ADHD in the Time of COVID:

Challenges in Assessment, Diagnosis, and Dreatment

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Conflict of interest

- Sasha Kuftinec, MD – None
- Alex Brown, PhD – Maybe someday?

OBJECTIVES:

- Understand diagnostic criteria for ADHD
- Develop strategies for assessment/interviewing to increase comfort in making diagnosis
- Recognize common comorbidities and differential diagnosis
- Increase comfort with behavioral and pharmacologic management of ADHD

WHAT IS ADHD?

- **Neurodevelopmental disorder**
- **Cardinal symptoms:**
  - Inattention
  - Impulsivity/hyperactivity

- **Prevalence in school aged children: 5-11%**

“Adult ADHD”

- **Persistence into adulthood: 40-60%**
  - Total ~2.5% adults
  - 3:1 Male to female in childhood
  - Closer to 1:1 in adulthood
- **Strongest Predictors:**
  - **Severity of ADHD in childhood, regardless of treatment history**
  - **Childhood comorbidities:**
    - Conduct disorder
    - Major depressive disorder
    - (NOTE: ODD/anxiety are more common)

NEUROBIOLOGY

- **Structural neuroimaging has supported the 'neurodevelopmental' theory of ADHD**
- **Various studies have found:**
  - Smaller total brain volume
  - Smaller volume of subcortical and cortical areas
  - Reduced gray matter density
  - Reduced cortical thickness
- **Dysfunction in dopaminergic pathways**
  - Attention, motivation, reward, delayed gratification
- **Dysfunction in noradrenergic pathways**
  - Executive functioning

DIFFERENTIAL DIAGNOSES/ COMORBIDITY

- **Medical conditions**
  - Thyroid disease
  - Sleep disorders
- **Disruptive Behavior disorders**
- **Learning disabilities**
- **Substance-use disorders**
- **Trauma***
- **Anxiety disorders**
- **Depression and other mood disorders***

OVERLAPPING SYMPTOMS

	Talkative	Restless	Racing Thoughts	Impulsive	Difficulty Concentrating	Distractible	Mood Swings
MDD		X			X	X	
Bipolar	X	X	X	X	X	X	X
Anxiety		X			X	X	X
Antisocial PD				X			X
BPD				X			X
SUD	X	X		X	X		

CHALLENGES WITH ASSESSMENT

- Insufficiency of testing
- Symptoms are common
- Continuum diagnosis
- Symptoms are exacerbated by new demands and stressors

The COVID Era

- Exogenous Factors
  - Change in work conditions and demands
  - QOL/Stress
  - Comorbid other mental illness
  - More screen time

The COVID Era

- Endogenous Factors
  - Pts with ADHD at increased risk of COVID infection and increased risk of more severe infection
  - Neuro-inflammation from COVID infection associated with exacerbation of psychiatric d/o

ASSESSMENT

Four Fundamental Questions:

1. Is there credible evidence that the patient had symptoms in childhood and they led to substantial and chronic impairment?
2. Is there credible evidence that ADHD symptoms currently cause significant impairment ACROSS settings?
3. Is ADHD the BEST explanation for the concerning symptoms (or are there comorbidities that are primary issue)?
4. Have the symptoms remained consistent over time? (or have they worsened in response to a new/temporary stressor or change? or new diagnosis presenting with syx of ADHD)

ASSESSMENT OF FUNCTIONAL IMPAIRMENT

- Organizational skills lacking/diminished
- Erratic work or school history
- Anger control problems
- Mood lability, poor frustration tolerance
- Poor interpersonal skills (over-talkative, interrupts frequently)
- Relationship problems
- Poor money management
- Frequent motor vehicle (or other) accidents

TREATMENT

- **Prioritize with the patient their goals for symptom management**
  - Establish ‘treatment hierarchy’ of comorbid conditions
    - i.e. psychotic d/o then mood d/o then anxiety d/o then ADHD, otherwise response not as robust
  - Establish reasonable goals for functional improvements

- **Offer referral to behavioral health for time-limited or ongoing intervention**
  - **In children/adolescents, especially, behavioral interventions/parent behavior management training are important evidence based adjunctive treatments**
  - **NOTE: 1/4 children with ADHD no treatment; highest in black/Latino/Asian populations**

BEHAVIORAL RECOMMENDATIONS:

Keep Routines

Stay Organized

Make Sure Instructions are Understood

Manage Environmental Distractions

Limit Choices

Assess Strengths

Before starting medication

- Age?
- Consider presence of comorbid dxes (psych and medical) [Common comorbidities]
- Measure Ht, Wt, B/P, HR
- EKG not needed unless FHX sudden cardiac death
- Consider FHx:
  - sudden death (cardiac)
  - mood disorder (depressive or bipolar)
  - anxiety disorder
  - SUD** consider non-stimulant first line or lis-dex

What do you start with?

Medications for ADHD

- Stimulants: first-line (6yo and beyond)
  - Methylphenidate preparations
  - Mixed amphetamine-dextroamphetamine
  - Lisdexamfetamine (pro-drug; activated in GI tract)
- Response rate of either group of stimulants is approx. 65 - 70%; 85% if trial both
- Short acting vs. long acting considerations
  - Equal efficacy

Side effects of stimulants

Common:

- Sleep disturbance
- Decreased appetite
- Headache
- Mild GI (esp on empty stomach)

Less common or rare:

- Increased anxiety/o-c syx
- Rebound irritability/hyperactivity
- Psychotic syx
- Tics (controversial)

Cardiac risks of ADHD meds?

- 2011 review of meds for ADHD
- Known to potentially increase HR and B/P
- Two retrospective reviews 25 – 64 yo; heart attacks/sudden death
- No increased risk of serious CV events with any of meds evaluated (MPH, AMP, ATX)

MEDICATIONS FOR ADHD (CONT.)

- Non-stimulants: second-line
  - Alpha-2-agonists (guanfacine and clonidine)
    - approved as adjunct to stimulants in children/adol
  - Atomoxetine (inc. noradrenaline in pre-frontal cortex)
  - Bupropion (RI noradrenaline and dopamine)
  - Provigil (not FDA approved for ADHD, but being studied in post-COVID/long COVID)

MONITORING/FOLLOW UP

- Initially follow up Q 2weeks to adjust dosing of stimulant (can be telehealth) or monthly if atomoxetine
- Switch to 3-mo follow-ups once stable
- to assess changes in functioning
- Periodic UTox screens**
- Signed PAM (POTENTIALLY ADDICTIVE MEDICATION) agreement **
- Consider pill counts if worried about diversion**

- ****with stimulant treatment**

Meds aren’t working…Now what?

- If at highest recommended dose and not effective, consider alternative medication
- After trial of two different meds or if significant adverse effects, consider:
  - alternative explanation
  - Inaccurate or comorbid dx
  - History not yet disclosed (esp. SUD or trauma)

QUESTIONS?