
Original Research Article

Assessment of Care-seeking Behaviour for Under Five Years Old Children with Malaria and Other Childhood Illnesses in Some Communities in Edo State, Nigeria

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Abstract

Purpose: Health seeking behaviours of caregivers are vital in the management of childhood illnesses. The purpose of this study was to assess caregivers' health seeking behaviours and treatment options for childhood illnesses in a poor resourced setting.

Methods: A cross sectional survey of 197 households was conducted in three communities in Edo State, Nigeria. Information on episodes of childhood illnesses occurring within 2 weeks recall period and the type of health care seeking behaviours exhibited by the caregivers were evaluated.

Results: The symptoms frequently used by the caregivers as indicators of childhood illnesses were unhealthy look/not playing normally (77%), high fever (70%), vomiting (53%) and loss of appetite (51%). Malaria-related illness was most reported (88%). The frequently reported first port of call for care seeking was health centers (malaria, 37%; diarrhea, 52%, and ARI, 44%), patent medicine stores (malaria, 35 %; diarrhea, 41 %; ARI, 22 %). The most frequently used

antimalarial drug for childhood malaria was chloroquine (75%, 104/139), while only one respondent reported the use artesunate/amodiaquine (ACT). Oral re-hydration therapy was reportedly used in 66% of cases of diarrhea, while preventive health care was most frequently practiced for childhood diarrhea. Slightly less than 50% of children with ARI received medications, including antibiotics (amoxicilin, ampicillin/cloxacillin, co-trimoxazole, and erythromycin), aspirin, and cough syrup.

Conclusion: High care seeking behaviours for childhood illnesses was reported but there was inappropriate treatment practices. Interestingly, the respondents had reasonably good preventive practices for childhood diarrhea. Measures to address the observed anomalies including awareness campaign should be considered for these communities.

Keywords: Acute respiratory infection; Childhood illnesses; Caregivers; Diarrhoea; Health seeking behaviour; Malaria

Indexing: Index Copernicus, African Index Medicus

Introduction

Globally, about 50 % of all childhood deaths are said to be due to malaria, diarrhoeal disease or measles, pneumonia and malnutrition, all of which are preventable and treatable [1]. Malaria is one of the most prevalent infectious diseases and the leading cause of mortality among children less than 5 years of age in Africa [2]. In Nigeria, it remains the country's most important public health problem [3]. Worldwide, an estimated 627 000 malaria deaths occurred in 2012, of which over 90% were said to occur in sub-Saharan Africa, and children less than 5 years old accounted for 77 % of the deaths [4]. In Nigeria, malaria is reported to account for 25 % of infant mortality and 30 % of under-5 mortality [3].

Prompt and appropriate care-seeking behaviours are vital in reducing childhood morbidity and mortality

particularly in countries where common childhood illnesses constitute a major public health threat [5, 6]. Early and effective treatment of childhood illnesses depends on mothers' perception of and prompt recognition of signs and/or symptoms of the illness in addition to being able to access appropriate healthcare services. Indeed, the ability of caregivers to seek the right care for childhood illness is vital to attaining Millennium Development Goal 4 of reducing childhood mortality by two thirds by year 2015 [7]. Therefore, the objective of the study was to assess care-seeking behaviour of caregivers in the management of childhood illnesses in some communities in Edo State, Nigeria.

Methods

A cross-sectional study of care-seeking behaviours for childhood malaria, diarrhea, and acute respiratory

infection (ARI) was conducted in three communities (Igarra, urban; Ugboshi-Afe, rural) drawn from Akoko-Edo Local Government Area (LGA), and Afuze (urban) from Owan East LGA, Edo State, Nigeria. Details of the three studied communities, as well as, the two LGAs, including their selection process are described elsewhere [8- 10]. The study involved 197 households, each having at least a child of less than or equal to 59 months old. The caregiver (respondent) gave a report on the illnesses their child had experienced within two weeks recall period, and the health services sought for the treatment of these illnesses, including malaria, diarrhoea, and acute respiratory infection (ARI). The study was approved as part of a larger malaria study by the Ethics Committee of University of Benin Teaching Hospital. Administrative approvals were sought and obtained from authorities of the two LGAs, while each participating caregiver gave verbal informed consent.

The data collection instruments used for the study were KPC 2000 survey for PVO child survival revised by Child Survival Technical Project (CSTP) and core M&E working group, Modules 4B (the sick child), 4E (malaria), 4C (diarrhoea) and 4D (ARI). Module 4B and 4E had previously been used in the locality [9]. Data were analyzed using Graph Pad InStat (version 5.01), as well as, SPSS (version 15.0). Results are presented using descriptive statistics.

Results

From the 197 households covered, a total of 174(88.3%) cases of malaria were noted, out of which 54.6% were males while the remaining 45.4% were females. The age of the children ranged from 0 – 59 months. Children within the age of 0 – 29 and 30 - 59 months with reported malaria symptoms were 38.5% and 49.7%, respectively. The details with regard to diarrhea and ARI are shown in Table 2 below. Out of the 29 cases of diarrhea, 16 were males while 13 were females. Also, 20 out of the 32 reported cases of ARI were males. More of the children with symptoms of either diarrhea or acute respiratory infections were also within the age of 30 – 59 months.

Table 1 contains the responses of the caregivers on the symptoms they considered as indicators of childhood illness. Seventy seven percent of the respondents considered that a child is ill when he/she looks unwell or is not playing normally, while about 50.7% of the respondents suspect illness when a child lacks appetite for food or drink. A child that is having difficulty waking up is considered ill by about 27.4% of the respondents. However, majority (70%) of the respondents identified high fever as a sign of illness in the child. Identification of vomiting and convulsion as signs of illness in the child was made respectively by 105 and 46 of the respondents. Only few (6.6%) of the caregivers responded on fast/difficult breathing as indication of illness in the child. Other signs of illness

noted by the caregivers included diarrhea, catarrh, body pains and yellow eyes, among others.

Table 1: Symptoms used by caregivers to indicate childhood illnesses

Variable	No. of respondents (%) (n = 197)
Child looks unwell /not playing normal	151 (76.6)
High fever	138 (70)
Vomiting	105 (53.3)
Loss of appetite for food or drink	100 (50.7)
Rising late from bed	54 (27.4)
Convulsions	46 (23.4)
Fast/difficulty breathing	13 (6.6)
Diarrhoea	4 (2)
Cough	4 (2)
Other	6 (3.1)

*Other: Catarrh (2); Body pain (1); Yellow eye (1); Red eyeball (1); Yellow urine (1)

Table 2 presents childhood symptoms noted in the two weeks prior to the survey. Symptoms related to malaria (fever, malaria and convulsion) had the highest recall of 88.3%. This was followed by report by 32 (16.2%) of the caregivers on symptoms related to acute respiratory illness (cough and difficulty breathing), while about 15% reported on having noticed diarrhoea related symptoms in their children. Other childhood illness related signs or symptoms reported on by the children’s caregivers in the prior two weeks included weakness, sneezing, vomiting and pale looking, each of which had only one respondent.

Table 2: Presented childhood symptoms in the prior two weeks (n=197)

Type of illness	No. of respondents (%), n = 197
<i>Malaria</i>	174 (88.3)
Fever	138 (70.0)
Malaria	9 (4.6)
Convulsion	27 (13.7)
<i>Diarrhoea</i>	29 (14.7)
Diarrhoea	25 (12.7)
Blood in stool	4 (2.0)
<i>Acute respiratory illness</i>	32 (16.2)
Cough	28 (14.2)
Difficulty breathing	4 (2.0)
<i>*Other illnesses</i>	5 (2.5)

*Other illnesses = pale looking (1), weakness (1), sleeplessness (1), vomiting (1), sneezing (1); multiple responses were possible

Details of the ports of call considered first while seeking for advice or treatment for the sick child are given in Table 3. Most respondents reported visit to Health Centres for advice or treatment of malaria 65 (37.4%), diarrhea 15 (51.7%), and ARI 14 (43.8%) This was closely followed by patronage of medicine stores, which is very common in most rural communities. In this case, 34.5% (60) of the total number of respondents for malaria reported to have

Table 3: Various ports of call for health care sought by respondents in the treatment of childhood illnesses

Variables	Number of respondents (%)		
	Malaria (n=174)	Diarrhoea (n=29)	ARI (n=32)
<i>First port of call for advice/treatment</i>			
Hospital	36 (20.7)	1 (3.5)	3 (9.4)
Health centre	65 (37.4)	15 (51.7)	14 (43.8)
Maternity home	5 (2.9)	0(0)	5 (15.6)
Private clinic	0 (0)	1 (3.5)	2 (6.3)
Patent medicine store	60 (34.5)	12 (41.3)	7 (22)
Medicines/remedies at home	8 (4.6)	0 (0)	1 (3.1)
<i>Second port of call for advice/treatment</i>			
Hospital	0 (0)	2	2
Health centre	0 (0)	6	6 (33.3)
Maternity home	0 (0)	0 (0)	0 (0)
Private clinic	0 (0)	0 (0)	5 (27.8)
Patent medicine store	0 (0)	0 (0)	5 (27.8)
Medicines / Remedies at home	0 (0)	0 (0)	0 (0)

visited the medicine store for advice/treatment of their children. Details for diarrhea and ARI, as well as, other sources of treatment for the three childhood illnesses are as shown in Table 3. Of note is that about 5 of the respondents reported to have visited the maternity home for malaria related symptoms in their children. Two of the caregivers sought for advice/treatment at maternity home for acute respiratory infection. There was, however, none for diarrhea in this health facility.

Only a few (1 for diarrhea and 2 for acute respiratory infection) reported to have consulted Private Clinic for advice and treatment. While about 8 (4.6%) of the respondents for malaria depended on the medicines they have at home for treatment of malarial symptoms, one respondent claimed to have also used medicines at home for acute respiratory illness.

As regards malaria, none of the respondents went for a second port of call for advice or treatment for their sick child. But for diarrhoea, 8 of the respondents still reported to have gone for a second level of treatment. For acute respiratory infections, 18 (56.3%) of the respondents reported to have gone to a second health facility for advice and treatment for their children (Table 3).

Table 4 represents reported drug therapies given to the child for malaria signs and symptoms, which was reported in 80% of the cases. The use of chloroquine was more prominent (75%, 104/139) among the drugs reported on for malaria treatment. This was followed by 15.1% drug usage for quinine. Only one respondent reported to have had an artemisinin-based combination therapy drug (artesunate plus amodiaquine) given to her child for malaria.

Reported treatments given to the child with diarrhoea included fluid from oral re-hydration solution (ORS) alone (13.8%); fluid from ORS and either pill or syrup; Pill or syrup alone; and an unidentified injectable. Out of the 29 reported cases of diarrhoea,

15 (51.7%) gave both fluid from ORS and either pill or syrup, 10 (34.5%) gave pill or syrup alone (Table 5). Also, the preventive behaviours of children's caregivers in relation to diarrhoea are described in Table 5. Nearly all the respondents reported that there are behaviours which can prevent diarrhoea in their children. Washing of hands after defaecation was reported by majority 26 (89.6%) of the respondents as a very important preventive behaviour for diarrhoea. This was closely followed by 86.2% (25) of the care-

Table 4: Practice related to treatment of malaria in children

Variables	Number of respondents (%)
Use of antimalarial agent	139 (80)
Chloroquine	104 (75)
Sulphadoxine/pyrimethamine	13 (9.4)
Quinine	21 (15.1)
Artemisinin/amodiaquine	1 (0.7)
Could not remember the medication given	8 (4.6)
Use of herbal preparation	2 (1.2)
No drug treatment was given	18 (10.3)
No data	7 (4.0)

Table 5: Practice related to treatment/prevention of diarrhoea in children

Variables	Number of respondents (%)
<i>Treatment</i>	
ORS alone	4 (13.8)
ORS + syrup/tablet	15 (51.7)
Pill/syrup alone	10 (34.5)
<i>Preventive measures</i>	
Washing of hands after bowel movement	26 (89.7)
Washing of hands before food preparation	25 (86.2)
Washing of hands before feeding a child	24 (82.8)
Washing of hands after attending to a child who has defaecated	24 (82.8)
Provision of special area and items for hand washing	1(3.4)

givers who identified 'washing of hands before food preparation' as another good behaviour that can prevent diarrhoea. 'Washing of hands before feeding a child' and 'Washing of hands after attending to a child who has defaecated' each recorded a total of 82.8% response from a total of 29 respondents. There was only one respondent that reported to have provided a special area and items for washing of hands.

The medications reported to have been used by caregivers of the under-five year children for acute respiratory infections are presented in Table 6. There were 32 respondents for this condition out of which 53.1% (17) reported not to have given any medication for their children's situation. Of those who gave medications, 46.6% (7/15) indicated the use of cough syrup alone. Aspirin + amoxicillin; Septrin + cough syrup and Ampiclox + cough syrup had one respondent each that reported to have respectively used them to treated their children, while two of the children's caregivers could not remember the therapy used. There were three respondents that used erythromycin + cough syrup.

Table 6: Practice related to treatment of acute respiratory infection in children

Medication	Number of respondents (%)
Use of medication	15 (46.9)
Aspirin + Amoxicylin	1 (6.6)
Erythromycin + cough syrup	3 (20)
Septrin + cough syrup	1 (6.6)
Ampiclox + cough syrup	1 (6.6)
Cough syrup alone	7 (46.6)
Do not know/could not remember	2 (6.3)
No medication was given	15 (46.9)

Discussion

High rates of household illness have been reported elsewhere [10, 11] with malaria related symptoms accounting for a majority of the cases. Studies have assessed healthcare-seeking behaviours for childhood illness and results vary across communities. For example, a survey of households in two Nigerian rural communities, Enwan and Ogugu in Edo State, showed that there was delay in 23% of the cases in seeking care for under five years old children with malaria [9]. Health beliefs, availability and accessibility of healthcare services, maternal education and age, socioeconomic status of the family are some of the factors, which have been reported to affect health seeking behaviour [12-17].

The study showed that caregivers used a number of signs and/or symptoms to assess whether their children were unwell, including when a child looks unwell' or 'is not playing normally,' fever, "when the child vomits." However, previous studies reported fever, vomiting, loss of appetite as the signs and/or

symptoms used by carers in recognising childhood illness [9,18,19]. It was observed that health seeking behavior by the caregivers was high with regard to the three childhood illnesses, which has similarly been reported in a study conducted in western part of Nigeria [20]. Majority of the respondents confirmed having sought for advice/treatment, indicating a high level of awareness of the need to care for the sick child. Care givers who reported not to have sought for advice /treatment gave reasons of either treating with medicines at home or that the symptoms were considered not serious. Among the respondents that sought for advice/treatment, patronage of public health facilities was very prominent with the attendance to health centres having the highest recalls. However, a reasonable proportion (34.4%) of the respondents still confirm their patronage of patent medicine stores for care of their sick child as has been reported by other workers [21]. Ports of call for advice/treatment depended on some factors which included education, culture, socio-economic status as well as location of the health facility as reported in other studies [22,23]. The issue of second port of call as noted with diarrhea and acute respiratory infections may have been due to inappropriate management of the conditions. Overall, these findings indicate the need to strengthen health centers for better service delivery, while operators of medicine stores should be adequately trained on management of common childhood diseases, including malaria, diarrhea, and ARI.

Drug therapy administered was another very important aspect of this study. Malaria related symptoms were most commonly reported by the respondents, indicating high prevalence of the disease among the under 5 years old children, in the studied communities, and this finding is consistent with literature. It was indicated that only one respondent had an artemisinin-based combination therapy (ACT) specifically, artesunate/amodiaquine given to her febrile child. Other respondents reported on the treatment of their children with anti-malarial monotherapies (chloroquine, quinine, sulphadoxine/pyrimethamine) with chloroquine having the highest usage [63.3% (12)], and this finding is consistent with an earlier report on prescribing patterns at the primary care level in one of the studied communities [24]. This tends to negate the numerous efforts of the governments (local, regional, national and global), as well as, non-governmental organizations (NGOs) in the area of malaria control. Indeed, as far back as 2004, the Nigerian Federal Ministry of health revised the treatment guideline for malaria in the country, thus recommending the use of ACTs in the management of acute uncomplicated malaria. Therefore, this finding, similar to previous reports, indicates that chloroquine and other monotherapies were still being used after over 4 years following the recommendation.

It was observed that less than three quarters of those said to have had diarrhea used oral rehydration salt (ORS), and a majority of those who used ORS also used tablet/syrup. Similar or even lower rates of utilization of ORS have been reported in other studies done in some developing countries [25,26]. However, it is noteworthy that there were good diarrhea preventive practices among the respondents. Use of different types of medication, including antibiotics was reported for AFI.

The study may not be free of recall bias since it was a self reported behavioural practices. The knowledge and awareness of signs and symptoms relating to malaria and other likely infectious diseases in these areas may depend more on experience than on the educational status of the participants.

Conclusion

Despite high care seeking behaviours for childhood illnesses among the caregivers, inappropriate treatment practices were found. Interestingly, the respondents had reasonably good preventive practices for childhood diarrhea. Measures to address the observed anomalies including awareness campaign should be considered for the study communities

Contribution to authorship

The authors declare that this work was done by them, as named in this article, and all liabilities pertaining to claims relating to the content of this article will be borne by them. BMB and EFOE designed and collected the data, BMB and AOO carried out the data analysis, while all authors participated in writing the manuscript and all approved it for publication.

Conflict of Interest

We declare no conflict of interest.

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