IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)
e-ISSN: 2279-0853, p-ISSN: 2279-0861.Volume 14, Issue 1 Ver.VII (Jan. 2015), PP 62-65
www.iosrjournals.org

Health Seeking Behaviour of Mothers for Treatment of Malaria in a Rural Setting in Eastern Nigeria

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Abstract*: Prompt initiation of treatment for malaria is an important factor for the reduction of morbidity and mortality of the disease especially in children under five years of age. Mothers, being the primary care givers in the home, are in the best position to initiate this treatment. Therefore, the health-seeking behavior of mothers for the treatment of malaria in this age group contributes significantly to the reduction of the malaria burden.*
Materials and Method: *A multistage sampling method was used to select 500 respondents for the study. Well-structured questionnaires were administered to the respondents and returned thereafter for data analysis and presentation. Data entry and analysis were done using Statistical Packages for Social Sciences (SPSS) version 11. Frequency distribution of tables was used in data presentation.*
Results: *76.2% of the women were educated and none is unemployed.96.4% had heard about malaria. However only 18.6% know that fiver is a symptom of malaria while85.4% of respondents know the cause of malaria.Only 16.6% of respondents administered home treatment to their children when they had malaria,60% took their children either to a health facility when their children had malaria and70% took their children to hospital within 24 hours of onset of symptoms. Majority of the respondents were also well informed about ways of preventing malaria.*
Conclusions: *A high percentage of these women had good health seeking behaviourfor the treatment of malaria in children under five years of age but their medications were irrational.*
Keywords*:Children under five years, Dunukofia, health-seeking behavior, malaria, mothers.*

I. Introduction

Malaria is a life threatening parasitic disease transmitted by female anopheles mosquitoes. It was earlier thought to have resulted from fetid marshes, hence 'mal' 'aria' (bad air)[1].Nigeria has a uniform epidemiological type of malaria characterized by high and stable transmission in all parts of the country but there are differences in transmission rates between urban and rural areas: higher in rural (holoendemic) areas and lower in urban (mesoendemic) areas[2].

Tropical climate characterized by high temperature (25^0Cto 30^0C), heavy annual rainfall (127-199cm), and relatively high humidity (77-84%) favour high transmission rate of malaria in Nigeria[3].Plasmodiumfalciparumaccounts for over 90% of malaria in Nigeria[4].About half of the world's population including Nigeria lives in malaria endemic areas[5].

Over half a billion cases of malaria occur annually worldwide resulting in over 1 million deaths, 90% of which occur in sub-Saharan Africa[3]; about 300,000 of these deaths occur in children under five years of age[5,6]. In Nigeria, about 110 million clinical cases of malaria are diagnosed annually. It is also responsible for 60% of outpatient visits, 30% of hospital admissions, 11% of maternal mortality, 25% of infant mortality, and 30% of under-five mortality[4].

There is wide spread ignorance among mothers in the management of malaria in children[7].This includespoor perception of the causative agent, harmful religious and cultural practices, improper home diagnosis, and irrational administration of antimalarial agents. These factors contribute to complications of malaria in children such as severe anaemia, febrile convulsions, hypovolemic shock, mental/growth retardation, and death in severe cases.Malaria constitutes the major cause of high under-five mortality rate in developing countries[8].Reducing the high under-five mortality rate is millennium development goal 4 (MDG4). This study will identify those perceptions and practices that influence the poor management of malaria and proffer necessary solutions.

The general objective of the study wasto find out the health-seeking behavior of mothers for treatment of malaria in children under five (5) years in Dunukofia Local Government Area of Anambra State,Nigeria.Specific objectives included:

1. To determine the educational status of the mothers.
2. To determine the knowledge of major symptom of malaria among mothers.
3. To determine the action taken by mothers when their children have fever.

4. To determine the type of anti-malaria drugs given at home by the mothers.
5. To determine how rapidly mothers respond to malaria in under- five children.
6. To determine knowledge of prevention of malaria among the mothers.

II. Materials And Method

2.1 Study area: The study was conducted atDunukofia Local Government area, Anambra State, South East, Nigeria. This has a total population of 168,741; 33,403 of which are children less than five years of age and 40,497 are women of child bearing age[9].There are about twenty-two health facilitiesincluding a Comprehensive Health Centre and a General Hospital in the local government area. The Local Government has a rural setting with temperature range between 30^0c to 35^0c.

2.2 Study design: This was a cross-sectional study. Primary data was collected from a cross-section of mothers aged 20-50 years. Five hundred questionnaires (each 22 questions) were distributed to mothers of child bearing age and collected thereafter for computer data analysis. Multistage sampling was used to select the villages while the mothers were selected by simple random sampling from 3 villages in each stratified area.

2.3 Sample size determination:A sample size (N) of five hundred (500) was determined using the formula[10]:

$$N=\frac{Z^2P(1-P)}{d^2}$$

WhereN = sampling size; Z=1.96 (at 95% interval);P = prevalence of a previous similar study (3%)[7]; d = sampling error (tolerable error, 0.5).

2.4 Data tools and technique: Structured questionnaires (22 questions each) with closed ended questions were used. Some ofthequestionnaires were interviewer administered in a local dialect for those who were not literate in English Language, while the rest were self-administered. The distribution, filling and collection of the questionnaires were assisted by trained research assistants who also cross-checked them for completeness.

2.5 Data analysis: Data entry and analysis were done using Statistical Package for Social Sciences (SPSS) version 11.

III. Results

A total of five hundred (500) questionnaires were distributed. Four hundred and sixty five (465) were returned (93%). The figures are presented below:

Table 1: Educational status of mothers

Educational status	Number	Percent
No formal education	108	23.2
Primary education	142	30.6
Secondary education	133	28.6
Tertiary education	82	17.6
Total	465	100

Table 2: Distribution of mothers by correct knowledge of a major symptom of malaria

Symptoms	Number	Percent
Fever	60	12.9
Headache	225	48.3
Loss of appetite	49	10.5
Vomiting	70	15.1
Diarrhea	20	4.3
Drowsiness	9	1.9
Weakness	32	6.8
Total	465	100

Table 3: Action taken by mothers when a child has fever

Action	Number	Percent
Home treatment	77	16.6
Purchase drugs from patent medicine store	38	8.2
Consult a health worker for treatment (Primary Health Centre)	56	12.0
Go to prayer house	14	3.0
Visit Traditional Healers	8	1.7
Go to hospital	272	58.5
Total	465	100

Majority of the respondents (58.6%) take their children to hospital when they have fever.

Table 4: Distribution by type of treatment given at home

Type	Number	Percent
Paracetamol only	30	38.6
Paracetamol and chloroquine	26	33.7
Paracetamol and maloxine	11	14.5
Camoquine and artesunate	4	4.8
Coartem	6	8.4
Total	77	100

Table 5: Stage of illness when a child is taken to hospital

Stages of illness	Number	Percent
Immediately a symptom is noticed	127	27.3
6 hours after a symptom is noticed	46	9.9
24 hours after a symptom is noticed	152	32.8
48 hours after a symptom is noticed	80	17.1
72 hours after a symptom is noticed	47	10. 2
When the child deteriorates	13	2.7
Total	465	100

Majority of respondents who take their children to hospital do so within 24 hours of onset of symptoms in keeping with malaria treatment guideline.

Table 6: Response as to whether malaria can be prevented or controlled

Response	Number	Percent
Yes	392	84.4
No	73	15
Total	465	100
Knowledge of prevention of control	Number of responses	Percent
Clearing of bush	110	17.1
Regular Refuse disposal	130	20.2
Use of ITNS	286	44.4
Use of wire gauze on windows & doors	20	3.1
Wearing of protective clothing in the evening	56	8.7
Avoid eating too much oil food	42	6.5
Total	644	100

IV. Discussion

Findings by correct knowledge of symptoms revealed that 12.9% gave fever as a major symptom of malaria, while 48.3% recognized headache as a major symptom of malaria. This is in contrast to a study done in Sudan where fever was recognized by 70.8% of mothers as a major symptom of malaria in children.[11].The reason for the low perception of fever as a major symptom of malaria is not known, especially when only 23.2% of respondents had no formal education.

In the study, 58.5% of respondents take their children to hospital and only 1.7% visit traditional healers when they think they have malaria. In a rural Burkina Faso, a study done on malaria in children revealed that traditional medicines were predominantly used to treat even complicated malarial [12]. In the study in Sudan, 90% offered their children drugs at home [9]. In a study done in rural Kenya 60% of patients were treated at home with either herbal remedies or drugs from patent medicine store, 18% sought treatment from primary health center or from hospital, while remainder (22%) did not take any treatment.[10]In another study done in parts of Imo State revealed an increased tendency to use herbs in treatment of malaria.[13] The reason for preference to orthodox medical treatment as opposed to herbal remedy observed in this study could be because of free treatment of malaria for children and pregnant women introduced in Nigeria under the Roll Back Malaria programme[14] .

Out of 83 mothers who treated their children at home when they had malaria, 32 (38.6%) gave parecetamol tablets only, 28 (33.7%) gave paracetamol and chloroquine, 12 (14.5%) gave paracetamol and moloxine, 4(4.8%) gave amodiaquine + artesunate while only 7 (8.4%) gaveCoartem. From the above, it is observed that 86.8% of mothers who administer home treatment did not give the correctanti-malaria drugs (artemisinin-based combination therapy, ACT) as prescribed in the National Malaria Treatment Guidelines and National Malaria Treatment Policy[15,16].

Out of 293 respondents who took their children to hospital whenever they had malaria, 70% did so within 24 hours of onset of symptoms while others waited until the child had severe malaria.Thisis in contravention of National Malaria Treatment Guidelines and National Malaria Treatment Policy[9]. The reasons for the delay in taking the child to hospital are many. Poverty appears to be the major reason since many

Nigerian families live below the poverty lines[17]. The inaccessibility of health personnel and drugs in many health centres also discourage many mothers from taking their sick children to such centres. Cultural factors in most African societies where the husbands' consent must be obtained before major decisions could be taken by the mothers are also contributory.

The survey also revealed a high level of awareness of prevention of malaria. Majority were also knowledgeable about ways of preventing malaria especially cleaning of bushes (19.0%) and use of insecticides treated bed nets (ITNS). This is due to increased awareness campaign under the roll back malaria (RBM) programmeof the Federal Government of Nigeria as recommended by the World Health Organization[18].

V. Conclusion

The study showed that women of child bearing age inDunukofia Local Government were well informed about existence of malaria.Theywere also knowledgeable about the cause and prevention of malaria. The study also revealed a high rate of hospital visits when their child had malaria.Therewas also high perception of fever as a symptom of malaria by the women in the Local Government Area. However, most of the mothers did not give the correct doses of anti-malaria drugs as prescribed in the National malaria treatment guidelines.

VI. Recommendation

Government should organize a special training for community health extension workers (CHEWs) and home caregivers on effective and appropriate management of malaria in accordance with National Anti-malaria Treatment guidelines and National malaria treatment policy. In Nigeria in particular, the annual Women August Meeting should be utilized to teach the rural women rational first aid measures in the management of malaria in children.

The present malaria campaign of distribution of insecticide-treated nets (ITNs) should be sustained and extended to include indoor Residual Spraying (IRS) of insecticides and environmental management in all parts of Nigeria. This will ensure reduction of malaria burden in all age groups, but more especially in children less than five years of age.

Vigorous campaigns for the education of the girl child should be mounted should be mounted nationwide, but more in the educationally disadvantaged local government areas, states and geopolitical zones of the country because an educated mother makes for a healthy household.

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