

Anxiety and depression in children with epilepsy

Lai Choo Ong

Department of Paediatrics, Faculty of Medicine, University of Malaya, Malaysia.

Abstract

Children with epilepsy are at increased risk of behavioral problems and psychiatric disorders compared with the general population and those with other chronic illnesses. Depression and anxiety disorders are the most common and require further attention because they carry the risk of reduced quality of life and have far reaching consequences in later life. The wide range of prevalence quoted in the literature reflects methodologic differences. Risk factors are often multifactorial and include illness severity, coexisting morbidity, and psychosocial factors. Diagnosis remains a challenge, as the presentation is heterogeneous and age related. This is complicated by epilepsy issues and associated comorbidity that hamper the use of standardized assessment tools. Multimodal treatment involving psychotherapy and antidepressant therapy currently represents the best approach. The mental health needs of these children are largely unmet; increased awareness and better research are required to determine best practices.

INTRODUCTION

There is an increased risk of behavioural problems and psychiatric disorders amongst children with epilepsy, said to be 3 to 6 times higher compared with normal children and those with other chronic disorders like diabetes.¹ Of these, anxiety, depression and attention disorders are the most common and well studied. Although anxiety and depressive disorders have distinct features that enable separate classification in the Diagnostic and Statistical Manual of Mental Disorders 4th Edition (DSM-IV-TR), these two mood disorders tend to exist co-morbidly and are often studied together. The relationship between epilepsy and mood disorders is thought to be bidirectional rather than a simple cause-and-effect phenomenon.^{2,3}

PREVALENCE

There is a wide range of prevalence quoted in the literature, largely due to the heterogeneous methodology used. The differences include the operational definition used in the studies, diagnostic tools employed (structured interviews versus checklists or self report scales), end points for diagnosis (clinical diagnosis versus cut off scores), informant source (parent versus teacher versus child's own ratings), age group that is being studied (children or adolescents), recruitment source (tertiary hospital clinics or population based), duration of epilepsy (new onset, chronic or postsurgical), associated co-morbidity (learning disability, pervasive developmental disorder, attention deficit disorder) and sample size.

The point prevalence rate of depression among clinic or hospital based studies varies from 12-36%.³⁻¹¹ The prevalence of suicidal ideation from clinic based studies ranged from 11-36%^{9,11,12}, significantly higher than the 5.2% quoted in the general population. Anxiety was less well studied, with a wide range of prevalence reported (9-49%) that were generally higher than for depression.^{3,5-9,11-13} However, there were a significant number of false positives when the screening instrument was followed by a diagnostic interview.¹⁰ Population based studies reported lower prevalence rates of depression and/or anxiety (12-24%), with variable case definition of epilepsy and "mood disorders".^{1,14-17}

RISK FACTORS

The aetiology of mood disorders in children with epilepsy is a complex interplay between neurobiological and psychosocial factors. For depression, age and gender have been the most studied child characteristics. While some studies showed a correlation with increasing age/adolescence^{8,11}, others have not found such a relationship.^{5,10,12} Adolescent females are at highest risk of depression in the general population, but the evidence for female preponderance in children with epilepsy is inconsistent, with only a few studies showing a relationship.^{2,4} Epilepsy factors have largely focused on duration of illness¹¹, seizure frequency⁴, seizure type (complex partial seizures) and location (temporal lobe).^{8,11} However, there are other studies showing no such association.^{9,10,12} In

studies that looked at psychosocial factors, specific family factors (parent child relationship, parenting style, underlying family psychopathology, family perception and stigma) and child factors (self esteem, coping skills and locus of control) were more important than epilepsy factors.^{10,13,18} Antiepileptic drug (AED) use or type of AED have not been found to be consistent predictors of depression.

Factors associated with anxiety included a younger age group¹¹, increased seizure frequency^{6,12}, longer duration of epilepsy^{7,12}, polytherapy^{6,12,13}, seizure type (complex partial seizures)¹¹ and associated low IQ.^{11,13} However, some studies did not find epilepsy factors or comorbidity to be important.^{5,9}

DIGNOSTIC CONSIDERATIONS

In children with epilepsy, the presentation of mood disorders is heterogenous and age related.¹⁹ In younger children, depressive symptoms may manifest as irritability, separation anxiety and extreme sensitivity to rejection as they are unable to express their emotions. Adolescents may exhibit anger, reckless behaviors and deterioration of school performance. Somatic complaints often mask underlying anxiety and depression.

Identification of a mood disorder in children with epilepsy can be challenging. Perictal symptoms can mimic anxiety disorders while poorly controlled non convulsive seizures may lead to a withdrawn state that can be mistaken for depression. The clinician needs to consider if the patient's current AED treatment has a possible adverse effect on mood (notably phenobarbitone, primidone, benzodiazepines, tiagabine, topiramate, levetiracetam).²⁰ While screening instruments like checklists can be administered en masse and require minimal expertise, a structured diagnostic interview by a trained personnel is still required to make a definitive diagnosis. Furthermore, the DSM-IV criteria may be inadequate or inappropriate for diagnosing and subclassifying mood disorders in children, especially those with intellectual disability, pervasive developmental disorder or attention deficit disorders.

CONSEQUENCES OF ANXIETY AND DEPRESSION IN CHILDREN WITH EPILEPSY

There are few robust long term studies in children with epilepsy hence risks are extrapolated from studies of normal population. Poor school

performance, family and peer conflict are the immediate consequences, with poor health related quality of life for the child and family.²¹ Older children have higher rates of delinquency and conduct disorder, which may lead to high risk behavior (smoking, substance abuse, underage drinking, unplanned sex, unsafe driving and eating disorders). Suicidal ideation & intent are serious issues, and there is a 2-4 fold risk of depression in adulthood. This vulnerability is increased with associated comorbidity and a family history of psychopathology.^{18,20}

MANAGEMENT

Treatment of depression and anxiety in children with epilepsy is based on "expert opinion" recommendations due to the paucity of evidence based literature.²⁰ Psychoeducation, psychological therapy (cognitive behavioural therapy, play therapy, family therapy) and psychosocial intervention (family and school support) are recommended for mild to moderate depression. While cognitive behavioral therapy is appropriate for an older child with minimal cognitive impairment, play therapy would be more suitable for a younger child. These non pharmacological interventions require the services of trained mental health personnel. Medication (antidepressants) is indicated for older children with more severe depression. Before starting pharmacotherapy, the clinician should review current medication to minimize the impact of certain AEDs on mood (due to withdrawal, high dose polytherapy, known side effects or drug interaction). Selective serotonin reuptake inhibitors (SSRIs) are the first line drugs due to their favorable side-effect and safe drug interaction profiles.²² Nevertheless, there is a need to monitor closely for suicidal ideation in the first months of treatment, with a safety plan put in place. Tricyclic antidepressants are not recommended for children with epilepsy because of the high placebo response rate, potential increased seizure risk, adverse anticholinergic side effects and the risk of fatal overdose.

CONCLUSION

The published literature represents only the tip of the iceberg. Of greater concern is that only one third of those who were diagnosed sought or received mental health treatment.¹¹ This represents an area of unmet health needs, with a significant impact on long term mental and physical health outcome. Hence there is a need for increased awareness and better training

to address issues on diagnosis, monitoring and treatment. While multimodality treatment aimed at the patient, family and community currently represents the best approach, more research is required to determine best practices so that these children can make a smooth and happy transition to adulthood.

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