

Attention-deficit/hyperactivity disorder in children, early Detection in Primary Care, the Role of General Practitioners, Paediatricians and nursing

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Abstract

To examine the roles of general practitioners (GPs), pediatricians, and nurses in the early detection of ADHD within primary care settings, identify challenges in the diagnostic process, and propose strategies to enhance detection and management.

ADHD is a prevalent neurodevelopmental disorder that, if undetected, can result in significant academic, social, and behavioral difficulties. Early identification is essential to ensure timely intervention and mitigate long-term impacts. GPs play a key role as the initial contact point for families, identifying potential symptoms and facilitating referrals. Pediatricians provide specialized evaluations, confirm diagnoses, and manage complex cases, while nurses contribute by conducting screenings, educating families, and coordinating care. Challenges such as symptom variability, stigma, and resource limitations impede early detection.

Multidisciplinary collaboration among GPs, pediatricians, and nurses, combined with the use of standardized screening tools, ADHD-specific training, and family-centered care, is essential to improve the early detection and management of ADHD. These efforts can ensure timely interventions, enhancing developmental and behavioral outcomes for children and reducing the burden on families and healthcare systems.

Introduction

Attention-Deficit/Hyperactivity Disorder (ADHD) is one of the most common neurodevelopmental disorders in children, characterized by persistent patterns of inattention, hyperactivity, and impulsivity that interfere with daily functioning. Early detection of ADHD is crucial for timely intervention, as untreated ADHD can lead to academic difficulties, social challenges, and an increased risk of co-occurring conditions such as anxiety, depression, and behavioral disorders. Primary care settings, including clinics run by general practitioners (GPs),

pediatricians, and nurses, play a pivotal role in the early identification of ADHD, given their accessibility and frequent interactions with children and families (1,2).

Despite advancements in ADHD research, early detection remains challenging due to varying symptom presentations, overlap with other conditions, and stigma associated with mental health diagnoses. The multidisciplinary involvement of GPs, pediatricians, and nurses is essential to address these challenges. Each professional brings unique skills and perspectives to the process, from conducting initial screenings to providing guidance on further evaluations and interventions (3).

This review explores the role of GPs, pediatricians, and nurses in the early detection of ADHD in primary care. It examines existing literature on their contributions, highlights challenges, and identifies strategies to enhance their effectiveness in identifying and supporting children with ADHD.

Review

Early detection of ADHD in primary care settings is a critical step in mitigating the long-term impact of the disorder on children and families. This discussion delves into the multifaceted roles of general practitioners (GPs), pediatricians, and nurses in identifying ADHD early, examining the interplay of their efforts within primary care. It also highlights challenges and strategies to enhance their effectiveness in addressing the complexities of ADHD diagnosis and management.

1. The Role of General Practitioners (GPs) in Early Detection of ADHD

General practitioners (GPs) are often the first healthcare professionals to encounter children with potential signs of ADHD, as families frequently consult them for concerns related to behavior, attention, or academic performance. GPs' longitudinal relationship with families places them in a unique position to observe developmental trajectories and identify early behavioral patterns indicative of ADHD. Their role extends beyond merely recognizing symptoms; they are also responsible for initial assessments, providing education about ADHD, and facilitating referrals for specialist evaluation when necessary.

Despite their pivotal role, GPs face significant challenges in diagnosing ADHD. The symptoms of ADHD, such as inattention, hyperactivity, and impulsivity, often overlap with other neurodevelopmental or emotional conditions like anxiety, oppositional defiant disorder (ODD), or autism spectrum disorder (ASD). This overlap makes it difficult for GPs, who may lack specialized training in mental health, to differentiate ADHD from these conditions. Furthermore, the variability in symptom presentation by age, gender, and context adds complexity to the diagnostic process. For instance, girls with ADHD are more likely to exhibit inattentive symptoms rather than the hyperactive or impulsive behaviors commonly seen in boys, leading to underdiagnosis in females (1, 2).

The literature emphasizes the need for GPs to use standardized screening tools, such as the Conners' Rating Scales or the Strengths and Difficulties Questionnaire (SDQ), to systematically assess behavioral concerns. These tools provide a structured approach to collecting information from parents, teachers, and caregivers, ensuring that a comprehensive view of the child's behavior

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is considered across multiple settings. However, studies also highlight gaps in GPs' knowledge and confidence in using these tools effectively. Addressing these gaps through targeted ADHD training programs and providing access to resources, such as guidelines from the American Academy of Pediatrics (AAP) or the National Institute for Health and Care Excellence (NICE), can significantly enhance their ability to detect ADHD early and accurately (3, 4).

2. The Role of Pediatricians in ADHD Detection and Management

Pediatricians, with their expertise in child development, are often consulted for the evaluation and confirmation of ADHD diagnoses, especially in cases referred by GPs or schools. Their role involves conducting detailed developmental histories, ruling out medical conditions that may mimic ADHD symptoms (e.g., sleep disorders or thyroid dysfunction), and identifying co-occurring conditions such as learning disabilities or speech and language delays. Pediatricians also serve as coordinators for multidisciplinary teams, collaborating with psychologists, occupational therapists, and educational specialists to develop individualized care plans.

One of the key contributions of pediatricians is their use of evidence-based diagnostic frameworks, such as the DSM-5 criteria, to ensure accurate diagnosis. According to Wolraich et al. (2019), adherence to structured diagnostic guidelines results in higher diagnostic accuracy and reduces the risk of over- or under-diagnosis. Pediatricians are also skilled in integrating feedback from parents, teachers, and other caregivers, providing a holistic understanding of the child's challenges across different environments (5).

However, the limited time available during routine consultations often hampers pediatricians' ability to conduct comprehensive assessments. This constraint is particularly problematic in underserved areas where access to specialized care is limited. Collaborative care models, in which pediatricians work closely with other healthcare providers and schools, have been shown to improve diagnostic efficiency and treatment outcomes. For example, a study on multidisciplinary ADHD clinics demonstrated that integrating pediatric care with psychological and educational support significantly reduced waiting times for assessments and improved parent satisfaction (6).

Another critical aspect of pediatricians' role is educating families about ADHD. By addressing misconceptions, such as the belief that ADHD results from poor parenting or dietary factors, pediatricians help reduce stigma and foster acceptance of the diagnosis. This educational component is crucial for ensuring that families are receptive to treatment recommendations, including behavioral therapies, pharmacological interventions, or accommodations in educational settings.

3. The Role of Nurses in Early Identification and Support

Nurses, particularly those in community and school settings, are uniquely positioned to identify early signs of ADHD due to their frequent and direct interactions with children and families. Their roles encompass observing behavioral patterns, administering screening tools, educating families, and coordinating care between healthcare providers and schools. Nurses often serve as the first point of contact for parents who are concerned about their child's behavior, making them essential in the early detection and referral process.

The literature highlights the effectiveness of nurse-led screening programs in improving ADHD detection rates. For instance, a pilot program in the United Kingdom trained school nurses to use validated tools like the Vanderbilt ADHD Diagnostic Parent and Teacher Scales to identify at-risk children. The program resulted in earlier referrals and more timely access to interventions, demonstrating the value of empowering nurses with ADHD-specific training (7). Nurses are also instrumental in gathering detailed behavioral histories from parents and teachers, providing critical context for pediatricians and GPs during the diagnostic process.

In addition to their screening role, nurses play a vital part in addressing parental concerns and reducing the stigma associated with ADHD. Parents often feel overwhelmed or hesitant to pursue a diagnosis due to societal misconceptions about ADHD. Nurses, through empathetic communication and education, can reassure families and emphasize the benefits of early identification and intervention. For example, explaining how early treatment can improve academic performance, social relationships, and self-esteem helps parents overcome resistance to seeking care.

However, like GPs and pediatricians, nurses face challenges such as limited training in neurodevelopmental disorders and high caseloads that restrict the time available for detailed assessments. Addressing these challenges requires integrating ADHD education into nursing curricula and providing opportunities for continuing professional development. Additionally, fostering collaboration between school nurses and primary care teams can streamline the referral and diagnostic process, ensuring that children with ADHD receive timely and coordinated care (8).

4. Multidisciplinary Collaboration in ADHD Detection

The detection of ADHD requires a collaborative approach that leverages the unique expertise of GPs, pediatricians, and nurses. Each professional contributes critical insights and skills, creating a comprehensive diagnostic pathway that addresses the multifaceted nature of ADHD. For example, GPs can identify initial concerns and provide referrals, nurses can gather detailed behavioral histories and administer screening tools, and pediatricians can confirm the diagnosis and develop tailored management plans.

Multidisciplinary collaboration is particularly beneficial in complex cases where ADHD co-occurs with other conditions such as anxiety, ASD, or learning disabilities. Studies have shown that shared

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care models, which integrate healthcare providers, educators, and community resources, result in more accurate diagnoses and better long-term outcomes. These models also reduce diagnostic delays, which are common in fragmented care systems, and ensure that families receive consistent guidance and support throughout the process (9).

Effective collaboration requires clear communication and standardized protocols. For instance, using electronic health records (EHRs) to share screening results, diagnostic reports, and treatment plans facilitates seamless information exchange among professionals. Regular case review meetings, where GPs, pediatricians, nurses, and school staff discuss progress and challenges, further enhance coordination and ensure that interventions are aligned with the child's needs.

Challenges in Early Detection

Several barriers hinder the early detection of ADHD in primary care settings. Symptom variability across age groups, genders, and cultural contexts complicates diagnosis. For instance, boys are more likely to exhibit overt hyperactivity, while girls often present with inattention, leading to underdiagnosis in females. Stigma and misconceptions about ADHD further delay help-seeking behavior, as families may fear judgment or label their child as "troubled."

Resource constraints, including limited access to pediatric specialists and mental health services, pose additional challenges. In rural or underserved areas, families often face long waiting times for evaluations, resulting in delayed diagnoses and interventions. Addressing these challenges requires systemic changes, including increasing the availability of trained professionals, reducing the stigma associated with ADHD, and improving access to diagnostic and therapeutic services (8, 9).

6. Strategies for Improvement

Improving the early detection of ADHD involves a multifaceted approach:

1. **Education and Training:** Providing ADHD-specific training for GPs, pediatricians, and nurses enhances their diagnostic confidence and skills. Incorporating ADHD education into professional curricula and offering continuing education opportunities ensures that providers remain updated on best practices.
2. **Standardized Screening Tools:** Implementing validated tools, such as the Vanderbilt ADHD Diagnostic Parent and Teacher Scales, supports consistent and accurate identification of ADHD symptoms in primary care.
3. **Integrated Care Models:** Multidisciplinary approaches that involve healthcare providers, schools, and community resources create a seamless pathway for children with ADHD, improving diagnostic efficiency and care coordination.
4. **Family-Centered Care:** Engaging families in the diagnostic process through education and shared decision-making fosters trust and improves adherence to treatment plans.

5. **Addressing Stigma:** Public health campaigns and provider-led education initiatives can reduce stigma and misconceptions about ADHD, encouraging families to seek timely care.

Conclusion

The early detection of ADHD in primary care settings is essential for improving long-term outcomes for children and families. General practitioners, pediatricians, and nurses each play a critical role in identifying ADHD symptoms, facilitating timely referrals, and supporting families throughout the diagnostic process. While challenges such as resource constraints and stigma persist, strategies such as multidisciplinary collaboration, standardized screening, and professional training can enhance the effectiveness of early detection efforts. By strengthening the role of primary care in ADHD management, healthcare systems can reduce the burden of untreated ADHD and promote better developmental and behavioral outcomes for affected children.

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