



## Research Article

JMR 2018; 4(2): 102-105  
March- April  
ISSN: 2395-7565  
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www.medicinarticle.com  
Received: 18-02-2018  
Accepted: 10-04-2018

## Practices of mothers towards infant seizures in Yaounde, Cameroon

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### Abstract

**Aim:** Seizures are common neurological disorders in the pediatric age group and occur most often in children at home. The study was aimed at identifying the different practices initiated at home by parents to their children during a first episode of seizure. **Methodology:** This was a descriptive cross-sectional study done at the Pediatrics unit of the Yaounde Gynaeco-Obstetric and Pediatric Hospital over a six months period. A total of 100 mothers were interviewed from 1<sup>st</sup> March to 31<sup>st</sup> August 2014. Enrolled in the study were mothers whose children were hospitalized after the first episode of seizure. The children also had to be the first among siblings. Data collected included socio demographic variables and attitudes towards the convulsing child, and were entered into a pre-tested questionnaire. **Results:** We noted that 44% of the mothers were within the 20-30years age group, 42% unemployed, 69% single mothers and 57% had attended secondary school. Most parents (74%) had tried to stop the seizure using inhalation of a strong odor or smoke from burnt clothes (13.4%), putting an object into the child's mouth (8.7%), auto-medication (6.3%) and forcing the child's head inside the latrine (5.5%). Despite these harmful methods to stop the seizures, 98% of the mothers still brought their children to the hospital afterwards. **Conclusion:** Overall, the practices of the parents towards seizures were inappropriate and harmful. It is thus important that health professionals inform and educate parents on seizures, and on home management before taking them to a health facility.

**Keywords:** Child, Seizures, Mothers, Practices, Cameroon, Africa.

### INTRODUCTION

A seizure is a transient occurrence of signs and/or symptoms resulting from abnormal excessive or synchronous neuronal activity in the brain [1]. In Cameroon, febrile seizures affect 6.1% of pediatric hospitalizations. Seizures are most often spectacular, and are often diversely interpreted by parents and often provoke fright and inappropriate home practices [2]. In most cases, they occur at home, and as a result parents are the first to be implicated in the home management. Their practices at home are therefore determinant in the outcome. Seizures are often dramatic leading to erroneous interpretations, fright and inappropriate practices by the parents [3-7]. In Africa, some studies indicate that parents prefer first going to traditional healers when their children have seizures [6], thus delay in seeking for appropriate management. In Cameroon, several studies have been made on seizures [2], but none has studied parental practices. We thus undertook this study with the aim of assessing home management by parents to their children with the first ever episode of seizures in a Cameroonian context.

### METHODOLOGY

This was a cross-sectional descriptive study conducted in the General Pediatric Unit of the Yaounde Gynaeco-Obstetric and Pediatric Hospital, in Cameroon, over a period of 6 months (from 1<sup>st</sup> March to 31<sup>st</sup> August 2014). The hospital is a referral hospital in Yaounde, the capital city of Cameroon and receives patients from the whole city and other parts of the country, and of all ethnicities.

### Data collection procedure

Our sampling was consecutive and consisted of all mothers whose children were admitted for seizures. Enrolled in the study were mothers of all children with the first ever seizure and none of the siblings in the family must have had a seizure before. Were excluded from our study any child presenting with a paroxysmal phenomenon mimicking seizures, and children less than one month.

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## Ethical considerations

Ethical approval was received from the ethics committee of the Yaounde Gynaeco-Obstetric and Pediatric Hospital, No 97/CIERSH/DM 2014 of 10th March 2014. Administrative authorization was granted by the directorate of the Yaounde Gynaeco-Obstetric and Pediatric Hospital. Written informed consent was obtained from the mothers of the children who participated in this study.

## Statistical analysis

Variables collected and entered in a questionnaire included the socio-

demographic characteristics of the parents, measures taken at home during the seizure, medications given, and place of subsequent consultation. At the end of the interviews, parents were counseled on seizures and best practices on the home management before taking the child to the hospital.

## RESULTS

We enrolled 100 mother- infant pairs. Most mothers (85%) were aged 20 to 40 years, 42% were unemployed, 69% were not married, and 57% had attempted secondary education (Table 1).

**Table 1:** Socio-demographic characteristics of the mothers

|                      |                  | Number     | Percentage (%) |
|----------------------|------------------|------------|----------------|
| Mother's age (years) | <20              | 2          | 2              |
|                      | [20 – 30]        | 44         | 44             |
|                      | [30 – 40]        | 41         | 41             |
|                      | [40 – 45]        | 9          | 9              |
|                      | >45              | 4          | 4              |
|                      | <b>Total</b>     |            | <b>100</b>     |
| Job status           | Employed Public  | 13         | 13             |
|                      | Private          | 45         | 45             |
|                      | Unemployed       | 42         | 42             |
|                      | <b>Total</b>     | <b>100</b> | <b>100</b>     |
| Educational level    | Secondary school | 57         | 57.0           |
|                      | Primary school   | 19         | 19.0           |
|                      | University       | 18         | 18.0           |
|                      | None             | 6          | 6.0            |
|                      | <b>Total</b>     | <b>100</b> | <b>100</b>     |
| Marital status       | Married          | 31         | 31             |
|                      | Unmarried        | 69         | 69             |
|                      | <b>Total</b>     | <b>100</b> | <b>100</b>     |

The mean age was 4 years. Most of the children were boys (56%) with a sex ratio of 1.3. The most affected age group was the 1- 2 years age

group with 42 % of the children (Table 2).

**Table 2:** Distribution of the children by sex and age group

|     |                | Number     | Percentages (%) |
|-----|----------------|------------|-----------------|
| Sex | Female         | 44         | 44.0            |
|     | Male           | 56         | 56.0            |
|     | <b>Total</b>   | <b>100</b> | <b>100</b>      |
| Age | [1-4 months ]  | 8          | 8.0             |
|     | [4-7 months ]  | 2          | 2.0             |
|     | [7-12 months ] | 4          | 4.0             |
|     | [1-3 years ]   | 42         | 42.0            |
|     | [3-6 years ]   | 31         | 31.0            |
|     | [6-10 years ]  | 7          | 7.0             |
|     | >10 years      | 6          | 6.0             |
|     | <b>Total</b>   | <b>100</b> | <b>100</b>      |

Only 26% of the children were immediately taken to the hospital during a seizure episode. In the majority of cases (74%) parents chose to initiate some form of treatment practices on their own, like letting

the child inhale a strong odor (alcohol, smoke from burnt cloth tissue, pepper, whiskey, or onions) (13.4%), or introducing an object or finger in the child's mouth (8.7%) (Table 3).

**Table 3:** Measures taken at home during the seizure

|   | Number     | Percentage (%) |
|---|------------|----------------|
| Taking the child to the hospital immediately  | 33         | 26.0           |
| Making the child to inhale a strong odor (alcohol, smoke from burnt cloth tissue or pepper, whisky, onions) | 17         | 13.4           |
| Putting an object or finger in the child's mouth  | 11         | 8.7            |
| Administering a drug*   | 8          | 6.3            |
| Putting the child's head in the latrine   | 7          | 5.5            |
| Pouring cold water on the child/ immersion in cold water  | 7          | 5.5            |
| Traditional treatment (concoctions, scarifications, oiling with the sap of a tree)                          | 7          | 5.5            |
| Oiling with palm kernel oil or licking palm oil   | 7          | 5.5            |
| Prayers with anointed water   | 7          | 5.5            |
| Lowering the body temperature using physical measures (undressing or wrapping the child with a humid cloth) | 6          | 4.8            |
| Placing in the lateral or dorsal decubitus position   | 4          | 3.1            |
| Tapping or pinching the skin  | 3          | 2.4            |
| Drinking water  | 2          | 1.6            |
| Calling a health care personnel   | 2          | 1.6            |
| Massaging with hot water or warming up the child  | 2          | 1.6            |
| Drinking honey  | 2          | 1.6            |
| Wounding the child's forehead and letting him lick the blood  | 1          | 0.8            |
| Immobilizing the limbs  | 1          | 0.8            |
| <b>Total</b>  | <b>127</b> | <b>100</b>     |

\*detailed in Table 4.

Medications administered to the children during the seizures were antipyretics (38.5%) and antimalarials (30.8%) (Table 4).

**Table 4:** Drugs administered by parents during the crisis (Number = 8)

|                | Number    | Percentage (%) |
|----------------|-----------|----------------|
| Antipyretics   | 5         | 38.5           |
| Antimalarials  | 4         | 30.8           |
| Antiepileptics | 2         | 15.4           |
| Others*        | 2         | 15.4           |
| <b>Total</b>   | <b>13</b> | <b>100</b>     |

\*Vitamins, anthelmintics.

Almost all parents (98%) took their children to the hospital after the initial home treatment. One took the child to a traditional healer and another to a prayer group (Table 5).

**Table 5:** Place of consultation and treatment

|                    | Number     | Percentage (%) |
|--------------------|------------|----------------|
| Hospital           | 98         | 98             |
| Traditional healer | 1          | 1              |
| Prayer group       | 1          | 1              |
| <b>Total</b>       | <b>100</b> | <b>100</b>     |

## DISCUSSION

We noted that most mothers had a relatively high level of education. This is explained by the fact that we conducted this study in an urban area where most mothers are educated. The perception and behavior of parents towards seizures are often influenced by the level of education. Some studies have shown correlations, both between the

level of education and lack of knowledge about seizures, and between the level of anxiety during seizures and the level of education [7-10].

During the seizures parents reacted in different ways. Most parents tried to stop the seizure at home. Some of these practices were harmful and were even dangerous for the child. In the particular case of smoke inhalation, children risked intoxication with carbon monoxide contained in the smoke. Indeed, carbon monoxide acts adversely on the central nervous system, by exacerbating seizures through several mechanisms. These mechanisms include cerebral edema by a vasogenic mechanism and discharge of excitatory neurotransmitters, and brain edema by a vasogenic mechanism that synergistically contribute to maintaining intracerebral hyper excitability, leading to hypoxia [11]. Some parents placed the child's head in the latrine because they thought the odor from the latrines could stop seizures, but ignoring that the carbon monoxide will instead exacerbate the seizures. Some children were immersed in water or given water to drink, and this could lead to choking and asphyxia. In Nigeria, inadequate or dangerous practices were also noted; 87.1% of the mothers made their children drink cow urine concoctions during the seizure, and 61.2% of mothers inserted their hands and/or a spoon into the mouth of the convulsing child [12]. In our study only a minority of parents adopted appropriate practices as rushing the child directly to the hospital or putting the child in the lateral position to permit drainage of secretions from the child's mouth. Some authors noted that instead a majority of the parents brought their children immediately to the hospital without carrying out any harmful home interventions [13-16].

After the seizures most mothers administered antimalarials and antipyretics, because they thought the seizures were caused by malaria or fever. However, in other studies, parents did not administer any medical treatment to the child after the seizure [5, 8, 10, 12-14].

Despite the many home interventions most of which were inappropriate, almost all (98%) parents in our series, finally brought

their children to the hospital for better management.

This contrasts findings from Akter *et al* in Bangladesh where most children (60%) were taken to traditional healers after the seizures for managements [17]. They explained this finding by the low level of education of the mothers, religious beliefs and living at long distances from health facilities.

The strength of this study lies in the fact that although being a hospital-based study it was a reflection of what happened at home in the community focusing on children who had seizures. The main limitation was the urban setting in which the study was done. Thus, our findings might not reflect practices in the rural areas of the same country.

## CONCLUSION

This study shows that practices of parents towards their children with seizures were inappropriate and sometimes dangerous. Therefore, we recommend that health care professionals should educate parents on first aid practices in case of seizure. This study could form the basis of a sensitization programme with the aim of reducing infant mortality due to poor management of seizures at home.

## Competing Interests

The authors declare that they have no competing interests

**Funding:** None.

## Author Contributions

Concept - A.C., S.N.; Design- A.C., R.T.M.; Supervision - A.C., S.N. J.E.; Resources - E.M.; Materials – F.N.D., E.M.; Data Collection and/or Processing - R.T.M, F.N.D., J.E. L.L.B.; Analysis and/or Interpretation – A.C., R.T.M; Literature Search - R.T.M., A.C.; Writing Manuscript – R.T.M., L.L.B.; Critical Review- S.N., E.M.

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