Challenges in diagnosing and treating ADHD

openaccessgovernment.org/article/challenges-in-diagnosing-and-treating-adhd/194478

Emily Warrender June 23, 2025

Professor Deborah Winders Davis from the University of Louisville School of Medicine outlines the challenges in diagnosing and treating attention deficit hyperactivity disorder

Attention deficit hyperactivity disorder (ADHD) is one of the most commonly diagnosed disorders in childhood in the United States. [1,2] Approximately 11% of US children aged three to 17 years have ever had the diagnosis; [1] rates in the UK are less than half that. True, worldwide prevalence is difficult to determine due to gaps in data collection for various reasons. [3] Some reasons for variations in diagnosis may include provider bias, parental fears of being stigmatized, leading to under-reporting or not seeking help, differences in educational policies and practices, and increased risks associated with environmental factors, to name a few. There are risks associated with both under-diagnosing and over-diagnosing. Additionally, there are risks associated with treatment types.

Challenges in ADHD diagnosis and care

The American Academy of Pediatrics published a position paper in 2019, recommending that children aged four to five years receive behavioral health treatment before medication. [4] There was no recommended treatment for children under four years of age. [2,4] Researchers have reported that less than half of children in the US under six years of age are meeting the recommended guideline, even with very conservative inclusion criteria. [2,5] In addition to the less-than-optimal numbers of young children receiving behavioral health services, little is known about the quality of services being provided. In both the US and the UK, service providers struggle to meet the demand for services. [3,6] Much work is needed to evaluate models of care provision and to ensure that providers have the necessary expertise to treat children of all ages, but especially very young children. Licensing and credentialing of mental health providers do not always differentiate between those with specific pediatric training and those with broader expertise.

Concern for diagnosing and treating very young children with ADHD is multifaceted. First, diagnosing ADHD in very young children is difficult. [2,7,8] Typically developing children have a wide range of behaviors that may be considered to be within normal limits. These variations in typical behaviors make it challenging to distinguish between ‘normal’ behavior and atypical behavior. [2,7,8] This ambiguity may result in the over-diagnosis of ADHD in preschoolers. [2,7,8] There are a variety of environmental factors that may interfere with the development of self-regulatory behaviors, which includes the regulation of attention. [2] This lack of attention-regulating skills may give the appearance of ADHD, but may be more easily remedied by behavioral interventions. [2] Additionally, it is

recommended that behavior ratings be done in two or more settings, which may delay diagnosis if children do not attend preschool. Since children of minority status and those from lower-income families are less likely to attend preschool, this may disadvantage some groups over others, [9-12] leading to disparities in diagnosis, treatment, and long-term educational success. A second concern of diagnosing and treating ADHD in preschoolers is that over-diagnosing may lead to over-prescribing of ADHD medication or the 'off-label' use of ADHD medications that have not been approved for children in that age group. [2] There is a lack of evidence regarding the long-term effects of psychotropic medications on the developing brains of children at this age. [9-12] More longitudinal, randomized clinical trials are needed to determine the long-term efficacy and safety for this vulnerable population.

Parent training in behavioral management is the currently recommended first-line treatment for ADHD and other behavior problems in children under six years of age. [4] However, much more research is needed regarding the development of family-centered interventions to determine the most effective timing, dose, duration, and delivery methods for ensuring family engagement and optimal outcomes. [2,13-15]

This article was based on work by a team of clinician-scholars, researchers, epidemiologists, and biostatisticians who have collaborated for approximately ten years on various topics related to psychotropic medication use, health equity in mental health diagnosis and treatment, and the epidemiology of childhood mental health disorders, among others. This team-science approach has allowed us to make significant contributions to the pediatric mental health literature.

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