Hennepin Healthcare

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Project ECHO®
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Practical Approaches to Assessing and Treating ADHD in comorbid Methamphetamine Use Disorder

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ZOOM SESSION ETIQUETTE:

- ❑ Sign on **early** 
- ❑ Join by **video** preferred 
- ❑  If we haven't started, please **announce yourself** and your agency
- ❑ **Mute** yourself  in lower left corner
- ❑ Type your **name/center** chat box for attendance 
- ❑ Raise your hand  to be recognized
- ❑ REMEMBER  **NO PHI**
- ❑ Avoid multi-tasking 
- ❑ Use chat  to ask for help or to ask a question
- ❑ When talking,  look at the camera

Disclosures

- This Project Echo session is funded by a grant from the Minnesota Department of Human Services
- Helen Wood and HH Project ECHO team members have no financial interests to disclose.

Objectives

- Upon completion, participants should be able to:

- **Identify approaches for assessing for ADHD in patients with comorbid methamphetamine use d/o**

- **Identify Nonpharmacologic approaches to enhance attention and concentration**

- **List two medications that are safe to use to treat ADHD symptoms in patients with co-morbid methamphetamine use d/o**

“I think I have ADHD”

- What does this question bring up for you?

Reactions to pt bringing up ADHD

- Is this a request for a controlled substance?
- Is this going to result in a power struggle with pt?
- What if I say no, will patient leave the clinic?
- Is the patient illicitly using stimulants already?
  - Taking their kids?
  - Taking their friends?
  - Buying on street?
- Is there a secondary gain situation?

- “I’m self medicating”
- There is NO data supporting this theory
- Most people taking a stimulant will feel more alert, energetic and report improved concentration. This does not prove or rule in a diagnosis of ADHD. This is an expected effect of a stimulant medication.
  - (analogous to HTN – taking lisinopril will lower BP, this does not prove you have HTN)

Neuroenhancer

- Neuroenhancer= medication or substance taken to improve cognition, focus, performance

- Stimulants can enhance productivity (taking lots of notes in college!) **– not much evidence they are effective as neuroenhancers** (Normann C et al, *Eur Arch Psychiatry Clin Neurosci* 2008; 258(Suppl5):110-114)

- University of MI study 2008 – 16-30% students asked to sell or share stimulant Rxs

- University of Maryland study – 61% diverted ADHD meds (Garnier et al, *J Clin Psychiatry* 2010)

Do you recall previous times?

- Want to acknowledge previous situations where this type of request has not gone well…
- What happened?
- Any theories why?

- What about previous times where it has gone well?
- Any theories about why you were successful?

How do we untangle these diagnoses?

- Per DSM V
  - ADHD is a neurodevelopmental disorder
  - Symptoms present prior to age 12 (prior DSM IV-TR prior to age 7)
  - Significant functional impairment in multiple settings
  - Patient self reports unreliable
  - Need collateral info from family members who can substantiate or refute clear sxs ADHD in childhood and PRIOR to onset substance use
    - (cannabis confounding factor kids 10-11 yo)

Cannabis and youth development

- Regular use in adolescence associated with impaired sustained attention, verbal and working memory
- Poor attentional functioning at f/u
- Alters brain circuitry – processing speed, response inhibition, motivation, reward processing, cognitive control, impulsivity
- Early onset use associated with lower IQ
- Heavy young adult users – see lower grey matter volume in hippocampus and amygdala

Goal = be a great listener

- Ask about a typical day – what is going well? What are challenges?
- Ask about a typical week – what stands out to the patient?
    - Red flag = patient listing off symptoms of ADHD in DSM order
- Feeling heard and understood can be deeply therapeutic

Neuropsychological Testing

- Will not rescue you from clinical decision making
- ADHD is a clinical diagnosis
- Look for social, occupational, academic impairment – needs to be in multiple settings to meet threshold for diagnosis

Neuropsychological Testing

- Multiple Community Reports Reviewed
  - **Many give diagnosis ADHD to patient when it is clearly not valid**
    - Patient using THC daily x 10 years
    - No symptoms until age 30
    - Profound untreated mood symptoms
    - No collateral data from family/childhood
    - Learning Disorder
    - Trauma / chaos in environment

- Methamphetamine changes brains in areas that we see changes from ADHD so it makes sense they may experience similar things as someone previously diagnosed with ADHD.

- Brain healing, abstinence, sobriety after methamphetamine use is required to bring these brain functions back “on line”.

- “substantial recovery” of dopamine axon terminals after 1.5 years, another study neurotoxic effects methamphetamine lasted up to 4 years after exposure

Neurotoxicity of stimulants

- High dose amphetamines are used for animal models of Parkinsonian symptoms
- **neuronal cell death / hippocampal atrophy**
- Chronic amphetamine use can result in residual state resembling ADHD but is more accurately a protracted withdrawal state
  - **Are we treating ADHD** or **causing inattn sxs**?

- There are no long term safety data for stimulants

Risks of stimulants

- **mania, psychosis, insomnia, anxiety, substance abuse, neurotoxicity**

- (1/7 patients with bipolar disorder -> worsening mood, irritability or anxiety (even if on mood stabilizers) Viktorin A et al, *Am J Psychiatry* 2017; 174(4):341-348

Is ADHD overdiagnosed?

- Longitudinal history not completed
- Relying on checklists for dx
- Not meeting all DSM V criteria
- Secondary gain factors – performance enhancement, wanting special considerations for test taking

- Co-morbid chemical use (withdrawal methamphetamine!, nicotine, EtOH, THC, cocaine)

Factors that can lead to overdx ADHD

- Chaotic early childhood
  - Environmental factors, lack of structure at home, abuse, neglect, trauma can lead to inattentive/impulsive sxs
  - Learning difficulties
  - Desire to obtain stimulant medication

What can lead to underdiagnosis ADHD?

- Lack of corroboration from older family members
  - Estranged relationships
  - Do not want family to be contacted
  - If parents used chemicals, they can't remember

  - Inability to recall sxs before age 12
    - Cognitive deficits can persist from EtOH, Opiate use, Methamphetamine use even when achieve abstinence

Best Approach for Assessing ADHD sxs

- Sobriety – has there been at least 60 days sobriety?
  - If not, **work on this first - cannot accurately assess for ADHD if using chemicals**
    - Packing street methamphetamine into capsules and claiming treating ADHD
- If not, how many? Longest in past?
- What were those sober days like? What went well?
- What were the struggles?

Best Approach to assessing for ADHD sxs?

- Ask about how things are going – what is going well? What is challenging?

- If you hear “everything is great! Except at work…”
  - Or “everything great at work, I fall apart at home when talking to my spouse and kids…”

  - Those are likely not going to meet threshold of criteria for diagnosis of ADHD.

- Try to understand the patient's concerns (symptoms?) in context of their environment and developmental history
  - AND
  - Assess the motivation behind the question
    - Why now?
    - What does the patient want/expect from you?

Best Approaches to Assessing for ADHD

- Assess for mental health symptoms
  - Could any of the described issues be due to depression, anxiety, insomnia, bipolar or psychotic illness?
  - If yes, treat these first! Cannot accurately dx ADHD if any of these are causing significant sxs / distress as all reduce attention/concentration

Structured interviews/assessment

- **DIVA -5**
  - **Adult ADHD Interview ($12)**
  - **www.divacenter.eu**

  - Ensures all criteria met
  - Probes for impairment and pervasiveness
  - Assesses criteria during childhood and adulthood
  - Gives questions for developmentally appropriate questions about ADHD

- ASRS v.1.1 can rule out ADHD with 98% sensitivity
    - Patient self report of symptoms
    - Need more than a checklist to make this diagnosis
    - Can be helpful for following symptoms over time and monitoring response to medications

Multiple Sources of Information

- Family, spouse, teachers/report cards
- Thorough Psychiatric Assessment
- Abstinence Goals / History / Commitment

Red Flags for Misuse or Diversion

- Symptoms of intoxication or increased use of stimulants (agitation, psychosis, SOB, palpitations, VS)
- Request for specific short acting name brand med
  - “extended release doesn’t work for me”

  - Running out too soon, frequent refill requests
  - Lost Rx
  - Discordant pill count (escalation of dose)
  - Multiple prescribers
  - Mixing meds with other drugs
  - Taking it by non-prescribed route (snorting/smoking/injecting)

Do medications for ADHD work in patients with SUD? With psychiatric illness?

- Opioid dependent patients difficult to treat

- Best results pharmacotherapy in ADHD in adults without psychiatric comorbidity

Neuroadaptive changes from prolonged drug exposure

- Lead to changes in brain circuitry, more addictive behavior

- Enhancing brain reactivity to drug cues
- Reducing sensitivity to nondrug rewards
- Weakening self regulation
- Increasing dysphoria
- Increased sensitivity to stressful stimuli

- Striatum and midbrain dopamine neurons impacted

Nonpharmacological Approaches

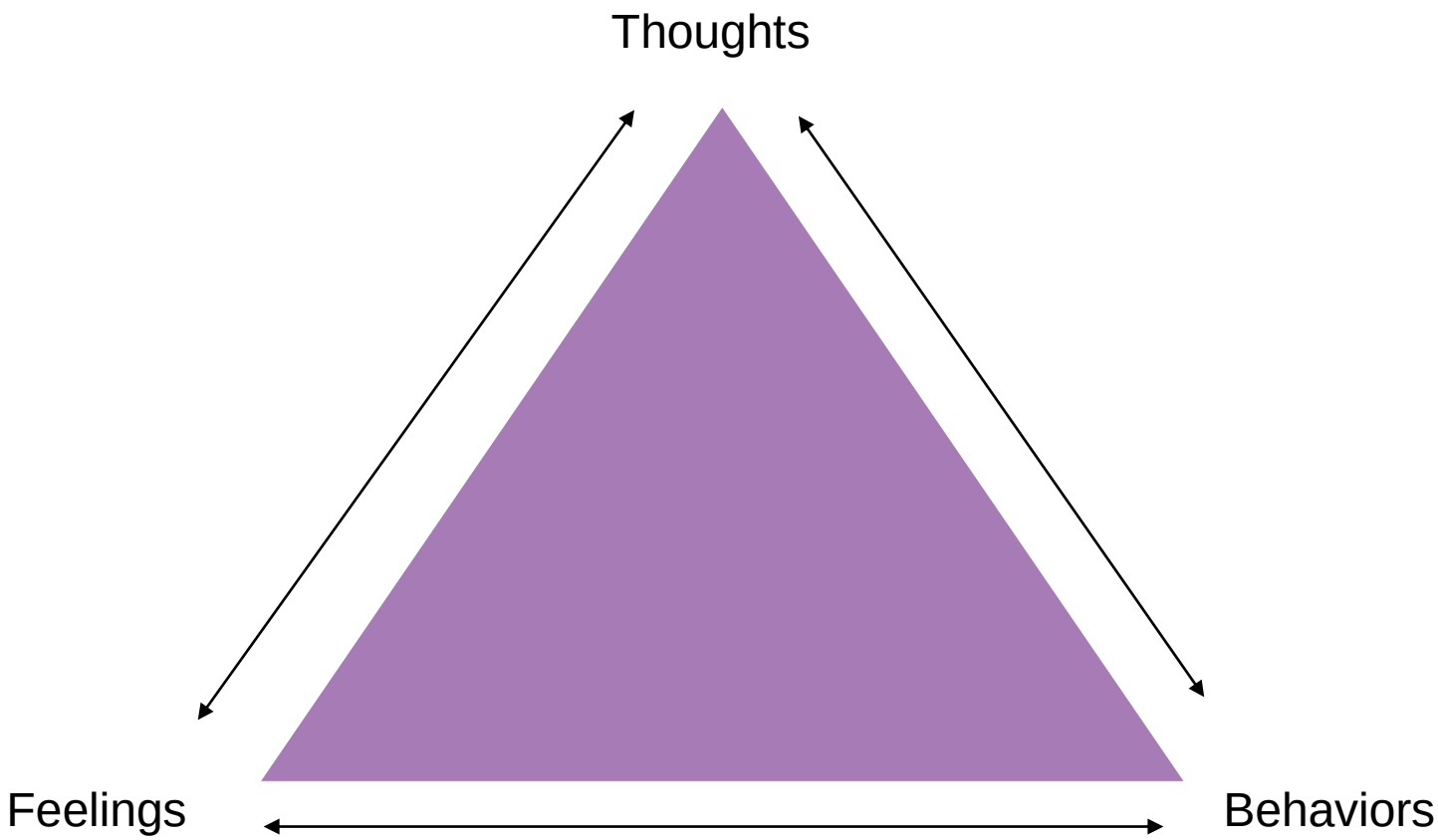
- **Mindfulness = paying attention without judgement**
  - Not all meditation is mindful and not all mindfulness is meditation
- ***Mindfulness Therapy for Adult ADHD*** Janssen L et al, BMC Psychiatry 2015;doi:10.1186/s12888-015-0591-x) RCT MBCT adjunct to TAU 120 adult pts with ADHD
- TAU = psychoeducation, meds, skills training
- MBCT = 2.5 hours weekly + 30 min daily practice (meditation exercises, CBT,psychoed, group discussions x 8 weeks + 1 day (6 hours silence)
- **MBCTgroup significant reductions self report ADHD sxs – lasted 6 months!!! >30% reduction sxs**

Cognitive Behavioral Therapy

- Evidence Based Treatment for decreasing functional impairments of ADHD
  - Organizing and planning
  - Managing avoidance
  - Decreasing dysfunctional thoughts

  - Bonus! Also helps with SUD

Thoughts – Behaviors - Feelings



Cognitive BEHAVIORAL Therapy

- Empathy, warmth, genuineness
- Teaches cognitive and behavioral techniques
- Collaborative
- Transference is one aspect of therapeutic alliance and gives clue to help understand meaning of patient behavior
- Over time patient assumes more responsibility for therapeutic change

Nonstimulant options to treat ADHD

- Alpha agonists – FDA approved in children and improve executive functioning (schizophrenia, substance use d/o and ADHD): no worsening mania in trials

  - Inhibit NE release
  - Strengthen NE signals in prefrontal cortex that mediate attention and behavior
  - Impact on LC reduces hyperactivity, impulsivity, inattn

Alpha Agonists

- Clonidine – improves sleep, anxiety, irritability (more evidence if self-harm, PTSD, opioid and nicotine use d/o)

- Guanfacine (Intuniv) (more evidence to improve executive fx) – less sedating

- These are equally effective, and as mono therapy and adjunctive to stimulants
- Effects build slowly over 2-5 weeks

Alpha Agonists

- Side effects include
  - Dry mouth
  - Constipation
  - Fatigue
  - Sedation
  - Hypotension / bradycardia/QTc prolongation

  - Benefits can include
    - Reduced sweating from SSRIs, salivation on clozapine, perimenopausal hot flashes, RLS

Nonstimulant Options to treat ADHD

- **Atomoxetine (Strattera)**
  - **FDA approved**
  - Good for comorbid anxiety
  - Will not help depression sxs
  - First option if co-morbid EtOH use disorder
  - Start at 40 mg po daily
  - Need to achieve therapeutic dose for 60-90 days for maximum therapeutic benefit
  - Caution if also on fluoxetine or paroxetine (2D6 inhibitors lead to increased atomoxetine levels)

Nonstimulant options to treat ADHD

- **Wellbutrin** – effect on dopamine – well tolerated (Wilens T et al, *Biol Psychiatry* 2005;57(7):793-801)

    - Helpful if depression also present
    - Can worsen anxiety
    - XL version best tolerated
    - If too activating or trouble sleeping, dial down to SR version (can Rx only in AM)
    - Contraindications = eating disorder, EtOH, seizures

Nonstimulant Options to treat ADHD

- **Modafanils Improve energy, alertness and attention and have neuroprotective effects** (increasing symaptic plasticity in hippocampus (Yan YD et al, Transl Psychiatry 2021;11(1):116)

- Have both caused and treated mania in case reports

- **Armodafinil (Nuvigil)** – longer duration of axn
- Modafinil (Provigil)

Nonstimulant Options to treat ADHD

- **Lithium** – controlled study in adult ADHD without bipolar d/o worked as well as methylphenidate 40 mg/day (levels 0.5 – 0.7) (improved mood, irritability and ADHD sxs)

- **Omega-3s** – improved emotional and cognitive sxs of childhood ADHD EPA + DHA = 1000-3000 mg/day (EPA >2x DHA

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Questions?