Original Research Article

Knowledge of febrile convulsion among mothers attending the paediatric clinic of university of Uyo teaching hospital, Nigeria

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Abstract

Background: Febrile convulsion is a common emergency encountered in Paediatric practice. Inadequate knowledge could result in parental anxiety, apprehension and improper home management. **Aim:** To determine the knowledge, attitude of mothers, and home management of febrile convulsion in Uyo. **Methods:** A fourteen-itemed questionnaire bordering on knowledge, attitudes and home management of febrile convulsion was completed by mothers who brought their children to the Children's Outpatient Clinic of the University of Uyo Teaching Hospital, Uyo. **Results:** of the one hundred and sixty-five respondents, 154 (93.4%) were married, 162 (98.2%) were Christians and 110 (66.7%) had tertiary education. Majority (84.2%) knew that febrile convulsion occur as a result of fever, 25 (15.2%) believed that febrile convulsion is caused by evil spirit and 5 (3.0%) by black magic. Significantly more mothers whose children had febrile convulsion believed that febrile convulsion is caused by evil spirit (p=0.04). Various treatments agreed by respondents include application of palm oil on the body -23(13.9%), rushing the child to the hospital -153(92.7%), insertion of spoon into the mouth–51(30.9%), instillation of onions juice into the eyes –19(11.5%), cow's urine concoction -4(2.4%). Mothers with children with febrile convulsion preferred the application of palm oil on the body during seizure episode (p=0.03). **Conclusion:** There is good knowledge of febrile convulsion among mothers attending the paediatric clinic of the university of Uyo teaching hospital. Public health education on this subject should be intensified to cater for the mothers with poor knowledge of the cause, treatment and prevention of febrile convulsion.

Keywords: Febrile convulsion, Knowledge, Mothers, Uyo

Introduction

Febrile convulsion is a common Paediatric Neurologic emergency in our environment [1]. The National Institute of Health defines it as seizures occurring in infancy or childhood usually between the ages of three months and five years associated with fever, but without evidence of intracranial infection [2]. This definition has been modified by the International League Against Epilepsy (ILAE) [3] as a seizure occurring in childhood after one month of age, associated with a febrile illness not caused by an infection of the central nervous system, without previous neonatal seizures or previous unprovoked seizures and not meeting criteria for other acute symptomatic seizures.

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Febrile convulsion has been described as the commonest cause of seizure in children under the age of five years [4,5]. Incidence of febrile convulsion varies widely from country to country. An incidence rate as low as 2-4% has been reported among the Caucasians and as high as 21.5% among the Africans [4-8]. In Nigeria, malaria, pneumonia, urinary tract infection, septicaemia and viral infections have been documented as the common causes of febrile convulsion [4,6,8-10].

Febrile convulsion could be frightening to the parents and caregivers, thereby giving rise to parental anxiety and apprehension. This coupled with ignorance and beliefs are often responsible for the various forms of interventions administered to the convulsing children by their parents and other

caregivers. Interventions such as cow's urine concoction, onion leaves and palm-oil have been reportedly administered to these children during convulsive episodes [4,5,11]. Some caregivers make incisions on the body of the child with febrile convulsion while others inflict burn injuries on the children in an effort to rouse the unconscious child [12]. This poor and unorthodox management often result in increased morbidity and mortality [13].

The misconception and poor knowledge of this condition could result in certain harmful home management of the condition. Mothers have been known to play a vital role in the care of children. Since children within the age bracket for febrile convulsion spend most of their daytime hours with their mothers, this implies that a convulsing child may likely be first attended to by the mother, thus adequate knowledge by the mothers is imperative. The adequate knowledge, when imparted on the mother could be disseminated to the entire community. This study therefore sought to know the knowledge, beliefs, attitudes of mothers towards febrile convulsion in Uyo.

Materials and Method

Study Design- The study was conducted in the University of Uyo Teaching Hospital (UUTH), Uyo, the capital of Akwa-Ibom state, Nigeria. UUTH is one of the two tertiary health facilities in Uyo. It is located on the outskirts of Uyo, about six kilometres from the centre of the city. The hospital has a four hundred and fifty-one bed capacity and is fast expanding. It has both clinical and other supportive departments including Paediatric department. The department of Paediatrics provides both inpatient and outpatient services for all children.

Paediatric Clinic is one of the units under Paediatric Department of the hospital. The Clinic is run on a daily basis alongside different Paediatric subspecialty clinics. All children below the age of eighteen years who present to UUTH, not as emergencies and within the official hours are seen in the Clinic. The clinic has a compliment of staff ranging from trained Paediatric nurses, House-officers, Resident Doctors as well as the Consultant Paediatricians who take care of the subspecialty clinics. A laboratory and pharmacy units are attached to the clinic. Most of the patients seen in this clinic are self-reported cases though some are referred from other health facilities within and outside the state. Before commencement of each day's activity in the clinic, the mothers are gathered in the reception area of the outpatient and are given a health talk on some of the common childhood health conditions such as febrile convulsion, diarrhoea and vomiting; and how to manage them at home. The study period was two months (from 1st May, 2016 to 30th June, 2016).

Ethical clearance was obtained from the Health Research Ethical Review Committee of the University of Uyo Teaching Hospital, Uyo. Written consent was obtained from the mothers and their participation was voluntary. It was emphasized to every mother that she is free to withdraw from the study at any stage she is no longer comfortable.

Inclusion Criteria- Mothers who gave their informed consent to participate in the study

Exclusion Criteria- Mothers who did not give their informed consent to participate in the study.

Participants- Mothers who bring their children to the Paediatric Clinic for consultation.

Variables- Age (years), Marital status, Religion, Educational attainment, Knowledge of febrile convulsion among the respondents.

Data Source- A semi-structured questionnaire was used for the study. It comprised of fourteen items which bordered on the age, religion, tribe, highest educational attainment as well as the knowledge, attitudes of respondents and home management of febrile convulsion.

A pilot study was conducted to pre-test the instrument among twenty mothers in the clinic and these mothers were excluded from the final sample for the study.

Bias- None was anticipated nor observed in this study.

Study Size- Sample size was calculated using the formula: $n = \frac{z^2(p)(1-p)}{d^2}$

where n= minimum sample size
z= the standard score corresponding to a given confidence level (1.96)

p= prevalence of febrile convulsion in Enugu which is 15.6% [8].
Minimum sample size using the above formula was 165.

The mothers who gave informed consent were consecutively recruited for the study until the minimum sample size was achieved. The respondents completed the questionnaire and for those who could not read, one of the investigators was available to assist in filling the questionnaire.

Statistical Methods- The data obtained was analysed using SPSS 20 package. Frequencies were compared using Chi-square; *p*-value of < 0.05 was regarded as significant.

Results

A total of 165 women were recruited into the study of which majority (51.5%) were in the age range of 30 -39 years and 93.4% were married. One hundred and sixty-two (98.2%) were Christians and 66.7% had tertiary level of education. The demographic characteristics of the respondents are shown in table I. Four (2.4%) respondents had no children, 135 (81.8%) had between 1 and 4, while 26 (15.8%) had more than four children. Majority of the respondents (55.8%) had never witnessed a convulsion while 73 (44.2%) had; 39 (23.6%) have children with febrile convulsion, and 126 (76.4%) do not have any children with febrile convulsion.

Table- I: Demographic characteristics of the respondents.

	N (165)	%
Age(years)		
<20	8	4.8
20-29	46	27.9
30-39	85	51.5
40-49	23	13.9
50 and above	3	1.8
Marital status		
Single	5	3.0
Married	154	93.4
Widowed	5	3.0
Separated	1	0.6
Religion		
Christianity	162	98.2
Moslem	2	1.2
Traditional	1	0.6
Educational attainment		
No formal education	2	1.2
First school leaving certificate	12	7.3
Secondary school certificate	41	24.8
Graduate/post graduate	110	66.7

Table II shows the knowledge of febrile convulsion by the respondents. Though majority of the respondents (84.2%) knew that febrile convulsion was caused by fever, 15.2% attributed it to evil spirit. Concerning its treatment, 78 (47.3%) respondents believe it should be treated with unorthodox medicine. Treatment such as application of palm oil to the body (13.9%), insertion of spoon into the mouth (30.9%), instillation of onions juice into the eyes of the convulsing child (11.5%) are some of the treatment modalities advocated by the respondents. One hundred and nine (66.1%) respondents knew that febrile convulsion could be harmless if proper treatment is administered to the convulsing child, 95 (57.6%) believe that febrile convulsion causes death, while 74 (42.4%) believe that physical handicap is a common complication of febrile convulsion. Majority (78.8%) of the respondents felt that febrile convulsion does not run in families and 39 (23.6%) believe that all children with febrile convulsion usually develop epilepsy later in life.

Table-II: Knowledge of febrile convulsion among the respondents.

	True (%)	False (%)
1. Febrile convulsion(FC) is caused by fever (no: 9a on questionnaire)	139(84.2)	26(15.8)
2. FC is caused by evil spirit (no:9b)	25(15.2)	140(84.8)
FC is caused by black magic (no: 9c)	5(3.0)	160(97.0)
FC is best treated with orthodox medicine (no: 10)	87(52.7)	78(47.3)
Palm oil application on the body is home remedy for FC (no: 11a)	23(13.9)	142(86.1)
Convulsing child with FC should be rushed to the nearest hospital for treatment (no: 11b)	153(92.7)	12(7.3)
A spoon should be inserted into the mouth of a convulsing child to prevent him from biting the tongue (no: 11c)	51(30.9)	114(69.1)
Onions should be instilled into the eyes of a convulsing child (no: 11d)	19(11.5)	146(88.5)
Cow's urine concoction is treatment for FC (no: 11e)	4(2.4)	161(97.6)
Convulsing children with FC should not be attended to prevent infecting others (no:11f)	11(6.7)	154(93.3)
FC runs in families (no: 12)	35(21.2)	130(78.8)
Death rate is high in children with FC (no: 14a)	95(57.6)	70(42.4)
FC usually cause physical handicap in affected children (no: 14b)	74(44.8)	91(55.2)
FC is harmless if properly treated (no:14c)	109(66.1)	56(33.9)

Concerning the relationship between having a child with febrile convulsion and mother's knowledge of the cause of this condition, it was observed that significantly more mothers with children with febrile convulsion responded that febrile convulsion was caused by evil spirit (p=0.04). This is illustrated in table III.

Table- III: Relationship between having a child that had convulsed before and knowledge of cause of febrile convulsion.

Cause of FC		Having a	Child with FC		p-value
		Yes	No	Total	
Fever	Yes	36	3	39	
	No	103	23	126	0.11
	Total	139	26	165	
Evil spirit	Yes	10	15	25	
	No	29	111	140	0.04
	Total	39	126	165	
Black magic	Yes	0	5	5	
	No	39	121	160	0.2
	Total	**39**	**126**	**165**	

Table IV shows the influence of having a child with febrile convulsion on mother's knowledge of the proper treatment of the condition. Of the 39 respondents with children with previous episode of febrile convulsion, 11 responded that application of palm oil on the skin was the proper treatment and this was statistically significant (p=0.03). Six out of 39 respondents with children with FC responded that children with FC should not be attended to during convulsive episode while 5 out of 121 respondents without children with FC thought otherwise. This was statistically significant with p-value 0.01.

Table - IV: Influence of having a child with FC on knowledge of proper treatment of FC

Treatment of FC		Having a Child with FC			p-value
		Yes	No	Total	
Palm oil application to the body	Yes	11	12	23	
	No	28	114	142	0.03
	Total	39	126	165	
Rush patient to hospital	Yes	37	116	153	
	No	2	10	12	0.55
	Total	39	126	165	
Instil onions juice into the eyes	Yes	7	12	19	
	No	32	114	146	
	Total	39	126	165	
Don't touch the convulsing child	Yes	6	5	11	
	No	33	121	154	0.01
	total	39	126	165	

Discussion

The study revealed that majority (84.2%) of the respondents believed fever is the cause of febrile convulsion. This is in contrast with a study by Onche et al [14] in Sokoto State, Nigeria in which 20% of respondents believed fever to be the cause of febrile convulsion.. The difference could be due to the fact that their study was conducted in a community in the North-West geo-political zone of Nigeria with different belief systems from that of this study area.

Palmar et al also reported that 77.9% of parents in their study did not know the fact that convulsion can occur as a result of fever. Their sample size was made up of both parents and not restricted to mothers [15]. Nyaledzigbor et al in a study in Ghana also reported that majority (70%) of the mothers believed that febrile convulsion occurs as a result of high fever [16]. Sahida et al also gave a similar (61%) report among mothers in Indonesia [17].

Twenty-five (15.2%) respondents thought that febrile convulsion is due to evil spirit. This has been reported in other studies within and outside Nigeria [14-18]. Anigilaje et al reported that subjects attributed 'angry gods' (51.8%), evil spirit (49.0%), constipation (36.8%) and black blood (0.6%) to be causes of febrile convulsion [18]. The misconceptions about febrile convulsion by mothers probably informed the use of inappropriate and harmful interventions to abort the convulsions. The use of unorthodox intervention such as application of palm oil on the body, insertion of spoon in the mouth during convulsion, instillation of onion juice in the eyes, and the administration of cow's urine concoction which were responses given by the mothers, were also reported in other studies [11].

Fifty one (30.9%) respondents advocated for the insertion of spoon into the mouth of a convulsing child. The forceful entry of hard objects such as spoon into the mouth of the convulsing child to prevent the child from clenching the teeth can result in soft tissue and dental injuries. Ndukwe et al reported that 96.3% of children who sustained oro-facial injuries during febrile convulsion was as a result of forceful insertion of a spoon into the mouth; the injuries sustained were laceration and bruising of the soft tissues including the lips, tongue, mucosa and commissures and tooth subluxation, displacement and avulsion [19]. Four (2.4%) respondents agreed to the use of cow's urine concoction to treat febrile convulsion.

The use of cow's urine concoction in treatment of seizure episodes is very common in western Nigeria. Jarret et al reported that 25.4% of children with febrile convulsion who reported to a tertiary health facility in Nigeria had cow's urine concoction as pre-hospital treatment [20]. The practice of administering cow's urine concoction to a convulsing child is usually associated with a poor outcome. This mixture contains tobacco leaves, garlic leaves, basil leaves, lemon juice, rock salt, bulb of onions all soaked in cow or human urine [21]. The concoction has been reported to have deleterious effects on the brain and other systems in the body [22].

Majority (57.6%) of the respondents believed that mortality rate is high in children with febrile convulsion. This is similar to findings reported by Palmar et al in India, and Anigilaje et al in Ilorin, Nigeria in which they reported that mortality is the most feared among mothers whose children experienced seizure [15,18]. One hundred and fifty-three (82.7%) of the respondents agreed to rush the convulsing child to the nearest hospital for treatment. This finding compares well with that reported by Anigilaje in Ilorin in which the 82.8% of the mothers will take their children to hospital at onset of febrile convulsion. It may indicate that the respondents appreciate the value of orthodox medicine, as reflected by the fact that 87 (52.7%) of the respondents in this study were of the opinion that FC is best treated with orthodox medicine.

The finding that mothers with children with febrile convulsion believed that the children should not be attended to during convulsive episodes is not surprising. This is as a result of the prevalent belief in our environment which has been reported by Ojinnaka in her study on epilepsy [23].

They believe that the saliva from the mouth of a convulsing individual contains the infecting agent and is contagious. This calls for proper education of the mothers specifically and the society at large as this belief exposes the child with febrile convulsion to danger during a seizure episode.

Conclusion

This study adds to the existing knowledge of febrile convulsion by demonstrating that most mothers attending the Paediatric Clinic in this tertiary facility, have a good knowledge of the cause of febrile convulsion though some still have poor knowledge on cause and proper treatment of this condition.

Public health education on febrile convulsion and what to do during convulsive episodes should be intensified as it is already in the heath care facility program.

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