demand for health care services in Nigeria: A multivariate nested logit model. African Development Review 2003, 15:396–424.
17. McCombie SC. Treatment seeking for malaria: a review of recent research. SocSci Med 1996, 43:933–45.
18. Nyamongo IK. Health care switching behaviour of malaria patients in a Kenyan rural community. SocSci Med 2002, 54:377–86.
19. Tanser FC, Lengeler C, Sharp BL. Indoor residual spraying for preventing malaria. Cochrane Database of Systematic Reviews, 2010 (4): CD006657.
20. Palmer J.WHO gives indoor use of DDT a clean bill of health for controlling malaria. 2016.
21. Raghavendra K, Barik TK, Reddy BP, Malaria vector control: From past to future. Parasitology Research. 2011, 108 (4): 757–759.
22. Howitt P, Darzi A, Yang GZ, Ashrafian H, et al. Technologies for global health. The Lancet. 2012, 380 (9840): 507–35.
23. Miller JM, Korenromp EL, Nahlen BL, Steketee R: Estimating the number of insecticide-treated nets required by African households to reach continent-wide malaria coverage targets. Journal of the American

Medical Association, 2007. 297 (20): 2241–2250.

24. Caraballo H: Emergency department management of mosquito-borne illness: Malaria, dengue, and west nile virus. Emergency Medicine Practice. 2014, 16 (5).

25. Abba K, Deeks JJ, Olliaro P, Naing CM: Rapid diagnostic tests for diagnosing uncomplicated *P. falciparum* malaria in endemic countries. Cochrane Database of Systematic Reviews, 2011 (**7**): CD008122.

26. Kajfasz P. Malaria prevention. International Maritime Health, 2009. 60 (1–2): 67–70.

27. Nadjm B, Behrens RH. Malaria: An update for physicians. Infectious Disease Clinics of North America. 2012, 26 (2): 243–59.

28. Enayati A, Hemingway J. Malaria management: Past, present, and future. Annual Review of Entomology. 2010, 55: 569–91.

29. WHO Position Statement. Indoor Residual Spraying: Use of Indoor Residual Spraying for Scaling Up Global Malaria Control and Elimination. World Health Organization. 2006.

30. van den Berg H: Global status of DDT and its alternatives for use in vector control to prevent disease. Environmental Health Perspectives. 2009, 117 (11): 1656–63.

31. Raji, JI. The potentials of Wolbalchia as a biocontrol agent. Nigerian Bioscientist, 2010, 1-9. Available from: http://nigerianbioscientist.com/publications/researchworks/raji2.html

32. Raji, JI. Genomics and Genetics of Wobalchia: A Review. South Pacific Journal of Pharma and Bio Sciences, 2015, 3(1), 240-246. ISSN 2310-4899. Available from: http://spjpbs.com/spjpbs-2015-vol-3-1/

33. Breman JG, Alilio MS, Mills A, Russell S: The economic burden of illness for households in developing countries: a review of studies focusing on malaria, tuberculosis, and human immunodeficiency virus/acquired immunodeficiency syndrome. American Journal of Tropical Medicine and Hygiene, 2004, 71(2)

34. Raji,JI, DeGennaroM. Genetic analysis of mosquito detection of humans. Current opinion in insect science2017, 20, 34-38

How to cite this article: Dave-Agboola IO, Raji JI. Health-seeking behaviour of malaria patients in Lagos, Nigeria. Int J Health Sci Res. 2018; 8(7):259-264.

******