Chapter 8
Characterising Attention Deficit Hyperactivity Disorder

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ABSTRACT

ADHD is a neurodevelopmental disorder that affects children. ADHD can often persist in adulthood too. Children diagnosed with ADHD have significantly increased across the globe and range between 3-10% of the population. The cardinal features of ADHD are inattention, hyperactivity, and impulsivity. Clinically significant impairment affects bio-psychosocial functioning. Theoretical understanding reveals the central role of genetics, environmental factors, and cognition in ADHD symptoms. The gold standard for ADHD diagnosis relies on clinical history, mental status examination, and diagnostic tools. Pharmacological intervention is the first-line evidence-based treatment for ADHD. However, studies also report that children don't respond to or can't tolerate medications and suffered from adverse side effects. There are also evidence-based treatments such as neurofeedback training that uses technology to regulate brain activity through modifying brain waves. Hence, developing devices for assessment and intervention using technology that targets the cognitive deficits is the need of the hour.

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"Phil, stop acting like a worm,

The table's not a place to squirm"

Thus speaks the father to the son,

Severely says, not in fun.

Mother frowns and looks around,

But Philip will not take advice,

He'll have his way at any price.

He turns,

And churns,

He wiggles

And giggles

Here and there on the chair;

"Phil, these twists I cannot bear."

"Fidgety Phil, translated from a German book illustrating childhood misbehavior "(1845)

NEURODEVELOPMENTAL DISORDER

Neurodevelopmental disorder is group of disorder broadly defined as a disorder that evident in the developmental period of the children primarily associated with the functioning of nervous system and brain. These disorders are characterized by impairment that can impact bio-psychosocial functioning of the individual. Neurodevelopmental Disorders includes intellectual disability, communication disorders, Autism Spectrum disorder, Attention-deficit/Hyperactivity disorder, specific learning disorder, motor disorders and other developmental disorder. Table 1 shows the classification of Neurodevelopmental disorder (American Psychiatric Association, 2013).

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