ASSESSMENT OF SPECIFIC LEARNING DISORDERS IN SCHOOL CHILDREN WITH IDIOPATHIC EPILEPSY

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Introduction

Epilepsy is one of the commonest neurological disorders in childhood with an estimated prevalence in 4-5/1,000. According to epidemiological studies in Egypt, epilepsy affect four per thousand children of school age. Of these about one third can be regarded as having active epilepsy, having had a seizure in past 24 months, two thirds have been seizure free in past 24 months. Cognitive impairment occurs more frequently in children with epilepsy than in children without epilepsy. The underlying causes of cognitive impairment are generally complex and multifactorial. Age at onset of epilepsy, seizure type and frequency, ongoing subclinical epileptiform discharges, and duration of epilepsy are known to impact on the cognitive impairment in children with epilepsy. It is well known that learning disorders are more common in people with epilepsy than in the general population. The extent to which epilepsy impacts the learning depends on seizure frequency, location of seizure activity in the brain, and how much of the brain is involved.

Aim of the work

The aim of this study is to assess the presence of specific learning disorders in school-aged children with idiopathic epilepsy who were attending child neurology outpatient clinic at El-Hadara Alexandria University Hospital..

Patients

The study will include 112 children randomly picked from the outpatient clinic who are diagnosed as idiopathic epilepsy and will be assessed for the presence of specific learning disorders.

Methods

A cross sectional observational study, All patients will be subjected to all of the following: 1. Complete history taking including: age, sex, detailed history of the neurological complaint and history of seizure type, duration, and frequency. 2. Detailed history of anti-epileptic medication. 3. Complete neurological examination. 4. History taking for socio-demographic data such as the participants' age, gender, residence and educational level 5. Full psychiatric interview using the Kiddie Schedule for Affective Disorders and Schizophrenia-Present and Lifetime Version (K-SADS-PL). 6.Psychometric assessment including: A. Intelligence quotient (IQ) test using the Stanford-Binet Intelligence scale - fifth edition (SB5) B. Learning and Developmental Disorders Rating Scales (LDDRS) Battery for evaluation of cognitive decline. 7. Electroencephalogram (EEG) 8. Brain imaging whether CT or MRI (when indicated).

Results

Table (1): Distribution of the studied cases according to type of seizures

Type of seizures	No.	%
Focal onset seizures	33	36.3
Generalized onset tonic - clonic seizures	52	57.1
Focal and generalized onset seizures	6	6.6

Table (2): Distribution of the studied cases according to scores of each domain of the scale (n = 91)

LDDRS domains	Normal		Mild		Moderate		Severe	
	No.	%	No.	%	No.	%	No.	%
Attention	23	25.3	14	15.4	31	34.1	23	25.3
Hearing abilities	46	50.5	11	12.1	20	22.0	14	15.4
Visual abilities	51	56.0	17	18.7	16	17.6	7	7.7
Motor abilities	45	49.5	22	24.2	21	23.1	3	3.3
Memory	25	27.5	18	19.8	29	31.9	19	20.9
Reading	23	25.3	5	5.5	16	17.6	47	51.6
Writing	21	23.1	10	11.0	9	9.9	51	56.0
Mathematics	14	15.4	10	11.0	9	9.9	58	63.7
Hyperactivity	62	68.1	11	12.1	12	13.2	6	6.6
Inattention	33	36.3	16	17.6	27	29.7	15	16.5
Low self esteem	82	90.1	7	7.7	1	1.1	1	1.1
Social abilities	78	85.7	4	4.4	5	5.5	4	4.4
Impulsivity	73	80.2	7	7.7	8	8.8	3	3.3
Aggression	80	87.9	6	6.6	5	5.5	0	0.0
Autistic behavior	90	98.9	1	1.1	0	0.0	0	0.0
Self -dependence	74	81.3	7	7.7	6	6.6	4	4.4

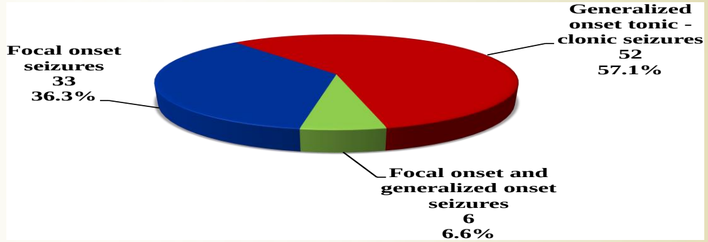

Figure (1): Distribution of the studied cases according to type of seizures

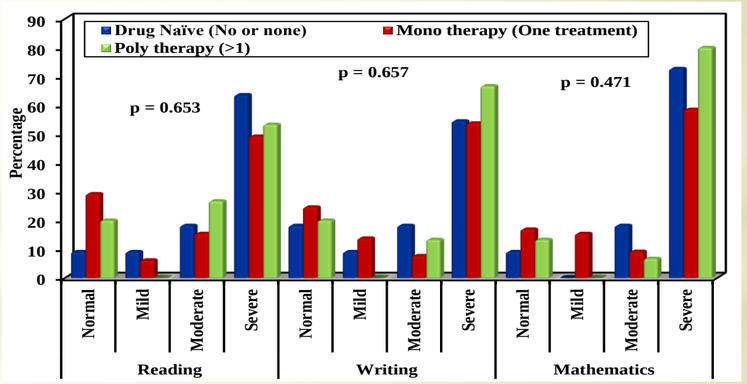

Figure (2): Relation between number of anti-epileptic drugs and reading, writing and mathematics scores of LDDRS (n = 91)

Conclusion

Specific learning disorders are highly prevalent among school children with idiopathic epilepsy. there are higher percentages of children with SLDs in patients with longer duration of epilepsy, higher frequency of seizures and with generalized-onset and combined focal and generalized-onset rather than focal onset seizures alone.