

A STUDY OF BEHAVIOURAL DISORDERS IN CHILDREN WITH EPILEPSY

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ABSTRACT

BACKGROUND

Like many other chronic diseases, the clinical picture and course of epilepsy is also influenced by psychiatric and social problems with it and especially so in children. Surveys have shown that the proportion of behavioural problems is more in children with epilepsy than in those with other chronic physical illnesses and children in general population.

This study is an attempt to assess the spectrum of behavioural disorders in school going epileptic children.

MATERIALS AND METHODS

A total of 30 patients with epilepsy were included in this study. The most common type of seizures seen in this study sample was generalised tonic-clonic epilepsy. This was followed by complex partial seizures and simple partial seizures with secondary generalisation.

RESULTS

Highest rate of total behavioural problems was found in epileptic children as compared to those of healthy controls. Amongst the behavioural problems, statistically significant difference was found for aggression, attention and somatic problem.

CONCLUSION

The children with epilepsy are at increased risk of behavioural problems. They should be closely monitored for development of behavioural problem and a regular referral for psychiatric evaluation must be made.

KEYWORDS

Epilepsy, Children, Behavioural Disorders.

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BACKGROUND

Epilepsy in its truest sense is a neuropsychiatric phenomenon. The epileptic seizure is a name for occasional, sudden, excessive, rapid and local discharges of grey matter. Epilepsy is said to occur when seizures occur repeatedly due to underlying neurological process.

The developing brain of child is uniquely susceptible to epilepsy making it one of the most prevalent form of chronic and disabling childhood disease. Like many other chronic diseases, the clinical picture and course of epilepsy is also influenced by psychiatric and social problems with it and especially so in children. Life with epilepsy generally involves more than adjustment to intermittent loss of control, longterm drug therapy and medical surveillance. People with epilepsy also have to learn to cope with degree of public antipathy towards their conditions.

Many of those who have written on psychological problems associated with epilepsy have confidently asserted that these are almost always caused by public discrimination arising out of the perception of epilepsy as stigmatising.¹ Nevertheless seizure is a frightening event especially for a child's family causing parental worry regarding recurrence and effect of seizure on child's mental capabilities.

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Surveys have shown that proportionately more of them have cognitive and behavioural problems than children with other chronic physical illnesses² and children in general population. Thus, epileptic children can be considered as a high-risk group for development of such problems.

The cause of psychiatric impairment in epileptic children is multifactorial probably involving a combination of effect of seizure, effect of antiepileptic medication, poor child and family adaptation to seizures and neurological dysfunction leading to both seizures and behavioural problems.^{3,4}

Keeping these facts in mind, this is an attempt to study the spectrum of behavioural disorders in school going epileptic children.

Aims and Objectives

1. To assess the spectrum of behavioural problems in epileptic children as compared to those of controls.
2. To study the correlation between characteristics of epilepsy and behavioural patterns in epileptic children.

MATERIALS AND METHODS

The patients were selected from Outpatient Department of Paediatrics of a tertiary care hospital.

Sample Size

30.

Sample Selection

Consecutive patients were assessed.

Inclusion Criteria

1. Age- 5-15 years.
2. Both sexes.

Gender	No.	Percent
Male	17	56.70
Female	13	43.30
Total	30	100.00

Table 2. Distribution of Gender among Epilepsy Cases

In this study, more boys with epilepsy were represented than girls. Many studies find prevalence rate higher for boys. Usually the difference is minor and not statistically significant.

Age of onset of Seizures	No.	Percent
<5	7	23.30
>=5	23	76.70
Total	30	100.00

Table 3. Age of Onset of Seizure

The onset of epilepsy occurs before the age of 20 years in 60% of patients and one third has their first seizure when in junior school.

Duration of Disease	No.	Percent
6 m to 1 yr.	12	40.00
2 yrs.	5	16.70
>2 yrs.	13	43.30
Total	30	100.00

Table 4. Distribution of Duration of Disease among Epilepsy Cases

Type of Seizure	No.	Percent
SPS	4	13.30
GTS	13	43.30
CPS	5	16.70
SPS 2nd G	5	16.70
Abs	1	3.30
Gen T/C/A	2	6.70
Total	30	100.00

Table 5. Distribution of Type of Seizure among Epilepsy Cases

Variables	Group				Unpaired T - test applied		
	Cases		Control		T-value	P-value	Difference is-
Mean	SD	Mean	SD				
CBCL-W	0.87	1.96	0.73	1.76	0.227	0.783	Not significant
CBCL-S	1.77	2.16	0.50	1.14	2.842	0.006	Significant
CBCL-A&D	2.70	5.23	1.03	3.70	1.426	0.159	Not significant
CBCL-Sp	1.13	1.46	0.73	1.68	0.985	0.328	Not significant
CBCL-T	0.00	0.00	0.03	0.18	-1.000	0.321	Not significant
CBCL-A	2.53	5.85	0.07	0.25	2.306	0.025	Significant
CBCL-D	0.80	1.54	0.67	1.63	0.326	0.746	Not significant
CBCL-Agg	4.00	6.11	1.57	4.02	1.822	0.074	Not significant
CBCL-O	1.13	1.74	0.40	1.13	1.937	0.058	Not significant
CBCL-Int	4.83	7.58	2.27	5.13	1.536	0.130	Not significant
CBCL-Ext	4.80	7.13	2.31	5.07	1.541	0.129	Not significant
CBCL-	14.87	12.26	6.53	8.60	3.048	0.003	Significant

Table 6. Comparison of Behavioural Problems between Cases and Controls

Variables	Mann-Whitney U	Z	P-value	Significant
CBCL-W	444.500	-0.116	0.907	Not significant
CBCL-S	309.500	-2.479	0.013	Significant
CBCL-A&D	375.500	-1.632	0.103	Not significant
CBCL-Sp	358.000	-1.681	0.093	Not significant
CBCL-T	435.000	-1.000	0.317	Not significant
CBCL-A	352.000	-2.232	0.026	Significant
CBCL-D	413.000	-0.760	0.447	Not significant
CBCL-Agg	342.500	-1.160	0.246	Not Significant
CBCL-O	355.000	-1.896	0.058	Not significant
CBCL-Int	349.000	-1.687	0.092	Not significant
CBCL-Ext	370.000	-1.151	0.250	Not significant
CBCL-Total	248.500	-3.004	0.003	Significant

In this study, higher rates of total behavioural problems were found in epileptic children as compared to those of healthy controls. This finding is consistent with study done by Hoare et al. Among the behavioural problems, statistically significant difference was found for aggression, attention and somatic problems. The difference was also clinically significant for anxiety and depression though not statistically significant.

Variables		Type of Seizure					
		SPS	GTS	CPS	SPS 2n	Abs	GenT/
CBCL-W	Mean	0.75	1.46	0.00	0.80	0.00	0.00
	SD	1.50	2.60	0.00	1.79	.	0.00
CBCL-S	Mean	0.50	1.69	1.40	3.00	0.00	3.50
	SD	1.00	2.46	1.95	2.24	.	0.71
CBCL-A&D	Mean	0.75	2.23	0.00	7.60	0.00	5.50
	SD	1.50	4.29	0.00	8.76	.	7.78
CBCL-Sp	Mean	1.00	1.46	0.60	1.60	0.00	0.00
	SD	1.16	1.61	1.34	1.67	.	0.00
CBCL-T	Mean	0.00	0.00	0.00	0.00	0.00	0.00
	SD	0.00	0.00	0.00	0.00	.	0.00
CBCL-A	Mean	0.00	3.38	2.40	0.40	0.00	9.00
	SD	0.00	6.86	5.37	0.89	.	12.73
CBCL-D	Mean	1.00	0.46	1.20	1.20	0.00	1.00
	SD	1.16	1.20	1.79	2.68	.	1.41
CBCL-Agg	Mean	9.50	2.69	4.00	4.60	0.00	2.00
	SD	7.55	5.22	7.87	6.31	.	2.83
CBCL-O	Mean	1.50	1.00	0.60	2.40	0.00	0.00
	SD	1.73	1.63	1.34	2.51	.	0.00
CBCL-Int	Mean	1.25	4.62	1.40	10.60	0.00	10.00
	SD	2.50	7.67	1.95	11.44	.	7.07
CBCL-Ext	Mean	10.50	3.15	5.20	5.80	0.00	3.00
	SD	7.55	6.08	9.55	8.32	.	4.24
CBCL-Total	Mean	15.00	14.23	10.20	21.60	0.00	21.00
	SD	12.94	12.26	14.99	10.55	.	8.49

Table 7. Correlation between Types of Seizures and the Behavioural Problems in the Epileptic Cases

Variables	ANOVA applied		
	F-value	P-value	Difference is-
CBCL-W	0.509	0.767	Not significant
CBCL-S	1.029	0.423	Not significant
CBCL-A&D	1.594	0.200	Not

			significant
CBCL-Sp	0.701	0.628	Not significant
CBCL-T			
CBCL-A	0.840	0.534	Not significant
CBCL-D	0.294	0.912	Not significant
CBCL-Agg	0.889	0.504	Not significant
CBCL-O	0.920	0.485	Not significant
CBCL-Int	1.295	0.299	Not significant
CBCL-Ext	0.755	0.591	Not significant
CBCL-Total	0.822	0.546	Not significant

In this study, correlation between behavioural problems and type of seizures was not statistically significant.

DISCUSSION

The modern view of epilepsy and mental illness suggests that people with epilepsy are normal mentally but it is the brain damage and site of the lesion which leads to an association between epilepsy and mental illness.

The impact and burden of psychiatric morbidity contributes significantly to overall disability.

Ounstead (1955) found that 8% of the children with epilepsy in his clinic had inattention, overactivity, distractibility, aggression and mood lability.⁶

Henzburg et al in his study found an association between presence of anterior temporal lobe epileptic spikes and increased aggression score on the CBCL.⁷

Lewis has suggested that psychomotor epilepsy was found to be persistently associated with violence.⁸

Higher rates of attention problems have been seriously reported in children with epilepsy. Semrud-Clikeman and Wical found attention problem in children with complex partial seizures. Williams and colleagues found children with epilepsy have subtle attention difficulties.⁹

Carlton and co-workers described impulsivity in 39% of the children with current or past seizures and 11% of children with no history of seizures.¹⁰

McDermott and colleagues found hyperactivity in 28% of the children with epilepsy as compared to 5% in the control population.²

In the Bombay Hospital study, the incidence of behavioural problems was 34.62% as compared to 17.95% in the controls. The common behavioural problems encountered in this study were conduct disorder which were the commonest followed by vegetative disorders. Spectrum of behavioural problem seen was hyperkinesia and aggression.

Ettnger et al reported that 26% of 44% epileptic patients aged 7 to 18 yrs. had significant depression scores and 16% met criteria for anxiety symptomatology.¹¹

Focal EEG abnormality and complex partial seizures have been associated with increased psychiatric disturbances. Children with both epilepsy and structural CNS abnormality are more likely than not to have psychopathology, Though Dunn and Austin JK found more children with generalised

seizures had symptoms of ADHD compared with partial or absence seizure. Hempel and co-workers also noted the same. Whitman et al (1982) too reported no association between temporal lobe epilepsy and psychopathology in epileptic children.¹²

In our study, different types of seizures were represented, less in number, and that is why findings may not be significant.

CONCLUSION

Children with epilepsy were at increased risk of behavioural problems as compared to normal healthy controls. Amongst the spectrum of behavioural problems, attention, hyperactivity, somatic and aggression problems were more. Anxiety and depression scores were clinically more in epileptic cases than controls, though no statistical significance was found. Focal EEG abnormality and complex partial seizures have been associated with increased psychiatric disturbances. In the present study, representation of different types of epilepsy was less, hence findings may not be significant.

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