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Attention Deficit Hyperactivity Disorder (ADHD) in Adults: Information for Primary Care

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Summary: Family physicians will frequently encounter adults with ADHD in their practices. Some of these adults will have been diagnosed as children or youth. In addition, family physicians play a key role in identifying adults who have not previously been diagnosed. Patients with ADHD are vulnerable to problems with school, work, relationships, as well as problems with mood and anxiety. In addition, those with ADHD may be vulnerable to making poor lifestyle choices, thus leading to more medical issues as well. Fortunately, ADHD is extremely treatable, and the identification and treatment of ADHD can make a huge difference in your patient's emotional, and physical health.

Case

You are asked to see a 30-yo male with presents with depression after a breakup with his girlfriend, as well as recent job loss. His girlfriend left him due to his frequent emotional outbursts, as well as his troubles with making a long-term commitment.

Further history reveals that he was always bored in school, never studied, yet nonetheless was able to get by. In terms of relationships, he has had multiple partners and troubles staying in a long-term relationship. Despite being highly intelligent, he has had multiple job changes, and has yet to determine what he wants to do in life.

Despite his difficulties, he has strengths in numerous areas. He is a gifted athlete, and charming socially.

Epidemiology

- Adults: 4.4% (Kessler, 2006)

Presentation in Adults

- Individuals with ADHD are at higher risk of the following life events -- in a patient who has experienced many of the following events, consider possible ADHD:
    - Dropping out of school
    - Teenage pregnancy
    - Sexually transmitted diseases
    - Substance abuse

    - Frequent accidents
    - Problems with the law
    - Troubles keeping stable employment
    - Troubles keeping stable relationships

- Problems with inattention may manifest as:
    - Troubles focusing on ‘boring’, non-exciting activities such as work and household tasks
    - Relationship problems, i.e. unable to stay in stable relationship because things get boring, and tends to seek out excitement which causes problems with relationships

- Problems with hyperactivity-impulsivity may manifest as:
    - Problems sitting through meetings, and needing to fidget
    - Problems waiting one’s turn or waiting in lines
    - Risky, adrenaline seeking behaviours such as driving fast, extreme sports
    - Inner restlessness (which may be misinterpreted as anxiety, but is really untreated ADHD)

- Problems with executive function skills
    - Procrastination, forgetfulness, problems with organization
    - Problems with emotional regulation, such as anger and emotional outbursts

- Child diagnosed with ADHD
    - If you are seeing a child with ADHD, consider ADHD in the parent(s) as well

Screening Tools

- Adult ADHD Self-Report Scale (ASRS v1.1)
    - Public domain, endorsed by the World Health Organization.

DDx

The following is a non-exhaustive list of other medical conditions which may cause inattention / hyperactivity-impulsivity:

- Rule out neurologic conditions such as
    - Head trauma / concussion
    - Brain insults can cause cognitive symptoms such as inattention and impulsivity-hyperactivity
    - Sleep disorders such as sleep apnea; restless legs; periodic limb movement disorder, primary insomnia
    - Seizure disorder

- Rule out ophthalmologic conditions such as
    - Insufficiency convergence
    - Rule out endocrine / toxic conditions such as
    - B12
    - Thyroid problems
    - Hypoglycemia
    - Anemia
    - Lead poisoning, heavy metal poisoning

- Rule out sensory issues
    - Scotopic sensitivity syndrome (aka Irlen Syndrome):

        - Patients have problems processing visual input of specific light frequencies, and as a result, patients complain of problems reading, words moving on the page, and may thus present as inattentive and distractible
        - If suspected, see a specialist in scotopic sensitivity syndrome, or ‘Visual stress
    - Auditory processing disorder:
        - Patients have problems processing auditory input, with problems filtering out background noise, and as a result, are easily overwhelmed whenever there is the slightest background noise
        - If suspected, see an audiologist for an auditory processing assessment
    - Misophonia:
        - Patients have extreme distress with particular auditory frequencies, such as the sound of others sniffling, coughing, chewing, and as a result may have problems focusing whenever others are around
        - If suspected, see an audiologist for an assessment

DSM-5 Criteria for ADHD

There are 3 presentations of ADHD:

- **Inattentive**
- **Hyperactive-impulsive**
- **Combined inattentive and hyperactive-impulsive**

For adults (individuals 17 and above), 5 or more symptoms are needed from each category.

Inattentive criteria:

1. Often fails to give close attention to details or makes careless mistakes in schoolwork, work, or during other activities (e.g. overlooks or misses details, work is inaccurate).
2. Often has difficulty sustaining attention in tasks or play activities (e.g., has difficulty remaining focused during lectures, conversations, or lengthy reading).
3. Often does not seem to listen when spoken to directly (e.g., mind seems elsewhere, even in the absence of any obvious distraction).
4. Often does not follow through on instructions and fails to finish school work, chores, or duties in the work place (e.g., starts tasks but quickly loses focus and is easily sidetracked).
5. Often has difficulty organizing tasks and activities (e.g., difficulty managing sequential tasks; difficulty keeping materials and belongings in order; messy, disorganized work; has poor time management; fails to meet deadlines).
6. Often avoids or is reluctant to engage in tasks that require sustained mental effort (e.g. schoolwork or homework; for older adolescents and adults, preparing reports, completing forms, reviewing lengthy papers).
7. Often loses things necessary for tasks or activities (e.g., school materials, pencils, books, tools, wallets, keys, paperwork, eyeglasses and mobile telephones).
8. Is often easily distracted by extraneous stimuli (e.g., for older adolescents and adults may include unrelated thoughts).
9. Is often forgetful in daily activities (e.g., doing chores, running errands; for older adolescents and adults, returning calls, paying bills, keeping appointments).

Hyperactive-impulsive criteria:

1. Often fidgets with or taps hands or squirms in seat.
2. Often leaves seat in situations when remaining seated is expected (e.g., leaves his or her place in the classroom, in the office or other workplace, or in other situations that require remaining in place).
3. Often runs about or climbs in situations where it is inappropriate (e.g., in adolescents or adults, may be limited to feeling restless).
4. Often unable to play or engage in leisure activities quietly;

5. Is often "on the go" acting as if "driven by a motor" (e.g., is unable to be or uncomfortable being still for extended time, as in restaurants, meetings; may be experienced by others as being restless or difficult to keep up with).
6. Often talks excessively.
7. Often blurts out answers before questions have been completed (e.g., completes people's sentences; cannot wait for turn in conversation).
8. Often has difficulty awaiting turn (e.g., while waiting in line).
9. Often interrupts or intrudes on others (e.g. butts into conversations, games, or activities. may start using other people's things without asking or receiving permission; for adolescents and adults, may intrude into or take over what others are doing).

Combined inattention and hyperactive-impulsive presentation:

- Has symptoms from both inattentive and hyperactive-impulsive presentation.

Comorbidity

- Cormorbid conditions are common, thus it is important to also evaluate for possible conditions such as:
  - Depression
    - During the past 2-weeks, have you felt down, depressed, or hopeless? Any loss of interests?
    - Consider scales such as the PHP-9
  - Anxiety
    - Untreated ADHD ‘inner restlessness’ of ADHD as anxiety, which often responds to ADHD treatment
    - Patients with ADHD and anxiety can have inattention, however with underlying ADHD as the cause, there may be a history of inattention that preceded the onset of anxiety
    - Screening questions
      - Have you had a spell or attack when all of a sudden you felt frightened, anxious, or uneasy? (Panic disorder)
      - Have you been bothered by nerves, or feeling anxious or on edge for 6 months? (Generalized anxiety disorder)
      - Have you had a problem being anxious or uncomfortable around people? (Social anxiety disorder)
      - Have you had recurrent dreams or nightmares of trauma or avoidance of trauma reminders? (Post-traumatic stress disorder)
  - Learning disabilities
    - Is there poor academic performance in specific areas such as reading, math, or English?
  - Alcohol / Substance use problem
    - Any problems with substance use?
    - Have others ever felt that you should cut down on your drinking / substance use?
    - Has your drinking / substance use ever caused problems with your work? Relationships? School?
  - Developmental coordination disorder (DCD)
    - Fine motor issues: Any problems with writing/printing? Any problems with doing buttons, shoelaces, etc.?
    - Gross motor issues: When you were younger, any problems learning to how to ride a bike? Any problems with being clumsy? Any problems doing sports? Low muscle tone: Do you fatigue extremely easy when doing physical work, to the point it causes problems?

Management of ADHD: Non-Medication Strategies

- Expect that the pt’s problems with inattention, hyperactivity-impulsivity may manifest during your patient encounter

    - If possible, write down things for the patient, or use visual strategies

- Education
    - Although there is no question that many aspects of ADHD can cause significant problems, there are also many traits of ADHD which can be strengths as well
    - Classic strengths include:
        - High energy
        - Creativity
        - Spontaneity
        - Visual ability
        - Hyperfocus, when given activities sufficiently stimulating
    - Anecdotally evidence suggests there are certain “ADHD-friendly” careers, such as the military, sales, cooking, athletics, trade work, photography, videography, acting and other arts (Barkley, 2011)

- Behavioural strategies such as
    - Setting goals, and dividing large tasks into smaller tasks
    - Time management aids

- Lifestyle strategies, e.g. ensuring healthy, regular routines such as
    - Regular exercise
    - Proper nutrition (e.g. having 3 meals a day with snacks)
    - Getting enough sleep
    - Sleep hygiene such as limiting electronic use prior to bedtime

- School / Workplace accommodations
    - Individuals with ADHD benefit from accommodations/modifications to their school, or workplaces

- Interpersonal
    - Family members of an individual with ADHD also benefit from learning about ADHD so that they can also accommodate/modify their expectations, in order to better fit with what an individual with ADHD is capable of
    - E.g. knowing that the patient has ADHD, a spouse might then make use of notes to help with reminders about chores
    - E.g. a spouse might be more willing to be an ‘executive assistant’ to support the patient with ADHD with executive function problems
    - E.g. knowing that a patient has problems with sitting still, a spouse might then understand why the patient needs to fidget at the dinner table, or may need more physical activity

Management of ADHD: Medications

- Prior to starting medication treatment, ensure that there are no cardiac contraindications to using a stimulant such as
    - Cardiac
        - Cardiac disorder that can be exacerbated by sympathomimetic activity
        - History of structural heart disease
        - Hypertension
        - Family history of early cardiac death (i.e. prior to age 55)
        - If there are concerns, consider referral to cardiology, in order to ask the question, “Is this patient safe for stimulant treatment?”
    - Psychiatric
        - Current substance abuse or dependence
        - History of mania or psychosis

- Other
  - Monamine oxidase inhibitor use within the last 2 weeks
  - Narrow angle glaucoma
  - Untreated hyperthyroidism

Dosing Information for Adult

For patient with no comorbidity, stimulants are usually first choice

Medication	Availability	Dosing
Adderall XR (Mixed salts amphetamine extended release)	Capsule 5, 10, 15, 20, 25, 30 mg	Start 10 mg daily mornings Titrate up by 5-10 mg per week Target dosage 0.5 mg /kg / daily Maximum 30 mg daily
Biphentin (Methylphenidate controlled release)	Capsule 10, 15, 20, 30, 40, 50, 60, 80 mg ; may be sprinkled on food	Start 10 mg/kg mornings Titrate up by 10 mg per week Target dosage 1 mg / kg/day Maximum 80mg daily
Concerta (Methylphenidate extended release)	Tablet 18, 27, 36, 54 mg	Start 18 mg mornings x 1-week Titrate up weekly Target dosage 1 mg/kg/day Maximum 72 mg daily (product monograph) or 108 mg daily (CADDRA 2012)
Vyvanse (Lisdexamfetamine)	Capsule 20, 30, 40, 50, 60 mg	Start 30 mg mornings Titrate upwards by 10-20 mg/day per week Target dosage 0.5 mg /kg / daily Maximum dosage 70 mg daily
Strattera (Atomoxetine)	Capsule 10, 18, 25, 40, 60 mg	Start 40 mg/day x 1-2 week Titrate up to 60 mg/day x 1-2 weeks, then 80 mg thereafter Target dosage 1.2 mg/kg/day Maximum dosage 100 mg daily

Reference: Information from individual product monographs and CADDRA Guidelines.

Visit Guide

- Assessment / diagnosis phase
  - History
  - Physical exam
  - Treatment
- Follow-up visit
  - After starting medication treatment, book a follow-up within 4-weeks
    - Monitor improvement (e.g. Repeat ASRS ; ask patient and family members/spouse for observations)

When to Refer

- Consider a referral to a specialist if
  - Complex presentation, such as patient with multiple comorbidities requiring multiple medications to treat;
  - Comorbid anxiety, depression or other mental health issues that require a mental health professional
  - Patient continues to have difficulties with symptoms despite initial trials of medication

Where to Refer

- Psychiatrists are generally the main specialist with an expertise in treating complex cases of ADHD as medications are required
- Psychologists, certified counselors may also be helpful to help with coping with any mental health issues
- "ADHD coaches" may be helpful for learning concrete strategies
- Self-help and advocacy organizations such as CADDAC (www.caddac.ca) may be helpful

Case, Part 2

On the basis of problems with attention, and high need for stimulation, you wonder about possible ADHD. You give him the Adult ADHD Self-Rating Scale (ASRS), and results suggest a high possibility of ADHD. You confirm that he meets DSM criteria through clinical interview and collateral history with his partner. As there is a significant shortage of psychiatrists treating adults with ADHD in your area, you decide to start him on ADHD treatment. He has side effects with the first medication, but he responds extremely well to the second stimulant medication.

References

- Kessler RC et al.: Prevalence and correlates of adult ADHD in the United States, Am J Psychiatry, 2006 Apr; 163(4): 716-723.
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About this Document

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Disclaimer

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