

SOCIO-DEMOGRAPHIC CHARACTERISTICS AND HEALTH-SEEKING BEHAVIOUR FOR MALARIA TREATMENT AMONG CAREGIVERS OF UNDER-FIVE CHILDREN WITH FEVER IN IMO STATE, NIGERIA

Emilia Sampson Oluchi.¹, Rosliza A. M.^{2*}, Suriani, I.², Udeani, T.K.³

¹ Master of Science (Public Health) Candidate, Department of Community Health, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia.

² Department of Community Health, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia

³ Department of Medical Laboratory Sciences, Faculty of Health Sciences & Technology College of Medicine, University of Nigeria Enugu Campus, Enugu, Nigeria.

*Corresponding author: Rosliza Abdul Manaf, e-mail: rosliza_abmanaf@upm.edu.my

ABSTRACT

Background: Nigeria is among the countries with the highest global burden of malaria. This study attempted to identify health-seeking behavior of caregivers for children under-five years. Appropriate health-seeking behavior is important when seeking treatment for children under-five years with fever. Having appropriate health-seeking behavior will help the children to have better prognosis of malaria, because treatment will be initiated early, delay in seeking treatment might lead to bad prognosis on the children and they might die due to malaria.

Materials and Methods: A cross sectional study was conducted in Imo State, Nigeria. Multistage random sampling was employed, first stage, four local governments out of 27 local governments was selected at random, and in the second stage number of houses was selected at random. Appropriate health seeking behaviour was operationally defined as seeking treatment from health facility and within 24 hours of onset of fever.

Result: Among the 553 children of the caregivers recruited in the study, there were 55.9% males and 44.1% females. There were 51.9% children less than 27 months old and 48.1% were more than 27 months old. The caregivers' age ranged from 15 to 64 years. Majority of the caregivers were mothers of the children 93.3% and 86.8% were married. A total of 69.1% attended secondary school level, 60.8% were working and 40.3% of the caregivers earn 19,000 – 40,000 naira per month. A total of 57.3% of the respondents had more than four family members in their households. The majority were Igbo 96.7% and a total of 96.9% of the respondents live in the village. Among the 553 respondents, 103 (18.6%) of the caregivers sought appropriate treatment. In this study, factors that are significantly associated with appropriate health-seeking behavior are gender of the child $p = <0.001$, age of the child $p = <0.001$, age of caregiver $p = 0.001$, relationship to child $p = 0.032$, occupation $p = 0.001$, monthly income $p = <0.001$, number of household size $p = <0.001$, and ethnicity $p = 0.004$

Conclusion: Caregivers' health-seeking behaviour was poor for fever cases among under-five children. It is necessary to educate caregivers, especially for early treatment and appropriate

use of health facilities for fever. This finding can help promote awareness and improve interventions in communities.

Keywords: Health-seeking, malaria, caregivers, under-five children, Imo-State.

1.0 Introduction

Malaria is a vector-borne disease (Centres for Disease Control and Prevention, 2014). Malaria affects millions of people globally each year and the disease is a global health problem (World Health Organization, 2012). In 2015, there were an estimated 212 million cases of malaria globally (WHO, 2016). Global burden of malaria remained heavily concentrated in 15 countries, mainly in Africa, these countries account for an estimated 80% of global malaria cases. African Region has the highest cases of malaria 88%, followed by the South-East Asia Region 10% and 2% in the Eastern Mediterranean Region (WHO, 2016). Malaria death among under-five children globally was decreased from 723,000 in the year 2000 and 306,000 in 2015. African Region has the heaviest malaria burden (WHO, 2015).

Malaria is avoidable and curable, increased efforts are dramatically reducing malaria burden globally. Appropriate treatment of malaria within 24 hours of onset of fever could help reduce malaria illness (WHO, 2012). It is important to get information on health seeking behavior (HSB) for malaria from region, the barriers to treatment and the use of anti-malaria drugs (Hetzl et al., 2008).

In Nigeria malaria is endemic with all year transmission; 97% estimated 160 million of the Nigeria population is at risk of malaria (NMSP, 2014–2020). Despite the curable nature of malaria, it still constitutes a major public health problem in Nigeria. This is as a result of the geographic location of Nigeria which makes the climate suitable for malaria transmission throughout the country (NPC, NMCP, & ICF International, 2012).

It was reported that in South East region of Nigeria which is the study area, there was malaria prevalence of 27.6 % among children under the age five years (Nigeria Malaria Fact Sheet, 2011). The Federal Ministry of Health (FMOH) & National Malaria Control Programme (NMCP) 2009-2013 delivers malaria control by preventing malaria transmission through integrated vector management, prompt diagnosis and adequate treatment of all levels of clinical cases and in all health sectors, also to prevent and treat malaria in pregnancy. According to Nigeria malaria indicator survey 2010, reported that among the 5519 under five children surveyed, 35.4% of them that had fever two weeks prior to the survey and 49.1% of the children received antimalarial drug, however there is no report on their health seeking behavior (NPC, NMCP, and ICF International, 2012).

According to a study in Nigeria, it was reported that high social class and ethnicity are significant predictors of parent's appropriate health seeking for children with febrile illness. The study reviewed that mothers that attended up to secondary school education were less likely to sought appropriate health seeking behavior (Abdulkadir et al., 2015). In another study result shows that income is a significant predictor of health seeking behavior (HSB) for seeking treatment for under-five children with febrile illness (Onwujekwe et al., 2008).

Though little is identified about HSB based on these local studies, HSB of parents is not feasible to national scale considering different culture in Nigeria. It is important to obtain baseline information on parents HSB for children with febrile illness. Such information could provide insight on tagged education and interventions to improve parents HSB for children with febrile illness. Therefore this study endeavored to identify caregiver's health seeking behavior for under-five children and the socio-demographic factors associated with appropriate health seeking behavior among the sampled population.

2.0 Materials and Methods

A cross sectional study was conducted between June and September 2017. A two proportion sample size formula (Lemeshow et al., 1990) was used. Sample size was based on a cross-sectional study by Romay Barja et al. (2016). In the formula, $P_1=0.594$ and $P_2=0.419$. Sample size is 254, multistage random sampling was used, therefore design effect considered, $D = 2$. After adjusting for 90% response rate, minimum sample size required = $508 + 51 = 559$. A total of 553 caregivers were recruited. Multistage random sampling was employed, first stage, four local governments out of 27 local governments was selected at random, and in the second stage number of houses was randomly selected. Afterwards, simple random sampling with proportionate to size was employed to select the number of participants from each of the four selected local government. The inclusion criteria include caregivers of children under five years old who had fever during the two weeks prior to the study in Imo State Nigeria.

Data was obtained using a pretested structured self-administered questionnaire. Health seeking behaviour (HSB) was defined as sought treatment from health facility and within 24hours of onset of fever. Only respondents that sought treatment for the child fever from health facility within 24 hours of onset of fever are considered as caregivers with appropriate HSB. The socio-demographic variables include age of caregiver, relationship to child, marital status, level of education, occupation, household monthly income, number of household size, ethnicity, place of residence, age of child and gender of child.

Data was analysed using IBM SPSS version 21.0. Descriptive analysis was done for all variables. Chi square was used to determine the association between HSB and the socio-demographic characteristics of the respondents.

3.0 Result

3.1 Socio-demographic characteristics of respondents

Table 1 shows the distribution of respondents by their socio-demographic characteristics. Among the 553 children of the caregivers recruited in the study, 55.9% were males and 44.1% were females. A total of 51.9% of the children were less than 27 months old and 48.1% were more than 27 months old. The result indicates that the caregiver's age ranged from 15 to 64 years. Majority of the caregivers were mothers of the children 93.3% and 86.8% were married. A total of 69.1% attended secondary school level, 60.8% were working and 40.3% of the caregivers earn 19,000 – 40,000 naira per month. A total of 57.3% of the respondents had

more than four family members in their households. Majority of the caregivers were Igbo (96.7%) and a total of 96.9% of the respondents live in the village.

Table 1: Socio-demographic characteristics of respondents (N=553)

Variables	Frequency (n)	Percentage (%)
Gender of child		
Male	309	55.9
Female	244	44.1
Age of child in months		
< 27	287	51.9
≥27	266	48.1
Age of caregiver (years)		
15 – 24	174	31.5
25 – 34	214	38.7
35 – 44	94	17.0
45 – 54	70	12.7
55 – 64	1	0.2
Relationship to child		
Mother	516	93.2
Others	37	6.7
Marital status		
Single	38	6.9
Married	480	86.8
Widow	35	6.3
Level of education		
Primary	6	1.1
Secondary	382	69.1
University	165	29.8
Occupation		
Working	336	60.8
Not working	217	39.2
Household monthly income (Naira)		
5,000 – 18,000	36	6.5
19,000 – 40,000	223	40.3
41,000 – 70,000	205	37.1
71,000 and above	89	16.1
Number of household members		
< 4	236	42.7
≥ 4	317	57.3
Ethnicity		
Igbo	535	96.7
Ibibio	9	1.6
Efik	3	0.5
Yoruba	6	1.2
Place of residence		
City	17	3.1
Village	536	96.9

3.2 Caregivers' health seeking behavior

The patterns of health seeking behaviour (HSB) among the caregivers are shown in Table 2. Among the 553 caregivers recruited in the study, all of them have sought treatment for their child's fever. A total of (19.7 %) caregivers sought treatment from government hospital, (22.6%) of the caregiver sought treatment from government health Centre and (4.5%) sought treatment from private hospital. Another (45.4%) sought treatment from medicine shop, (2.9%) sought treatment from traditional practitioner and (4.9%) were categorized as others (those who used home treat with left over medicine to treat their children with fever).

Regarding time taken to seek treatment for the child, (53%) of the caregivers sought treatment for the child's fever within 24hours of onset of fever, (44.8%) sought treatment for the child 2 days after fever and (2.0%) sought treatment for the child after 2days of fever.

All of the 553 caregivers gave medicine to their child during fever; however (67.2%) gave paracetamol to their child, (30.4%) of the caregivers gave anti-malaria medicine to their child and (2.4%) gave herbs to their child.

Regarding the days it takes for the caregivers to administer medicine to the child, (53.5%) of the caregivers gave their child medication the same day of fever onset, (44.3%) of the caregivers gave medication to their child on the next day of fever and (2.2%) of the caregivers gave their child medication 2 days after fever onset. In addition, (27.7%) took their child for blood test during onset of fever.

Table 2: Caregivers' health seeking behaviour (N = 553)

Caregivers' health seeking behaviour (N = 553)

Variables	Frequency (n)	Percentage (%)
Seek treatment for child fever		
Yes	553	100
Where treatment was first sought		
Government hospital	109	19.7
Government health Centre	125	22.6
Private hospital	25	4.5
Medicine shop	251	45.4
Traditional practitioner	16	2.9
Others	27	4.9
Time taken to seek treatment		
1 day (24hours)	294	53.2
2 days (more than 24hours)	248	44.8
Others	11	2.0
Any medicine given to child during fever	553	100
Yes		
What medicine was given to the child		
Paracetamol	372	67.2
Anti-malaria medicine	168	30.4
Herbs	13	2.4
Days taken to give medicine to the child		

Same day	296	53.5
Next day	245	44.3
Two days after fever onset	12	2.2
Blood test		
Yes	153	27.7
No	400	72.3

3.2.1 Characteristics of appropriate and inappropriate HSB

Table 3 shows the characteristics of appropriate and inappropriate HSB. Only caregivers who sought treatment from health facility and within 24 hours of onset of fever are considered as caregivers that sought appropriate HSB. Caregivers who sought treatment from non-health facility within 24 hours of onset of fever and those who sought treatment in health facility after 24 hours of onset of fever are considered as caregivers with inappropriate HSB. Among the 553 respondent recruited in the study, only 103(18.6%) of the caregivers sought appropriate HSB and 450(81.4%) of the caregivers sought inappropriate HSB.

Table 3: Characteristics of appropriate and inappropriate HSB

Health seeking behaviour	Place and time of treatment	n (%)
Appropriate	Treatment from health facility and within 24 hours of onset of fever.	103(18.6%)
Inappropriate	Treatment from non- health facility within 24 hours of onset of fever and treatment in health facility after 24 hours of onset of fever.	450(81.4%)
Total		553

3.3 Association between Socio-demography and health seeking behavior of respondents

Table 4 shows the association between caregiver's socio-demography, and health seeking behaviour. Chi square analysis was carried out to determine association between respondent's demographic characteristics and health seeking behaviour. The study revealed that there were 55.9% male and 44.1% female children. Male children had higher appropriate HSB 26.2% than female children 9.0%. There was a statistically significant association between child gender and health seeking behaviour ($X^2 = 26.604$, p-value = <0.001). There were (51.9%) of children less than 27 months and (48.1%) of children were more than 27 months. Children that were less than 27 months old 30.0% sought appropriate treatment compared to children more than 27 months. There was a statistically significant association between child's age and HSB ($X^2 = 50.619$, p-value = <0.001).

Most of the caregivers belong to the age group of 15 to 24 years 31.5% and majority of them belonged to the age group of 25 to 34 years 38.7%. There was statistically significant relationship between caregiver's age and health seeking behaviour ($X^2 = 43.833$, p-value = 0.001). Findings from this study revealed that majority of the respondents were mothers to the

children (93.2%). A total of 101 (98.1%) of caregivers who are mothers to the child reported appropriate HSB. Result showed a statistically significant association between caregiver's relationship with the child and their appropriate health seeking behaviour ($X^2 = 4.573$, p-value = 0.032).

Furthermore it was observed that majority of the respondents are working 60.8%. Appropriate HSB of caregivers increased with occupation, caregivers that are working 24.7% sought appropriate HSB for their child compared to caregivers that are not working. There was a statistically significant association between occupation and HSB of caregivers when seeking treatment for the child, ($X^2 = 20.861$, p-value = 0.001). The result of this study revealed that the respondents that had monthly income of 19,000 to 40,000 naira had the highest percentage 40.3%. Caregivers with monthly income of 41,000 to 71,000 naira and above, 25.5% of the caregivers sought appropriate HSB for their children. There was a statistically significant association between monthly income of the caregivers and appropriate HSB ($X^2 = 19.630$, p-value = <0.001).

The current study found that household that has more than four members in the family had the highest percentage 57.3%. In household where there are less than four members in the family, 30.5% of the caregivers had sought appropriate HSB for their child when the child developed fever compared to when there is four or more members. There was a statistically significant association between number of household members and appropriate HSB ($X^2 = 38.354$, p-value = 0.001). Findings from this study revealed that the respondents were mostly Igbo 96.7%. A total of 17.8% of caregivers from Igbo ethnicity sought appropriate HSB for their child. There was a statistically significant association between ethnicity and HSB ($X^2 = 8.183$, p-value = 0.004).

Table 4: Association between socio-demography characteristics and health seeking behaviour (N=553)

Variable	Appropriate HSB n(%)	Inappropriate HSB n(%)	X^2	df	p-value
Gender of child			26.604	1	< 0.001
Male	81(26.2)	228(73.8)			
Female	22(9.0)	222(91.0)			
Age of child (months)			50.619	1	< 0.001
< 27	86(30.0)	201(70.0)			
≥ 27	17(6.4)	249(93.6)			
Age category of caregivers			74.079	1	0.001
15 -34	69(39.7)	105(60.3)			
35 -64	34(9.0)	345(91.0)			
Relationship to child			4.573	1	0.032
Mother	101(19.6)	415(80.4)			
Others	2(5.5)	35(94.5)			
Marital status			4.577	1	0.101
Single	4(10.5)	34(89.5)			
Married	96(20.0)	384(80.0)			
Widow	3(8.6)	32(91.4)			
Level of education			0.015	1	0.901
Primary	1(16.7)	5(83.3)			
Others	102(18.6)	445(81.4)			

Occupation			20.861	1	0.001
Working	83(24.7)	253(75.3)			
Not working	20(9.2)	197(90.8)			
Household monthly income (Naira)			19.630	1	< 0.001
5,000 – 40,000	28(10.8)	231(89.2)			
41,000 – 71,000 above	75(25.5)	219(74.5)			
Number of household members			38.354	1	<0.001
< 4	72(30.5)	164(69.5)			
≥ 4	31(9.8)	286(90.2)			
Ethnicity			8.183	1	0.004
Igbo	95(17.8)	440(82.2)			
Others	8(44.4)	10(55.6)			
Place of residence			0.278	1	0.598
City	4(23.5)	13(76.5)			
Village	99(18.5)	437(81.5)			

4.0 Discussion

This study was carried out to assess factors associated with health seeking behaviour for malaria treatment among caregivers of under-five children with fever in Imo State Nigeria. This study revealed vital findings regarding caregivers' health-seeking behaviour for malaria treatment for under-five children. Caregivers' health-seeking behaviour was poor; only 18.6% practiced appropriate health seeking behaviour, which were caregivers that sought treatment from health facilities, within 24 hours of onset of fever for their under-five year's children. The reason why the percentage of appropriate HSB is low in this study is because majority of caregivers first sought treatment in medicine shop rather than health facility and most caregivers that sought treatment in health facility delayed more than 24 hours of onset of fever. This could be because drug shop medicines are cheaper compare to going to health facility and it could reduce difficulty in reaching health facility for caregiver that leave in area where health facility and transport are limited. This result is in contrast with a report by Chukwuocha et al. (2014), the study was conducted in Imo State Nigeria, among caregivers, to assess the cause of delay in seeking treatment for their under-five children, only 22 % of mothers sought treatment for their under-five children within 24 hours of noticing the child had symptoms of malaria. It is also similar to another cross-sectional survey of parental care-seeking behavior for febrile illness among under-five children in Nigeria (Abdulkadir & Abdulkadir, 2016) only 31% of parents sought treatment for their under-five children from health facilities.

This study looked at appropriate site of treatment and appropriate time of treatment to consider appropriate HSB. Other studies on health seeking behaviour among caregivers of under-five children with fever some looked at place and time of treatment while some looked at only place of treatment and some looked at only time of treatment. The study by Lovelyn, Betrand & Godswill (2016) which was conducted in Anambra State, Nigeria on HSB among caregivers of children under-five years with fever, the study considered appropriate HSB by care sought from qualified medical personnel in health facilities and within 24 hours of fever onset. Study conducted in Equatorial Guinea by Romay-Barja et al. (2016) among caregivers of children 15 years and below, the researchers looked at time of treatment, 46.7% of the children sought treatment within 24 hours of onset of the symptoms of fever.

Caregivers delay when seeking treatment and the practice of not using health facility are of great concern as only 18.6% of the caregivers sought treatment from health facility for their children within 24 hours of the onset of fever. The remaining caregivers (81.4%) are those who sought treatment from non-health facility within 24 hours of onset of fever and caregivers who sought treatment from health facility after 24 hours of onset of fever, which including drug stores and traditional healers and they are considered as caregivers with inappropriate HSB. The implication of this behaviour to the children is that having inappropriate HSB is a risk factor for severe complications of malaria (Sonkong et al. 2015). Delay in seeking treatment for the child or seeking treatment from inappropriate site for a child with malaria fever makes the child's condition deteriorated, with high fever, unable to stand or walk, loss of appetite, refusal to feed and decreased consciousness. These symptoms require urgent medical attention and when treatment is delayed or not taken the child to health facility may lead to mortality. Appropriate HSB will help the children to have better prognosis of malaria (WHO, 2012).

The 18.6% of caregivers who sought treatment from health facility for their children within 24 hours of the onset of fever is below the 80% of the set targets of national malaria control program (NMCP 2009-2013). A similar study in Myanmar reported only 35.3% caregivers sought appropriate treatment (Thandar et al., 2015). HSB of the caregivers in this study is low because most of caregivers prefer patronising drug shop compared to health facility this could be because of cost of seeking treatment in health facility. These behaviours of the caregivers could improve; it is necessary to improve awareness on the pattern of seeking early and appropriate treatment among caregivers and increase the attitude of caregivers towards programme and initiatives that target eradicating malaria. Mass education campaigns for caregivers to seek treatment for their febrile children regardless of the presence of other symptoms is important. Also use of appropriate preventive practice households with under-five children should have two or more insecticide treated net (ITN).

Additionally in this study 45.4% of the caregivers self-medicate their children with fever at home with medicine bought from the drug shops. Treatment at home was one of the behaviours that led to seeking inappropriate treatment. This result is consistent with a study conducted in Cross River State and Bauchi State Nigeria where 49% of the caregivers in Cross river state and 31% in Bauchi State used self-medication with drug bought from pharmacies or drug shops (Odu et al., 2015). In another study conducted in Myanmar among caregivers of under-five children, it was reported that caregivers who gave the child medication at home sought inappropriate care for the child (Xu et al., 2012). The reason why caregivers practice home treatment with self-medication could be because the child illness improved after home treatment or it could be to reduce both expenses and the difficulty of reaching health facility in areas where access to health facilities and transports are limited.

Gender of the child was significantly associated with health seeking behaviour. The result of this study revealed that there was higher percentage of male children 55.9% than female children 44.1%. Male children were more likely to be taken for appropriate care compare to female children. A possibly reason for this could be because of the culture in the study area, male children has more priority than female children, although recently families are given priority to female children as well. This finding is corroborated by other studies in Bangladesh and Myanmar by (Najnin et al, 2011, Xu, Xu, Liu & Zeng, 2012).

There was a significant association between age of the child and health seeking behaviour. This finding is corroborated by other studies in Senegal, Tanzania and Bangladesh by (Smith et al., 2010, 2016, Kassile et al. 2014, Najnin et al, 2011). The study revealed that younger children were more likely to be taken for appropriate treatment compare to older children. This could be because younger children are tender and require appropriate care.

There was a significant association between age of caregivers and health seeking behavior. Caregivers that are older delay treatment for the child compared to younger caregivers. This finding is consistent with other studies conducted in Ethiopia and Uganda by (Mitiku & Assefa, 2017, Gerald, 2015). This could be reason such as older caregivers had more experience in taking care of children than the younger caregivers; younger caregiver had less experience in care of the child so they seek treatment on time for advice.

Relationship to child was significantly associated with health seeking behavior. Findings from this study revealed that majority of the respondents were mothers to the children 93.2%. A total of 101 (98.1%) of caregivers who were mothers to the children reported appropriate HSB. The reason for high percentage of caregivers been mothers to the children could be because almost all caregivers found during data collection were mothers to the children. This finding is similar with previous study in Myanmar Thandar et al. (2015) were majority of the respondents 90.6% were mothers to the children. Although in their study there was no significant association between relationship to child and health seeking behavior.

Occupation was significantly associated with health seeking behavior. It was observed in this study that caregivers that are working had higher percentage. Also caregivers that are working sought appropriate care for their children. This finding is similar to studies conducted in Nigeria by (Abdulkadir & Abdulkadir, 2016, Lovelyn, Betrand & Godswill, 2016), which had 71.7% and 75.0% caregiver been working. The possible reason could be that women are empowered and by working they have their own income and they are likely to seek appropriate treatment for their children.

There was a significant association between monthly income and health seeking behavior. The result of this study revealed that the respondents that had monthly income of 19,000 to 40,000 naira had the highest percentage 40.3% when compared to their counterparts. Studies in Myanmar and also in Nigeria corroborate this study's findings. It was reported that income was significantly association with health seeking behavior (Thandar et al., 2015, Xu et al., 2012, Lovelyn, Betrand & Godswill, 2016). There is no specific reason for this; however it could be because caregivers that earn high monthly income had enough income to seek appropriate HSB for their children.

There was a significant association between number of household members and health seeking behavior. Caregivers who lived with four or less than four household members with one child under the age of five were more likely to sought appropriate care for the child compared to counterparts. This finding is similar to studies conducted in Nigeria and in Myanmar by (Chukwuocha, et al., 2014, Thandar et al., 2015). The possible reason could be because in a situation where there is more household members or more than one under-five in the family and one or all the children become illness at the same time, it might be difficult to manage all of them at the same time than in the household where there is only one under five child in the household.

There was a significant association between ethnicity and health seeking behavior in this study. Majority of the caregivers were Igbo (96.7%). The reason for high percentage of respondents been Igbo is because the study area was dominant of Igbo ethnicity and also they were more in number and during data collection they were available. Studies on health seeking behavior of caregivers of under-five children with fever in this region south east Nigeria did not study ethnicity (Chukwuocha, et al., 2014, Lovelyn, Betrand & Godswill, 2016).

This study has emphasized on some factors that are important among caregivers' behavior when seeking treatment for their children with fever. Awareness about malaria and appropriate preventive behavior for malaria influence appropriate health seeking behavior. In a study conducted by Lim et al. (2012) in Cambodia, the researchers pointed out that prompt recognition of malaria sign is an important first step to malaria treatment seeking. Although majority of the caregivers 83.7% in our current study recognizes fever as malaria sign. Previous study in Myanmar 70.7% of the respondents demonstrated high level of malaria knowledge that fever is a sign of malaria (Xu et al., 2012).

5.0 Conclusion and recommendation

Caregivers' health-seeking behaviour was poor for fever cases among under-five year children. It is necessary to educate caregivers, especially for early treatment and appropriate use of health facilities for fever. Programs and special campaigns to enlighten the caregivers on more of the dangers of delayed treatment for their child could help to improve caregiver's treatment seeking pattern. This finding can help promote awareness and improve interventions in communities.

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Declaration

The authors have no conflict of interest to declare.

Author's contribution

Author 1: Emilia Sampson Oluchi: research concept and design, preparing research proposal, data collection, data analysis and writing the manuscript

Author 2: Dr. Rosliza Abdul Manaf: research concept and design, supervising the research process, actively involved in the data analysis and reviewing the manuscript and final editing

Author 3: Dr. Suriani Binti Ismail: supervising the research, reviewing the manuscript

Author 4: Udeani, T.K: reviewing the manuscript

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