Disclosures

Consultant for Alkermes, US World Meds, Drug Delivery LLC, Verily Life Sciences, ASAM, Nat Assoc Drug Court Professionals.

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Outline

• Scope of the problem
• Impacts of cannabis
• Clinical approaches and treatment
• “Medical” cannabis?

Scope of the problem

Cannabis use in youth

Percent of US 12th Graders Reporting Using Substances in Lifetime, 2000-2015

Non-Use Trends
12 graders, lifetime

Abstinence all substances (including vaping):
- Lifetime: 25.3%
- Past 30d: 50.9%


Impacts of cannabis

Why do we care about cannabis?
What’s all the fuss?

- Vulnerable populations: youth, psychiatric illness, other substance use disorders
- Acute consequences of intoxication, eg MVCs
- Psychiatric consequences of use
  - Depression/ anxiety
  - Psychosis
  - Cognitive impairment
- Progression to cannabis use disorders and other substance use disorders
MJ use associated with depressive symptoms

![Graph showing frequency of cannabis use vs years](image)

Pooled data, 4 longitudinal studies, n=6900

CUD dangers in mood disorders

- Youth ages 10-24 with mood disorders, n=200K, Ohio Medicaid claims
- CUD in 10%
- CUD associated with
  - All cause mortality (AHR 1.6)
  - Death by OD (AHR 2.4)
  - Death by homicide (AHFR 3.2)
  - Non-fatal self harm (AHR 3.3)
  - Suicide sig only in unadjusted model

Cannabis and psychosis

Prospective exposure cohort study

- 10 yr prospective cohort of 1923 German youth (14-24 at baseline)
- Examination of change over 3 time points

![Graph showing incidence of cannabis use and psychotic experiences](image)

OR = 1.9

OR = 2.2

Kuepper et al British Med J. 2011

Cannabis and cognitive impairment

- IQ measured age 13, 38; N=1037
- MJ use measured age 18, 21, 26, 32, 38
- IQ decline associated with regular use and dependence, dose response related to persistence

<table>
<thead>
<tr>
<th>None</th>
<th>Some use</th>
<th>1 wave</th>
<th>2 waves</th>
<th>3+ waves</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regular use</td>
<td>+1</td>
<td>-1</td>
<td>-2</td>
<td>-5</td>
</tr>
<tr>
<td>Dependence</td>
<td>+1</td>
<td>-1</td>
<td>-2</td>
<td>-3</td>
</tr>
</tbody>
</table>

- No difference with controls for education, recent use, other substances, schizophrenia
- Adolescent onset worse, -8 points for 3+waves

Meier et al. PNAS. 2011

Early initiation confers high risk

![Graph showing use disorder over time](image)

- Substantial rates of use disorder in youth soon after initiation
- Cannabis risk higher for adolescents than W’s
  - 10.7% vs 6.4% within 1 yr
  - 20.0% vs 10.9% within 3 yr
- Cannabis risk higher than alcohol for adolescents

Volkow et al JAMA Pediatrics 2021

Vulnerability in youth

Progression to addiction

- Conditional risk of use disorder in adolescents as high as 40%
- Daily use of MJ < age 17 associated with substantially increased risk of:
  - Persistent MJ Dependence (OR=18)
  - High school drop out (OR=3)
  - Use of other drugs (OR=8)
  - Suicide attempts (OR=7)

Pooled longitudinal studies. N =2537 to N=3765.
The Gateway hypothesis
Stages of increased exposure and risk
• Each milestone confers progressive exposure to risk and progressive likelihood of progression
• Substance A → substance B → substance C
• Possible explanations:
  – Effect of substance
  – Access to substance
  – Exposure to using peers
  – Progression of addictive process and time course

Clinical approaches

Motivational approaches
• Do you know other kids who have been in trouble...
• Do you know why I or your parents might think it’s a problem...
• What are the pro’s and con’s for you...
• What would be evidence in your view that it’s a problem...
• If you could stop anytime, would you be willing to see what it’s like...
• Let’s schedule you to come back and see how it’s going...
• Will you go and see a specialist? Get another opinion?

Digestible messages
“Weed is not my problem, what’s the big deal?”
• Intoxication impairs judgment, more likely to do something you’ll regret
• Being around people with MJ usually means being around people who are more likely to be trouble (including other substances)
• Intoxication as a psychological and biological habit that progresses. “Sledgehammer” reinforcement by substances. If you keep pushing that button, the pathway gets stronger
• Maybe a little is ok, but is what you’re doing “a little?”
• Maybe it’s not that it’s never ok, but that it’s not right for you now
• Yes you could be the special rare exception but why gamble
• If it’s that good and that important that you can’t accept this advice, what does that tell you?

Communication and Disclosure
• “This is your private treatment, stays between us unless I’m concerned about your health and safety. I can’t help if i don’t know the whole story”
• “Let’s bring in your parents – do it together, i’ll run interference, they’ll find out anyway, better coming from you.”
• Medical decision making about risk and urgency (imminent harm vs postponement for further discussion)
• Getting to yes

Therapeutic alliance
Engagement, relationship, monitoring
• Care providers have enormous impact on patients and families
• Important to set clear standard: our stance should be that any intoxicant use is unhealthy
• Longitudinal follow-up can hold up a mirror of dynamic change, both pos and neg
Model How to Talk With Your Kids

- Have the conversation(s)
- Practical balancing act: clear limits vs realistic expectations
- Don’t be surprised that “they don’t get it...”
- Pick your battles

Not In My House

- Parental supervision and leverage
- Empower families to set limits
- Coaching reshaping behavior
- They have more juice than they realize
- Parental Use? (tricky territory)
  - “Not that this applies to you, but some families may use substances socially...”
  - Remind them that kids are mimics

Practical Treatment Approaches

- 95% is just showing up

Some typical CBT sessions

- Refusal skills
- Relapse chain analysis
- Improving your social support network
- Increasing pleasant activities
- Relapse prevention
- Planning for emergencies and coping with relapse
- Managing thoughts about using
- Coping with cravings and urges
- Problem solving
- Communication skills
- Anger awareness
- Anger management
- Coping with depression

Relapse chain analysis

- Problem: What are the antecedents of particular episodes of substance use?
  - The puzzle:
    - Why did you use yesterday? I don’t know.
    - Never mind why, let’s focus on what and how. What were the circumstances that led up to the episode of use? I don’t know. My friend passed me a blunt and I hit it, what am I supposed to do?
  - The solution: chain analysis.
    - “Rewind slo-mo” – break it down into tiny steps.
    - What happened before that, and what happened before that?
    - Perhaps seems trivial to us, but remarkably unintuitive to our patients.

Urine Drug Testing

- Normalize as part of routine testing
- Medicalizes the conversation
- Recognize it can be an inflection point
- Practice your narrative around it
Medications for cannabis

- Gabapentin
- N-Acetyl Cysteine (NAC)
- Sleep remediation for insomnia
- Other symptomatic treatments for withdrawal
- Agonist substitution (dronabinol) – doesn’t work
- Antagonists (none marketed yet)

Reductions in substance use associated with reductions in depression

Both Placebo (p<.0001) and Fluoxetine (p<.0003) Responders have significant pre-post reduction in drug use whereas Non-Responders in each group do not
Responders differ significantly from Non-Responders (p < .02)

Riggs et al. Archives of Pediatric and Adolescent Medicine 2007

“Medical” cannabis?

Medicinal cannabinoids

- Currently available:
  - Dronabinol (synthetic THC)
  - Nabilone (synthetic THC)
  - Nabixmols (extract THC/CBD) approved in UK and Canada, Phase III trials in US
- Indications – What does the evidence show?
  - Cachexia from cancer, AIDS
  - Nausea from cancer chemotherapy
  - Spasticity from MS
  - Maybe analgesic augmentation
  - CBD for infantile seizures (Dravets, Lennox-Gastaut)
- Lots of promising research ahead for pharmacological extracts or synthetics (not so much plant cannabis)

“Medical” cannabis

- Ticket for access to retail sales, not prescription
- Which medical school did your budtender go to?
- Plant cannabis is at best a folk remedy not a medicine

Medical cannabis dispensaries
Impact of “medical” cannabis

• Ontario HS students (prior to legalization)
• 19% overall current cannabis use, 7% medical use
• Those with medical cannabis use more likely than non-medical use only group to
  – Have high cannabis dependence risk (12% vs 5%)
  – Use other drugs (60% vs 41%)
  – Use tobacco (47% vs 26%)
  – Be prescribed sedatives/tranquilizers (10% vs 3%)

Wardell et al. Prevalence and correlates of medicinal cannabis use among adolescents. JAH. 2021

Approaches to “medical” cannabis
“My other doctor says it’s ok”

• Lots of patients appear with alleged remedies that we disagree with
• We approach each one based on their individual condition
  – Rationale for our position
  – Evidence in their own lives
  – Communication with other doctors
  – When you say you “need” it, you mean you want it
  – Line in the sand as a last resort

Messaging - Overcoming societal attitudes

• We have too easily been cast in the role of puritanical prohibitionists, but we are concerned with problem use
• MJ can be harmful and addictive (but not everyone gets harmed or addicted)
• Broader use leads to broader problem use through access and decreased perception of harm
• This is a huge problem for youth
• How to respond to MJ as “medicine” or consumer good:
  – Medicalization (analogy: US prescription opioid epidemic)
  – Recreational commercialization (analogy: alcohol)

Conclusions

Ineffective interventions
Can we establish credibility despite historic exaggeration?

Access:
I scream, you scream, we all scream for...
The bottom line

• Harms of cannabis for a substantial group of youth are considerable
• Society, families and patients are increasingly in pre-contemplation – expect trouble
• Treatment for cannabis works, but the barriers to treatment-seeking and engagement are growing: motivational enhancement is the key tool
• Less is better in general, none is best for our patients
• Recovery happens!

Hypothetical Miracle Cures

 BRAINS HAMBURGER 25