Innovative Practices in Psychology, 2021 June Psymposium

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This edition's Innovative Practices in Psychology column showcases the identification and treatment of Psychogenic non-epileptic seizures (PNES) in children at the Alberta Children's Hospital (ACH). Dr. Tyson Sawchuk, a psychologist associated with this program, who is involved with both research and practice informs us on this disorder and available treatments.

Dr. Sawchuk, I understand you are associated with the Children's Comprehensive Epilepsy Centre (CCEC) which has developed novel treatment approaches for PNES. Can you tell us, what is PNES?

Psychogenic non-epileptic seizures are episodic phenomena involving self-limited and transient neurological states during which normal brain functions are altered. Much like a panic attack, these are triggered by heightened emotional processing and autonomic arousal abnormalities. Although the episodes can resemble various kinds of epileptic seizures in appearance, they are not associated with epileptiform discharges in any way.

Are there any predisposing factors for children developing PNES? Is there a heritable component?

Research to date suggests there are various risk factors for development of PNES in children and adults. Like other somatic disorders, typical stressors in kids at the time of diagnosis include family conflict, academic underachievement, and peer insecurity. We also find onset more common in the 1-2 years following pubertal onset, which some of our own research suggests may be due to autonomic nervous system changes accompanying hormonal/endocrine shifts during puberty. Interestingly, having epilepsy itself is a risk factor for the development of PNES. While traumatic experiences were once thought to be the sole cause of PNES, we now know this not to be the case, especially in children.

There appears to be some heritability for PNES in terms of family history of mood/anxiety disorders.

How is PNES diagnosed? What is the impact of this disorder on the lives of those who experience PNES?

PNES patients invariably present first through emergency or medical clinics. Diagnosis is often complex and involves thorough neurological workup to rule in/out various potential causes. The gold standard is capture of the episode in question without epileptiform correlate on electroencephalogram, but this can be difficult to achieve. There are various observable signs and patterns which can be used to guide clinicians towards psychogenic versus epileptic or other physiologic causes, and some expertise will be required to confidently make this decision.

The impact on patients then is quite significant, as reaching a diagnosis is often a confusing experience. It is not uncommon to be misdiagnosed, receiving conflicting messages from multiple healthcare providers, or even being accused of faking seizures by others, including doctors and nurses! Living with and over-coming PNES can also be a long-term struggle, as it is difficult to find providers familiar with PNES and able to treat. The quality of life in PNES patients can become severely diminished due to frequent events, preventing them from living meaningful lives and participating in education, work, and social activities.

What are treatment options for PNES and what is the success rate?

Once medical assessments are completed, a thorough psychological or psychiatric assessment can help identify factors contributing to PNES onset and maintenance, including psychiatric comorbidity such as anxiety or depression. These will need treatment in their own right. Psychoeducation at diagnosis is very important to promote understanding and engagement in mental health treatment. Initial first aid strategies for managing the events are often helpful, including use of sensory grounding and controlled breathing for reduction of episodes. Development of a school response plan is also often helpful for children with PNES, as schools need to understand symptoms and how to react so that patients can continue to attend. An SSRI can be used to help, but research suggests this is only effective in combination with CBT, which typically will look like approaches used with panic disorder. This helps to increase patient awareness of arousal states and associated situations, thoughts and feelings which increase the likelihood of an attack. Various counter-conditioning strategies are then taught with the patient trialing various strategies to find what is most effective.

Our own outcome studies, similar to those of other pediatric centers suggest the vast majority of patients referred and treated for PNES will recover fully within a one-year period, while about a third may continue to have infrequent PNES events that are usually quite predictable and less disabling. There is currently a validated care pathway being used at ACH which sets out an algorithm for initial diagnostic and treatment procedures within the EMU, as well as when outside referral for more intensive community mental health services are needed.

What should psychologists know about identifying and referring children to this program at ACH?

A patient's physician can refer them to a neurologist who can then begin the diagnostic process for identifying PNES.