

## CLINICAL PROFILE OF CHILDREN PRESENTING WITH SEIZURE

Dr Rakesh Thakur<sup>1</sup>, Dr Sumeet Verma<sup>2</sup>

<sup>1</sup>Medical Officer, Department of Paediatrics, Civil Hospital Barsar, Hamirpur, Himachal Pradesh

<sup>2</sup>Medical Officer, Department of Orthopaedics, Regional Hospital Bilaspur Himachal Pradesh

**Article Info:** Received 14 October 2021; Accepted 18 December 2021

**DOI:** <https://doi.org/10.32553/ijmbs.v5i12.2368>

**Corresponding author:** Dr Sumeet Verma

**Conflict of interest:** No conflict of interest.

### Abstract

**Background:** This study is to describe the clinical profile of children presenting with seizure including common causes of seizure and classify the seizure types.

**Methods:** Hospital-based, analytic and descriptive study. This study includes all children in the age group 6 months to 12 years who presented in the department of paediatrics with seizure.

**Results:** Seizures presented with fever in 36.00% of cases

**Conclusions:** Seizures are one of the common causes of hospitalization. It can be inferred from this study that CNS infections are the most common cause of acute symptomatic seizure. The improvement in health care facilities like sanitation and immunization is warranted to prevent it.

**Keywords:** Seizures, GTCS, Children

### Introduction

According to the World Health Organization, of the 50 million people with epilepsy worldwide, 80% reside in developing countries. Seizures account for about 1% of all emergency department visits, and about 2% of visits of children's hospital emergency department visits.<sup>1</sup>

In most of the studies, febrile seizures were reported to be the most common type seen in the pediatric population and account for the majority of seizures seen in children younger than 5 years of age.<sup>2</sup>

The common causes of seizures in children include: Neonatal seizures (infections, birth asphyxia, and metabolic causes), febrile convulsions, meningitis, viral encephalitis, neurocysticercosis, cerebral malaria, and epilepsy (symptomatic, cryptogenic, and idiopathic).<sup>3</sup> Between 6 months and 5 years of age, febrile seizures account for 2–5% of all seizures in children experiencing the first episode. Infections remain the major cause of seizures in developing nations.<sup>4</sup>

### Material and methods:

Type of Study- This was a prospective, cross-sectional analytical study. Inclusion Criteria

- Children of both genders above the age of 1 year and below 12 years were included.

- Children attending with first - time seizures alone were included.
- Children with a history of fever were included.
- Children with a history of head injury were included.
- Children with acute symptoms and signs of seizures with altered sensorium were included in the pediatric intensive care unit were included.

### Exclusion Criteria

- Children after 12 years of age were excluded.
- Children with the previous history of seizures or treatment of seizures were excluded.
- Children with severe head injuries requiring surgical interventions were excluded.
- Children with head injuries but associated with other body injuries were excluded.

Data analysis- Analysis of data was made using descriptive statistics and hypothesis testing. The Chi-square test and Fisher test were used to examine the association between different variables and strength of the relationship.  $P < 0.05$  was considered as statistically significant.

### Results:

**Table 1: Type of seizure**

Type of seizure	No of children	Percentage
GTC (Generalized tonic-clonic)	55	55.00
Partial	33	33.00
Absence	4	4.00
Myoclonic	3	3.00
Status E	3	3.00
Others	2	2.00
Total	100	100.00

**Table 2: Etiology**

Etiology	No of children	Percentage
Infection	28	28.00
Febrile	36	36.00
Seizure disorder	12	12.00
Head injury	10	10.00
Space occupy lesion	10	10.00
Metabolic disorder	4	4.00
Total	100	100.00

**Table 3: Outcome**

Outcome	No of children	Percentage
Discharge without deficit	76	76.00
Discharge with deficit	15	15.00
Referred	5	5.00
Death	2	2.00

## Discussion

This was a hospital based retrospective analytic and descriptive study of children presented with seizure. This study aimed to analyse demographics, clinical seizure types, etiologies and outcome of those children. This study excludes neonates and infants under 6 months of age because frequently they comprise one spectrum of diseases like septicemia, hypoxic-ischemic encephalopathy, and metabolic disorders.

Many studies done before shows high incidence of seizure in younger age group of children and a decreasing trend in older ones as well as more common incidence of seizure in males. In our study also most children were younger than 5 years of age, even though not very significant but males had higher prevalence compared to female. Seizures presented with fever in 36.00% of cases. Generalized tonic-clonic seizure was found to be the commonest clinical seizure type and had higher incidence among children presenting with febrile seizure which is in accordance with the previous studies<sup>5,6</sup>.

In our study the mortality rate during hospital stay among children admitted with acute episode of seizure was found to be similar with the mortality reports from other developing countries and amounting to 3.00% .<sup>7</sup> There was poor outcome in children diagnosed with encephalitis and status epilepticus<sup>8</sup> there was good outcome in those children diagnosed with febrile seizure and neurocysticercosis.

## Conclusion:

We concluded from this study that most of acute symptomatic seizures are caused by CNS infections like meningitis, encephalitis, tubercular meningitis and neurocysticercosis as well as by febrile seizure which can be prevented with improvement in health care facilities like sanitation and immunization and preparedness to deal with acute episodes of seizure.

## References

1. Friedman MJ, Shariieff GQ: Seizures in children. *Pediatr Clin North Am* 2006, 53:257–277.
2. Martindale JL, Goldstein JN, Pallin DJ: Emergency department seizure epidemiology. *Emerg Med Clin North Am* 2011 Feb, 29(1):15–27.
3. Hauser WA: The prevalence and incidence of convulsive disorders in children. *Epilepsia* 1994, 35(suppl 2):S1–S6.
4. Idro R, Gwer S, Kahindi M: The incidence, aetiology and outcome of acute seizures in children admitted to a rural Kenyan district hospital. *BMC Pediatr* 2008, 8:5.
5. Chen CY, Chang YJ, Wu HP: New-onset Seizures in Pediatric Emergency. *Pediatr Neonatol* 2010, 51(2):103–111
6. Murthy JMK, Yangala R. Acute symptomatic seizures — incidence and etiological spectrum: a hospital-based study from South India. *Seizure*. 1999;8:162–165. doi: 10.1053/seiz.1998.0251.
7. Huang CC, Chang YC, Wang ST. Acute Symptomatic Seizure Disorders in Young Children-A Population Study in Southern Taiwan. *Epilepsia*. 1998;39(9):960–964.