ADHD: Diagnosis and Treatment

Attention Deficit/Hyperactivity Disorder
September 6, 2016
Agenda

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• Why is ADHD Important?
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• Signs and Symptoms of ADHD
• DSM Criteria
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What is ADHD?

• The DSM-5 defines ADHD as a persistent pattern of inattention and/or hyperactivity-impulsivity that interferes with or reduces the quality of social, academic or occupational functioning (American Psychiatric Association, 2013).

• It is normal for all children to be inattentive, hyperactive, or impulsive sometimes, but for children with ADHD, these behaviors are more severe and occur more often.

• ADHD is also a developmental disorder whose presentation may change with maturation.

  – There is often a decrease in overt hyperactivity and impulsivity with age, while attention problems are more likely to persist (Mick et al., 2004).
Why is ADHD important?

• ADHD is one of the most common childhood disorders and can continue through adolescence and adulthood.

• In the decade ended in 2009, the largest increase in any category of outpatient prescriptions was for ADHD medications to children (Levine et al., 2013).

• There is a great cost to society from ADHD because of the resulting academic and occupational underachievement, conduct problems throughout the lifespan, higher levels of associated substance abuse, motor vehicle accidents, and interpersonal relationship problems (Wilens et al., 2002; Mick et al., 2004; Wilens 2004).

  – Research has shown that ADHD cost the U.S. society between $143 billion and $266 billion in 2010 (approximately $2,000 per household).

  – Adults with ADHD accounted for 73 percent of those estimated costs.
Epidemiology

- The estimated national prevalence of current ADHD was 8.8 percent among children.

- In the general population, ADHD is more frequent in males than in females, with a ratio of approximately 2:1 in children and 1.6:1 in adults.
  - *Childhood ADHD is reported to be much more prevalent in boys, though some experts argue that ADHD in girls is more often undetected.*
  - *Males are less likely than females to present primarily with inattentive features* (American Psychiatric Association, 2013).

- Adult ADHD is both significantly under diagnosed and under treated (Faraone, 2004).
  - *The prevalence rate for adults appears to be about 4-5 percent* (Nutt, 2007; American Academy of Child and Adolescent Psychiatry, 2007).
Signs and Symptoms

• Children mature at different rates and have different personalities, temperaments, and energy levels.
  
  – Most children get distracted, act impulsively, and struggle to concentrate at one time or another.
  
  – Sometimes, these normal factors may be mistaken for ADHD.

• ADHD symptoms usually appear early in life, often between the ages of 3 and 6, and because symptoms vary from person to person, the disorder can be hard to diagnose.

• Parents may first notice that their child loses interest in things sooner than other children, or seems constantly "out of control."

• Often, teachers notice the symptoms first, when a child has trouble following rules, or frequently "spaces out" in the classroom or on the playground.
Symptoms of Inattention

**DSM-5 states symptoms of Inattention include:**

- Often fails to give close attention to details or makes careless mistakes in schoolwork, at work, or with other activities.
- Often has trouble holding attention on tasks or play activities.
- Often does not seem to listen when spoken to directly.
- Often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace (e.g., loses focus, sidetracked).
- Often has trouble organizing tasks and activities.
- Often avoids, dislikes, or is reluctant to do tasks that require mental effort over a long period of time (such as schoolwork or homework).
- Often loses things necessary for tasks and activities (e.g. school materials, pencils, books, tools, wallets, keys, paperwork, eyeglasses, mobile telephones).
- Is often easily distracted
- Is often forgetful in daily activities
Symptoms of Hyperactivity and Impulsivity

DSM-5 states symptoms of Hyperactivity and Impulsivity include:

• Often fidgets with or taps hands or feet, or squirms in seat.
• Often leaves seat in situations when remaining seated is expected.
• Often runs about or climbs in situations where it is not appropriate (adolescents or adults may be limited to feeling restless).
• Often unable to play or take part in leisure activities quietly.
• Is often "on the go" acting as if "driven by a motor".
• Often talks excessively.
• Often blurts out an answer before a question has been completed.
• Often has trouble waiting his/her turn.
• Often interrupts or intrudes on others (e.g., butts into conversations or games)
DSM-5 Criteria

- Six symptoms persisting for at least six months in one domain are required for an ADHD diagnosis in children and adolescents under the age of 17 while only five symptoms in either of the major domains are required for older adolescents and adults.
- Several inattentive or hyperactive-impulsive symptoms were present before age 12 years.
- Several symptoms are present in two or more setting, (e.g., at home, school or work; with friends or relatives; in other activities).
- There is clear evidence that the symptoms interfere with, or reduce the quality of, social, school, or work functioning.
- The symptoms do not happen only during the course of schizophrenia or another psychotic disorder. The symptoms are not better explained by another mental disorder (e.g. Mood Disorder, Anxiety Disorder, Dissociative Disorder, or a Personality Disorder).
Presentations of ADHD

• Based on the types of symptoms, three kinds (presentations) of ADHD can occur:

  – **Combined Presentation:** if enough symptoms of both criteria inattention and hyperactivity-impulsivity were present for the past 6 months

  – **Predominantly Inattentive Presentation:** if enough symptoms of inattention, but not hyperactivity-impulsivity, were present for the past six months

• **Predominantly Hyperactive-Impulsive Presentation:** if enough symptoms of hyperactivity-impulsivity but not inattention were present for the past six months.

• Because symptoms can change over time, the presentation may change over time as well
ADHD can be mistaken for other problems

• Parents and teachers can miss the fact that children with symptoms of inattention have the disorder because they are often quiet and less likely to act out.
• They may sit quietly, seeming to work, but they are often not paying attention to what they are doing.
• They may get along well with other children, compared with those with the other presentations, who tend to have social problems.
• Children with the inattentive presentation of ADHD are not the only ones whose disorders can be missed.
  – *For example, adults may think that children with the hyperactive and impulsive presentations just have emotional or disciplinary problems.*
Diagnosis

No single test can diagnose a child as having ADHD.

At a minimum, data obtained for diagnosing ADHD in children and adolescents should include the following (American Academy of Child and Adolescent Psychiatry, 2007; Nutt 2007, AAP Subcommittee on ADHD, 2011; American Academy of Pediatrics, 2011):

- Determination by primary care clinician that DSM-5 criteria for ADHD have been met and the ruling out of alternative cause of symptoms.

- Obtaining psychiatric, developmental, social, educational, family and medical history from parents, guardians, teachers and other school and mental health clinicians involved in the child’s care. Family history should include questions about parental ADHD and cardiac history.
  - Evidence for the genetic factors includes a pool of 17 twin studies reporting heritability (genetic factors) influence of about 76 percent (Faraone, 2004).

- Assessment by primary care clinician for other conditions co-existing with ADHD (such as emotional or behavioral, developmental and physical conditions); review of medical evaluation, including physical exam and lab tests, to rule out medical causes of the signs and symptoms.
  - This should include a family history of cardio-vascular events (e.g., possible symptoms such as fainting, shortness of breath, palpitations, etc.) and recording of vital signs.
Diagnosis

Continued data obtained for diagnosing ADHD:

• Assessment by primary care clinician for urgent conditions, such as suicidal thoughts or behaviors with potential to injure child/adolescent or others, e.g., temper outbursts.

• Recognition by the primary care clinician that ADHD is a chronic condition and consideration of children and adolescents with ADHD as having special health care needs.

• Rating scales from the patient and parents, e.g., Brown ADD Scales for Children, Adolescents, and Adults (Brown, 2001); Conners Parent Rating Scale-Revised (Conners, 1997).

• Reports and rating scales from teachers, e.g., Brown ADD Scales for Children, Adolescents, and Adults (Brown, 2001); Conners Teacher Rating Scale-Revised (Conners, 1997).

• Comprehensive assessment for comorbid psychiatric disorders.

• Careful substance abuse evaluation for adolescents with newly diagnosed ADHD.

• Clinical observation.
Differential Diagnosis

Significant overlap among symptoms of ADHD and other psychiatric disorders often complicates the diagnosis of comorbidities and the treatment process.

- According to DSM-5, approximately 50 percent of children with the combined presentation (inattention and hyperactivity/impulsivity) and about 25 percent of those with the predominantly inattentive presentation also have symptoms meeting criteria for oppositional defiant disorder.

- A majority of children and adolescents with disruptive mood dysregulation disorder have symptoms meeting criteria for ADHD.

- Substance use disorders are present in a minority of adults with ADHD, but co-occur in this group more frequently than among adults in the general population (American Psychiatric Association, 2013).

- In evaluating comorbidity in children, a narrow-band scale, such as the Vanderbilt ADHD Diagnostic Parent and Teacher Scales (Wolraich et al., 2003) is recommended by the American Academy of Child and Adolescent Psychiatry (American Academy of Child and Adolescent Psychiatry, 2007) and the American Academy of Pediatrics (American Academy of Pediatrics, 2000a; 2000b; Leslie et al., 2004).
Medical Conditions Can Mimic ADHD

• Medical evaluation is vital during the diagnostic process to rule out medical causes of the symptoms and any contraindications for stimulant medication treatment (Pliszka, 2006).

• Potential medical causes of inattention include:
  
  – seizures,
  
  – condition of head trauma,

  – acute or chronic medical illnesses, such as lead poisoning, other encephalopathies, poor nutrition, insufficient sleep, and hearing and vision problems.
Treatment

- **Medications** are supported by the preponderance of clinical literature as first-line treatments for core ADHD dysfunction and resulting symptoms, but are best administered in the context of a comprehensive treatment plan that considers evidence-based psychosocial interventions (American Academy of Child and Adolescent Psychiatry, 2007).

- The hallmark of treatment planning in children is a firm **alliance** with the parents, patient and teachers to make sure that consistent, coordinated efforts are applied across settings (Pliszka, 2003; Wilens and Dodson, 2004; Waxmonsky, 2003).

- Recommendations for treatment of children and youth with ADHD vary depending on the patient’s age.
Treatment

• For preschool-aged children (4–5 years of age), the primary care clinician should prescribe evidence-based parent- and/or teacher-administered behavior therapy as the first line of treatment and may prescribe methylphenidate if the behavior interventions do not provide significant improvement and there is moderate-to-severe continuing disturbance in the child’s function.

  – In areas where evidence-based behavioral treatments are not available, the clinician needs to weigh the risks of starting medication at an early age against the harm of delaying diagnosis and treatment.

• For elementary school–aged children (6–11 years of age), the primary care and/or behavioral health clinician should prescribe FDA approved medications for ADHD and/or evidence-based parent and/or teacher-administered behavior therapy as treatment for ADHD, preferably both.
Treatment

• For adolescents (12–18 years of age), the primary care and/or behavioral health clinician should prescribe FDA medications for ADHD with the consent of the adolescent and may prescribe behavior therapy as treatment for ADHD, preferably both.

• The evidence is particularly strong for stimulant medications and sufficient but less strong for atomoxetine (Strattera), extended-release guanfacine (Tenex), and extended-release clonidine (in that order).

• The primary care and/or behavioral health clinician should titrate doses of medication for ADHD to achieve maximum benefit with minimum adverse effects.
Treatment and Cardiovascular Events

• In a very small number of children (0.16 per million prescriptions and 0.53 per million prescriptions for methylphenidate and amphetamine, respectively) stimulant use has been associated with sudden death, usually from adverse cardiovascular events (Gephart, 2006).

• In May 2008, a joint advisory statement of the American Academy of Pediatrics (AAP) and the American Hospital Association (AHA), with endorsement by the American Academy of Child and Adolescent Psychiatry, the American College of Cardiology, Children and Adults with Attention-Deficit/Hyperactivity Disorder, the National Initiative for Children’s Healthcare Quality and the Society for Developmental and Behavioral Pediatrics, was issued to address controversies in cardiac assessment prior to stimulant treatment for ADHD:
  – An AHA Scientific Statement issued in April 2008 included a review of data that show children with heart conditions have a higher incidence of ADHD.
  – Because certain heart conditions in children may be difficult (even, in some cases, impossible) to detect, the AAP and AHA feel that it is prudent to carefully assess children for heart conditions, if they need to receive treatment with drugs for ADHD.
Joint advisory statement of the American Academy of Pediatrics (AAP) and the American Hospital Association (AHA) continued:

- Obtaining a patient and family health history and doing a physical exam focused on cardiovascular disease risk factors (Class I recommendations in the statement) are recommended by the AAP and AHA for assessing the patient before treating with drugs for ADHD.

- Acquiring an ECG is a Class IIa recommendation. This means it is reasonable for a physician to consider obtaining an ECG as part of the evaluation of children being considered for stimulant drug therapy, but this should be at the physician’s judgment, and it is not mandatory to obtain one.

- Treatment of a patient with ADHD should not be withheld because an ECG is not done. The child’s physician is the best person to make the assessment about whether there is a need for an ECG.

- Medications that treat ADHD have not been shown to cause heart conditions nor have they been demonstrated to cause sudden cardiac death. However, some of these medications can increase or decrease heart rate and blood pressure. While these side effects are not usually considered dangerous, they should be monitored in children with heart conditions as the physician feels necessary (AHA Newsroom, 2008).

  - Specifically, the AAP ADHD guideline notes “It is important to expand the history to include the specific cardiac symptoms, Wolf-Parkinson-White syndrome, sudden death in the family, hypertrophic cardiomyopathy, and long QT syndrome” (AAP Subcommittee, 2011, p.10).
Treatment

• Psychosocial treatments, such as behavior therapy, include evidence-based parent training and classroom behavior interventions that reinforce adaptive and positive behaviors and decrease or eliminate inappropriate behaviors, altering the motivation of the child or adolescent to control attention, activity, and impulsivity (American Academy of Pediatrics, 2011).

  – Behavioral parenting training (BPT) approach

  – Strategies to Enhance Positive Parenting (STEPP) program

• The goal of behavior therapy is to modify the physical and social environment to change or alter behavior (American Academy of Pediatrics, 2011). It includes training parents to improve their abilities to modify their child’s behavior, and to improve the child’s ability for self-regulation of behavior.

• Family interventions that coach parents on contingency management methods have been shown to be useful in decreasing punitive and ineffective parenting styles that may perpetuate behavioral problems in children and adolescents with ADHD.
Treatment

• Classroom behavior-management techniques have been found to be effective, particularly the daily report card intervention that addresses child-specific targeted improvements with measurable goals (Chronis 2006; Evans and Youngstrom, 2006).

• Behavioral modification techniques that address social skills should be a component of treatment particularly in children or adolescents for whom aggressive behavior is a problem or who have a co-morbid conduct disorder (Chronis, 2006).

• Psychotherapeutic treatment of ADHD has been studied far less in adults than in children, and consensus guidelines are not available.
  
  – Cognitive behavioral therapy, life-skills coaching and training in organizational skills appear useful, although evidence to support their long-term benefit in reducing core symptoms of ADHD is lacking.

• Other treatments:
  
  – EEG-Neurofeedback
  
  – Transcranial Magnetic Stimulation
  
  – Dietary Therapy
Psychoeducation

Psychoeducation, which should be delivered to all patients with ADHD and in the case of minors, to the parents or other caregivers as well, should include information about:

• ADHD, its presentation in the patient, the plan of treatment and rationale, available treatments, including medications and their benefits, risks, side effects and psychotherapeutic interventions
• Co-morbid disorders, if any, and how treatment of these is integrated with ADHD treatment
• Social and peer support available locally for children and adults with ADHD and their families, such as CHADD (Children and Adults with Attention-Deficit/Hyperactivity Disorder) activities and resources
• Rights to educational needs assessments through the school system, if appropriate, under the Individuals with Disabilities in Education Act (IDEA) and Section 504 of the Civil Rights Act
• Increased risk for suicidal behavior and early warning signs of possible increases in such behavior, if antidepressants or atomoxetine are prescribed.
Senate Concurrent Resolution No. 39 of the 2014 Regular Session of the LA Legislature

• Urged and requested DHH to study the most effective means to ensure the proper utilization of ADHD medications in LA
• Task Force convened and ADHD Symposium held in Dec. 2014
• Report presented to legislature in February 2015 with three major goals:
  ✓ Increase the accuracy of ADHD diagnosis vs. other disorders or typical variation
  ✓ Increase access and linkage to behavioral therapies and parent support and
  ✓ Improve the alignment of pharmacological treatment with evidence-based guidelines.
• DHH currently working with stakeholders to design and implement plans to achieve the above goals.
When conducting a Treatment Record Review audit, clinical reviewers are looking for evidence that:

- Diagnosis was determined based on input/rating scales from family members/caregivers, teachers, and other adults in the member’s life.
- Record indicated that the medical evaluation was reviewed to rule out medical causes for signs and symptoms.
- Psychoeducation was delivered to all members with ADHD and in the case of minors, to the parents/caregivers.
- The treatment plan and rationale as well as available treatments including medications and their benefits, risks, side effects, were discussed with the member and the parent/caregiver in the case of minors.
- Record indicated the use of family interventions that coach parents on contingency management methods.
- Record indicated comprehensive assessment for comorbid psychiatric disorders was conducted.
Clinical Practice Guidelines

Magellan Healthcare offers CPGS for the following conditions:

• Acute Stress Disorder & Post-Traumatic Stress Disorder
• ADHD
• Autism
• Bipolar Disorder
• Depression
• Generalized Anxiety Disorder
• Managing Suicidal Patients
• Obsessive-Compulsive Disorder
• Panic Disorder
• Schizophrenia
• Substance Use Disorders

Resources

Overview of ADHD care process


http://www.adhdawarenessmonth.org/symptoms-and-diagnosis
References


References


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