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PREVALENCE AND HOME MANAGEMENT PRACTICES OF FEBRILE CONVULSION AMONG CHILDREN ADMITTED IN A TERTIARY INSTITUTION OF A DEVELOPING COUNTRY

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ABSTRACT

INTRODUCTION/OBJECTIVES:

Febrile convulsion (FC) is a convulsion triggered by fever of extra-cranial origin in young children between the ages of 3 months and 5 years. The objectives of this study were to determine the prevalence and home management practices of children admitted in the children emergency room (CHER), UCTH, Calabar, Nigeria.

METHODS/MATERIALS:

A cross-sectional descriptive study, carried out using quantitative and qualitative methods (admission register and key informant interview). Any child with febrile convulsion admitted into CHER from June 2017 to May 2018 was recruited for the study and his/her caregiver was interviewed on the home practices in the management of FC. Quantitative data was analyzed with SPSS version 22.0 while thematic coding was used for the qualitative data.

RESULTS

Out of 1,093 total admissions for the period under review, 37 had FC giving a prevalence of 3.4% with a M:F ratio of 1.1:1. Malaria was the most common cause in 59.5%. Caregivers treated FC at home by giving the children palm oil, palm kernel oil and crude oil to drink, rubbing olive oil, heating child's feet on fire and using spoon to keep the mouth open, while some rushed the child to the hospital immediately.

CONCLUSION:

The prevalence of FC was low and most of the home remedies applied by caregivers were harmful. It is recommended that there is need to intensify health education and create more awareness on the proper management of FC among caregivers in Calabar.

KEYWORDS

Convulsion, Fever, Homes Remedies, Child

INTRODUCTION

Febrile convulsion (FC), or febrile seizure (FS), is defined as a seizure accompanied by fever, without central nervous system infection, occurring in infants and children between three months and five years.[1-3] This definition excludes convulsion which occurs in conjunction with neurological diseases such as meningitis and encephalitis. Febrile convulsions are commonly seen in emergency paediatric units and are the commonest cause of seizure in under-five children.[3'4]

Prevalence of febrile convulsion varies widely from 2-21.5% globally.[3-6] The prevalence is as low as 2-5% in America and Europe,[3'5] 8-10% in Asia, [7'8] and up to 21.5% in Africa. [4'6'9] FC occurs more in males than females, with a male:female ratio of 1.1: 1 to 2:1.10 FC consists of two types namely: simple and complex. Simple febrile convulsions last for less than 15 minutes, are generalized and occur once in a 24-hour period, whereas complex febrile convulsions are prolonged (>15 minutes), focal

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l, or occur more than once in 24 hours.[3] Most FC (70-75%) are simple FC while 9-35% are complex.[11] Common causes of FC in the tropics include malaria, pneumonia, urinary tract infection, septicemia and viral infections. [4'12'13] Most cases of FC are benign and self-limiting with good prognosis.[3] However, FC is extremely frightening, emotionally traumatic, and anxiety provoking when witnessed by parents/caregivers, hence very difficult to handle at home. 14 This coupled with ignorance leads to inappropriate pre-hospital management especially in tropical countries where the prevalence is greatest. 6,9 These interventions at home include: drinking of cow's urine concoction, application of substances to the eyes and mouth such as palm oil, kerosene, olive oil, make incisions on the body, and burning of the feet or buttocks in an effort to rouse the unconscious child, often resulting in complications that may lead to death. 6,15,16 Hence, this study on the prevalence and home management practices of children admitted in the children emergency room (CHER), University of Calabar Teaching Hospital, Calabar, Nigeria.

METHODOLOGY

This study was carried out in the children emergency room (CHER), Department of Pediatrics, University of Calabar Teaching Hospital (UCTH), Calabar. UCTH is located about 5 kilometers from the center of Calabar, the capital of Cross River State in the South-south geopolitical zone of Nigeria. It is a tertiary centre in the state and also subserves the neighbouring states of Akwa Ibom, Ebonyi and Benue.

This was a cross-sectional descriptive study involving both quantitative and qualitative data collecting methods. The subjects were children aged three months to five years, admitted into CHER, UCTH, Calabar from June, 2017 to May, 2018 with febrile convulsion (FC), purposive sampling method was used to select participants and their mothers/caregivers gave consent. The inpatient admission register was used to collect quantitative data while the key informant interview was used to collect qualitative data on the home management practices of FC by mothers/caregivers. Quantitative data was analyzed with SPSS version 22.0 while thematic coding was used for the qualitative data.

RESULTS: Out of the total admission of 1,093 during the period, 37 had FC giving a prevalence of 3.4% with a M:F ratio of 1.1:1. Febrile convulsion was more common among the age group 13 to 24months (Table I).

TABLE I: SOCIO-DEMOGRAPHIC CHARACTERISTICS OF CHILDREN WITH FC:

Variables	Frequency (N)	Percentage (%)	Mean	SD
Sex				
Male	19	51.4		
Female	18	48.6		
Total	37	100		
Age (in months)				
1-12	3	8.1	1.53	0.506
13-24	22	59.5		
25-36	5	13.5		
37-48	5	13.5		
49-60	2	5.4		
Total	37	100		

TABLE 2: CAUSES OF FEBRILE CONVULSION

CAUSES	FREQUENCY (N)	PERCENTAGE (%)
Malaria	22	59.5
Tonsillitis	10	27.0
Pharyngitis	3	8.1
Septicaemia	1	2.7
Bronchopneumonia	1	2.7
Total	**37**	**100.0**

RESPONSES OF CAREGIVERS ON HOME PRACTICES IN THE MANAGEMENT OF FEBRILE CONVULSION

A total of 37 mothers were interviewed to assess their home practices in respect to the management of febrile convulsion. Some key informants responded that palm kernel oil, palm oil and crude oil were used in the management of febrile convulsion at home.

"I gave my child palm kernel oil to drink when he convulsed" (Key informant aged 40)

"I gave my child palm oil to manage it here at home" (Key informant aged 32)

"I have used crude oil before to manage convulsion at home" (Key informant aged 28)

Mothers developed different ways in the home management of febrile convulsion. Some parents gave enema to their children with water extracted from leaves for the management of febrile convulsion.

"I gave enema to my child with scent leaf water to manage convulsion at home" (Key informant aged 35)

Other management strategies used by mothers at home ranges from use of olive oil (used as anointing oil), heating of feet over fire and use of spoon to keep the mouth open. Their direct responses are captures verbatim below:

"I rubbed anointed oil on the whole of the body of my child during convulsion" (Key informant aged 30)

"I heat the feet of my child over fire to manage convulsion at home" (Key informant aged 35)

"I used spoon to keep the mouth open during convulsion" (Key Informant aged 60)

DISCUSSION

The prevalence of febrile convulsion (FC) in this study was 3.4%. This was slightly low compared to the prevalence of 4.9% obtained earlier in Calabar by Udo et al 17 and much lower to what was obtained in other parts of the country which ranged from 5.7-21.5%.4,15, 18,19, 20 This might be due to presentation at lower levels of health care delivery in our environment and the study being tertiary hospital based. However, it was similar to that obtained by Eseigbe et al, 6 in Kaduna, Nigeria. Both studies shared some similarities with respect to sample size and setting of study.

There was a slightly higher male preponderance in this study and it agrees with findings from previous studies.6,10,18,19,21 This may be due to the earlier maturation of the female brain which could provide protection against potential triggers such as fever,22 and some cultural attitude that encourages earlier presentation of males in our environment.21

Age group 13 to 24 months had the highest occurrence of FC. This is in keeping with global reports that most cases of FC occur among age less than 3yrs with a peak at12 to 18 months.23 FC has been described as an age-dependent response of the immature brain to fever, hence it occurs mainly before the age of 3years.23,24

Malaria was the commonest cause of febrile convulsion in our study; others include tonsillitis, pharyngitis, septicaemia, and bronchopneumonia. This result is similar to other reports from the country and Sub-Saharan African, 6,9,10,12,18,19,21 where malaria is the leading cause of childhood febrile illnesses. This finding is not a surprise, since Nigeria has the highest burden of malaria (27%) in Africa and among the five countries that contributed to the increase of 5million cases in 2022 from the 2021 figure of 244million cases according to the World Health Organisation.25 However, among Caucasians, upper respiratory infections caused by viruses is the commonest cause of febrile convulsion in children.3,26

Our study revealed that the home treatments carried out by mothers/caregivers on children with febrile convulsion include: drinking and rubbing palm kernel oil, palm oil, crude oil and olive oil used as an anointing oil. Others include enema with some leave extracts, putting spoon into the mouth and heating the feet over fire. These inappropriate and harmful practices have been reported in previous studies in Nigeria.6,15,16,18,19 These practices cause a lot of morbidity and mortality arising from their adverse effects and not the febrile convulsion itself, which in most cases has a benign outcome. Olowu and Olanrewaju noted that morbidity and mortality in relation to febrile seizures were directly related to administration of traditional concoctions prior to admission.18 Also, adverse consequences of harmful traditional pre-hospital treatment of febrile seizures include prolonged hospitalization, severe burns, aspiration pneumonitis, corneal injuries and in severe cases, death.27

In conclusion, the prevalence of febrile convulsion in our study was low and most of the home remedies applied by mothers and caregivers were harmful and inappropriate. There is a need for public enlightenment and health education about FC especially among mothers. Appropriate home care for FC, such as the use of rectal diazepam and buccal midazolam should be introduced and made freely available in paediatric practice in Calabar and across the country.

CONFLICT OF INTEREST
None
SOURCE OF FUNDING
Self

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