

Introduction

ADHD is common, affecting nearly 1 in 10 children and adolescents in the US.” The Society for Developmental Behavioral Pediatrics (SDBP), in line with its mission, has developed a guideline which addresses care for children with ADHD that is more complex than can be managed in the typical primary care office. The American Academy of Pediatrics (AAP) provides guidelines for primary care physicians to begin treating ADHD. However, further guidance is needed for more complex cases. In these situations, the AAP guideline recommends referral to “a pediatric or mental health subspecialist. The SDBP guideline is complementary to the AAP primary care guideline and is intended to aid the practice of all professionals charged with providing care for children and adolescents with complex ADHD.

What is Complex ADHD?

Complex ADHD is when children and adolescents with ADHD have one or more coexisting condition(s) or other factor(s) that complicates the evaluation and treatment of their ADHD:

- Presenting at an unusually early (< 4 years) or late (> 12 years) age
- Having a coexisting condition (medical, psychiatric, or developmental/learning)
- Moderate to severe impact of symptoms on daily functioning
- Primary care physician being uncertain about the ADHD diagnosis
- Inadequate response to treatment

What sets this guideline apart? Innovations in this guideline include

- **A Focus on Functional Impairment to Improve Long-term Outcomes**
ADHD impacts daily functioning in different settings. Impairments may include problems with completing tasks at home, participating in school, following rules in the community, and having and getting along with friends. Children with complex ADHD are at increased risk for not doing well at these tasks even into adulthood. Treatment for children and adolescents with complex ADHD should focus on identifying these functional impairments and help with developing strategies to compensate for them. Improvement should be judged by changes in function in addition to changes in symptoms over time.
- **A Focus on Psychosocial Treatment As The Foundation for Treatment of Complex ADHD**
These guidelines highlight the importance of psychosocial treatments for ADHD. ADHD has a profound impact on children’s interactions with the people around them, how they are judged by those people, and thus how they feel about themselves. Therefore, psychosocial treatments are foundational for the treatment of ADHD because they directly address impairment in a child or adolescent’s ability to function in school, with peers, with family members, and in the community. These functional skills are directly related to long-term outcomes.

Other important points highlighted in this guideline include

- **Shared Decision Making and Clinical Judgment**
Each family’s unique needs and preferences should be a key driver of any treatment plan. The patient and family should have a primary role in making decisions about their ADHD treatment plan.
- **Interprofessional Care**
Since complex ADHD is present in every setting of a child’s life, it is important that all treating professionals, including, medical, psychological, educational, recreational and others work together to meet each child’s unique needs. This guideline is meant to be used by all involved providers.

- **Psychological Testing and Mental Health Diagnostic Assessment**

Referral to professionals with specialized training, including physicians, advance practice providers, and psychologists, is appropriate for children and adolescents presenting with complex ADHD. Assessments should be comprehensive and detailed to identify all relevant diagnoses including learning, behavior, mood and developmental problems. The assessment should also include verifying any diagnosis that a child has received in the past.

- **Multimodal Treatment**

Treatments for complex ADHD are divided into two main categories – psychosocial treatment and pharmacological (medication) treatment. Treatment with a combination of interventions, called multimodal treatment, often works best to address ADHD symptoms.

- **Evidence-based Psychosocial Interventions**

Evidence-based behavioral interventions (interventions proven to be effective) are foundational for the treatment for complex ADHD. Examples of these interventions include parent training on behavioral management, teacher training on classroom behavior management, peer interventions and organizational skills training (for older children). Interventions that have not been scientifically proven to be effective (such as play therapy, cognitive training, neurofeedback, sensory integration therapies, and eye tracking training) should not take the place of those that have.

- **Treatment for Coexisting Conditions**

Children and adolescents with complex ADHD who also have other conditions that affect their behavior or mood should receive appropriate treatment for those conditions, including with medication. The condition causing the most problems with day-to-day functioning should be treated first.

- **Life Course Perspective**

ADHD is a lifelong condition. It is important to monitor children and adolescents with ADHD regularly to determine the need for continued treatment or the need for any treatment changes. Monitoring should include routine and consistent gauging of physical growth, symptoms, academic progress and social function, other conditions, and psychosocial stressors (including those affecting the child, family, school, or community). Monitoring for any additional support or treatment needs is especially important around times of transition (e.g. elementary to middle school, middle to high school, graduating from high school) to ensure that appropriate care and support is provided to meet the new demands.

Methodology

This guideline was created by a diverse panel of experts from multiple professions who are members of SDBP. The panel also included representatives from the American Academy of Pediatrics (AAP), Children and Adults with Attention Deficit/Hyperactivity Disorder (CHADD) and the American Psychological Association (APA). The process of development included the following steps:

- Defined complex ADHD
- Reviewed existing guidelines
- Developed the key action statements of this guideline
- Completed a detailed review of the literature supporting these key action statements
 - This included evidence grading of the literature by members of the SDBP ADHD Special Interest Group (ADHD SIG)
- Developed clinical algorithms to provide practical guidance for how to implement the key actions
 - This included a review of other published and unpublished algorithms from other organizations
 - Reflects a balance between the available literature and expert consensus

- The following algorithms are available in this edition of the guideline:
 - Assessment of complex ADHD
 - Psychosocial treatment
 - Pharmacological treatment
 - Treatment of pre-school age children
 - ADHD with Autism Spectrum Disorder
 - ADHD with Tic Disorder
 - ADHD with Substance Abuse Disorder
 - ADHD with Anxiety
 - ADHD with Depression
 - ADHD with Disruptive Behavior Disorders
- Review of the draft by a separate review panel of the ADHD SIG
- Comments on the draft by a subset of SDBP members not involved in the previous steps
- Final revisions, review, and approval by the SDBP Board of Directors

Key actions statements (KAS)

- 1) **KAS 1:** When a child or adolescent is referred to an ADHD specialist by a primary care physician for concern of complex ADHD (as defined above), the specialist will begin a “comprehensive assessment” to determine the presence of complex ADHD and tailor a unique treatment plan for the patient. The assessment and treatment plan will usually involve multiple specialists and others in the community due to the need to gather different information and address different needs in each of the child’s multiple environments (both physical and mental).
- 2) **KAS 2:** Comprehensive assessments should verify previous diagnoses and consider whether other diagnoses are also present. The methods of assessment should be based on the best available current research while also being respectful of the culture and unique perspective of the family. Information should be collected from as many of the child’s settings as possible. The components included in the assessment should be adequate to properly explore the severity, functional impact, developmental, cognitive, biological, medical, and physical factors that could contribute to the behaviors. The assessment should be planned based on what is best for the child, not to avoid systemic barriers.
- 3) **KAS 3:** Interventions that help the child build skills to address the problems resulting from ADHD are central to the treatment of complex ADHD. They should be included in all complex ADHD treatment plans from the beginning because they will help the child to succeed in the long run. Proven training programs or management strategies that target parents, educators, schoolmates/playmates, and the child are all important in order to tackle all the areas affected by ADHD. Thus, when planning a special education program or a Section 504 plan for a child, all these approaches should be considered for inclusion. For adolescents, it is also important that they be including in determining their treatment so that they become willing participants.
- 4) **KAS 4:** Medications remain an important component of ADHD treatment. In the case of ADHD with co-existing conditions, those other conditions should be treated based on the best available scientific evidence. As a general principle, the condition causing the most problems with day-to-day functioning (ADHD or the coexisting condition) should be treated first. This guideline provides care algorithms for several important coexisting conditions. When monitoring medication response, clinicians should assess effects of medications on a child’s daily functioning, not merely effects on core symptoms of ADHD or the coexisting condition. The goal of treatment is more than just the reduction of symptoms; it is to improve a child’s overall functioning so that they succeed at what is expected of them and avoid developing even more impairments.
- 5) **KAS 5:** ADHD is a chronic condition that starts in childhood but continues to affect a person well into adulthood. Thus, it is important that clinicians are prepared to monitor children with complex ADHD as they get older and transition through the various social milestones. As the demands of their environment(s) change it is often necessary to review the need for current or new interventions.

Advocacy

The guideline highlights the need for advocacy to address the many systemic barriers to delivering optimal care for complex ADHD. These include:

- Financial barriers that limit access to those with expertise in assessment, those with expertise in treatment, and consistent communication between all individuals that care for the child
- Inadequate expertise among primary care physicians to begin the process of ADHD treatment and recognize complexity that requires referral
- Limited number of subspecialists capable of coordinating and delivering the components of care
- Limited resources within the education system to meet the needs for high quality, high complexity screening, assessment, treatment, and monitoring of complex ADHD
- The tendency of health care systems to defer financial and treatment responsibility of ADHD and co-existing conditions to the educational system simply because the most obvious impact is at school

Future Research

The guideline panel often had to rely on expert consensus in making these recommendations since complex ADHD remains an area in need of more research. For example, we don't know exactly which components of the assessment are essential for which specific children. We need more investigation to determine how best to accurately diagnose children of different ages with different co-existing conditions. Research on combined psychosocial and medical treatment for children with ADHD and coexisting conditions is also needed.

Conclusion

ADHD is often associated with coexisting conditions and other factors that complicate the diagnostic and treatment process. Affected children and adolescents are at increased risk for serious adverse outcomes in adulthood, in part because their concerns are inadequately addressed in childhood. This guideline provides recommendations for key aspects of the assessment and treatment of children and adolescents with complex ADHD. It also highlights areas for advocacy to address problems with access to recommended services and areas for additional research where there are gaps in our knowledge. A companion set of implementation algorithms is also provided to facilitate assessment and treatment of complex ADHD.

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