This project is supported by the Health Resources and Services Administration of the U.S. Department of Health and Human Services (HHS) as a part of an award totaling $2,134,666 with 20% financed with nongovernmental sources. The contents are those of the authors and do not necessarily represent the official views of, nor an endorsement, by HRSA, HHS, or the U.S. Government.

KSKidsMAP
Kansas Together for Pediatric Mental Health Care Access

How to use screening tools and make a diagnosis?
First line treatment and interventions
Monitor, follow up, and when to refer

Disclosure

• The following presenters do not have any relevant financial relationships with any proprietary entities producing, marketing, re-selling, or distributing healthcare goods or services consumed by, or used on patients related to the content of their presentation: Susanna Ciccolari Micaldi, MD; Kari Harris, MD; Nicole Klaus, PhD

Case – Dawson 13 yo M

• CC: Behavior concerns
• HPI: Mom concerned about increasing behaviors at school and frequent calls from school for the past 6 months
  • Altercations with students
  • Stealing from cafeteria
  • Talking in class
  • Argumentative and disrespectful (home, school, church)
  • Rough with younger sibling
  • Fidgety, can’t sit still, reports fidgeting calms his anxiety
  • Failing multiple classes
ADHD: How to use screening tools and make a diagnosis

- Attention-deficit/hyperactivity disorder (ADHD) is one of the most common neurodevelopmental disorders which affects 5%-10% of school-age children
- ADHD entails a pattern of inattention and/or hyperactivity/impulsivity that compromises the child’s academic or social functioning
- Several symptoms are present before the age of 12 years
- Several symptoms are present in two or more settings

ADHD: How to use screening tools and make a diagnosis

- ADHD is frequently comorbid with other psychiatric disorders
- 54%-84% of children and adolescents with ADHD may meet criteria for oppositional defiant disorder (ODD)
- 15%-19% of patients with ADHD will develop substance use disorders
- 25%-35% of patients with ADHD will have a coexisting learning or language problem
- Up to 1/3 of patients with ADHD will suffer from an anxiety disorder

ADHD: How to use screening tools and make a diagnosis

- Screening for ADHD should be part of every patient’s mental health assessment
- Clinician should screen for ADHD by specifically asking questions regarding the major symptom domains of ADHD (inattention, hyperactivity, impulsivity) and if such symptoms cause impairment
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Dawson Pediatric Symptom Checklist – 17 (PSC-17)
• Total score = 10
• Attention = 6 (cut off of 7)

ADHD: How to use screening tools and make a diagnosis
• Evaluation of the preschooler, child, or adolescent for ADHD should consist of:
  1. Detailed clinical interviews with the parent and patient about DSM ADHD symptoms (must have at least 6 of 9 of the inattention cluster and/or at least 6 of 9 of hyperactive/impulsive criteria), duration (6 months), onset
  2. Obtaining information about the patient’s school or day care functioning
  3. Evaluation of comorbid psychiatric disorders
  4. Review of the patient’s medical, social, and family histories
ADHD: How to use screening tools and make a diagnosis

- The parent and often the teacher should complete one of the many standardized behavior rating scales
- Rating scales can be used in the assessment of ADHD and monitoring of treatments
- Some of these scales not only measure ADHD symptoms but also tap into other common comorbid psychiatric conditions

ADHD: How to use screening tools and make a diagnosis

- Scales in common use are:
  - Child Behavior Checklist (CBCL)
    - parent-completed
    - teacher-completed form
  - Conners Parent Rating Scale-Revised (CPRS-R)
  - Conners Teacher Rating Scale-Revised (CTRS-R)
  - Swanson, Nolan, and Pelham (SNAP-IV) which also screens for other DSM diagnoses
  - Vanderbilt ADHD Diagnostic Parent and Teacher Scales which also screens for comorbid conditions

Dawson

- Vanderbilt
ADHD: First line treatment and interventions

- Studies consistently support the superiority of stimulant over the non-drug treatment (e.g., MTA study)
- Behavior therapy (e.g., behavioral parent training) may be recommended as an initial treatment if:
  - Mild symptoms, minimal impairment
  - Child is younger than 6
  - Diagnosis is uncertain
  - Parents reject medication treatment

- Stimulants are highly efficacious in the treatment of ADHD
  - The effect size of stimulant treatment relative to placebo averages 1.0 which is one of the largest effects for any psychotropic medication
  - Two families of stimulant medications: methylphenidate (MPH) and amphetamine (AMP) which are equally efficacious in the treatment of ADHD
  - It is recommended to start a MPH product in children and adolescents since better tolerated than AMPH
  - Stimulants enhance dopaminergic and noradrenergic neurotransmission in the central nervous system and peripherally

- Immediate-release and long-acting formulations of MPH and amphetamine (employ delivery systems to allow a reduced number of doses per day)
- Physicians may use long-acting forms as initial treatment (single daily dosing is associated with greater convenience, compliance, and confidentiality)
- Short-acting stimulants are often used as initial treatment in small children (<16 kg in weight) for whom there are no long-acting forms in a sufficiently low dose
### Short-acting Stimulant Compounds

<table>
<thead>
<tr>
<th>Immediate-release Stimulants</th>
<th>Daily Dosage (mg/kg)</th>
<th>Duration of action (hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methylphenidate (Dexedrine)</td>
<td>0.3 – 1.0</td>
<td>2 or 3 times</td>
</tr>
<tr>
<td>Mixed salts of dextroamphetamine (Adderall)</td>
<td>0.5 – 1.5</td>
<td>1 or 2 times</td>
</tr>
<tr>
<td>Methylphenidate</td>
<td>1.0 – 2.0</td>
<td>2 or 3 times</td>
</tr>
<tr>
<td>Deoxydexamphetamine (isradine)</td>
<td>0.5 – 1.0</td>
<td>2 times</td>
</tr>
</tbody>
</table>

**FDA-approved total daily doses:**

- Methylphenidate 60 mg
- Deoxydexamphetamine 20 mg
- Mixed amphetamine salts 30 mg

### Long-acting Stimulant Compounds

<table>
<thead>
<tr>
<th>Medication</th>
<th>Daily Dosage (mg/kg)</th>
<th>Daily dose schedule</th>
<th>Duration of action (hr)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methylphenidate</td>
<td>1 / 2</td>
<td>Once or twice</td>
<td>12 – 12 hr</td>
<td>*Applying sprayer *</td>
</tr>
<tr>
<td>Nabil LA</td>
<td>8 – 9 hr</td>
<td>50:50 ratio</td>
<td>50:50 ratio</td>
<td>30:70 ratio</td>
</tr>
<tr>
<td>Nabil CD</td>
<td>6 – 8 hr</td>
<td>50:50 ratio</td>
<td>50:50 ratio</td>
<td>30:70 ratio</td>
</tr>
</tbody>
</table>

**Dosage:**

- 10 mg for adults
- 5 mg for children

**Stimulation of wear time:**

- Patch stimulation wear time
- Skin reaction or itching are common

### Long-acting Stimulant Compounds

<table>
<thead>
<tr>
<th>Medication</th>
<th>Daily Dosage (mg/kg)</th>
<th>Daily dose schedule</th>
<th>Duration of action (hr)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quillivant XR</td>
<td>0.5 – 0.8</td>
<td>Once or twice</td>
<td>12 – 12 hr</td>
<td><em>Applying spray</em></td>
</tr>
<tr>
<td>Lisdexamphetamine (Focalin)</td>
<td>0.5 – 1.5</td>
<td>Once or twice</td>
<td>12 – 12 hr</td>
<td><em>Applying spray</em></td>
</tr>
<tr>
<td>Lisdexamphetamine (Focalin)</td>
<td>0.5 – 1.5</td>
<td>Once or twice</td>
<td>12 – 12 hr</td>
<td><em>Applying spray</em></td>
</tr>
</tbody>
</table>

**Dosage:**

- 0.5 mg for adults
- 0.25 mg for children

**Stimulation of wear time:**

- Patch stimulation wear time
- Skin reaction or itching are common
### Non-Stimulants

<table>
<thead>
<tr>
<th>Medication</th>
<th>Daily dosage (mg/kg)</th>
<th>Daily dose schedule</th>
<th>Main indications</th>
<th>Mechanism of action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clonidine</td>
<td>0.1 – 0.3</td>
<td>BID</td>
<td>ADHD + Tourette's disorder</td>
<td>Hypothalamic action</td>
</tr>
<tr>
<td>Atomoxetine</td>
<td>0.5</td>
<td>Morn or Even</td>
<td>ADHD</td>
<td>Noradrenergic action</td>
</tr>
</tbody>
</table>

**Common Adverse Effects**
- Nausea
- Vomiting
- Diarrhea
- Headache
- Insomnia
- Appetite decrease

**Comments**
- May cause weight gain
- May cause constipation
- May cause dizziness
- May cause sexual dysfunction

### Alpha-2 Agonists (immediate-acting)

<table>
<thead>
<tr>
<th>Medication</th>
<th>Daily dosage (mg/kg)</th>
<th>Daily dose schedule</th>
<th>Main indications</th>
<th>Mechanism of action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clonidine</td>
<td>0.001 – 0.03</td>
<td>BID</td>
<td>ADHD + Tourette's disorder</td>
<td>Hypothalamic action</td>
</tr>
<tr>
<td>Prazosin</td>
<td>0.1 – 0.2</td>
<td>BID</td>
<td>Hypertension</td>
<td>Alpha-2 blockade in vascular smooth muscle</td>
</tr>
</tbody>
</table>

**Common Adverse Effects**
- Hypotension
- Headache
- Dizziness

**Comments**
- May cause weight gain
- May cause constipation
- May cause dizziness

### Alpha-2 Agonists (long-acting)

<table>
<thead>
<tr>
<th>Medication</th>
<th>Daily dosage (mg/kg)</th>
<th>Daily dose schedule</th>
<th>Main indications</th>
<th>Mechanism of action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clonidine</td>
<td>0.1 – 0.2</td>
<td>QD</td>
<td>ADHD + Tourette's disorder</td>
<td>Hypothalamic action</td>
</tr>
<tr>
<td>Doxazosin</td>
<td>0.1 – 2</td>
<td>BID</td>
<td>Hypertension</td>
<td>Alpha-2 blockade in vascular smooth muscle</td>
</tr>
</tbody>
</table>

**Common Adverse Effects**
- Nausea
- Vomiting
- Diarrhea
- Headache
- Insomnia
- Appetite decrease

**Comments**
- May cause weight gain
- May cause constipation
- May cause dizziness
Management of ADHD is chronic disease management

- Lifestyle management – exercise, sleep, emotional health, substance use
- Medication compliance – patient and family education
- Involvement of patient in review of the ‘numbers’; consider using Vanderbilt scales, review school grades regularly

Medication management considerations

- Regular follow up appointments are critical
  - in stable patients - three monthly minimum
  - when titrating up or down - monthly
- Include review of symptom control at home and school
- Review of side effects
- Compliance, consent, and assent
- Patient and parent information

Common side effects

- Appetite and weight
  - Final height and weight may be impacted
  - Consider change in formulation/drug ‘holidays’ to allow catch up
- Initial insomnia
- Dose timing
- Emotional lability as medication wears off
  - Manage by lifestyle changes
When to refer

- Deterioration in clinical presentation without adequate explanation
- Polypharmacy (three or more psychotropic medications may need additional evaluation by child psychiatry)
- Need for urgent evaluation/inpatient or intensive outpatient care

Dawson

- Parents hesitant to treat pharmacologically
- H/o SUD in parent
- H/o syncope and heart murmur (functional)
- Are there other treatment options?

ABC of Behavior Management

- Antecedent
- Behavior
- Consequence
- Goal: teach caregivers skills to change antecedents and consequences to ↑ positive and ↓ negative behaviors
- Support parenting self-efficacy
Does it work?
• Well validated for aggression, conduct problems, and ADHD
• Most effective for improving compliance and decreasing defiance/aggression rather than treating core sx of ADHD
• Medium to large effect sizes (.5-.7)

Build Warmth
• Special Time: brief one-on-one time daily to build warmth in parent-child relationship
  • Describe, imitate, use active listening
  • Do not ask questions or give commands
• Praise
  • Specific and labeled
  • Immediate
  • Genuine
• Use praise and positive attention to increase positive behavior
  • Aim to replace negative behaviors with positive behaviors

Giving Effective Commands
• Children comply with direct commands 65% of the time
• Children comply with indirect commands 24% of the time
• Mean time to compliance = 1.5 seconds
  • 1 standard deviation = 5 seconds
• Direct commands are:
  • Not a question or suggestion (avoid lets, can you, will you)
  • Clear, specific, developmentally appropriate
  • Polite and calmly stated
Rewards
- Use rewards to increase specific behaviors
  - Non-monetary when possible, focus on privileges and attention
- If praise and rewards aren’t working, increase frequency and make it more concrete
- Token Economy
- Home-School Daily Report Cards

Active Ignoring
- Use in conjunction with attending to a positive opposite behavior
- Have a plan, explain in advance, and stick with it
- Expect an extinction burst

Other Consequences
- Brief and meaningful removal of privileges or attention
  - Timeout
  - Grounding
- Consistency and follow-through
Dawson

- Ongoing therapy
- 504 plan for school
- Regular exercise
- Non-rx stimulants – coffee
- Herbal supplements

Questions?

Dawson - update

- Continued therapy/504/IEP/herbal supplements
- Frequent follow up with PCP
- Continued concerns regarding impulsivity
- Drug use
- Multiple sexual partners
- Car accident
- Considered dropping out of school
Reference


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