

Clinical profile of children with seizure disorders admitted to the Professorial Paediatric Unit, Teaching Hospital Jaffna.

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Background and Objective: Seizure is a common neurological disorder accounting for 3 to 5% of paediatric hospital admissions in Sri Lanka, with significant mortality and morbidity. There are limited studies on childhood seizure disorders in Sri Lanka. This study describes the clinical profile and association of demographic, perinatal and other factors with the aetiology and long-term clinical outcome of seizure disorders among children admitted for the first time with seizures from January 1st 2014 to December 31st 2020 to the Paediatric Professorial Unit of Teaching Hospital Jaffna.

Methods: This was an institution-based cross-sectional study on secondary data extracted from 605 clinical records of children admitted following seizure between January 1st 2014 and December 31st 2020. Patient characteristics were summarized as frequencies and percentages. Numerical variables were summarized into mean or median. Associations between demographic and perinatal factors with aetiology and clinical outcome were assessed using chi-square test (critical level 0.05).

Results: Among 605 children with seizure disorders, 55.5% were males. Mean age was 2.05 (SD 0.8) years. Among them, 78% were diagnosed with febrile convulsions, followed by seizure of non-specified aetiology (16.4%), and epilepsy (6%). Seizure disorders were most prevalent in the 1 to 5 years age group (63%). Sodium and potassium were the main electrolytes investigated; 18.8% had abnormal potassium and 10.4% had abnormal sodium levels. The most frequently done investigation was computed tomography (20.7%), usually for children with epilepsy and seizures of non-specified aetiology. Sodium valproate, carbamazepine and phenobarbital were the principal drugs prescribed. Among those who received sodium valproate, carbamazepine and phenobarbital, 9.4%, 1.3%, and 0.75%, respectively, were given an inadequate dose. Age group, perinatal factors, postnatal complications, drug regimen, developmental delay and family history of epilepsy were significantly associated with the aetiology of seizure disorders ($p \leq 0.05$). A family history of seizure of non-specified aetiology was significantly associated with long-term clinical outcomes ($p \leq 0.05$).

Conclusions: The commonest aetiology of seizure disorders was febrile convulsion. Several perinatal and developmental factors were associated with aetiology and clinical outcomes. Inadequacy sodium valproate dose was identified among children with epilepsy and seizures of non-specified aetiology, indicating need for further research.

Keywords: Seizure disorders, Epilepsy, Perinatal factors, Computed tomography, Sodium valproate