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Causes of Increased Frequency of Malaria Patients In UPTH –Nigeria and Possible Preventive Measures

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ABSTRACT

Malaria has been a major threat to the life of patients living within Port Harcourt and its environs despite adoption of different preventive strategies to combat it even with a constant mass distribution of long lasting insecticide treated mosquito nets, increased community awareness programmes, increased availability of Artemisinin-based combination therapies (ACTs), biolarviciding and increased advertisements of the dangers of malaria by both government and drug producers. This study investigated the causes of constant visits of patients for malaria treatment in UPTH-Nigeria, measures adopted by the patients for prevention and reduction of malaria and possible preventive measures. 500 willing patients was used for this study using both structured questionnaires and oral interview to obtain information regarding their demographic malaria preventive strategies adopted, drugs used for malaria treatment and prevention as goals for reduction of associated morbidity and mortality. This study revealed that patients are making efforts to curb malaria by the use of ACTs 376 (75.2%) but improper use of adequate malaria drugs in form of non-ACTs 279 (55.8%) resulted in an inadequate cure as many visited patent medicine dealers for initial treatment, inability to get the proper drugs prescribed to them by medical practitioners due to poverty, improper protection of houses with nets in doors and windows 252 (50.4%), stagnant drainage systems 462 (92.4%), inability to cut bushes around their homes 363 (72.6%) and poor use of insecticides 265 (53%) has been a major pitfall to their having a proper and long lasting treatment for malaria.

1. Introduction

Malaria is a common cause of ill health and death mainly in the poorest countries of the world [1, 2]. But, it is not taking very seriously as majority of deaths from it occur in the poor and under five year olds. Most poor countries in sub-Saharan Africa are affected with nine out of ten cases of the global malaria morbidity [3, 2]. This makes it one of the most important global health problems [4, 2]. Malaria is caused by plasmodium parasites and transmitted through the bite of infected female Anopheles mosquitoes.

In Nigeria, malaria accounts for 60% of outpatient visits, 30% hospitalization, and is estimated to be responsible for about 11% of all maternal mortality, 25% of infant mortality, and 30% of under- five mortality [5, 6]. The disease is particularly virulent among pregnant women and the under–five years of age, due to their low levels of immunity [6]. It impedes economic growth and keeps household in poverty [6]. Lack of access to diagnostic testing before treatment, is one of the weakness in the management of malaria in Nigeria [7, 6]. There has been a significant scaling- up of malaria prevention and control measures in the last decade, including the widespread use of Artemisinin- based combination therapies [8-10]. The malaria mortality rates have reduced since 2000 by more than 45% globally and 49% in Africa [11], this has occurred due to the awareness of the trend in the treatment of malaria based on the use of Artemisinin combination therapies, Biolarviciding, community awareness programmes and use of long lasting insecticide treated mosquito nets. Prevention of malaria has been globally accepted as a significant aspect of malaria control but still majority do not follow the tenets of prevention [12, 22, 24], when artemisinin efficacy is compromised, the partner drugs in the ACT are then under very strong selection [13]. Drug resistant parasites have emerged and spread even when effective drugs have been deployed [14, 15]. Moreover, insecticide resistant mosquito vectors have emerged and continued to transmit malaria after the introduction of insecticides [16, 15].

These decline in mortality rates due to the availability of malaria control tools is well documented but still the frequency of malaria cases in UPTH-Nigeria is on the rise, hence this study.

2. Experimental Methods

This study was conducted at GOPD clinic UPTH-Nigeria between December 2014 and May 2015 using 500 willing patients who voluntarily accepted to be used for the study using questionaires and oral interviews as form of explorative survey approach and their voluntary consents were obtained prior to data taking.

3. Results and Discussion

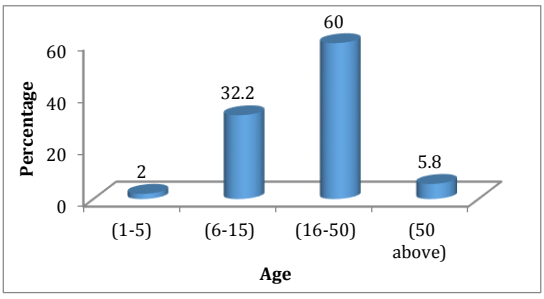

Fig. 1 Age distribution of participants (years) and number in each age group and percentages

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Table 1 Depicts the different malaria determining factors- positive and negative

Age (years)	Bushes near home	ACT users	Monothe-rapy drug users	Poor flowing drainage systems	Long lasting insecticide treated	Nets in doors and windows at home	Insecticide users	Nil drug users	Mean± *SD*
1-5	8	6	5	10	4	5	8	1	5.9±3.3
6-15	102	140	92	150	100	88	150	3	103.1 ±44.9
16-50	231	215	166	280	151	142	182	5	171.3 ±76.1
Above 51	22	15	16	22	10	17	13	1	14.5 ±6.4
Total	363 (72.6%)	376 (75.2%)	279 (55.8%)	462 (92.4%)	265 (53.0%)	252 (50.4%)	353 (70.6%)	10 (2.0%)	295 ±125.8

Malaria is transmitted by the blood feeding of infected female Anopheles mosquitoes and it is an important global health problem and causing over half a billion cases with one million deaths a year [17, 18]. 80% of deaths from malaria occur in just 14 countries including Nigeria [19], and 7% of deaths in the under 5 in 2010 was caused by malaria [19].

From the result obtained, the age group 1-5 years are the most vulnerable and die more of malaria disease, from the study only 10 (2%) patients fell into this group. Among this group, it was found that bushes are found in their homes or close to their homes and also the drainage is poor which gives breeding spaces for mosquitoes and even the opportunity for entry of this mosquitoes to their homes is high as nets on doors and windows are not found . Moreover, many in this group use non ACT drugs for the treatment of malaria as their parents cannot afford the prescribed drugs due to faith and poverty.

Same was found in the age group of 6-15 years with a total number of 161 (32.2%) involved in the study. The same effect was found as bushes were found at homes or near homes, no nets in doors and windows, ACTs not adequately used or not used at all and even long lasting insecticides treated nets not used even upon government efforts in distributing it free to residents of Rivers state-Nigeria.

Likewise, the age group of 16-50 years with a total number of 300 (60%) of the study group and the age group of above 51 years were found to have bushes at home or close to their homes, stagnant waters close to the homes, poor flowing drainages, no nets in doors and windows and poor usage of free long lasting insecticides treated nets. Many in this two groups do not use the ACT drugs as many use non ACTs which does not treat malaria effectively and many does not even use drugs at all due to poverty and faith.

ACT drugs combination prevents the emergence of drug resistance and the use of nets in doors and windows prevents the entry of mosquitoes into homes. The use of indoor residue spraying or insecticides-impregnated bed nets aids in prevention of transmission and even prompt diagnosis and effective treatment with ACT drugs and hence, reduce transmission in many endemic areas like Port Harcourt of Nigeria. This study corroborates other studies that documented poor understanding of causes, transmission and symptoms of malaria as well as home management and prevention of malaria amongst people living in the endemic areas [19-23].

4. Conclusion

Malaria is a serious health issue due to its high mortality and morbidity rates. High temperature, humidity and rainfall enhances mosquito breeding and malaria transmission, hence Port Harcourt is a good breeding zone for mosquitoes. For residents of Port Harcourt and its environs to have a cure for malaria, these recommendations must be followed -ACTs must be taking at correct doses and time, nets in doors and windows, use of long lasting insecticides treated nets, cutting of bushes near homes and prevention of stagnant waters near homes. If residents of Port Harcourt and its environs will follow this recommendations the incessant visits of patients to UPTH-Rivers State Nigeria and therefore deaths from malaria will reduce maximally.

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