



STUDIES ON HOME-BASED MANAGEMENT OF MALARIA IN OGUN STATE, SOUTH WESTERN NIGERIA

Ajayi, A. A., Peter-Albert, C. F. & Olasehinde, G. I.

Department of Biological Sciences

Covenant University

Ota, Nigeria

E mail: adesola.ajayi@covenantuniversity.edu.ng

Adejuwon, A. A.

Department of Microbiology

Faculty of Information Technology and Applied Sciences

Lead City University

Ibadan, Nigeria

John –Dewole O.

Department of Microbiology

Faculty of Information Technology and Applied Sciences

Lead City University

Ibadan, Nigeria

ABSTRACT

Background: The study area is Olambe, a fast-growing community in Ogun State, Nigeria. It shares the same boundary with Lagos State, Nigeria. It is highly populated due to high cost of rent and high cost of living in Lagos State which made lots of the inhabitants to migrate to neighbouring towns with easy access to Lagos State especially for workers or employees of Lagos State. The effect of home-based management of malaria (HMM) was carried out in Olambe in 2013. HMM is a major means of treatment in this part of Ogun State because the general hospitals or government hospitals available are only in Lagos State and it is quite a distance. A large percentage of the populace receives treatments from private-owned hospitals or solely depends on HMM.

Methods: The sampling population was 250 respondents which are mothers of children under the age of five years. Structured questionnaires and oral interview were used in collecting data from the 250 consenting individuals.

Results: A large percentage of the respondents were traders and not-well educated individuals (65.0%) who believed so much in home-based management of malaria due to financial difficulties, ignorance and distance to hospitals. About 5.5% are not educated and they attributed the ineffectiveness of some malaria drugs to fake drugs. They therefore use different herbal treatments. About 30.5% use both malaria drugs and herbal treatments for the treatment of malaria. The major factor for ineffective HMM in Olambe is wrong dosage of anti-malarial drugs, herbal treatment and wrong diagnosis. Artemisinin-based combination therapies (ACTS) was the preferred anti-malarial drug in this area. There is poor correlation between the reoccurrence of malaria and the type of drug used for the children ($p < 0.05$). Reoccurrence of malaria symptoms is not necessarily as a result of the type of drugs used to treat it. Other factors could be responsible for the reoccurrence of malaria. There is a strong correlation between the reoccurrence of malaria and the use of herbal drugs ($p > 0.05$).

Conclusion: This study deduced that few respondents practice HMM correctly while many of them end up in hospitals due to lack of ideal dosage of anti-malarial drugs. A large percentage of respondents take traditional treatments. There is paucity of information on the use of HMM in Olambe, Ogun State, Nigeria and therefore a need to improve HMM, organize programmes to sensitize the area and the local communities around Olambe on the way forward in HMM.

Key words: Home-based management of malaria (HMM), Artemisinin-based combination therapies (ACTS), Herbal treatment, Malaria

1. INTRODUCTION

Malaria remains a serious public health challenge and causes death and illnesses in children in Nigeria (Uzochukwu *et al.*, 2010). According to the latest estimates by the WHO, there were about 219 million cases of malaria in 2010 (with an uncertainty range of 154 million to 289 million) and an estimated 660 000 deaths (with an uncertainty range of 490 000 to 836 000) with most malaria deaths occurring in Africa with the Republic of Congo and Nigeria accounting for 40% of the deaths globally (WHO, 2013). Most of these deaths occur in children below the age of five due to low levels of immunity and poverty which makes it difficult for the parents of such children to obtain drugs for treatment (Ansah *et al.*, 2001; Ricci, 2012). This has led to the use of alternative herbal concoctions in rural communities (Buabeng *et al.*, 2007).

Home Based management of Malaria (HMM) is the process by which clinical cases of fever in the under fives can be recognised and treated at home by their mothers or care givers and sometimes they are assisted by community health workers or medicine distributors (Nzayirambaho *et al.*, 2013). In places where malaria is endemic and where the population has limited access to health facilities, HMM offers antimalarial treatment to young children with fever (Thiam *et al.*, 2012). Children develop severe malaria with high mortality risk very rapidly therefore, HMM is a necessity where prompt effective treatment is crucial (Nsabagasami *et al.*, 2007). Greer *et al.* (2004) reported that high levels of malaria endemicity, parasite resistance to affordable drugs, and inadequate access to treatment facilities help make malaria the leading killer of children, accounting for an estimated 25%–30% of mortality in children under five, or an estimated 300,000 deaths each year. Hopkins *et al.* (2007) reported a need for optimizing treatment, maximizing health 'benefits, drug regimens and delivery strategies in HMM programmes to be tailored to local conditions when they studied the impact of HMM on health outcomes in Africa. This study therefore investigated the effect of HMM in Olambe; Ogun State, Nigeria with a view of scaling up the practice to community based management of malaria to help the practice of HMM in this part of Nigeria.

2. MATERIALS AND METHODS

2.1 Study Area and Population

The study area is Olambe, Ogun State Nigeria. Olambe is a fast-growing community in Ogun State, Nigeria. The name Olambe is derived from 'Lambe', the 'yoruba' name for a rare species of monkeys according to history, resided abundantly in the past in Olambe. The community shares the same boundary with Lagos State, Nigeria. The community is in Ifo Local Government Area of Ogun State. Ogun state is divided into three political zones namely Ogun central, Ogun West and Ogun East. Ifo LGA is in Ogun central and it is divided into two constituencies (Constituency 1 and 2). Olambe belongs to constituency 2 and the people are mainly traders, farmers, commercial drivers and motorcycle riders. Yoruba is the major language of the inhabitants of Olambe. Most of the educated people in Olambe work in Lagos State, Nigeria. According to the 2006 population census, the total population of Olambe was about 300,000. The population has increased tremendously over the years. There are twelve government approved private hospitals in the area while government health centres and hospitals are not available in the community.

2.2 Data Collection

The sampling population was 250 respondents. Structured questionnaires (A structured-non-disguised questionnaire) and oral interview were used in collecting data from the 250 consenting individuals (Mothers or caregivers) who had children less than five years of age. The information in the questionnaire included age, occupation, education, sex of children, number of children, type of house lived in, use of mosquito nets, treatment of malaria and types of antimalarial drugs used. Five districts were selected using the simple random technique. In each of the five districts, a listing of the streets was made to form a sample frame. Five streets were taken from each of the districts using the random number table. Every other house was chosen for the study using a systematic random sampling technique

2.3 Data Quality and Analysis

Five field workers were employed for this study. They were trained on how to administer the questionnaires, communication skills, form-filling and oral interview. They were all equipped with the letter of transmittal for the consenting individuals. The data collected were entered into the computer, verified to be correct and analyzed using the Epiinfo version 7.0 (WHO/Centre for Disease Control, USA).

2.4 Ethical Considerations/Clearance

This study received ethical Considerations from the Monitoring and Evaluation Unit of the Department of Primary Health Care, Ifo Local Government of Ogun State, Nigeria. Informed consent was taken from both the community leaders and individuals in the community. The Data were used in high confidentiality and there were no names on the questionnaires.

3. RESULTS

3.1 Background Information

Out of the 250 caregivers sampled, all the caregivers agreed to be interviewed giving a response rate of 100 % (Table 1). Most of the respondents' age is between 20 – 40yrs (86.4%). Majority of the respondents were uneducated (81.2%). They had more children than the educated respondents. Trading/business (45.6%) was the predominant occupation of the uneducated respondents (Table 1).

3.2 Drugs employed for Home-Based Management of Malaria in Olambe, Nigeria Chloroquine, Sulphadoxine Pyremyithine, ACTS and Herbal Drugs are the drugs employed for HMM in Olambe (Table 2). Herbal drugs are the preferred drug in this area (Table 3). Some combine herbal drugs with antimalarial drugs (Table 3)

3.3 Recognition of symptoms of malaria in children

The most common symptoms of malaria in children was High body temperature/fever (18.8%) followed by cough and catarrh (12.8%). Of all the 250 respondents, only (2.8%) associated vomiting with malaria while (4.8%) associated malaria with loss of appetite (Table 3).



3.4 Reoccurrence of Malaria after HMM in a year

Most of the respondents (96%) believed in the effectiveness of HMM while only (4%) responded that they always end up in the hospital despite HMM (Table 3). A large number of the respondents (45.2%) experience malaria once or twice a year (Table 3)

Table 1: Background Information of the surveyed population, Olambe, Ogun State, 2012

Total Population		
Children population	514	
Mothers/Respondents	250	
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Level of Education		
Educated Mothers	47	18.8%
Non-educated Mothers	203	81.2%
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Occupation (Educated Professionals)		
Teachers	24	9.6%
Nurses (Auxiliary)	10	4%
Bankers	5	2.0%
Doctors	2	0.8%
Lawyers	2	0.8%
Civil Servants	2	0.8%
Travelling Agent	2	0.8%
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Non- Educated		
Traders/Business Women	114	45.6%
Fashion Designers/Tailors	26	10.4%
Hairdressers	21	8.4%
Housewives	21	8.4%
Chefs/Caterers	5	2.0%
Farmers	4	1.6%
Others	12	4.8%
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Sex of Children		
Male	233	45.33%
Female	281	54.67%
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Age of Mothers		
20 – 30yrs	94	37.6%
31 – 40yrs	122	48.8%
41 – 50yrs	32	12.8%
51 – 60yrs	2	0.8%
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Table 2: Drugs employed for Home-Based Management of Malaria in Olambe, Nigeria

Types of Antimalarial Drugs

Chloroquine	80	32%
Sulphadoxine Pyremythine	7	2.8%
ACTS	86	34.4%
Herbal Drugs	77	30.8%

Use of Herbal drugs and Antimalarial Drugs

Herbal Medicine	87	34.8%
Buying Antimalarial Drugs across the counter	86	34.4%
Herbal medicine combined with Antimalarial Drugs	59	23.6%
Rest and Plenty of Fruits	18	7.2%

Table 3: Symptoms, Prevention and Place of Treatment of Malaria in Children under five years in Olambe, Nigeria

Symptoms of Malaria in Children under five years

High Temperature (Fever)	47	18.8%
Cough and Catarrh	32	12.8%
Vomiting	7	2.8%
Fever and any of the above	136	54.4%
Loss of appetite	12	4.8%
Never experienced Malaria	16	6.4%

Reoccurrence of Malaria symptoms in a year after HMM

Sometimes	156	62.4%
Not at all	68	27.2%
All the time	10	4.0%
No Malaria	16	6.4%

Episodes of Malaria in a year

1 -2 times	113	45.2%
3 – 4 times	91	36.4%
5 – 6 times	28	11.2%
6 and above	2	2.8%
No Malaria	16	6.4%

Use of Preventive Measures

Use of Broom	3	
Use of Insecticide Treated Nets (ITNS)	44	
Use of Local Insecticide	35	14%
Use of Insecticides	77	30.8%
Use of Mosquito coil	39	15.6%
Keeping clean Environment	33	13.2%
More than one of the above	19	7.6%

4. DISCUSSION

This investigation revealed that majority of the inhabitants of Olambe, Ogun State Nigeria practice Home-based Management of malaria because of different reasons which includes poverty, fake drugs from pharmacies, resistance of malaria to antimalarial drugs, level of education, high cost of private hospitals and most importantly distance to government hospitals. They therefore manage the deadly disease with the help of over-the-counter drugs that are not prescribed by doctors and with herbal drugs. Oreagba *et al.* (2004) reported that the high patronage of patent medicine vendors by rural caregivers who attributed the practice to the convenient service, accessibility of drugs and affordable cost of a complete treatment regimen from the patent medicine stores. Uzochukwu *et al.* (2010) reported that there are more than two hundred brands of ACTs in the Nigerian market which can be bought over the counter without appropriate information. Majority of the respondents buying over-the counter drugs use Artemisinin combination therapy (ACT) drugs. This corroborates the findings of D'Alessandro *et al.* (2005). They reported that several African countries have opted for ACT as the first line treatment for malaria. Fatungase *et al.* (2012) reported that majority of the caregivers of children under the age of 5 years in Ijebu North Local Government Area of Ogun State use ACT as the first line home treatment drugs pre intervention. D'Alessandro *et al.* (2005) therefore suggested that the use of ACT under HBM approach should be carefully reconsidered because the potential benefits might be outweighed by the negative consequences and therefore the use of ACT as HBM should be done with careful considerations of the pros and cons which should precede the possible deployment of it with special attention for diagnostic challenge

The large number of uneducated mothers suggests the large variations in the administration of the drugs bought over the counter as most of the vendors are not professional pharmacists who can prescribe the correct dosage. Chukwocha (2011) reported ignorance, use of fake drugs and wrong diagnosis as some of the factors hindering effective home management of malaria in a rural part of South Eastern Nigeria in 2010. There is poor correlation between the reoccurrence of malaria and the type of drug used ($p < 0.05$). This could be because reoccurrence of malaria symptoms is not necessarily as a result of the type of drugs used to treat it. Other factors such as poor knowledge of appropriate dosage regimen could be responsible for this (Oreagba *et al.*, 2004). There is a strong correlation between the reoccurrence of malaria and the use of herbal drugs ($p > 0.05$). Several reasons could be attributed to this. Inadequate dosage, the combination or composition of the herbal drugs amongst other factors.

5. CONCLUSION

HMM is not being practiced correctly in Olambe, Ogun State, Nigeria. Many of the caregivers end up in hospitals due to inappropriate dosage of anti-malarial drugs. A large percentage of the caregivers take traditional treatments. Many caregivers of children under five years in Olambe do not possess adequate knowledge on the control and treatment of malaria. There is paucity of information on the use of HMM in Olambe, Ogun State, Nigeria and therefore the need for urgent intervention to improve HMM, organize programmes to sensitize the area and the local communities around Olambe on the way forward in HMM.

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