Attention Deficit/Hyperactivity Disorder (ADHD) symptoms and cognitive skills of preschool children.


Abstract

Attention deficit/hyperactivity disorder (ADHD) constitutes a neurobehavioral disorder which may potentially adversely affect children's wellbeing and academic achievement. The onset of symptoms is present prior to 12 years of age, and often the symptoms are evident in the preschool years. In fact, it has been suggested that screening for ADHD symptoms may be initiated as early as four years of age. Preschool children with ADHD have been shown to present with poor pre-academic skills and might be at increased risk for numerous school-related problems, including functional impairment during elementary school years and persistent poor academic performance thereafter. Although preschool years are characterized by rapid cognitive growth, preschoolers with ADHD may present with poorer cognitive and neuropsychological functioning. Due to the early onset of ADHD symptoms, exploring the cognitive correlates of this condition among preschool children is thought to be of notable importance. The aim of the present study was to evaluate any association between ADHD symptoms and cognitive skills among preschool children. A cross-sectional study was conducted among a nationwide random sample of 4,480 preschool children. ADHD symptoms were assessed through interviews with parents and teachers based on DSM-IV-TR criteria. Cognitive skills were assessed through a standardized school readiness test (A’ TEST). Among participants, the occurrence of ADHD symptoms was 4.6% (boys/girls: 3.4/1). The presence of ADHD symptoms among children was inversely associated with non-verbal and verbal cognitive skills; specifically, with abstract thinking (aOR 1.97, 95% CI 1.30-3.00), language (2.36, 1.55-3.59), critical reasoning (2.58, 1.84-3.62), visual perception (2.42, 1.38-4.24), and visual motor skills (2.61, 1.91-3.55). Children with ADHD symptoms were five times as likely to have compromised organizational skills (4.92, 3.04-7.97). Abstract thinking was the least affected domain particularly among boys, while organizational skills were the most affected domain in both sexes, and possibly more among girls. Concluding, the present study confirms that even during preschool years, children with ADHD symptoms are more likely to present with concomitant cognitive difficulties. Thus, screening for the presence of ADHD, as well as cognitive and affective screenings among preschool-aged children may facilitate the early detection and determent of the development of cognitive difficulties, and subsequently the early intervention for fostering skills that are amenable to change, such as organizational skills and planning. As a result, the study findings reveal the necessity for the evaluation of pre-academic skills among preschool children with ADHD symptoms in order to mitigate unfavorable academic functioning.