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Prevalence of Neurocognitive Deficits in Adults with Untreated ADHD: Implications for the Workplace

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Abstract

A significant proportion of Adults with Attention Deficit Hyperactivity Disorder (ADHD) have neurocognitive difficulties and perform more poorly on neurocognitive tests, including measures of attention and concentration, verbal learning, and executive functioning. These deficits can be subtle, can often go undetected, and can have a direct impact on workplace performance. The purpose of this study is to illustrate the prevalence of neurocognitive deficits in adults with untreated ADHD using a 30-minute computerized neuropsychological battery (CNS Vital Signs). Participants were 105 adults with ADHD as their primary diagnosis. Their average age was 32.3 years (SD=12.9) and their average education was 11.5 years (SD=6.1). The sample was 63.5% male and 85.7% Caucasian. All patients were medication-free at the time of their evaluation, which included computerized neurocognitive testing using CNS Vital Signs (Gualtieri & Johnson, 2006). CNS Vital Signs contains 7 common measures, which provide 15 primary scores, 5 domain scores (e.g., Memory, Psychomotor Speed, Reaction Time, Cognitive Flexibility, and Complex Attention), and a summary score (Neurocognition). Mean performance on the 5 domain scores for the untreated ADHD group were typically 1/3 to 2/3 of a standard deviation (SD) below the mean (Memory=89.7, SD=21.2; Psychomotor Speed=94.5, SD=18.8; Reaction Time=90.4, SD=25.6; Cognitive Flexibility=92.3, SD=25.6; Complex Attention=89.1, SD=27.4). Nearly 63% of this sample had at least one low domain score (i.e., more than 1 SD below the mean). Previous research with healthy control samples has demonstrated that having 2 or more CNS Vital Signs domain scores at or below the 5th percentile likely represents cognitive impairment . When using two or more scores below the 5th percentile as the cutoff for frank neurocognitive impairment, 28.6% of the adults with ADHD scored in this range. A significant minority of adults with untreated ADHD have frank neurocognitive impairment on this rapid computerized battery. These deficits can have a negative impact on workplace functioning, especially when ADHD has not been properly diagnosed and treated.

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