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AN INVESTIGATION INTO EFFECTIVE STRATEGIES ADOPTED BY HEALTH WORKERS FOR ERADICATION OF MALARIA FEVER IN AGUTA L.G.A. OF ANAMBRA STATE, NIGERIA

by

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Abstract
This study investigated into the effective strategies adopted for eradication of malaria fever in Aguta Local Government Area of Anambra Stat, Nigeria. The study adopted a descriptive survey research design. Four research questions guided the study. The sample of the study comprised of 500 indigenes which was selected using simple random sampling among the 2,903 population in the area. Questionnaire was used for data collection. The questionnaire was validated by three experts; It was also test for reliability using test-retest technique calculation of Pearson Product Moment Co-efficient reliability(r) gave a value of 0.88 for which the researcher adopted the instrument as reliable. Mean and standard deviation with decision point of 2.50 was taken. The findings revealed that public enlightenment through the use of mass media helps to educate the indigenes on how best to eradicate malaria fever in the area. Treated insecticide nets is an effective means for eradication of anopheles female mosquito which causes malaria fever, spraying of insecticides prevents the grooming of mosquito, keeping the environment clean helps in the eradication of anopheles female mosquito which causes malaria fever. From the findings, Public enlightenment, use of mosquito nets and insecticides as well as keeping the environment clean was recommended

Keywords: Investigation, strategies, health workers, eradication and malaria.

Introduction

Malaria is a parasitic disease which is easily preventable, treatable and curable but still it remains one of the major public health problems in Nigeria (Federal Ministry of Health (FMOH, 2000). The malaria burden as reported in the country is on the increase in spite of numerous interventions that have been instituted. The obstacles to the success of these interventions are socio-cultural, economic and political in nature. According to (United Nations International Children's Emergency Fund (UNICEF, 2004), it kills a child somewhere in the world every 30 seconds. 90% of malaria deaths occur in Africa where malaria accounts for about one in five of all childhood deaths. Each year, there are approximately 515 million cases of malaria, killing between one and three million people, the majority of whom are young children in Sub-Saharan Africa (Snow, 2005).

The overwhelming bulk of the world's malaria burden rests upon the population of sub-Saharan Africa because of the unique coincidence of expanding human populations, weak health systems, the world's most effective vector mosquito species, and environmental conditions ideal for transmission. Approximately 40% of the world's populations live in regions where malaria transmission is endemic, mainly tropical and sub-tropical regions (Aultman, 2002). At the start of the new millennium, malaria is still deeply entrenched in Africa and effective malaria control is under threat from the inexorable spread of parasite strains resistant to anti-malarial drugs and the emergence of mosquito's resistant to the pyrethroid insecticides used to impregnate bed nets.

In Africa, on an average, about one in 20 children die from malaria. In areas of low endemicity, where the immunity is low, severe infection occurs in all age groups including adults. The morbidity and mortality due to malaria in children tends to be very high in these areas. Severe falciparum malaria is the commonest cause of death in infants and children in areas endemic and hyper endemic for malaria. Inadequate immunity results in rapid increase in the parasite count and development of complications. Delay in diagnosis and treatment also contributes to the mortality.

In Nigeria, malaria is endemic throughout the country. World Health Organization (WHO) (2002) estimated malaria mortality rate for children under five in Nigeria at 729 per 100, 000. Malaria has a great morbidity and mortality than any other infectious diseases of the world (World Malarial Report, 2005; Smith, 1978; WHO, 2000). A child will be sick of malaria between two and four times in one year, (FMOH, 2005). The Ministry of Health reported in April 2004 that malaria is responsible for one out of ten deaths in pregnant women and has caused the Federal Government of Nigeria over one billion Naira annually in treating malaria (Government in action, 2005). At least, 50% of the population suffers from at least one episode of malaria each year. The disease is the commonest cause of outpatient attendance across all age groups.

The result of the most comprehensive study of the malaria situation in Nigeria conducted across the six geographical zones in Nigeria have signified the public health importance of malaria, (FMOH, 2001). The study confirmed that malaria is a major cause of morbidity and mortality especially among vulnerable groups including pregnant women and children aged less than 5 years. The incidence of malaria among the under-fives across six geographical zones during the study were as follows: South-South 32.7%, South-West 36.6%, South East 30.7%, North-Central 58.8%, North-East 55.3% and North-West 33.6%. Malaria also accounted for 63% of the diseases reported in healthcare facilities across the six geographical zones. Malaria constitutes a major economic burden on endemic communities in Africa and it costs sub-Sahara African countries including Nigeria, more than US$12bilIion in 1997 (WHO, 1998). Malaria is implicated in the reduction of human work capacity and productivity; consequently, it adversely affects the socio-economic development of the nation (FMOH, 2001). The disease thus constitutes a great burden on the already depressed Nigerian economy (Netmark, 2001). Moreover, the high rate of absenteeism among school children in Nigeria is attributed in part to malaria (Gbadesin, 2001). Malaria causes a lot of misery to sufferers and adversely affects the social and psychological well-being of individuals, families and the nation at large. It can also sabotage the investment drive efforts of the Government through negative impact on tourism especially during high transmission seasons.

Malaria is a vector-borne infectious disease caused by protozoan parasites of the genus Plasmodium (Sherman, 2008). It is widespread in tropical and subtropical regions, including parts of the Americas, Asia, and Africa. Only four types of the Plasmodium parasite can infect humans; the most serious forms of the disease are caused by Plasmodium falciparum and Plasmodium vivax, but other related species (Plasmodium ovale, Plasmodium malariae) can also affect humans. This group of human-pathogenic Plasmodium species is usually referred to as malaria parasites (Sherman, 2008).

Malaria infection is prevented when malaria-carrying *Anopheles* mosquitoes are prevented from biting humans, Vector control aims to reduce contacts between mosquitoes and humans. Some vector control measures (destruction of larval breeding sites, insecticide spraying inside houses) require organized teams (for example, from the Ministry of Health) and resources that are not always available, an alternate approach, insecticide-treated bed nets (ITNs), combines vector control and personal protection. This intervention can often be conducted by the communities themselves and has become a major intervention in malaria control.

Usually, people get malaria by being bitten by an infective female Anopheles mosquito. Only Anopheles mosquitoes can transmit malaria, and they must have been infected through a previous blood meal taken on an infected person. Malaria transmission can be reduced by preventing mosquito bites with mosquito nets and insect repellents, or by mosquito control measures such as spraying insecticides inside houses and draining standing water where mosquitoes lay their eggs.

Children, pregnant mothers, people in emergency situations and people living with HIV/AIDS are particularly vulnerable to malaria (WHO, 2007). Falciparum malaria is an important cause of maternal anaemia (Steketee et al, 2006), intra-uterine growth retardation (Kochar et al., 2009), intrauterine death, stillbirth, premature delivery and low birth weight (Verhoeff et al., 2009 and Aribodoretal., 2007). Intermittent preventive therapy (IPT) using Sulphadoxine and Pyrimethamine (SP) has demonstrated great potentials in preventing malaria during pregnancy (WHO, 2004; Valley et al.. 2007; and Mbanefo et al., 2009). Although some are under development, no vaccine is currently available for malaria; preventive drugs must be taken continuously to reduce the risk of infection. Therefore, the present study is an effort to investigate into effective strategies adopted by health workers for eradication of malaria fever in Aguata local government area of Anambra State.

Research Questions

In order to achieve the derived objectives, the following research questions were raised to guide the study.

1. How does public enlightenment through mass media improves the eradication of malaria fever in Aguta Local Government Area of Anambra State?
2. What are the impact of use of treated mosquito nets by health workers in eradication of malaria fever?
3. How does the use of pesticides and insecticides by health workers help in eradication of malaria in Aguta Local Government Area of Anambra State?
4. How does environmental sanitation employed by health workers improve the eradication of malaria in Aguta Local Government Area of Anambra State?

Method

The study was a descriptive survey carried out in Aguta local government area of Anambra State. It has a population of 2,903 health workers in the area. 500 samples were selected from the total population using

simple random sampling. Instrument for data collection was a self- developed structured and validated questionnaire. The questionnaire was divided into two sections namely A and B. A dealt with information on demographic data of respondents while B was constructed on four point likert scale of likert point as followed; strongly agree 4points, agree 3points, disagree 2points and strongly disagree 1point. A value of 0.88 was obtained using Pearson Product Moment Correlation for which the researcher took the instrument as reliable for the investigation. The researcher administered the questionnaire through direct delivery. The research question was answered using arithmetic mean and standard deviation with decision point of 2.50. Hence, items with mean of 2.50 and above were accepted. Items with mean value of less than 2.50 were rejected.

Result

Research Question 1: How does public enlightenment through mass media improve the eradication of malaria fever in Aguta Local Government Area of Anambra State?

Table 1: Response Mean Ratings on How Public Enlightenment through Mass Media improve the Eradication of Malaria Fever.

N=500

S/N	Questionnaire Item	SA	A	SD	D	Total	X	Decision
1.	Mass media exposure plays a pivotal role in eradication of malaria fever.	200	180	80	40	500	3.08	Accepted
2.	Mass media helps enlighten us on how to prevent malaria fever.	250	200	30	20	500	3.24	Accepted
3.	Mass media have strong impact on the eradication of malaria fever.	170	230	50	50	500	3.04	Accepted
4.	Public enlightenment helps the indigenes on how best to eradicate malaria fever.	230	170	50	50	500	3.16	Accepted
5.	Through radio programmes on malaria prevention, the masses understand better ways of eradication of malaria.	240	170	80	10	500	3.28	Accepted

From table 1 above, it was discovered that research item 1, 2, 3, 4, and 5 have their respective mean above 2.50. This indicated that the respondents are of the opinion that public enlightenment helps the indigenes on how best to eradicate malaria fever.

Research Question 2 - What are the impacts of use of treated mosquito nets in eradication of malaria fever?

Table 2: Response Mean on the Impacts of Use of Treated Mosquito Nets in Eradication of Malaria Fever. N-500

S/N	Questionnaire Item	SA	A	SD	D	Total	X	Decision
6.	The use of treated mosquito nets helps prevent the spread of malaria fever.	240	170	80	10	500	3.28	Accepted
7.	Mosquitoes that perch on treated mosquito nets dies immediately	170	230	50	50	500	3.04	Accepted
8.	Mosquito nets reduces the risk of spread of malaria	200	150	50	100	500	2.90	Accepted

9.	Children who use mosquito nets have less risk of malaria parasite	200	150	50	100	500	2.90	Accepted
10.	Mosquito nets is an effective way of eradicating and prevention of malaria	250	200	30	20	500	3.24	Accepted

From table 2 above, it was discovered that research item 6, 7, 8, 9, and 10 have their respective mean above 2.50. This indicated that the respondents are of the opinion that mosquito net is an effective way of malaria prevention.

Research Question 3 - How does the use of insecticides help in eradication of malaria in Aguta Local Government Area of Anambra State?

Table 3: Response on How the Use of Pesticides and Insecticides Help in Eradication of Malaria in Aguta Local Government Area of Anambra State

S/N	Questionnaire Item	SA	A	SD	D	Total	X	Decision
11.	The use of insecticides help in the eradication of anopheles female mosquito	200	150	50	100	500	2.90	Accepted
12.	Insecticides kills anopheles female mosquito	230	170	50	50	500	3.16	Accepted
13.	Insecticides helps to destroy anopheles larva	240	170	80	10	500	3.28	Accepted
14.	Spraying of insecticides prevents the grooming of anopheles female mosquito	200	180	80	40	500	3.08	Accepted
15.	Insecticides help prevent the spread of anopheles female mosquito.	250	200	30	20	500	3.24	Accepted

From table 3 above, it was discovered that research item 11, 12, 13, 14, and 15 have their respective mean above 2.50. This indicated that the respondents are of the opinion that spraying of insecticides prevents the grooming of anopheles female mosquito.

Research Question 4: - How does environmental sanitation improve the eradication of malaria in Aguta Local Government Area of Anambra State?

Table 4: Response Mean on How Environmental Sanitation Improve the Eradication of Malaria in Aguta Local Government Area of Anambra State.

N-500

S/N	Questionnaire Item	SA	A	SD	D	Total	X	Decision
16.	Keeping the environment clean prevents the spread of anopheles female mosquito	170	230	50	50	500	3.04	Accepted
17.	Environmental sanitation improves the eradication of anopheles female mosquito	230	170	50	50	500	3.16	Accepted
18.	Environmental sanitation improve the grooming of anopheles female mosquito	240	170	80	10	500	3.28	Accepted
19.	A clean environment ensures good health and mosquito free environment.	200	180	80	40	500	3.08	Accepted

20.	Neat drainage system helps in eradication of anopheles female mosquito larva	250	200	30	20	500	3.24	Accepted

From table 4 above, it was discovered that research item 16, 17, 18, 19, and 20 have their respective mean above 2.50. This indicated that the respondents are of the opinion that keeping the environment clean helps in eradication of anopheles female mosquito.

Discussion

The result of the findings in research question 1 revealed that the respondents accepted that public enlightenment through mass media improve the eradication of malaria fever in Aguta Local Government Area of Anambra State. The finding is in line with Strickland (2008), who opined that public enlightenment helps the indigenes on how best to eradicate malaria fever, through radio programmes on malaria prevention, the masses understand better ways of eradication of malaria.

More so, it was indicated in Research question 2 that the respondents opined that the use of treated mosquito nets helps prevent the spread of malaria fever. It also revealed that children who use mosquito nets have less risk of malaria parasite. The finding is in line with Egwu (2011), who opined that use of treated mosquito nets helps prevent the spread of anopheles female mosquito which causes malaria fever. Also, it was found out in Research question 3 that the respondents that the use of insecticides help in eradication of malaria, spraying of insecticides prevents the grooming of mosquito. The finding is in line with Adebayo (2011), who opined that the use of insecticides helps in eradication of anopheles female mosquito which causes malaria.

Also, it was found out in Research question 4 that the respondents that keeping the environment clean prevents the spread of anopheles female mosquito which causes malaria fever, environmental sanitation improves the eradication of malaria, neat drainage system helps in eradication of malaria. The finding is in line with Adeniyi (2013), who opined that environmental sanitation improves the eradication of anopheles female mosquito which causes malaria fever.

Summary

This study investigated into the effective strategies adopted by health workers for eradication of malaria fever in Aguta Local Government Area of Anambra State. Four possible factors were studied and it was discovered that public enlightenment helps the indigenes on how best to eradicate malaria. Mosquito nets is an effective way of malaria prevention spraying of insecticides prevent the grooming of malaria. Keeping the environment clean helps prevent the spread of arophedes female mosquito which causes malaria.

Conclusion

Based on the result of the findings, the following conclusion were made;

1. Public enlightenment helps the indigenes on how best to eradicate malaria fever.
2. Mosquito nets is an effective way of malaria prevention.
3. Spraying of insecticides prevents the grooming of malaria.
4. Keeping the environment clean helps prevent the spread of anopheles female mosquito which causes malaria fever.

Recommendations

Based on the findings of the work, the following recommendations were made:

1. The government should use the mass media in enlightening the masses on the basic strategies of eradicating malaria fever.
2. Government should provide mosquito nets for effective protection against malaria fever

3. Government should provide more awareness on the best ways to prevent the spread of malaria.
4. Government should organize seminars, workshops and conferences to the masses. This will hopefully help to update their knowledge of malaria prevention and eradication.

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