

## TREATMENT RECEIVED BY UNDER FIVES HAVING FEVER BEFORE PRESENTING AT THE CHILDREN'S OUTPATIENT CLINIC OF A TERTIARY HEALTH FACILITY IN OWERRI, NIGERIA

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**Key words:** Under fives, fever, outpatient clinic, treatment

### Abstract

**Background:** This study set to determine the source of and treatment received by under fives with fever before presenting at our children's outpatient clinic and its implication for malaria control.

**Method:** Mothers with children under five years of age presenting with complaints of fever between August and October 2002 were recruited and interviewed using a semi-structured questionnaire.

**Results:** Mothers of 213 patients consisting of 117 (54.9%) males and 96 (45.1%) females were interviewed. All the patients had been given some sort of treatment before presenting at our clinic and majority of the treatment occurred outside health facilities. 137 (64.4%) were treated at home with drugs brought from either drug stores or Patient Medicine Vendors (PMVs), 38(17.8%) were treated by PMVs and 38(17.8%) at health facilities. The commonest drugs administered were analgesics, antimalarial drugs and antibiotics. Chloroquine was the most commonly administered antimalarial drug. There was a significant correlation between maternal educational status and source of treatment before presentation (Pearson correlation: 0.028) as well as between maternal educational status and duration of treatment before presentation (Pearson correlation: 0.017). While correlation between maternal age and duration of treatment before presentation was not significant, that between maternal age and source of treatment was. (Pearson correlation: 0.021)

**Conclusion:** Since most treatment of fever which is presumptively taken to be malaria takes place outside health facilities, early appropriate and adequate management of non severe malaria can be achieved through training of Patient Medicine Vendors (PMVs) on the use of common and readily available and affordable antimalarial drugs. This is possible because training of shop keepers as a channel for information to the community while not only being feasible has been shown to have significant impact.

**Mots clés :** cinq ans, fièvre, service de consultations, traitement

### Résumé

**Introduction :** L'objet de cette étude est de déterminer la source et le traitement reçu par les moins de cinq ans atteints de la fièvre avant présentation au service de consultation pour des enfants et son implication sur une population de contrôle.

**Méthode :** Des mères des enfants de moins de cinq ans qui se présentaient atteintes de la fièvre entre août et octobre 2002 ont été recrutées et interviewées à travers l'utilisation du questionnaire semi-structuré.

**Résultats :** Des mères des 213 patients composés de 117 soit 54,9% du sexe masculin et 96 soit 45,1% du sexe féminin ont été interviewés. On avait déjà traité tous ces patients avant présentation dans notre service et la majorité du traitement a eu lieu en dehors d'un hôpital. 137 soit 64,4% ont été traité à la maison avec des drogues achetées soit dans la pharmacie soit chez des vendeurs de la médecine des patients (VMP), 38 soit 17,8% ont été traitées à travers des VMP et 38 soit 17,8% dans des institutions de la santé. Les drogues les plus fréquemment administrées étaient analgésiques, drogues

antimalaria et antibiotiques. Chloroquine était une drogue antimalaria la plus fréquemment administrée. Il y a une corrélation importante entre le statut d'éducation maternelle et la source du traitement avant présentation (corrélation Pearson : 0,028) de même que entre statut d'éducation maternelle et la durée du traitement avant présentation (corrélation Pearson : 0,017). Tandis que la corrélation entre âge maternel et la durée du traitement avant présentation n'était pas important, celui entre l'âge maternel et source de traitement était (corrélation de Pearson : 0,021).

**Conclusion :** Étant donnée que la plus grande partie du traitement de la fièvre qui est sans doute considérée d'être le paludisme a eu lieu à l'extérieur du centre hospitalier, une prise en charge rapide, appropriée et satisfaisante du paludisme qui n'est pas grave peut être réalisée à travers une formation pour des vendeurs des médecines des patients (VMP) sur l'administration des drogues d'antimalaria qui est courante et facilement disponible et abordable ceci est possible parce que une formation pour des vendeurs comme un moyen pour des information pour la communauté est réalisable et elle a une influence remarquable à la fois.

## Introduction

Malaria is a significant cause of morbidity and mortality amongst children under five years of age living in sub Saharan Africa.<sup>1</sup> Fever is the characteristic sign of clinical malaria<sup>2-4</sup> and caregivers especially mothers have been shown to demonstrate a high level of awareness of this.<sup>5-9</sup> This ability of mothers or caregivers to suspect malaria in the presence of fever has important consequences giving that early diagnosis and adequate treatment are the basic elements of an appropriate malaria control programme.<sup>10</sup>

Owerri is the capital city of Imo state in South Eastern, Nigeria and is holoendemic for malaria. The Federal Medical Centre, Owerri runs a children's outpatient clinic where the commonest diagnosis for children presenting with fever is malaria. This study reports source of and treatment received from fever by children under five years of age before presenting at the children's outpatient clinic of our hospital and its implication for effective malaria control.

## Material and Methods

Mothers with children under five years of age presenting with complaint of fever at the Children's Outpatient Clinic of the Federal Medical Centre, Owerri were recruited for the study. The study was undertaken between August and October 2002. The study instrument was a semi-structured questionnaire. Following informed consent the questionnaire was administered on the mother by the attending doctor. Information requested for included age of the mother, parity and educational status. The patient's age, sex, duration of illness, treatment given before presenting at the clinic and source of treatment were also requested. Minimum sample size was calculated using the formula:

$$N = \frac{Z^2 \cdot oc \cdot Pq}{d^2}$$

Prevalence was taken as 90% on account of malaria holoendemicity in Owerri. Analysis was done using the statistical software SPSS VERSION 10.

## Results

The questionnaire was appropriately administered to 213 mothers. The patients consisted of 117 males (54.9%) and 96 females (45.1%).

### *Educational status/parity of mothers interviewed*

Sixteen (7.5%) had only primary school education while 95(44.6%) had secondary school education and 102(47.9%) had post secondary school education. Seventy one (33.3%) mothers had only one child while 129 (60.6%) had between two to five children and 13 (6.1%) had above five children.

### *Duration and source of treatment*

Twenty eight (13.1%) patients were treated for a day before presenting at the children's outpatient clinic while 147(69%) were treated for between two days and one week and 38(17.8%) presented after over one week of treatment. Thirty eight (17.8%) were treated by Patent Medicine Vendors (PMV) while 137 (64.4%) were treated by their mothers with drugs bought across the counter from drug stores or PMVs and 38(17.8%) were treated at health facilities. The drugs administered before presentation to clinic are indicated in table 1. Six different types of antimalarials were given (Table 2).

### *Correlation*

There was a significant correlation between maternal educational Status and source of treatment before presentation (Pearson correlation: 0.028) as well as between maternal educational status and duration of treatment before presentation (Pearson correlation: 0.017). While correlation between maternal age and duration of treatment before presentation was not significant, that between maternal age and source of treatment was (Pearson correlation: 0.021).

Table 1: Drugs administered before presenting at the clinic

Drug	No. (%)
Analgesics	180 (84.5)
Antimalarial	126 (59.2)
Antibiotics	89 (41.8)]
Haematinics	38 (18.3)
Cough syrup	37 (17.4)
Multivitamin preparation	34 (16)
Vitamin C	34 (16)
Vitamin B complex	7 (3.3)
Bronchodilators	7 (3.3)
Folic acid.	3 (1.4)
Herbal preparation	3 (1.4)
Anthelmintics	2 (0.9)
Antiemetics	2 (0.9)
Antidiarrhoea drugs	1 (0.5)

Table 2: Type of antimalarial drug administered

Antimalarial drug	No. of patients
Chloroquine	93
Sulphadoxime/pyrimethamine	15
Arthemeter	3
Quinine	3
Halofantrin	1
Sulfamethopyrazine/Pyrimethamine	1

10 patients were given multiple antimalarial drugs

## Discussion

All the 213 patients were found to have had some sort of treatment administered to them before presenting at the children's outpatient clinic of our hospital. Consistent with some other studies most of the treatment received were outside health facilities.<sup>11-13</sup> Only 17.8% of patients in this study received treatment in health facilities, the others were either treated by patient medicine vendors (PMVs) or at home with drugs bought from drug stores or from PMVs. The reasons that have been advanced for use of PMVs include ease of access, convenience and expeditious treatment<sup>14,15</sup> but the major disadvantage is that since PMVs have been shown to have little formal health training,<sup>16</sup> the incidence of drug overdosed or under dose and its attendant consequences are quite high.

The commonest drugs administered were analgesics, antimalarial drugs and antibiotics. The high prevalence of Analgesic use in the presence of fever in this age group is commendable since it could potentially reduce the risk of febrile convulsion. The use of antimalarial drugs would appear justified, since in areas where malaria is highly endemic like the study area, fever has a high predictive value for malaria.

The finding of chloroquine as the commonest antimalarial used for is consistent with reports from

other studies.<sup>9, 17, 18</sup> The reasons for this include its availability and affordability. While this will encourage prompt treatment which has been associated with lower risk of mortality, most mothers though are likely to administer inappropriate doses.<sup>9</sup> The risk of inappropriate dosing is likely to be higher when compared with Sulfadoxime-pyrimethamine which is administered as a single dose. A significant disadvantage of treatment received outside health facilities as occurred in this study is the absence of appropriate evaluation by trained health professionals which could result in missed alternative diagnosis and delays in appropriate treatment. Promotion of drug resistant strains due to widespread antimalarial drug use especially where inappropriate dosing regime is common is also highly likely.<sup>5</sup>

The use of antibiotics is quite high. This could be because of its availability across the counter in most drug stores. As a result of cost and absence of appropriate prescription from qualified health professionals most of the patients are not likely to have been given appropriate doses and for the appropriate no of days.

The urban setting of the study may have accounted for the low use of traditional or herbal drugs. The widespread administration of haematinics is likely as a result of the local belief that persistent fever could lead to anemia, it is also not likely to have been administered in the appropriate doses and for the appropriate duration of time because the prevalent practice in the community is to administer high doses of iron containing haematinics for between five to ten days. With time the complications of prolonged and inappropriate use of iron containing haematinics might become a problem in this locality.

Given that most treatment for presumptive malaria is done at home with drugs bought from PMVs and that training of shop keepers as a channel for information to the community is both feasible and has been shown to have significant impact,<sup>19</sup> management of malaria can be improved by educating mothers and Patient Medicine Vendors on the appropriate and effective doses of common antimalarial drugs especially chloroquine and sulphadoxime. Since Pre-packed, unit dosed malaria treatment has been found to be acceptable to care givers on account of ease of application, dosing and compliance<sup>20</sup> making it readily available especially in Patient Medicine stores would help achieve fast and appropriate therapy. This has the potential of reducing malaria related morbidity and mortality.

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