Attention Deficit Hyperactivity Disorder and Motor Impairment - A Critical Review

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Abstract
Attention deficit hyperactivity disorder (ADHD) is the most common neurobehavioral disorder during childhood, affecting approximately 3% to 6% of school-aged children; its cardinal symptoms of high activity, impulsivity, and behavioural distractibility might be assumed to have close relationships to interferences with motor skills. A separate body of literature attests to ways that motor problems can severely impact children’s daily lives, as motor problems may occur in 30% to 50% of children with ADHD. This article critically reviews research on motor impairment in children with ADHD, notable differences in motor performance of individuals with ADHD compared with age-matched controls, and possible neural underpinnings of this impairment. We discuss the highly prevalent link between ADHD and developmental coordination disorder (DCD) and the lack of a clear research consensus about motor difficulties in ADHD. Despite increasing evidence and diagnostic classifications that define DCD by motor impairment, the role of ADHD symptoms in DCD has not been delineated. Similarly, while ADHD may predispose children to motor problems, it is unclear whether any such motor difficulties observed in this population are inherent to ADHD or are mediated by comorbid DCD. Future research should address the exact nature and long-term consequences of motor impairment in children with ADHD and elucidate effective treatment strategies for these disorders together and apart.