



CLINICAL PROFILE OF EPILEPSY IN CHILDREN AT A KM MEDICAL COLLEGE AND HOSPITAL

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Conflicts of Interest: Nil

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Abstract:

Introduction: Worldwide especially in the developing countries Epilepsies are common for morbidities in children that are associated with significant sociocultural, economic and health implications. Epilepsy is defined as a disorder of the brain characterized by enduring predisposition to generate epileptic seizures and by the psychological, neurobiological, cognitive, and social consequences of this condition. Signs and/or symptoms of an epileptic seizure may be due to abnormal excessive or synchronous neuronal activity in the brain. Occurrence of at least one epileptic seizure is defined as epilepsy. According to WHO it was estimated that in the world of the 50 million people with epilepsy, 80% people live in developing countries. Children less than 3 years of age incidence neurological disorders are highest with a decreasing frequency in older children which is most common worldwide.

Aim: The main aim of this study is to clinical profile of epilepsies in children with probable aetiologies and associated comorbidities of children.

Material and methods: Children with sign and symptoms with epileptic were admitted in this hospital. Children and their parents were interviewed and the data recorded. Age of patient, sex, age at onset of seizure, history was also obtained to determine the possible cause of the seizure, type of epilepsy and associated comorbidities and noted down detail relevant clinical examination findings. Detailed history and General physical examination was carried out and to detect other neurological comorbidities a detailed neurological assessment was also carried out and most cases confirmed by electroencephalography.

Results: Total 100 children patients were included in this study with various neurological morbidities and had epilepsy which constitutes 62.4%. Out of total patients with epilepsy 68% children were male and 32% were females which shows male ratio is more than female. Highest number of children with epilepsy shows in the age between 1-5 years in males as well as females which is followed by 6 -10 years.

Conclusion: Therefore epilepsy is the commonest neurological morbidity, limited facilities and resources in society. This is still a major challenge in identifying the actual aetiology in children with disease. For reduce or completely eradication for these preventable causes of this disease effort should be strengthened.

Keywords: Epilepsy, Children, Clinical Profile.

Introduction

Epilepsy is one of the common neurological illnesses in children occurring about 4 - 6 per 1000 children in the general populationⁱ. Worldwide especially in the developing countries Epilepsies are common for morbidities in children that are associated with significant sociocultural, economic and health implications^{ii, iii, iv, v}. Epilepsy is defined as a disorder of the brain characterized by enduring predisposition to generate epileptic seizures and by the psychological, neurobiological, cognitive, and social consequences of this condition. Signs and/or symptoms of an epileptic seizure may be due to abnormal excessive or synchronous neuronal activity in the brain. Occurrence of at least one epileptic seizure is defined as epilepsy^{vi}. Clinically Epilepsy is defined by any of the following conditions as follows within more than 24 hours occurring At least two unprovoked seizures or a probability of further seizures with One unprovoked (or reflex) seizure which is similar to the general recurrence risk (at least 60%) or Diagnosis of an epilepsy syndrome^{vii}. In developing countries Eighty per cent of epilepsies in children are said to live^{viii}. Many studies had shown that epilepsies are the most common conditions occurs in most children in many parts of the developing world^{ix, x, xi}. Children less than 3 years of age incidence neurological disorders are highest with a decreasing frequency in older children which is most common worldwide^{xii}. According to WHO it was estimated that in the world of the 50 million people with epilepsy, 80% people live in developing countries^{xiii}. However for early diagnosis for childhood epilepsy there is little information available. Diagnosis is mainly based on clinical manifestation. A Neurophysical investigation helps in diagnosis for epilepsy syndromes^{xiv}. The main aim of this study is to clinical profile of epilepsies in children with probable aetiologies and associated comorbidities of children.

MATERIAL AND METHODS:

This is cross- section study which is undertaken at the Department of Paediatrics of KM Medical College and Hospital, Mathura UP during the period of one year. This study was carried out on patients between the age group 1 month to 12

year old. Children with sign and symptoms with epileptic were admitted in this hospital. Children and their parents were interviewed and the data recorded. age of patient, sex, age at onset of seizure, history was also obtained to determine the possible cause of the seizure, type of epilepsy and associated comorbidities and noted down detail relevant clinical examination findings. All children presenting with epilepsy whose parents gave consent and the willingness were included in this study.

Detailed history and General physical examination was carried out and to detect other neurological comorbidities a detailed neurological assessment was also carried out and most cases confirmed by electroencephalography. Whenever there were doubts in verbal description, their parents were request to mime what they observed during attacks so that accurate seizure types were recorded.

RESULTS:

Total 100 children patients were included in this study with various neurological morbidities and had epilepsy which constitutes 62.4%. Out of total patients with epilepsy 68% children were male and 32% were females which shows male ratio is more than female. Highest number of children with epilepsy shows in the age between 1-5 years in males as well as females which is followed by 6 -10 years as shown in table below.

Table 1: Distribution of children with epilepsy in age and sex

age	sex		Total
	male	female	
<1	8	3	11
1-5	27	15	42
6-10	21	8	29
10-15	12	6	18
Total	68	32	100

Epilepsy as Generalized tonic clonic was the commonest type of epilepsy which was found as highest in children in 59% followed by simple partial and myoclonic epilepsy in 21% and 6% respectively as shown in table below.

Table 2: Types of epilepsy

Types	Frequency	%
Generalised tonic clonic	59	59
Simple partial	21	21
Myoclonic	6	6
Complex partial	5	5
Absence	4	4
Atonic	2	2
Tonic	2	2
Focal with secondary generalization	1	1
Total	100	100

69% of the children were identifiable cause of epilepsy. 17% were Severe birth asphyxia was responsible of cases while central nervous system infection as viral encephalitis and meningitis. 1% was congenital malformation of the brain and polycythaemia respectively. 25% of the patients have positive family history of epilepsy.

59% of the children with epilepsy had no associated comorbidity whereas the commonest comorbidity was cerebral palsy as 19% followed by mental retardation as 14%. Poor academic performance and abnormal behavior were other comorbidities which is less as shown in table below.

Table 3: Comorbidities in children with epilepsy.

Comorbidities	No. of patients	%
Nil	59	59
Mental retard	14	14
Cerebral palsy	19	19
Microcephaly	4	4
Poor academic perform	3	3
Abnormal behaviour	1	1
Total	100	100

DISCUSSION:

Epilepsy is one of the world’s most prevalent non communicable diseases which are common

serious neurological disorder. About 50 million people, around 40 million of them living in developing countries were affects this condition^{xv}. In India Epilepsy is one of the causes for drop out school and decreased social and mental development. This study shows male patients were common as in gender difference. Similar studies carried out in industrialized countries indicating that males are more affected than females^{xvi}. This study shows that generalized tonic clonic seizure was 59% which is similar to the studied from Bangladesh which shows as generalized seizures to be more common than partial seizure^{xvii}. This agreement was also showed in studied performed in Africa^{xviii}. The findings are similar to that studied of Aiziz et al 59% was documented studies of patient with epilepsy in urban centers in Pakistan^{xix}.

In early childhood period brain damage such as in cerebral palsy was also recorded in some studies whereas in some studies congenital malformation of CNS to be the most common cause for symptomatic epilepsy were recorded^{17,xx}. There are many studies which showed CNS infection was also considered the main cause and other causes of epilepsy are moderate or severe head trauma, metabolic diseases and genetic diseases^{xxi, xxii}. Cerebral palsy and mental retardation were the main associated comorbidities in this study which shows lower than studied by Rantanen's et al^{xxiii}.

CONCLUSION:

Therefore epilepsy is the commonest neurological morbidity, limited facilities and resources in society. This is still a major challenge in identifying the actual aetiology in children with disease. For accurate diagnosis of epilepsy detail history taking is extremely important. Birth injuries mainly severe birth asphyxia and CNS infection were the major causes of epilepsy. Seizure types, aetiology, comorbidities and outcome which is similar to the other studies in India. For reduce or completely eradication for these preventable causes of this disease effort should be strengthened.

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