

# Treatment-seeking for convulsions in preschool children in Calabar, Nigeria

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**Abstract:** *Introduction:* Convulsions are the commonest neurological emergencies in preschool children. The outcome of convulsions in this age group is determined by the cause and the treatment-seeking behavior of their caregivers. *Objective:* To determine the treatment-seeking behavior of caregivers of preschool children with a history of convulsion. *Method:* A descriptive cross-sectional study was conducted among caregivers of preschool children to identify those with a history of convulsion in the previous 12 months and the immediate treatment response by their caregivers. *Results:* Caregivers of 632 children were surveyed. Thirty five (5.5%) children had a history of convulsion. Nine caregivers (25.7%) took no action to stop the convulsion, 10 (28.6%) gave herbal concoctions, 12 (34.3%) used medicine available at home from previous illness, 3 (8.6%) tepid sponged the children while 1 (2.8%) gave local enema. Subsequent treatment was sought by 23 (65.7%) caregivers. Of this number, 13 (55.6%) sought care from traditional healers, 5 (21.7%) from primary health centers and the remaining 5 (21.7%) from hospitals. Cost, proximity and perceived quality of care were the main determinants of the choice of facility for subsequent care. *Conclusion:* Caregivers of preschool children were either passive or took potentially harmful actions in managing childhood convulsions at home. There is need for mass enlightenment programme on appropriate actions regarding childhood convulsion in rural communities.

**Keywords:** Treatment-Seeking, Convulsion, Children, Caregivers

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## 1. Introduction

Convulsion is the commonest neurological emergency among preschool children presenting in health facilities and in rural communities [1, 2]. It is a life-threatening condition that causes extreme anxiety to caregivers. The event evokes a wide range of responses from caregivers that are defined by their social, economic, educational and cultural context [3, 4].

The outcome of convulsions in preschool children may be determined largely by the cause and the immediate responses by their caregivers to seeking treatment [5]. Since children are particularly vulnerable to poor outcome, inappropriate interventions at home or delays in accessing and utilizing appropriate medical care could result in development of neurological complications or death [6, 7]. This study aimed to determine the treatment-seeking behavior of caregivers of preschool children with convulsion.

## 2. Subjects and Methods

### 2.1. Study Design

A descriptive cross-sectional study was conducted in January 2006 in a suburb of Calabar, Cross River State, Nigeria.

### 2.2. Study Area and Population

The study area is characterized by rainy season from April to October and a dry season from November to March. The range of the annual rainfall is 1,350 – 3,000mm, the temperature is 23.6 – 31.3 °C and the relative humidity is 77 – 84%. Based on the 2006 census, the population of Calabar is over 372, 848 people [8]. The residents of the area are mainly petty traders and farmers with a few in the civil service and private sector employment.

### 2.3. Sampling Technique

A simple random sampling technique was used to select 632 households with under-fives using the census enumeration numbers of houses in the community. Selected households without under-fives were replaced with subsequent households with under-fives ( $\leq 60$  months).

### 2.4. Data Collection

Trained research staff collected information from consenting caregivers in the local language (*Efik*) or in *Pidgin* English using a pre-tested semi-structured questionnaire. A person was considered a caregiver if he/she was directly responsible for the well-being and upbringing of the child. For this study, the parents, guardians and housemaids were included as caregivers. Most of the caregivers were of the low socio-economic class. Information was obtained on the age and sex of the child(ren), knowledge about fever and convulsion among caregivers, number of convulsions in the 12 months prior to the interview, nature and duration of convulsion(s), initial home treatment, subsequent interventions and reasons behind the decision-making process.

### 2.5. Data analysis

Data were entered and analyzed with SPSS version 11.0. The results were presented as text and tables. Mean, percentage and proportion were used for descriptive statistics.

### 2.6. Ethical Consideration

Ethical approval was obtained from the Cross River State Health Research Ethics Committee. The participants' confidentiality was adequately protected using identification numbers.

## 3. Results

Caregivers of 632 children participated in the study. A total of 35 (5.5%) children were reported to have had convulsions within the previous 12 months. Convulsions were associated with fever in 31 (88.6%), they were reported as being generalized and lasted between 1 – 45 minutes with no long-term adverse effects from the episodes (Table 1). Of the 35 children in whom a history of convulsion was reported, 9 (25.7%) caregivers took no action to stop it, 10 (28.6%) gave a herbal concoction, 12 (34.3%) gave medicine available at home from a previous illness, 3 (8.6%) tepid sponged the children while 1 (2.8%) gave local enema. Subsequent treatment was sought by 23 (65.7%) caregivers. Of these, 13 (37.1%) went to traditional healers, 5 (14.3%) to primary health centers and the remaining 5 (14.3%) to hospitals as shown in Table 2. The choice of subsequent treatment by care givers was determined by cost of care, perceived quality of care, proximity of facility to the caregivers and advice from neighbors as displayed in Table 3.

**Table 1.** Pattern of convulsions reported in preschool children studied in Calabar Nigeria

Characteristics	Male	Female	All Subjects
Number (% N) Studied [N = 632]	365(57.8)	267(42.2)	632
Mean age(SEM*) age in months	21.7 (0.97)	19.8 (1.12)	20.9 (0.73)
Number (%) with convulsions within past 12 months	20 (5.5)	15 (5.6)	35 (5.5)
Convulsions associated with fever	18/35 (51.4%)	13/35 (37.1%)	31/35 (88.6%)
First episode of convulsions	16/35 (45.7%)	10/35 (28.6%)	26/35 (73.4%)
Recurrent convulsions	4/35 (11.4%)	5/35 (14.3%)	9/35 (25.7%)
Mean duration of convulsion in minutes	12.9 (11.9) [range: 1-45]	13.1 (9.4) [range: 1-30]	13.0 (10.7) [range: 1-45]

\*SEM – Standard Error of Mean

**Table 2.** Treatment-seeking behavior of caregivers for convulsion in preschool children

Treatment-seeking behavior	Number of caregivers	All caregivers (%) Total
<b>Action taken at home:</b>		
None	9	25.7%
Herbal/Native concoction	10	28.6%
Medicines available at home as tablets or syrup	12	34.3%
Tepid sponged with water	3	8.6%
Enema	1	2.8%
<b>Health facility attended for treatment of convulsion</b>		
Traditional healer	13	56.6%
Primary Health Center	5	21.7%
Hospital	5	21.7%

**Table 3.** Reasons given for choosing health provider/facility for treatment of convulsions in preschool children

Reason for choice of health provider/facility	Frequency (%) for different health providers			Total
	Traditional healer n (%)	Primary health center n (%)	Hospital n (%)	
Nearness to residence	2 (33.0%)	3 (50.0%)	1 (16.7%)	6
Cheaper cost of care	6 (100%)	-	-	6
Practitioner offers better quality of care	2 (40.0%)	1 (20.0%)	2 (40.0%)	5
Advise by others	-	-	2 (100%)	2

Note: The reason for choice of health provider/facility could not be elucidated in four caregivers

## 4. Discussion

The prevalence of childhood convulsion in this study was 5.5%. This is slightly higher than 3.9% recorded by Offringa among Dutch children [9]. The absence of neurological sequelae after episodes of convulsion with over 85% of it being associated with fever suggests that they were mainly febrile convulsions [1].

This study shows marked variations in the immediate responses of caregivers to childhood convulsion. About a quarter of caregivers took no action at home during episodes of convulsion. The fact that some caregivers took no action on the event of convulsion was rather surprising as one would have expected them to raise an alarm or seek help from neighbors. This apparently unusual response may have been from caregivers of children that had recurrent convulsions. Caregivers that have witnessed previous episodes of childhood convulsion with full recovery of function are not likely to be perturbed or take action on subsequent occurrences. Another possible explanation for the refusal of caregivers to take action could be the lack of knowledge of appropriate action or the commonly held notion in this part of the country that convulsions are contagious [4, 10-11]. This finding highlights the need for mass enlightenment campaigns on the causes, prevention and appropriate treatment of childhood convulsions. This is necessary in view of the observed relationship between maternal and infant mortality and the level of access to information, education and communication resources by women [12].

Leftover medications in the form of tablets or syrup and native concoctions constituted over 60% of the interventions used at home by caregivers to stop convulsions in the children. The use of herbal concoctions in this study is about twice as much as was reported in the northwestern part of the country [13]. These medications were administered orally, intra-nasally or intra-rectally during the episodes of convulsion. Administration of noxious or potentially dangerous substances is a common practice in the treatment of childhood convulsion in most parts of the country though the actual composition of the concoctions may differ with regions of the country [13].

Less than 10% of caregivers tepid sponged their children during the episode of convulsion. The low response for this intervention is quite disturbing since most cases of convulsion in the study were associated with fever. Early detection of fever and use of appropriate measures of

controlling it has the potential of reducing the incidence of childhood convulsion in the community. Temperature control by tepid sponging, fanning or use of antipyretics is believed to relieve symptoms of illness and prevent the occurrence of febrile convulsion [14]. Wide application of these measures by caregivers at the onset of fever is necessary for reducing the adverse effects of fever among preschool children.

Most caregivers in this study chose traditional healers over formal healthcare providers for subsequent treatment of convulsions. The main reason given for this decision was the cost of care. Other studies have also identified financial considerations as an important determinant in the choice of provider for treatment of under-fives [15-18]. Perceived better quality of care for convulsion was another reason for preference of traditional healers over formal healthcare providers. The few that visited formal health facilities did so because of proximity or following advice by neighbors. The suggestions of neighbors on facilities for care on event of childhood convulsion have been shown to be related to their personal experience on the health problem [19]. To improve uptake of health services in formal health facilities for childhood illnesses, measures for reducing the cost of care in those facilities need to be adopted.

## 5. Conclusion

Caregivers of preschool children were either passive or used potentially harmful measures for childhood convulsion. Most of them sought subsequent care from traditional healers due to relatively low cost of care when compared with the formal health facilities. There is need to make health care more affordable in the formal health facilities in the country as well as disseminate information on the appropriate actions caregivers should take in the event of childhood convulsions.

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## Contributions of Authors

Martin Meremikwu conceived and designed the study. He also analyzed the data. Joseph Okebe and Uduak Okomo

participated in data collection and revision of the manuscript. Ekong Udoh analyzed the data and prepared the manuscript. Komomo Eyong contributed to the final version of the manuscript.

## Conflict of Interest

We declare no conflict of interest.

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