PATRONAGE AND COST OF MALARIA TREATMENT IN PRIVATE HOSPITALS IN IBADAN NORTH L.G.A SOUTH WESTERN, NIGERIA

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ABSTRACT

Background: **Malaria accounts for about 60% of all clinic attendance in Nigeria. About 300,000 children die of malaria annually while an estimated 4,500 pregnant women are lost annually on account of malaria in Nigeria alone. High cost of treatment is a barrier to the uptake of health services in low resource settings, therefore an exploration of the cost of malaria management will reveal possible components that may benefit from intervention and thus reveal important clues for improving access to malaria treatment. Objective of this study therefore is to describe patronage and cost of malaria treatment in private hospitals in Ibadan.**

Method: **This was a descriptive cross sectional study, carried out in private hospitals in Ibadan, South Western Nigeria. A self-administered questionnaire with open and close-ended questions was used to collect data on patronage and cost of treatment in adults, children and pregnant women attending private health facilities in Ibadan, Nigeria. Data were presented using tables of frequencies and proportions while analysis was by descriptive statistics.**

Results: **A total of 40 doctors and hospitals participated in the study. Average patronage for malaria, both complicated and uncomplicated per month was 153 patients per hospital. Malaria cases accounts for 331 (46.2%) of total clinic cases seen in private hospitals in a month. About 121 (78%) of malaria cases seen were uncomplicated while 32 (21%) of cases were complicated malaria. Average amount charged patient for treating uncomplicated malaria in private hospitals was N3,941. Average amount spent on antimalarial drugs was about N2,443 (62%) while N1,064 (27.7%) was spent on laboratory investigation and N406.00 (10.3%) for medical consultation.**

Conclusion: **Drugs cost constitute the bulk of expenses on malaria treatment. Policy makers may improve access to malaria treatment by subsidizing the cost of anti-malaria drugs for pregnant women and children, who might not be able to afford treatment.**

Keywords: Patronage, Drugs, Cost, Medical consultation, Laboratory investigation

INTRODUCTION

Malaria transmission occurs in all six WHO regions. Globally, an estimated 3.3 billion people are at risk of being infected with malaria and developing disease, and 1.2 billion are at high risk[1].

According to the latest estimates, 214 million new cases of malaria occurred globally in 2015, leading to 438 000 deaths. The burden was heaviest in WHO African Region where an estimated 90% of all malaria death occurred and in children aged under 5 years, who accounted for 10% of all deaths[2].

Malaria is an endemic disease in Nigeria with about 60% all clinic attendance and is the cause of 1 in 4 cases of anemia in children. A child with severe malaria can die within 24 hours if not given prompt and effective treatment[3]. The disease accounts for 25% of infant mortality and 30 per cent of childhood mortality in Nigeria thereby imposing a great burden on the country in terms of pains and trauma suffered by its victims as well as loss in outputs and cost of treatments[3]. In Nigeria, about 300,000 children die of malaria annually and 4,500 pregnant women are lost annually on account of this disease[4]. About 25% of household income is expended on malaria control and treatment while 71% of expenditure on malaria treatment comes from household. About N132 billons is lost on account of malaria every year[5] .

Unfortunately, patronage of unqualified personnel by malaria sufferer is widespread and leads to delay in presentation at designated health facilities[6]. This may

account for the number of deaths due to malaria. This cannot be allowed to continue, if the nation is to sustain the gain on Millennium Development Goals (MDGs). Previous studies had suggested that the cost of hospital services are unaffordable by many families and may account for the delays observed in accessing hospital services for medical treatment.[7] Studies on how much consumers pay for the treatment of malaria in hospital and what part of the cost carries the highest burden need to be explored in order to identify potential avenues for intervention. Exploration of cost of malaria management will reveal possible component that may benefit from intervention and thus reveal important clues for improving access to malaria treatment. This study therefore aims to describe patronage and cost of malaria treatment in private hospitals in Ibadan.

MATERIALS AND METHODS

Study area

The study was conducted in Ibadan North Local Government Area, an urban part of Ibadan city. Ibadan is the capital of Oyo-state and the third largest metropolitan area by population in Nigeria after Lagos and Kano with a population of over 3 million. There are eleven local governments in Ibadan. Ibadan North L.G.A was chosen using a purposive sampling.

Data Collection methods

A descriptive cross sectional study was conducted in Ibadan North Local Government Area. There are 110 private health facilities in Ibadan North Local Government. The local government is divided into 4 areas which include Agbowo, Yemetu, Bodija and Sango. In each area 10 private hospitals were selected by simple random sampling. Then in each hospital, a medical doctor was selected by simple random sampling and recruited to fill the questionnaire. A total number of 40 private hospitals were selected.

The questionnaire was used to collect information on the estimated patronage per month for malaria in the hospital and average hospital cost of malaria treatment for various categories of patients such as adults, children and pregnant women. The cost of malaria treatment was assessed in Naira (N) and included fees for medical consultation, laboratory investigations and procurement of drugs for malaria treatment. Data were entered and analyzed using SPSS version 17 package. Descriptive statistics were computed and presented using proportions and tables.

RESULTS

Patronage for Malaria: A total of 40 doctors participated in the study (Table 1). Malaria cases accounted for 46.2% (331) of total clinical cases seen in private hospitals in a month. Average patronage for both complicated and uncomplicated malaria per month was 153 patients per clinic. About 121 (78%) of malaria cases seen were uncomplicated while 32 (21%) of cases were complicated malaria.

Cost of malaria treatment

Average cost for treatment of uncomplicated malaria in adult, children and pregnant women was N3,941. About N406 (10.3%) of the treatment cost was spent on consultation, N1064 (27.7%) was spent on laboratory investigations while N2,444 (62%) was spent on antimalarial drugs. (Table 2)

The total amount charged for the management of uncomplicated malaria differed by categories of patients which include (N8,1773) for children, (N7650) for adults and (N7648) for pregnant women, while for complicated malaria the cost were (N10,371) for children, (N10,595) for adults and (N11,183) for pregnant women).

The average cost of admission and drugs accounted for most of the cost of treatment of malaria, being 80.6% for uncomplicated malaria and 78.2% for complicated malaria in children.

In the same manner, for adults the average cost of admission and drugs accounted for most of the cost of treatment of malaria, being 79.3 % for uncomplicated malaria and 82.6% for complicated malaria.

The same pattern is observed for pregnant women. The average cost of admission and drugs accounted for most of the cost of treatment of malaria in the

Table 1: Patronage and cost of malaria treatment

Patronage: Malaria cases (Average)	
Uncomplicated	121 (78.9%)
Complicated	22 (21.1%)
Malaria treatment cost (average cost for uncomplicated malaria)	
Consultation	403 (10.3%)
Lab investigation	1064 (27.7%)
Drugs	2443 (62%)
Total	**3941 (100 %)**

Table 2: Cost of malaria treatment for uncomplicated and complicated in children, adults and pregnant women

		Uncomplicated		Complicated	
		Amount (N)	**%**	**Amount (N)**	**%**
Children	Consultation	498.39	6.1	1134.64	10.9
	Laboratory	1084.72	13.3	1134.62	10.9
	Admission	4,200	51.4	4406.93	42.6
	Drugs	2390.74	29.2	3695.3	35.6
	Total	**8173.85**	**100**	**10,371.49**	**100**
Adults	Consultation	281.72	3.7	562.08	5.3
	Laboratory	1301.39	17	1276.92	12.1
	Admission	3676.47	48.1	5061.54	47.7
	Drugs	2390.74	31.2	3695.3	34.9
	Total	**7650.32**	**100**	**10,595.84**	**100**
Pregnant women	Consultation	344.80	4.5	520.83	4.6
	Laboratory	1140.28	14.9	2368.00	21.2
	Admission	3948.53	51.6	4307.41	38.5
	Drugs	2214.81	29	3986.96	35.7
	Total	**7648.42**	**100**	**11,183.21**	**100**

pregnant women, being 80.6 % for uncomplicated malaria and 74.2% for complicated malaria.

DISCUSSION

Although Nigeria constitutes just 1% of world population, it accounts for 10% of the world's maternal and under 5 rates[12] and malaria still contributes to high maternal death and infant mortality rates in Nigeria. Improvement in life expectancy to at least 70 years by 2020 is one of Nigeria's health policy targets[13], life expectancy in Nigeria is still low and malaria contributes to the low life expectancy of Nigerians.

The results of this study showed that patronage due to malaria is high and it accounts for a major reason why Nigerians patronize hospitals. This is consistent with a study done in Lagos which also showed that the prevalence of malaria is high among Nigerians and is a reason why Nigerians visit hospital[8].

According to a report by Nigerian Bureau of Statistics, a large number of Nigerians still live below poverty line[9]. This study further showed that malaria accounts for about 20% of monthly minimum wage of Nigerians, therefore corroborating the study done by WHO which states that cost of malaria to human and social well-being is enormous and that malaria is a major cause of poverty and poverty can also exacerbates malaria situation[10]. As a result workers output is diminished, and children miss school for weeks. The economic loss from malaria in Nigeria was estimated at N132 billion and $2billion for Africa[3]. This could have been used to provide education, food, roads, water and other basic amenities.

According to a study by Cohen *et al*, 80% of household preferred to be tested for malaria before buying artemisinin combination therapy (ACT) in a drug store. Therefore providing free malaria Rapid Diagnostic Test (RDT) kits for diagnosis of malaria, may help in improving access to proper diagnosis and treatment[11]. The cost of admission due to malaria is also very high, therefore asking patient to bear the cost of admission in hospitals may also prevent access, especially when admission is needed, such as when patient find it difficult to tolerate drugs orally and may need to be admitted to receive parenteral drugs. Improving access through free diagnosis and treatment of malaria may help to sustain the gain of Millennium Development Goal number 4 which is to reduce childhood mortality.

In conclusion, malaria accounts for high patronage of private hospitals by Nigerians and cost of treatment in private hospitals in Nigeria is still high and can prevent access to treatment. Therefore stakeholders who have the means can help to subsidize the cost of malaria treatment in private hospitals by implementing schemes that address high cost malaria in vulnerable groups such as pregnant women and children, who might not be able to afford treatment. This will reduce maternal and infant mortality rate. Life expectancy will also improve and will enhance our national development.

STUDY LIMITATION

Assessing only the price borne by patient instead of against income earned is considered as one the study limitations. In addition, only private hospitals were considered in this study. It is recommended that further study should be carried out to compare cost of malaria treatment between private and public hospitals

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