ORIGINAL ARTICLE

Health Seeking Behaviour of Caregivers of Under-Fives during Episodes of Acute Respiratory Infection in an Urban Community in Edo State

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ABSTRACT

Background: Early recognition of symptoms and signs of acute respiratory infection by caregivers at home and reporting quickly in a health centre is key to a favourable outcome during episodes of acute respiratory infection in underfives. However, several variables may determine early or late presentation in the hospital.

Objective: To determine the level of awareness concerning acute respiratory infection among caregivers. To assess the pattern of and determinants of health seeking behaviour of caregiver of under-five children with acute respiratory infection in Edaiken Community, Benin City, Edo State.

Method: A descriptive cross-sectional community-based study was carried out in Egor Local Government Area of Edo State, Nigeria. A multi-staged, sampling technique was used to select the caregivers. Data collection was by a pretested researcher administered questionnaire.

Results: Of the 346 caregivers that participated in this study, 293 (84.7%) were mothers. The respondents were predominantly in the age range 21 – 30 years which was 191 (55.2%). Those with secondary education were majority with 214 (61.8%). Majority of the mothers were in the middle economic class, 199 (57.5%). Of the 346 caregivers, 337 (97.4%) agreed that they have heard of ARI. Concerning health seeking behaviour, 121 (35.0%) will visit a health facility, 297 (85.8%) will buy drugs in the chemist, 192 (55.5%) will treat at home with native remedies. The higher the educational level of the caregiver the higher the proportion of those with good health seeking behaviour.

Conclusion: Caregiversin Edaiken community had high level of awareness. Majority of the caregivers exhibited poor health seeking behaviour, majority preferred to buy drugs in the patent medicine stores during acute respiratory infection episodes.

KEYWORDS: Health seeking, behaviour, caregiver, under-five, acute respiratory infection.

Introduction

In response to the poor outcome and high mortality from cases of ARI in under-fives, WHO and UNICEF came to a conclusion that early recognition of symptoms and signs of ARI at home and reporting quickly in a health centre was key to a favourable outcome during episodes of ARI.[1-4] The main thrust of this is the 3-point approach adopted by WHO and UNICEF in the reduction of ARI mortality.[4,5] As part of this 3-prongs approach is increasing access to quality care achieved through community-based care. Under this approach community health workers incollaboration with caregivers are trained to assess sick children for signs of ARI and select appropriate treatment and go ahead to administer the appropriate dosage of antibiotics were appropriate.

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Mothers/caregivers are further counselled on follow-up issues.[4,5]

The other two prongs includes; (1) Improving quality of care at first-level public health facilities and ensuring they are financially, logistically and geographically accessible and (2) Improving the quality of care in the private sector.[4,5] Expectedly, in Nigeria, there may be other barriers preventing parents from using these health facillities.[4,5]Moreso the government has little or no control over the private sector, leading to weak public-private partnership.

However, studies have shown that many sick children are never brought to health facilities[6-9]. The study by Noordam*et al*.[9] which compared health seeking behaviour in different sub-Saharan African countries including Nigeria, reported that in all the countries studied, wealthy families are more likely to seek treatment in hospitals than poor families. Furthermore, educated mothers were also more likely to seek medical attention early in hospitals early during episodes of ARI. However, utilization of health facilities remain low in several parts of the world, and children are treated at home either by mothers or traditional healers.[6-9] For instance in Bangladesh, only 8% of children with ARI were taken to the hospital.[6] Also, a study in Bolivia found out that 62% of children with ARI were been taken to the health care centre, similar percentages were reported in Guinea and Tanzania.[7,8] This pattern of delay in health seeking behaviour have been reported to be worse in urban than rural area and may be affected by other factors like socio-economic and mothers level of education.[9-11]

Therefore, to improve the outcome of community-based practice, strengthening the family especially caregivers is aimed at improving care practices such as early recognition of signs and symptoms, knowing where and when to seek care, compliance with treatment and recognition of danger signs by caregivers.[4,12] The caregiver is actually the first and possibly the best doctor for the child. She recognises the onset of disease conditions and her interventions are very vital to the final outcome of the disease episode.[13-18] There are several attempts at training caregivers to recognise early symptoms of various disease conditions and simple interventions that may be undertaken at home that may be of benefit rather than taking actions that may jeopardise or complicate a rather mild and possibly self resolving upper respiratory viral infection. It is important to emphasize that the recognition of danger signs when present in a particular patient and prompt presentation in a health care facility following the recognition of these signs may determine the outcome of cases of ARI especially pneumonia.[13-18] Late presentation in the hospital always carry poor outcome.[8-11] In the case of children with ARI due to bacteria causes, early and appropriate use of antibiotics may also enhance good outcome.[19,20] However, in most cases, mothers may not know when to commence antibiotics and may readily use antibiotic when not necessary.[21] Considering the fact that many mothers are likely to manage cases of ARI at home from previous studies,[9-11,13] it is important to know the level of awareness of ARI by caregivers of underfive and what they would do in our urban community when underfives develop ARI.[13-18]

Materials and Methods

The study was carried out from January 2016 to December, 2016 in Edaiken Community which is in Uselu 2 Ward of Egor Local Government Area of Edo State, Nigeria.

Egor Local Government Area is one of the 18 Local Government Areas in Edo State located in Edo South Senatorial District with headquarters at Uselu and has a total of 10 wards. It occupies an area of 93km^2, population is 339,899 (2006 census) and postal code is 300[22]. It has a population growth rate of

2.8% (2006 census), the current projected population of the Local Government is 428,273[22].

The study was a descriptive cross-sectional community-based survey.

The study population was caregivers of under-five children who gave consent.
Those excluded from the study are caregivers not currently having an under-five, caregivers of under-five with chronic disease (such caregivers with babies that have chronic disease may have a different opinion concerning ARI than other caregivers because of the compound effect of chronic illness) and caregivers of children with congenital malformations (since they are likely to have increased rate of ARI than other children).

A multi-staged sampling technique was employed. Out of the 10 wards in Egor Local Government Area namely; Evbuotubu, Useh, Uwelu, Ogida I, Ogida II, Uselu 1, Uselu 2, Okhoro, Ugbowo and Egor, Uselu 2 (Ward 8) was selected using simple random technique by balloting.

The next stage was selection of the community. Uselu 2 Ward which was selected has five communities; these are Uwagboe, Edaiken, Uselu, Upper Edaiken and Etionosa. Out of these five communities, by simple random sample using balloting, Edaiken community was selected. This was followed by the selection of houses/households within the chosen Edaiken community which started with enumeration of enumeration of Edaiken community based on the pre-existing PHC number system. The enumeration yielded a total of 1250 houses which formed the sample frame. With a minimum sample size of 341, sampling ratio is $1250/341 = 3.7 \approx 4$. The sampling interval is every 4th house. In houses with more than one household with under-five, one household was selected by simple balloting. Furthermore, in houses with no child below 5 years or the caregiver refused to be interviewed or was not available, the next available house with an under five was selected. A mother with more than one child that is under-five, only the youngest one was chosen.

A pre-tested researcher administered questionnaire was used for this study. This instrument was developed by the authors for this particular study. The questionnaire contained a preamble and an introduction explaining the reason for the study and the need for confidentiality. This was followed by the sections on biodata and information necessary to determine the socio-economic status of the respondents (Section A). Section B contained questions on awareness of caregivers concerning ARI, Section C contained questions concerning the attitude of the caregivers relating to their health seeking behaviour during episodes of ARI. The socioeconomic class was determined by using the method by Olusanya*et al*.[23] using the indices of the parents (fathers occupation and mothers level of education). Father's occupation was scored 1 for professional and top civil servants, politicians and businessmen, 2 for middle level bureaucrats, technicians, skilled artisans, well to do traders and 3 for unskilled workers whose income is below the national minimum wage. Mothers educational status was scored as 0 if up to university level, 1 if up to secondary school of tertiary level below university e.g. college of education, school of nursing etc, and 2 if no schooling at all. The total score of both parents gives the socioeconomic index of the child. Score of 1 – 2 is upper social class, 3 is middle and 4-5 is lower socioeconomic class. P-values of <0.05 was considered as statistically significant. Data from the questionnaire was entered into Microsoft Excel 2007 and exported into SPSS version 20.0 for analysis. Institutional approval for the study was given by the Ethics and Research Committee of the University of Benin Teaching Hospital.

Results

Socio-demographic characteristics

A total of 346 caregivers of under-fives participated in this study. Of this number, 293 (84.7%) were mothers and this constituted majority of the respondents (p=0.000). Others included fathers 45 (13.0%), aunty 6 (1.7%) and sister 2 (0.6%). The age range of the respondents show that, those 21 – 30 years were 191 (55.2%) were in majority (p=0.000). Majority of the respondents were females 301 (87.0%) (p=0.000) and majority of the respondents were Christians 304 (87.9%) (p=0.000). Educational status of caregivers shows that those with secondary education were in majority with 214 out of the total number of respondents making 61.8%; p=0.000. For the fathers too, those with secondary were 225 (65.0%). Majority of the caregivers were in the middle economic class, caregivers in this group accounted for 199 (57.5%) of the respondents. The upper economic group was next with 88 (25.4%) respondents, while the lower economic group had 59 (17.1%). The median interquartile range (IQR) for number of children was 2 (2 – 3) while that of age of last child was 2 (1 – 3). The major tribe encountered in this study are the Benins with 144 (41.6%) respondents (p=0.000). This was followed by the Igbos with 54 (15.6%) respondents, Ishan with 37 (10.7%) respondents, Yorubas with 34 (9.8%) respondents, Urhobo with 17 (4.9%) respondents.

Table 1: Socio-demographic characteristics of the respondents

Characteristics	Frequency (n = 346)	Percent
Relationship to Under-fives		
Mother	293	84.7
Father	45	13.0
Aunty	6	1.7
Sister	2	0.6
Age group (years)		
Less than < 20	2	0.6
21-30	191	55.2
31-40	147	42.5
Above 40	6	1.7
Sex		
Male	45	13.0
Female	301	87.0
Religion		
Christian	304	87.9
Muslim	33	9.5
African traditional religion	2	0.6
Others*	7	2.0
Tribe		
Bini	144	41.6
Igbo	67	19.3
Ishan	37	10.7
Yoruba	34	9.8
Urhobo	21	6.1
Afemai	13	3.6
Others**	30	8.9
Educational level (Mothers)		
Primary	58	16.8
Secondary	214	61.8
Tertiary	74	21.4
Educational level (Fathers)		
Primary	20	5.8
Secondary	225	65.0
Tertiary	101	29.2
Socio-economic status		
1 & 2 (Upper)	88	25.4
3 (Middle)	199	57.5
4 & 5 (Lower)	59	17.1
Number of children (median, IQR)	2 (2 – 3)	
Age of last child in years (median, IQR)	2 (1 – 3)	

*** = Grail message, Amorc,**Kogi, Hausa, Idoma, Giwkule, Calabar, Tiv, Ilaje, Igalla, Oja**

Awareness of respiratory tract infection and its symptoms

Of the 346 respondents, majority, 337 (97.4%), had heard of ARI. Concerning symptoms of severity of ARI, 303 (87.6%) mention fever, fast breathing was mentioned by 204 (59.0%), 54 (15.6%) mention unable to suck or eat, 48 (13.9%) mentioned convulsion, while 9 (2.6%) mentioned not responding to call, 14 (4.0%) mentioned grunting and cyanosis was mentioned by 9 (2.6%).

Table 2: Awareness and recognition of ARI symptoms among the children of respondents

Variables	Frequency	Percent
Ever heard of ARI (n = 346)	**337**	**97.4**
Recognition of symptoms of ARI (n = 337)*		
Fast breathing	189	54.6
Fever	133	38.4
Cough	114	32.9
Running nose	35	10.1
Convulsion	17	4.9
Inability to suck	11	3.2
Vomiting	3	0.9
Diarrhoea	3	0.9

*multiple responses

Attitude of caregivers of children with respiratory tract infections

One hundred and twenty one (35.0%) caregivers visit a health facility when their children have episodes of ARI. Majority of them, 297 (85.8%) buy drugs in the chemist, 192 (55.5%) treat their children at home with native remedies, while 32 (9.2%) visit a native doctor. only1 (0.3%) resort to prayers for the illness.

Table 3: Health seeking behaviour during episodes of ARI among the respondents

Variables	Frequency	Percent
Action taken when child has ARI*		
Buy drugs in the chemist	297	85.8
Treat at home with native remedies	192	55.5
Visit health facility	121	35.0
Visit native doctor	32	9.2
Pray	1	0.3
What would make caregiver visit hosp (n = 337)*		
Fever	303	87.6
Fast breathing	204	59.0
Unable to suck	54	15.6
Convulsion	48	13.9
Grunting	14	4.0
Not responding to call	9	2.6
Turning blue	9	2.6

*multiple responses

Table 4 shows over-the counter medications bought by caregivers during episodes of ARI. Cough syrup was used by 249 (72%) respondents, vitamin C by 226 (65.3%) respondents, septrin by 96 (27.7) respondents, bonabeb 68 (19.7%), piriton 33 (9.5%), ampiclox 27 (7.8%) and flugen 14 (4.0%).

Table 4: Frequency of Drugs used by respondents

Drug	Frequency	Percent
Cough Syrup	249	72.0
Vitamin C	226	65.3
Septrin	96	27.7
Bonabeb	68	19.7
Piriton	33	9.5
Ampiclox	27	7.8
Flugen	14	4.0
Flu-J	7	2.0
Paracetamol Syrop	3	0.9
Teething Powder	2	0.6
Sporidex	2	0.6
Ampicillin	1	0.3
Flagyl	1	0.3

Relationship between sociodemographic characteristics and health seeking behaviour of caregivers

Table 5 shows the relationship between sociodemographic characteristics and health seeking behaviour of caregivers during episodes of ARI. The type of caregivers had a statistically significant relationship with the health seeking behaviour of caregivers during episodes of ARI. Of the 32 caregivers that had good health seeking behaviour, majority were mothers (81.3%) p=0.021. In terms of age group of caregivers and health seeking behaviour, the extremes of age had a higher proportion of those with good health seeking behaviour as compared to other age groups; p=0.008. About 50.0% each with good health seeking behaviour were $\leq$ 20 years and $\geq$ 40 years respectively. The sex of caregivers had no statistically significant relationship with the health seeking behaviour, however, a larger proportion of those with good health seeking behaviour were females. There was no significant gender differences in the health seeking behaviour among the caregivers; p=0.929. In terms of religion, Christians contributed a larger percentage to those with good health seeking behaviour (10.2%). The association between health seeking behaviour and religion was however not statistically significant (p=0.528).

Table 5: Sociodemographic characteristics by health seeking behaviour during episodes of ARI among the respondents

Variables	Health seeking behaviour during episodes of ARI		p-value*
	Good n = 32 (%)	Poor n = 314 (%)	
Caregivers			
Mother	26 (81.3)	267 (85.0)	0.021
Father	4 (12.5)	41 (13.1)	
Aunty	0 (0.0)	6 (1.9)	
Sister	2 (6.3)	0 (0.0)	
Age group (caregivers)			
≤20	1 (3.1)	1 (0.32)	0.008
21 – 30	15 (46.9)	176 (56.1)	
31 – 40	13 (40.6)	134 (42.7)	
40+	3 (9.4)	3 (50.0)	
Sex of caregiver			
Male	4 (12.5)	41 (13.1)	0.929
Female	28 (87.5)	273 (86.9)	
Religion			
Christianity	31 (96.9)	273 (86.9)	0.528
Islam	1 (3.1)	32 (10.2)	
African traditional religion	0 (0.0)	2 (0.64)	
Others†	0 (0.0)	7 (2.2)	
Educational status (mothers)			
Primary	4 (12.5)	54 (17.2)	0.021†
Secondary	15 (46.9)	199 (63.4)	
Tertiary	13 (40.6)	61 (19.4)	
Educational status (fathers)			
Primary	2 (6.3)	18 (5.7)	<0.001†
Secondary	10 (31.3)	215 (68.5)	
Tertiary	20 (62.5)	81 (25.8)	
Socio-economic status			
1 & 2 (Upper)	12 (37.5)	76 (24.2)	0.124†
3 (Middle)	15 (46.9)	184 (58.6)	
4 & 5 (Lower)	5 (15.6)	54 (17.2)	

***Fischer's exact test, †Chi-square test**

In terms of educational status of mothers, the higher the level of education, the higher the proportion of those with good health seeking behaviour. There was a statistically significant association between educational status of mother and health seeking behaviour (p=0.021). In terms of educational status of father and health seeking behaviour, a higher proportion of those with tertiary education had good health seeking behaviour. This association was statistically significant (p=0.001). The socioeconomic status shows that the middle socioeconomic class contributes more to good health seeking behaviour (46.9%). However, this different was not statistically significant (p=0.124).

Discussion

Caregiver's of under five in Ediaken community had a high level of awareness of ARI (97.4%), they also had good ability to recognise some common symptoms of ARI in children. This apparent high level of awareness of ARI among caregivers in this study may be related to the educational status of the mother. Most of the mothers had secondary education. This may have led to exposure both to information and social media. This high level of awareness agrees with the findings by Fakunle*et al* in University College Hospital Ibadan[24] where caregivers of under-fives with ARI had high level of awareness. Similar high level of awareness was reported in a study done in Nepal.[25] In this study, which was a community-based study like the index study, majority of the caregivers (83.9%) had awareness about ARI. In both the Ibadan study and the Nepal study, majority of the respondents had secondary education.

Caregivers in the index study, exhibited variable levels of recognition of the symptoms and danger signs of ARI in children. In terms of recognition of symptoms of ARI, majority could mention one or two correct symptom of ARI, only a few could correctly mention the three cardinal features of ARI. Many of the mothers interviewed may have heard about ARI from friends and could not completely identify the complete features apart from fever, cough and difficulty with breathing in some cases.

Along the same line, recognition of danger signs also exhibited a similar pattern as recognition of symptoms. This portends poor and risky scenario for under fives with ARI, since mothers may not be able to identify danger signs which may easily be overlooked until the child becomes profoundly ill. This may be detrimental to the outcome of cases of ARI in under-five since respondents may see ARI as a mild condition and as such delay hospital visit. The picture may have been different if mothers are given proper health talk concerning common health conditions each time they make contact with a health facility. Immunisation visit would have provided such an opportunity. This apparent inability to recognise symptoms and danger signs is similar to what was reported in Kumasi, Ghana by Denno*et al*.[17] who reported poor understanding of aetiology of ARI by caregivers.

In terms of frequency of symptoms, the index study reported that fast breathing was the commonest symptom of ARI mentioned by caregivers, next was fever, then cough and running nose. In this community, difficulty with breathing becomes a very important tool in the community diagnosis of ARI. On the other hand, only very few caregivers in Edaiken community mentioned symptoms like; the child not feeding well and turning blue as features of ARI. The implication of this is that, caregivers in this community may not associate these very serious symptoms with ARI until it is rather too late. Along this line, Athumani[26] in Tanzania however, reported that fever was the most commonly recognised symptom of ARI followed by cough, convulsion, difficulty with breathing, unconsciousness, inability to feed and drowsiness in that order. The difference in findings may be due to better knowledge of ARI by respondents in Athumani's study.

The health seeking behaviour and current home practices for treating ARI among the respondents was poor. Majority of the caregivers would prefer to buy drugs from the chemist. However, only a few of the respondents agreed to go to a health facility during episodes of ARI, which is the expected behaviour from the caregivers. This shows a poor health seeking behaviour among caregivers in the study area. This may be due to the fact that most of the respondents are not empowered financially to act or that the illness is perceived as mild. Some caregivers

may see the time spent in the hospital as a wasted period. This was the findings of Aigbokhaode *et al* in Benin City.[27] Contrary to the findings of this study, Okeke and Okeibunor[10] in the south-eastern part of Nigeria found that urban dwellers were more likely to have good health seeking behaviour than rural and geographical nearness of health facility also determined health seeking behaviour.

Therefore, concerning the health seeking behaviour during episodes of ARI, the important sociodemographic characteristics that could be associated the health seeking behaviour include, the type of caregiver, the age of caregiver, educational status of mother and educational status of the father. Caregivers that are educated visited a health facility when their child is ill. Caregivers in the younger age group also took their children to hospital during episodes of ARI. Caregivers with tertiary education showed a better health seeking behaviour when compared to others. Interestingly, the fathers level of education also affect the health seeking behaviour of caregiver, this is not surprising because the level of paternal education will also determine the quality of advise giving to the caregiver who is most likely to be the mother. Maternal education is likely to lead to financial empowerment especially for those that are employed and assuch may be able to seek heath care during episodes of ARI. Moreso, the educational level of parents may also expose them to information on proper health seeking behaviour during episodes of ARI.

The elderly parents exhibiting poor health seeking behaviour may be related to lack of exposure to information and possibly their low level of education.

The socio-economic status did not show any association with the health seeking behaviour of caregivers.

This may be due to the fact that majority of the caregivers in the index study were in the middle and high socioeconomic class. Similarly, in a study by Kibuule and Kagoya[28] in Kampala, Uganda, the socio-economic status was also not an important determinant of health seeking behaviour, but rather they found that important factors that determined health seeking behaviour were severity of the illness and advice from family members, prior medical advice and the presence or absence of fever.

Conclusion

Despite high level of awareness, concerning ARI, the recognition of symptoms and danger signs was poor.

The health seeking behaviour of caregivers of under-five in Ediaken community was poor. This reveals that most of them would prefer to buy drug in chemist and use different types of topical home remedies during episodes of ARI.

There is therefore the need for frequent health education visit by the health department of the local government to educate caregivers on proper health seeking attitude during episodes of ARI.

Acknowledgement

The authors appreciate the Network on Behavioural Research for child Survival in Nigeria (NETBRECSIN) for technical support.

References

1. World Health Organisation Media centre: Fact Sheet Number 178, September, 2012. www.who.int/mediacentre/factsheet/fs 178/en last accessed on 12/07/2013.
2. Rudan I, Boschi-Pinto C, Biloglav Z, Mulholland K, Campbell H. Epidemiology and aetiology of childhood pneumonia. Bull WHO 2008; 86: 408 – 416.
3. Mathew JL, Patwari AK, Gupta P, et al. Acute respiratory infection and pneumonia in India: A systematic review of literature for advocacy and action: UNICEF-PHFI series on newborn and child health, India. Indian Pediatr2011; 48:191–218.
4. World Health Organization/United Nations International Children's Emergency Fund. Joint Statement: Management of Pneumonia in Community Settings. Geneva/New York: WHO/UNICEF, WHO/FCH/CAH/04.06, 2004.
5. Technical basis for the World Health Organization recommendations on the management of pneumonia in children at first-level facilities. Geneva: WHO, WHO/ARI/91.2, 1991.
6. World Health Organization. The Multi-Country Evaluation of IMCI Effectiveness, Cost and Impact (MCE). Progress Report, May 2001–April 2002. WHO/FCH/CAH/02.16, Department of Child and Adolescent health and Development, WHO Geneva 2002.
7. Schumacher R, Swedberg E, Diallo MO, Keita DR, Kalter H, Pasha O. Mortality Study in Guinea Investigating the Causes of Death in Children Under 5, published by Save the Children and the Basic Support for Institutionalizing Child Survival (BASICS II) Project, Virginia, 2002.
8. Schellenberg JA, Victora CG, Mushi D, et al. Inequities among the very poor: health care for children in rural southern Tanzania. Lancet 2003; 15:561-566.
9. Noordam AC, Carvajal-Velez L, Sharkey AB, Young M, Cals JWL. Care Seeking Behaviour for Children withSuspected Pneumonia in Countries in Sub-Saharan Africa with High PneumoniaMortality. PLoS ONE 2015; 10(2):1 – 14.
10. Okeke TA, Okeibunor JC. Rural–urban differences in health-seeking for the treatment of childhoodmalaria in south-east Nigeria. Health Policy 2010; 95(1): 62–8.
11. Tinuade O, Iyabo RA, Durotoye O. Health-care-seeking behaviour for childhood illnesses in a resource-poor setting. Journal of Paediatrics and Child Health 2010; 46(5): 238–42.
12. Perkins BA, Zucker JR, Otieno J, et al. Evaluation of an algorithm for integrated management of childhood illness in an area of Kenya with high malaria transmission. Bull WHO 1997; 75(Suppl 1): 33 – 42.
13. Källander K, Hildenwall H, Waiswa P, Galiwango E, Peterson S, Pariyo G. Delayed care seeking for fatal pneumonia in children aged under five years in Uganda: a case-series study. Bull WHO 2008; 86: 332–8.
14. Ukwaja KN, Olufemi AO. Home Management of Acute Respiratory Infections in a Nigerian District. African Journal of Respiratory Medicine 2010; 6: 18 – 22.
15. Acharya D, Ghimire UC, Gautam S. Knowledge and practice of management of acute respiratory infection among mothers of under five years children in rural Nepal. Health, Safety and Environment 2013; 1(7): 166 – 172.

16. Debasis B, Ahemed TA. Study of knowledge, attitude and practice among mothers towards acute respiratory infection in urban and rural communities of Burdwan District, West Bengal, India. Rev Progress 2013; 1(8):1-6.

17. Denno DM, Bentsi-Enchill A, Mock CN, Adelson JW. Maternal knowledge, attitude and practices regarding childhood acute respiratory infections in Kumasi, Ghana. Ann Trop Paed 1994; 14(4): 293-301.

18. Ukwaja KN, Talabi AA, Aina OB. Pre-hospital care seeking behaviour for childhood acute respiratoryinfections in south-western Nigeria. Int Health 2012; 4: 289–94.

19. Falade AG, Mulholland EK, Adegbola RA, Greenwood BM. Bacterial isolates from blood and lung aspirate cultures in Gambian children with lobar pneumonia. Ann Trop Paediatr 1997; 17: 315-9.

20. Johnson AW, Osinusi K, Aderele WI, Gbadero DA, Olaleye OD, Adeyemi-Doro FA. Etiologic agents and outcome determinants of community acquired pneumonia in urban children: a hospital-based study. J Natl Med Assoc 2008; 100: 370–85.

21. Stensballe LG, Devasundaram JK, Simoes EA. Respiratory syncytial virusesepidemics: the ups and downs of a seasonal virus. Paediatric Infectious Disease Journal 2003; 22: S21 – 32.

22. Edo State Independent Electoral Commission www.csdpnigeria.org

23. Olusanya O, Okpere E, Ezimokhai M. The Importance of social class in voluntary fertility control in a developing country. W Afr J Med 1985; 4:205-211.

24. Fakunle GA, Ana GREE, Olaiya TM. Knowledge and attitude of mothers towards risk factors for acute respiratory infections among hospitalised under-five children in Ibadan, Nigeria. African Journal of Sustainable Development 2013; 3(1): 88-107.

25. Gyawali M, Pahari R, Maharjan S, Khadka RR. Knowledge on acute respiratory infection among mothers of under five year children of Bhaktapur District, Nepal. InternationalJournal of Scientific and research Publications 2016; 6(2): 85 – 89.

26. Athumani J. Knowledge, attitudes and practices of mothers on symptoms and signs of integrated management of childhood illnesses (IMCI) strategy at Buguruni Reproductive and Child Health clinics in Dar es Salaam. Tanzania Medical Students' Association 2010; 15:4-8.

27. Aigbokhaode AQ, Isah EC, Isara AR. Health seeking behaviour among caregivers of under-five children in Edo State, Nigeria. SEEJPH 2015; 14(1):1-10.

28. Kibuule, D, Kagoya HR. Household management of acute respiratory infections inchildren under five years in Kampala Uganda. African Journal of Pharmacy and Pharmacology 2015; 9(30): 730 – 737.

Cite this article as: Osarogiagbon, WO and Isara, AR. Health Seeking Behaviour of Caregivers of Under-Fives during Episodes of Acute Respiratory Infection in an Urban Community in Edo State. **Bo Med J 2017;14(2):** 197 - 208.
Source of Support: NETBRECSIN, **Conflict of Interest:** None declared.