

The Attitude of Patients towards the Treatment of Malaria in Edo State, Nigeria

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Failure of antimalarials in communities is to some extent attributed to the attitude of patients and health providers towards the management of malaria. In this study, the information on the therapy used prior to hospital visit was obtained using a well questionnaire and diagnosis of malaria parasitaemia in patients was carried out using standard parasitological techniques. Out of the 231 subjects, 187 (80.9%) subjects self-administered antimalarials prior to their visit to the hospital. Fifty seven (30.4%) self-administered herbal therapy while 130 (69.5%) did with chloroquine, sulphadoxine/pyrimethamine (SP) combination, and artemether medications, 41 (31.5%) of which adhered to the prescribed dosage. The prevalence of *Plasmodium* parasitaemia was significantly higher in patients who self administered herbal therapy than in those who did with conventional antimalarials at the recommended dosages ($P < 0.05$). On the other hand, significant higher prevalence of *Plasmodium* parasitaemia was obtained in subjects who self-administered chloroquine therapy than those who did with other drugs. The study revealed that uncontrolled use of herbal medications and self-prescribed medications are common practices in rural Nigeria.

Key words: Malaria, antimalarial drugs, self medication, herbal therapy

INTRODUCTION

About 40% of the world's population, especially those living in the world's poorest countries, are at risk of malaria. Malaria is found throughout the tropical and sub-tropical regions of the world and causes more than 300 million acute illnesses and at least one million deaths annually. Ninety per cent of deaths due to malaria occur in sub Saharan Africa where most of the victims are children [1]. Malaria kills an African child every 30 seconds. Many children who survive an episode of severe malaria may suffer from learning impairments or brain damage. Pregnant women and their unborn children are also particularly vulnerable to malaria, which is a major cause of prenatal mortality, low birth weight and maternal anaemia. The malaria parasite resistance to chloroquine (CQ) poses a severe and increasing public health threat. This inexpensive and widely consumed drug has been the main line of attack against the parasite for a long time and its increasing failure accompanies a return of high levels of malaria-related morbidity and mortality [2]. The problem is more pronounced in *Plasmodium falciparum*

malaria, the species responsible for the most severe form of the disease.

Since the emergence of chloroquine resistant strains of *P. falciparum*, the rate of resistance has been increasing and limiting adequate treatment of malaria [3,4]. Despite the growing resistance of *P. falciparum*, chloroquine remained the first line antimalarial drug in Nigeria and many other African countries mainly on account of cost and effectiveness in uncomplicated cases of malaria. Resistance to chloroquine by *P. falciparum* has prompted several studies within the last decade in different parts of Nigeria [5-9].

METHODOLOGY

Study area

This study was carried out in the three senatorial zones of Edo State namely Edo South, Edo Central and Edo North. Edo State lies between longitude 05°04' E and 06°43' E and latitude 05°44' N and 07°34' N. Edo State has a typical climate characterized by two distinct seasons,

the wet and the dry seasons. The wet season occurs between April and October with a break in August. The dry season lasts from November to April with a cold harmattan between December and January. The average temperature is about 25 °C during the rain season and 28 °C in the dry season. The relative poor hygienic and climatic conditions prevailing in the state enhance the breeding of anopheles mosquitoes making malaria infection one of the commonest causes of hospital visits and admissions.

Study protocol/sample size

Ethical approval and written consent was obtained from the central hospital management board and patients or patient relatives respectively. A written questionnaire was given to 231 adult patients or patients' relations who reported to the central hospital, Benin. The questionnaires were designed to provide information on the sex and age of the patients as well as knowledge on malaria symptoms, the drug taken before reporting to the hospital, duration of the sickness and level of education. Patients who had been on drugs for at least 5 days prior to hospital visit were selected for the study.

Malaria testing

Two millilitres (2 ml) of venous blood were collected from all the patients and screened for malaria parasites and the parasites load was estimated according to the method described by Cheesbrough [10].

RESULTS

Out of the 231 subjects, 187 (80.9%) subjects self-administered antimalarials prior to their visit to the hospital, 57 (30.5%) self-administered herbal therapy while 130 (69.5%) took conventional antimalarials namely chloroquine, sulphadoxine/pyrimethamine (SP) combination, and artemether medications, of which 41 (31.5%) adhered to the prescribed dosage. The level of parasitaemia was significantly higher in patients who self administered herbal therapy than in those who did with the antimalarial drugs at the recommended dosages ($P < 0.05$). On the other hand, significant higher parasitaemia was obtained in subjects who self-administered chloroquine therapy than those who did with other antimalarials ($P < 0.05$).

Table 1: Distribution of *Plasmodium* parasitaemia by mode of therapy before hospital visit

Mode of self therapy	Number of patients	Number of positive parasitaemia (%)
Herbal therapy	57	57 (100.0)
Orthodox	130	39 (30.0)
Total	187	96 (51.3)

Table 2: Distribution of *Plasmodium* parasitaemia by antimalarials before hospital visit

Antimalarials	Number of patients	Number of positive parasitaemia (%)
Chloroquine	43	33 (76.7)
Sulphadoxine	36	9 (25.0)
Artemether	21	7 (33.3)
Pyrimethamine	30	7 (23.3)
Total	130	61 (46.9)

DISCUSSION AND CONCLUSION

Since the emergence of chloroquine-resistant strains of *P. falciparum*, the rate of resistance has been increasing and limiting adequate treatment of malaria [3]. Today, current trends in malaria management advocate for combination therapy which is believed to curb the development of antimalarial resistance. Despite several approaches adopted in combination therapy, combating malaria infection effectively is a combined effort of both patients and health care providers. Findings from this study showed that patients attitude towards malaria infection may hinder substantially the management and control of the disease in rural communities. Many of them seek alternative means of treatment before reporting to a health facility. Consequent to this attitude are numerous drawbacks such as development of drug-resistant strains of plasmodium, and administration of expired, fake and sub-lethal or overdose of drugs. Despite the call for the withdrawal of chloroquine, patients and health care providers still rely immensely on it for the management of malaria infection. The situation is rather unfortunate as individuals mostly affected are in the low income bracket. The emergence of *Plasmodium falciparum* chloroquine resistance transporter (pfcrt) and *Plasmodium falciparum* multi-drug resistance-1 (pfmdr-1) mutant genes in Edo State has been reported by Tatfeng *et al.* [11] and Agbonlahor *et al.* [12]. As reported by Molta, chloroquine still remains the most used antimalarial on account of cost and affordability [5].

Herbalists represent a major group in health care delivery in the rural setting. Although their claims usually remain unverified, their contributions cannot be overlooked. This study revealed that a good number of patients seek services of herbalists.

In conclusion, reducing the incidence of malaria drug resistance in rural communities cannot be overemphasized. This can only be achieved by proper coordination of efforts from government agencies, health practitioners and patients. Education of the major actors of health including

the herbalists and potential malaria patients remains an important tool in achieving this goal.

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