Attention Deficit Hyperactivity Disorder (ADHD): Controversy, Developmental Mechanisms, and Multiple Levels of Analysis.

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Abstract

Controversy abounds regarding the symptom dimensions of attention problems, impulsivity, and hyperactivity, developmentally extreme and impairing levels of which compose the diagnostic category of attention deficit hyperactivity disorder (ADHD). I highlight causal factors, underlying mechanisms, developmental manifestations, and female manifestations of ADHD, integrating the psychobiological underpinnings of this syndrome with contextual factors related to its clinical presentation, impairments, and soaring increases in diagnosed prevalence. Indeed, despite strong heritability, ADHD is expressed via transactional patterns of influence linked to family-, school-, peer-, neighborhood-, and policy-related factors. Moreover, intervention strategies must take into account both pharmacologic and behavioral modalities if the goal is to enhance competencies, rather than symptom reduction per se. A comprehensive understanding of ADHD mandates multiple levels of analysis-spanning genes, neurotransmission, brain pathways, individual skill levels, family socialization, peer relationships, and educational and cultural forces—which must be integrated and synthesized to surpass reductionist accounts, reduce stigma, and maximize the impact of prevention- and intervention-related efforts.