

Challenges in Measuring Attention Deficit Hyperactivity Disorder Prevalence in School Children: Methodological Issues and Real-World Barriers

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ABSTRACT

Background: Attention Deficit Hyperactivity Disorder (ADHD) is a neurodevelopmental disorder which is characterised by inattention, hyperactivity and impulsivity. It effects the day to day functioning of an individual, especially children. Although it a wide known disorder, still its prevalence remains unrecognized in India.

The aim of the present study is to investigate the difficulties that arise while determining the prevalence of ADHD in schools in Dehradun.

Method: We systematically searched PubMed, Scopus, Web of Science, and PsychINFO to find relevant studies to estimate the prevalence of ADHD in India.

Results: The main obstacles are a lack of knowledge among parents and educators, a lack of resources and training for educators, the stigma associated with mental health disorders in society, which makes it hard for families to get help, and the assistance that schools provide for diagnosing the disease. The study also draws attention to methodological issues, including the underrepresentation of particular demographics, the use of subjective reporting, and inconsistent diagnostic criteria.

Conclusion: Developing effective policy frameworks, guaranteeing early intervention, and enhancing ADHD identification all depend on removing these obstacles, according to the results of our review. This study emphasizes the need for improved mental health education and more cooperation between healthcare practitioners and schools in order to improve ADHD prevalence research in India.

1. INTRODUCTION

Neurodevelopmental disorders DSM-5 (2023) area disorder that starts during the formative stage. Developmental deficiencies that result in impairments of personal, social, academic, or occupational functioning are features of the disorder, which usually appears early in development, frequently before the child enters elementary school.

Additionally, according to ICD-11, neurodevelopmental disorders are behavioral and cognitive diseases that manifest in children during their developmental stage and are typified by significant difficulties in learning and applying specific language, motor, social, or intellectual skills.

As per DSM-V Attention-Deficit Hyperactivity Disorder (ADHD) is a neurodevelopmental disorder defined by an enduring pattern of inattention and/or hyperactivity-impulsivity that impedes development or functioning, particularly in children.

In children, ADHD is one of the most prevalent mental illnesses. ADHD symptoms include impulsivity (hurried, unplanned actions), hyperactivity (excess movement that is inappropriate for the situation), and inattention (inability to maintain concentrate). ADHD is seen as a chronic and incapacitating illness that affects a person's everyday functioning, interpersonal connections, academic and professional accomplishments, and many other areas of their life (Harpin, 2005). When left untreated, ADHD can cause children to have low self-esteem and poor social skills (Harpin et al., 2016).

The prevalence statistics of ADHD vary greatly among research, nations, and demographic groupings, despite its importance. Cultural, socioeconomic, and educational factors are the primary causes of this diversity. In order to ascertain the prevalence of ADHD in the school-age population of Dehradun, this study looks at a number of scientific and practical concerns.

ADHD Prevalence in School Children: An Overview

A. Global Prevalence Rate

Thomas, R. et al. (2015) included 175 articles in their study, Attention-Deficit/Hyperactivity Disorder: A Systematic Review and Meta Analysis, which examined the prevalence of the disorder in youngsters. According to the study, the overall prevalence was 7.2%.

ADHD Prevalence Among U.S. Children and Adolescents in 2022: Diagnosis, Severity, Co-occurring Disorders, and Treatment was conducted by Danielson et al. (2024). The study found that 1 in 9 American children had been diagnosed with ADHD, 10.5% of whom had moderate to severe ADHD, and 77.9% of whom had at least one co-occurring condition.

In their study Attention-Deficit/Hyperactivity Disorder in Children Ages 5–17 Years: United States, 2020–2022, Reuben, C., & Elgaddal, M.S. (2024) reported that during 2020–2022, 11.3% of children aged 5–17 years received an ADHD diagnosis, with boys (14.5%) likely to have a higher prevalence than girls (8.0%) and children aged 5–11 years having a lower prevalence rate (8.6%) than those aged 12–17 years (14.3%).

In a cross-sectional study titled Global Prevalence of ADHD in Children and Adolescents: A Systematic Review and Meta-Analysis conducted by Salaria, N., et al. (2023) reported that the prevalence of ADHD in children was 7.6% worldwide, while in teenagers it was 5.6%.

B. Prevalence rate in India

According to a study on Children with Attention Deficit Hyperactivity Disorder in India: Strengthening Diagnosis, Support, Training, and Research, Gore, M., & Morgan, J. (2025) estimate that the prevalence rate of ADHD in India ranges from 1.3% to 28.9%, highlighting the gaps in professional trainings, research, and healthcare infrastructure.

Pathan, H.G., et al.'s study, Prevalence of Attention Deficit Hyperactivity Disorder among Primary School Children in Hyderabad, South India (2024), revealed that the prevalence of ADHD in children was 9.57%, with a higher incidence in males than in girls.

A study on the prevalence of attention deficit hyperactivity disorder (ADHD) among schoolchildren in Kolhapur, India, was also carried out in 2021 by Shinde, J., and Chavan, D. They discovered that the prevalence of ADHD was 6%, with a higher prevalence in boys (83.3%) than in girls (16.6%).

A study by Catherine, T., et al. (2019) sought to determine the prevalence of attention deficit hyperactivity disorder in schoolchildren in a few chosen Kancheepuram district schools. According to the study's findings, the prevalence of ADHD was 43.3% for inattentive ADHD, 43.3% for hyperactive ADHD, and 13.2% for mixed ADHD.

According to a study on the prevalence and correlates of Attention Deficit Hyperactivity Disorder (ADHD) risk factors among schoolchildren in a rural area of North India, the prevalence of ADHD was found to be 6.34%, with the majority of the children with ADHD living in joint families and belonging to lower and lower middle class families. P. Sharma et al. (2020).

Methodological Challenges in ADHD Assessment

A. Observer Bias

Teachers in elementary schools are unaware of ADHD; their information is confined to the media, their curriculum, and the internet. P. Chadda and associates (2023). Parents' and family members' ignorance of ADHD causes them to give false information about it (Hamidzadeh, A., et al., 2021).

B. Selection of Samples and Generalized Capability

School-based research automatically excludes children who are not enrolled in school, such as those who have significant signs of ADHD or socioeconomic barriers to education. An overestimation of the prevalence of ADHD and an

overrepresentation of milder cases could result from this exclusion. Sayal and colleagues (2018).

Differences in school environments, such as class sizes, teacher-student ratios, and disciplinary measures, may have an effect on the prevalence and reporting of ADHD symptoms. If a study conducted at a private school with plenty of resources yields different results than one conducted at a public school with little money, the findings may not be as generalizable. Barkley (2015).

Practical Challenges in ADHD Assessment

A. Barriers in the Educational System

Choosing between public and private schools, the low enrollment and number of children in government schools, getting permission from school principals, and scheduling issues are just a few of the difficulties that arise when conducting research on ADHD. N. Suthar and associates (2018).

Ethical Consideration

A. Potential Labeling affects on children.

Financial, psychological, and social challenges were confronted by parents of children with ADHD. The child's future, social stigma, strained relationships, lack of social support, influence on their profession, marital conflict, teachers' ignorance about ADHD, and experiencing symptoms of worry and despair were all mentioned, to be more specific. Stigma was viewed by the majority of the parents as one of the primary social barriers. These included negative, discriminatory, and unfair perceptions about ADHD. Among the stigmata associated with ADHD were criticisms of parents, solutions to issues, inappropriate discipline, and a justification for laziness (Mesfin, W., & Habtamu, K. (2024)).

Addressing the Challenges

A. Teaching Teachers to Recognize ADHD- Teachers' understanding of ADHD can be improved by providing them with sufficient information (Ward, R.J., et al., 2022).

The significance of teacher training in managing ADHD is emphasized by Githinji & Wandera (2024), who claim that teachers who possess ADHD techniques are better at carrying out interventions. In order to guarantee a coordinated strategy to controlling ADHD, Power et al. (2016) cocur that interdisciplinary teams of educators, counselors, and medical professionals are necessary.

B. Implementing school based ADHD Intervention programs.

Home-school collaboration is crucial for consistent expectations and sanctions, as well as for reinforcing behavioral changes. School-based interventions like behavior contracts and teacher consultation are coupled with parent education, the behavioral outcomes for children with ADHD are significantly improved. This integrated strategy ensures that parents and educators use consistent strategies to support the child's growth, leading to better academic and social outcomes. Githinji & Wandera (2024)

C. Social and Emotional Support

Counseling and mental health treatments are crucial for addressing co-occurring emotional difficulties like sadness and anxiety, according to Power et al. (2016). In order to improve the wellbeing of students with ADHD.

Conclusion

Parents of children with ADHD deal with a range of psychological, social, and economical challenges. When they are aware of ADHD before their child is diagnosed and when the diagnosis is widely accepted, they have found it simpler to accept it. By increasing community knowledge, most of the challenges faced by parents of children with ADHD can be lessened.

For children with ADHD and other neuro-developmental issues, the government agency must provide additional medicine subsidies while also taking into consideration the financial struggles parents face. Parents will be convinced to receive full treatment as a result. In order to help parents cope, healthcare facilities that diagnose and treat children with ADHD must acknowledge the pressing need to assist parents in starting a support group where they may talk to other parents who have gone through similar things.

One of the challenges experienced by parents of children with ADHD is the incapacity of educators to effectively handle children with ADHD and their ignorance of the illness. Thus, legislators ought to think about how to prepare educators to work with students who have attention-deficit/hyperactivity disorder. Future research might also look into treatments that help parents with ADHD deal with their challenges. To measure the strain and associated problems faced by parents of children with ADHD, quantitative research is also required (Mesfin, W. & Habtamu, 2024).

In addition to helping with behavioral training, teachers and school personnel can give parents and physicians information to help assess behavioral and learning issues. However, school personnel are unable to diagnose ADHD, decide on a course of treatment, or mandate that a student take medication in order to attend class. Together with the child's medical professional,

only parents and guardians have the authority to make those choices.

Under the Rehabilitation Act of 1973, students with ADHD who have learning difficulties may be eligible for a Section 504 plan (for children who do not need special education) or special education under the Individuals with Disabilities Education Act. Alternative teaching methods, curriculum modifications, classroom setting adjustments, and study skills training can all help kids with ADHD (American Psychiatric Association).

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