

Practical Assessment & Treatment of Adult ADHD



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Objectives



- Very brief overview of prevalence & etiology
- Red Flags for Adult ADHD
- Present an approach to diagnosis of ADHD that is efficient & effective
- Discuss interventions for management
- Specifically discuss medications including contraindications

Prevalence



- In childhood male to female ratio 4:1*
- 60-70% of those diagnosed in childhood continue to have symptoms as adults
- ~4% of adults have ADHD
- Should be viewed as a chronic illness- there is no 'miracle pill'

- *probably not a true difference. Boys are more likely to present with hyperactivity/impulsivity vs. girls who present with inattention.

Aren't ADHD symptoms just normal human conditions of poor coping?



- Patient is not simply coping poorly but is significantly impaired with a high risk of developing secondary comorbid disorders such as anxiety and depression.
- For some adults, even when they appear functional in their jobs, a closer inspection reveals that they are expending strategies that compensate for their weaknesses and these strategies may be hazardous for other reasons (e.g., workaholic, poor employee-employer relations, lack of career progression, etc.).
- Often regarded as lazy, looking for an excuse to be irresponsible

Etiology



- Genetic basis in 80% of the cases
- 20% of cases ADHD is the result of an acquired insult to the brain
- Genetic predisposition to dopamine & norepinephrine dysregulation leading to problems with attention, alertness and executive functioning.
- Neuroimaging studies reveal that children and adults with ADHD activate frontal subcortical structures to a lesser extent than control subjects.
- Differences have been described in anatomy, electrical activity, psychological functions, brain metabolism and blood flow and these may show "normalisation" with medical treatment

Practice Point



- ADHD is often associated with a particular cognitive style that is a variation of concreteness, over-inclusiveness and distractibility.
- This includes talking excessively, going off on tangents, getting stuck on relatively minor events, inappropriately intense affects, going on and on in response to open-ended questions, getting distracted by things in the office which interrupt their thought lines, and talking as if they are being understood without reading social cues that indicate otherwise.

To treat or not to treat



- **Significant mortality & morbidity**
 - Health/injury
 - Academic/occupational
 - Self-esteem
 - Social functioning
 - Criminality
 - Sexual behavior
 - Substance abuse

Red Flags for ADHD



- Erratic work history
- Relationship problems
- Time management & organizational difficulties
- Financial problems
- Disruptive/impulsive actions
- Anger management
- Frequent tickets/accidents
- Substance use/abuse & addictions
- Legal problems

Case 1



- Frank is a 38 year old courier who presents to your office to discuss whether he has ADHD
- What made him decide to pursue this now?
 - His son was recently diagnosed +/- tried his medication
 - He was diagnosed as child but did not take treatment once he reached adolescence
 - Friend has diagnosis and thinks it applies to him too
 - Symptom triggers: procrastination, disorganization, lack of motivation, insomnia, rage attacks, and/or labile mood.
 - Recurrent job loss
 - May be a reluctant participant

Core Symptoms



- **INATTENTION**
- **HYPERACTIVITY/IMPULSIVITY**

Inattention



- **Difficulty sustaining attention**
- **Does not listen**
- **No follow through**
- **Can't organize**
- **Loses important items**

- **Difficulties with meetings, reading, paperwork**
- **Paralyzing procrastination**
- **Slow, inefficient**
- **Poor time management**
- **Disorganized**

Hyperactivity= inner restlessness



- Squirms & fidgets
- Can't stay seated
- Runs & climbs excessively
- Can't play quietly
- 'driven by a motor'
- Talks excessively
- Inefficient at work
- Cannot sit through meetings
- Drives too fast
Overwhelmed/overscheduled
- Self select active jobs
- Cannot tolerate frustration
- Talks excessively

Impulsivity



- Blurts out answers
- Can't wait turn
- Intrudes/interrupts

- Interrupts others
- Cannot wait in line
- Makes inappropriate comments



- Low frustration tolerance
 - Loses temper
 - Quitting jobs
 - Ending relationships
 - Driving too fast
 - Addictive personality

Steps in the diagnosis of ADHD in adults



- Identify current symptoms using rating scales with adult norms
- Assess functional impairment at home, work, school & in relationships
- Establish childhood history
- Developmental history- prenatal, childhood, school
- Personal & Family psychiatric history to rule out other disorders & to establish comorbid diagnoses
- Rule out medical causes
- Check for contraindications to medical therapy

CADDRA guidelines



- www.Caddra/ca

Visit 1



- Review symptoms that lead them to believe they have ADHD
- Ask how these symptoms are causing difficulty in their life right now
- Ask screening questions for DSM IV-TR symptoms
- Educate about workup
- Homework:
 - ✦ Complete an inventory (Adult ADHD Self-Report Scale)
 - ✦ Find old report cards- if not accessible, provide inventory for one of the parents to complete
 - ✦ Find any previous psychological testing
 - ✦ Ask for collateral informant to come to subsequent appointment (a spouse or partner)
 - ✦ Education about ADHD- “Answers to Distraction”

Visit 2



- **REVIEW homework**
 - Review rating scales (Adult ADHD Self-Report Scale)
 - If screen is negative they are not likely to have ADHD.
 - If screen is positive, exclude other diagnoses that may appear similar to ADHD.
 - Review report cards/psychological testing/parent report
 - Address questions that arose from readings
- **Thorough history & physical exam**
 - Exclude other medical causes for symptoms
 - Adults with ADHD have double the morbidity compared to the rest of the population
 - Ensure that the patient is able to safely tolerate any medication strategy (no glaucoma, hypertension, arrhythmias).
 - FAMILY/Personal psychiatric history
 - Developmental history (interview or self report)
- **Homework:**
 - Adult developmental history
 - **Weiss Functional Impairment Rating Scale Self-Report (WFIRS-S)**

Developmental Screen 1



Prenatal

- Did your mother use drugs, nicotine or alcohol when she was pregnant with you?
- Do you know if there was difficulty during pregnancy or childbirth such as diabetes, eclampsia, cord around the neck, breech delivery or lack of oxygen?

Childhood

- Were you described as a very active or impulsive child?
- Did your parents complain that you were difficult?
- Did you have any accidents requiring hospital treatment as a child?
- Were you exposed to any physical, verbal or emotional abuse? Were you neglected?
- Did you have any serious trauma, exposure to violence or losses as a child?
- Did you have any medical illnesses as a child?
- Did you ever lose consciousness?

Developmental Screen 2



School

- How did you do academically in elementary school? In high school?
- Were you ever enrolled in college or university? Did you drop out? Why?
- Did you ever fail a grade?
- Did you ever have psychological testing or were told you had a learning disability?
- Did you receive learning assistance or were you ever placed in a special class?
- Were you ever suspended or expelled from school?
- Did you have any special problems with reading? Arithmetic? Writing?
- Did teachers complain that you were not achieving your potential or were not trying your best?
- Was your performance at school variable or unpredictable?

Adult Development



- Did you have problems with rage attacks?
- Did you have trouble living with others?
- Have you had problems as a parent?
- Did you have trouble with money?
- Did you have difficulty keeping up with housework chores?
- Did you have trouble with being on time?
- Did you feel you were addicted to gambling, computers or games?

FAMILY HISTORY



Families do not cause ADHD, but ADHD combined with family dysfunction is more disabling and increases impairment and risk.

✦ **80% heritable**

Have your parents, siblings or children had any of the following problems?

- ADHD
- Depression
- Anxiety (worrying, fears, extreme embarrassment in front of people, repetitive behaviours that do not make sense)
- Psychosis (hearing voices, seeing things, or having fixed, wrong ideas)
- Tics (involuntary and repetitive movements or sounds)
- Substance abuse or alcoholism
- Learning disability
- Behaviour problems or problems with the law
- Suicide attempt or self-destructive behaviour

VISIT 3



- **Review Homework & answer questions**
- **Further critical history**
 - Relationship History
 - Job history
 - Legal experience
 - Addiction history (Drugs, alcohol, gambling)
- **Explore co-morbidities**
 - Axis I (e.g., anxiety, depression, substance abuse disorder)
 - Axis II (e.g., Cluster B personality disorders)
- **Homework:**
 - Weiss Symptom Record or T-CAPS**
 - Consider psychoeducational testing

Review functional impairment



Diagnosis



- **The patient who meets all of the criteria below has ADHD:**
- Meets symptom criteria on the DSM-IV-TR rating scales on self-report and/or collateral report, & interview
- Has a developmental history consistent with ADHD and childhood symptoms of ADHD.
- Shows a past and current pattern of functional impairment consistent with ADHD.
- Has no other Axis I or Axis II disorder that can explain the symptoms.

Do not rule out a diagnosis of ADHD:



- no hyperactivity present in the office.
- Reported problems with organization, time management, and executive function but is reliable in keeping appointments & filling out forms
- no family history.
- Patient dismisses symptoms suggestive of ADHD raised by spouse or parent
- Patient is well educated or employed in a high level position.
- Early school report cards do not describe problems with attention or behaviour
 - increased autonomy and challenge may lead to evidence of impairment in later years
 - Ask about coping strategies
- Patient was hyperactive, impulsive and inattentive when younger but currently only has difficulty with a few residual symptoms.
- Lack of symptoms in childhood & report cards are not available.
 - Usually a careful developmental history will reveal evidence of the impact of the disorder, even if the patient did not have insight, either at the time or presently, into the symptoms that provoked these consequences.

Improved confidence in diagnosis if:

- Typical associated symptoms: procrastination, oppositional attitudes, difficulty with time, insomnia, reactivity, underachievement relative to potential, variable performance, temper outbursts.
- Pattern of impairment is consistent with the sorts of impairments known to characterize the disorder such as problems with listening in class, working efficiently, paying bills, completing taxes, driving, smoking, etc.
- Positive family psychiatric history.
- Typical comorbidities: poor auditory processing, poor written output, poor reading retention, abuse of substances (e.g., marijuana, cocaine, nicotine or caffeine) & mood lability. Typical comorbid problems in childhood include ear infections, enuresis, learning disabilities, ODD, Tourette's syndrome or tics.
- Even those adults who had a diagnosis as a child may meet different criteria now.

Treatment



- Education of patient & family
- Support groups (www.chaddcanada.org) & online web communities
- Medication trial with optimization of treatment
- Behavioural interventions
 - short term counseling
 - problem solving around residual deficits with executive function or activities of daily living
 - Improved insight into the relationship between ADHD and actual functioning can lead patients to make significant life changes to decrease their stress
- Skills training (e.g., vocational, organizational, time management, financial)
 - hardware and software are available to diminish a patient's reliance on working memory, compensation for poor hand-writing, & improvement in time management.
- Coaching (adhdcoachinstitute.org)



**Substance
abuse**

**Mood
Disorders**

ADHD

Medication Trial



- Need for symptom control throughout the day
- Consider side effects
- Consider two-fold risk for substance abuse & dependence including daily marijuana use, alcoholism, smoking, and other drugs
- Time to response
- Identify target symptoms for monitoring

MEDICAL TREATMENT FOR ADHD ADULTS



	Adderall XR	Biphentin	Concerta	Strattera
Duration of effect	10-12 hours	10-12 hours	10-12 hours	Up to one day
Delivery	50/50	40/60	22/78	Continuous
Dosages	5, 10, 15, 20, 25, 30 mg	10, 15, 20, 30, 40, 50, 60, 80 mg	18, 27, 36 54 mg	10, 18, 25, 40,60 mg
Maximum	50 mg	80 mg	108 mg	1.4mg/kg or 100mg
tics	P	C	C	
epilepsy	P	P	P	
Glaucoma	C	C	C	C
hyperthyroid	C	C	C	C
Anxiety	P	C	C	

P- precaution C- contraindication

Adderall XR



- For dosing prepubertal children,
- first calculate the single dextroamphetamine dose according to the weight of the child (0.15-0.4 mg/kg/dose) and then double it for the once-daily dose of Adderall XR® (e.g., 5 mg DEX in the morning and at noon = Adderall XR® 10 mg/day).

Biphentin



- patients can be switched from MPH very easily (5 mg t.i.d. MPH = 15 mg Biphentin®),
- 10 mg t.i.d. = 30 mg Biphentin®,
- 15 mg t.i.d. MPH = 45 mg Biphentin®
- can be augmented with immediate release

Concerta



- 10 mg t.i.d. MPH = 36 mg Concerta®
- 15 mg t.i.d. MPH = 54 mg Concerta®
- can be augmented with immediate release MPH

Dexedrine & Dexedrine spansules



- 2x as potent as MPH
- 0.15 and 0.4 mg/kg

MPH



- LA form may be available soon
- Patch
- situational versus continuous use
- Cost
- Abuse potential
- 0.3 and 0.8 mg/kg children
- Max dose in adults is 1mg/kg/day

Atomoxetine (Strattera)



- Non-stimulant
- Useful in tic disorders, anxiety, or if side effects of stimulants including insomnia
- Onset of action is slower than stimulants as they act on different neurotransmitters
- Maximum treatment effect may not be reached for two months & clinical changes are gradual.
- No increased benefit past 1.4 mg/kg/day
- (may be some improvement of ODD after 1.8 mg/kg/day)
- Hepatic dysfunction-poor metabolizers (i.e., 7% Caucasians and 2% African-Americans)
- Clinical efficacy was the same as stimulants in treatment naïve patients.
- ATX can be combined with stimulants to augment the effect

Second Line or Adjunctive Agents



	Dexedrine	Dexedrine spansules	Ritalin	Ritalin SR
Duration of effect	4-5 hours	7-8 hours	3-5 hours	3-8 hours
Dosages	5 mg	10 mg	10 mg	20 mg
Maximum dose	50 mg	50 mg	100 mg	100 mg
tics	P	p	C	C
Epilepsy	P	P	P	P
glaucoma	C	C	C	C
Hyperthyroid	C	C	C	C
anxiety	p	P	C	C

CADDRA SIDE EFFECT RATING SCALE



- Loss of appetite Problems sleeping at night Stomach aches Vomiting Nausea Headaches Mood swings Irritability Appears depressed Tics Dry skin Dry eyes Dry mouth Palpitations Light headed Diarrhea Frequent urination Thirsty Sweating Sleepy Weight loss Weight gain Sore throat Fatigue Early morning awakening Runny nose Increased anger episodes Excessively talkative

Off label drugs



- Wellbutrin – maybe useful if comorbid depression or smoking
- Imipramine-evidence of sustained efficacy in both short-term and long-term studies for up to two years
 - Consider use if comorbid sleep problems, tic disorders, anxiety/depression, enuresis
 - But anticholinergic & antihistaminic side effects

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- Coaching (adhdcoachinstitute.org)

Further help



- CADDRA guidelines www.Caddra/ca
- <http://www.russellbarkley.org/>
- Dr. Edward Hallowell- Driven to Distraction/Answers to Distraction/Delivered from Distraction
- <http://www.drhallowell.com/>
- Kate Kelly & Peggy Ramundo- You Mean I'm Not Lazy, Stupid or Crazy?!
- Judith Greenbaum & Geraldine Markel- Finding Your Focus
- BEST PRACTICES IN ADULT ADHD: EPIDEMIOLOGY, IMPAIRMENTS, AND DIFFERENTIAL DIAGNOSIS
(http://mbldownloads.com/0808PP_CNS_ERT_ADHD.pdf)
- armson@ucalgary.ca