

*Research Article***Depressive Disorders in Children with Epilepsy**

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**Abstract**

**Introduction:** Epilepsy is the most common neurological disorder in children, and its prevalence in childhood is estimated to be 0.05–1%. Among these children, up to 28.6% may have coexisting psychiatric conditions, the most common of which is depression. Epilepsy in children is associated with diverse and complex effects on the overall well-being and quality of life. **Objective:** This study aimed to evaluate the prevalence of depression in epileptic children, looking for any association between depression in these children and their demographic or seizure related factors. **Methods:** This is a cross-sectional study conducted on 80 Children (6-13 years of age) with idiopathic epilepsy in El-Minia outpatient neurology clinic, who were interviewed using The Structured Birleson Depression Scale Questionnaire to assess presence or absence of depression (depressive disorders), using convenient purposive sampling. Quality Of Life in Epilepsy (QOLIE-31) was used to assess quality of life of those patients. **Results:** Prevalence of depression among epileptic children aged 6-13 years has continued to be very common in epileptic children (37.5%). The findings supported presence of an association between depression and some demographic or seizure variables in those children. **Conclusion:** Pediatricians and other physicians working with epileptic children should have a high index of suspicion for depression as a comorbid condition in children with epilepsy. Early diagnosis and more comprehensive packages of care for depression in epileptic children will enable them to have a better quality of life.

**Key words:** Children, Depression, Epilepsy, Seizure Variables.

**Introduction**

Epilepsy is one of the common problems in children. The occurrence of two unprovoked seizures more than 24 hours apart could indicate the presence of an epileptic disorder (Johnston et al., 2016). Most cases of epilepsy are managed efficiently by medication, and afflicted children have normal IQ and are expected to have a normal life. However, these children need to be carefully monitored for psychopathology and learning disability, as both of these are more common in epileptic children than in the general population (Gelder et al., 2006).

Depression is one of the most common psychiatric disorders in epileptic children (Kanner et al., 2004)

Psychosocial risk factors of depression in epilepsy include the fear of seizure, perceived stigma, learned helplessness and pessimistic attribution and decreased social

support. Biological risk factors include family history of mood disorder, left sided focus and focus in temporal or frontal lobe (Rafie et al., 2000)

The diagnosis of depression in children is mainly clinical. However many researchers have used various screening tools and rating scales to diagnose and quantify depression.

Pediatricians and other physicians working with epileptic children should have a high index of suspicion for depression as a comorbid condition in children with epilepsy. Early diagnosis and more comprehensive packages of care for depression in epileptic children will enable them to have a better quality of life (Oguz et al., 2002).

**Subjects and Methods**

The study was conducted on 80 children with epilepsy according to the International League against Epilepsy (ILAE) (ILAE

Commission Report, 1997) attending the outpatient pediatric neurology clinic, Children hospital, Minia University, in the period from January 2016 till June 2016 according to inclusion and exclusion criteria.

**Inclusion criteria:** Diagnosis of idiopathic epilepsy according to the International League against Epilepsy (ILAE) classification (ILAE, 1997), Age between 6 and 13 years.

**Exclusion criteria:** Psychiatric comorbidity other than depression.

Patients were interviewed using Depression Self-Rating Scale for Children (DSRS) to assess whether a diagnosis of a depressive disorder is present or not.

- Patients were grouped into controlled and uncontrolled considering only those with an interval between seizures more than one year to be controlled), antiepileptic medications (monotherapy/ polytherapy).

#### **Findings**

- Our study found that about 37.5% of 80 patients found to be depressed were not previously diagnosed or treated. Also, there was a statistical significance between both groups as regards age, past history for psychiatric illness, duration of epilepsy, seizure frequency, number of epileptic children who thought epilepsy affected their social life and education, suicidal ideation and mean scores of quality of life in epilepsy. There was no statistical difference between both groups as regards gender, education, family history of mood disorders or epilepsy and any of the clinical epilepsy-related variables (age at onset of epilepsy, seizure type, monotherapy / polytherapy by AEDs, presence or absence of EEG findings).

#### **Discussion**

In epileptic children with depression, 36.7% were boys and 63.3 % were girls; while in patients without depression, 46% were boys

and 54% were girls. Although the difference here is insignificantly high in girls.

Regarding demographic factors e.g. age and gender of samples, (*Caplan et al., 2005*) indicated that there has been a tendency for epileptic patients with affective and anxiety disorders to be female (63% vs 43%).

Regarding Clinical psychiatric data; Concerning the past and family history of the patients; We found that 80% of the epileptic children with depression had a positive past history of a psychiatric illness.

Concerning the prevalence of depression; the results of our study show that the prevalence of depression among epileptic children was 37.5%.

Regarding Clinical variables of epilepsy; in our study none of the clinical epilepsy-related variables (age at onset of epilepsy, seizure type, monotherapy/ polytherapy by AEDs, presence or absence of EEG findings) was found to be associated with depression in PWE .

A number of standardized questions were asked to the patients to assess the perceived impairing effect of epilepsy on their lives. For example, the patients were asked if they thought epilepsy affected their education or not and if it affected their social life or not. 73.3% of the PWE with depression thought that epilepsy affected their education, while 50% of the PWE without depression thought so.

In our study, the association of depression with duration of epilepsy was found to be inconsistent. Several factors including different rating scales and diagnostic measures, different sample sizes and different study designs may have contributed to this discrepancy. We could not find any correlation between developing depression and age of onset of seizures in this study.

#### **Conclusion**

1- Depression continues to be very common in epileptic children, indicating that pediatricians and other physicians working with epileptic children should

have a high index of suspicion for this comorbid condition.

2- Seizure frequency and depression are the most important predictors of quality of life in epilepsy patients.

3- The management of patients with epilepsy should not only be aimed at just preventing seizures but the treating clinicians should also be cognizant about depression which itself can significantly affect the quality of life of patients.

### References

1. Abela JR (2001). The hopelessness theory of depression: a test of the diathesis-stress and causal mediation components in third and seventh grade children. *J Abnorm Child Psychol*; 29:241–54.
2. Adewuya A and Ola B (2005). Prevalence of and risk factors for anxiety and depressive disorders in Nigerian adolescents with epilepsy. *Epilep Behav*; Vol 6, Issue 3: 342–347.
3. Admi H and Shaham B (2007). Living with epilepsy: ordinary people coping with extraordinary situations. *Qual Health Res*; 17: 1178-1187.
4. Aliberti V, Grunewald R, Panayiotopoulos C et al. (1994). Focal electroencephalographic abnormalities in juvenile myoclonic epilepsy. *Epilepsia*; 35:297–301.
5. Alsaadi T (2011). A Young Woman with Mouth Jerking Provoked by Reading. In: *Puzzling Cases of Epilepsy*. Elsevier Inc.; 3-5.
6. American Psychiatric Association (1994). *Diagnostic and Statistical Manual of Mental Disorders*, 4th ed. Washington, DC: American Psychiatric Association; 7-11.
7. Attarian H, Vahle V, Carter J (2003). Relation between depression intractability of seizures. *Epilepsy Behav*; 4: 298–301.
8. Auriel E, Landov H, Blatt I et al (2009). Quality of life in seizure-free patients with epilepsy on monotherapy. *Epilepsy Behav* 2009;14:130-3.
9. Austin J and Caplan R (2007). Behavioral and Psychiatric Comorbidities in Pediatric Epilepsy: Toward an Integrative Model. *Epilepsia*; 48(9):1639–1651.