Update in Teen Substance Use Disorders

Nick Weiss, MD
Child and Adolescent Psychiatry
Objectives

- Participants will learn about the current prevalence and patterns of substance use and substance use disorders (SUDs) in adolescents.
- Participants will become familiar with common screening and assessment tools of SUDs in adolescents.
- Participants will be able to describe common treatment options for SUDs in adolescents.
Disclosures

- I have no financial interests to disclose.
- I will be discussing non-FDA approved use of medications in this presentation, which will be so designated on these slides.
Overview

- New DSM Definitions
- Update on Prevalence: Focus on cannabis
- Screening and Assessment
- Treatment and Monitoring (including Utox)
- Co-Occurring Disorders
- Practical Tips
- Q and A
DSM V: Substance Use Disorder

• DSM no longer uses the distinction between Abuse and Dependence
• Overall definition:
  • “A problematic pattern of use leading to clinically significant impairment or distress.”
The DSM V Criteria

1. Substance often taken in larger amounts or over a longer period than was intended
2. Persistent desire or unsuccessful efforts to cut down or control use
3. Great deal of time spent to obtain, use or recover
4. Craving
5. Failure to fulfill major obligations
6. Continued use despite recurrent problems
7. Important activities given up
8. Recurrent use in hazardous situations
9. Use despite knowledge of major associated problems
10. Tolerance
11. Withdrawal
Past-year misuse of Vicodin among 12th graders has dropped dramatically in the past 15 years. Misuse of all Rx opioids among 12th graders has also dropped dramatically, despite high opioid overdose rates among adults.

Past-year use among 12th graders

STUDENTS REPORT LOWEST RATES SINCE START OF THE SURVEY

Across all grades, past-year use of heroin, methamphetamine, cigarettes, and synthetic cannabinoids* are at their lowest by many measures.

*Called "synthetic marijuana" in survey
Prevalence of Substance Use Disorders

2002
Any substance: 8.9%
Alcohol: 5.9%
Illicit drug: 5.6%
Marijuana: 4.3%
Pain Reliever: 10%
Cocaine: 0.4%
Heroin: 0.1%

2016
Any substance: 4.3%
Alcohol: 2.0%
Illicit drug: 3.2%
Marijuana: 2.3%
Pain Reliever: 0.5%
Cocaine: 0.1%
Heroin: 0.0%

Past Month Use Disorder,
NSDUH 2016
TEENS MORE LIKELY TO USE MARIJUANA THAN CIGARETTES

Daily use among 12th graders

- 1992: 1.9%
- 1997: 24.6%
- 2017: 5.9%

Marijuana: 5.9%
Cigarettes: 4.2%

NIH National Institute on Drug Abuse

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Seattle Children's Hospital, Research Foundation
DAILY MARIJUANA USE MOSTLY STEADY

2007 – 2017

<table>
<thead>
<tr>
<th></th>
<th>8th graders</th>
<th>10th graders</th>
<th>12th graders</th>
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</thead>
<tbody>
<tr>
<td>2007</td>
<td>7%</td>
<td>6%</td>
<td>5%</td>
</tr>
<tr>
<td>2012</td>
<td>6%</td>
<td>5%</td>
<td>4%</td>
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<tr>
<td>2017</td>
<td>5%</td>
<td>4%</td>
<td>3%</td>
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</tbody>
</table>

8th graders: 0.8%
10th graders: 2.9%
12th graders: 5.9%

71.0% of high school seniors do not view regular marijuana smoking as being very harmful, but 64.7% say they disapprove of regular marijuana smoking.

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Driving After Marijuana Use Surpasses Drunk Driving

Source: MTF
Risk Factors: Early

- Genetic vulnerability
- Prenatal exposures
- Attachment/neglect
- Sensation-seeking temperament
- Traumatic exposure(s)
- Impulse control deficits
- Learning disorders
Risk Factors: Later

• Poor parental supervision and poor parenting skills
• Substance problems and conflict in family
• Heavy use in local community
• School failure
• Social skills deficits
• Using peer group (gang)
• Poor affect identification and regulation
• Conduct problems
• Mental health problems
Resilience Factors

- Female
- Hobbies
- Prosocial peer group
- Empathic caregiver
- Higher intellectual functioning
- Good academic performance
Summary: Epidemiological Findings

- Experimentation is normative but consequences can be severe and far-ranging
- Use **Disorder** is the exception.
- Look for
  - Risk factors
  - Early initiation
  - Heavy use
CRAFFT: 2 is Too Much

- Car
- Relax
- Alone
- Family/friends
- Forget
- Trouble

(Knight 2002)
When to UTOX

- In acute change in mental status: testing essential, but not fully reliable
- For outpatient assessment: voluntary and confidential urine drug testing may be useful
  - If there is concern that the patient’s use puts him or her at immediate, significant risk, there may be grounds to break confidentiality
- For ongoing monitoring: testing may improve outcomes
EtG

- EtG positive in excess of the 500 ng/mL cutoff is consistent with the ingestion of alcohol-containing products 1-2 days prior to specimen collection.
- Studies examining “incidental” exposure widely conclude that results in excess of the 500 ng/mL cutoff are not associated with inadvertent or environment ethanol sources.
- Advertised “80-hour” window of detection not “real-world” applicable.
Cannabis Detection Window: Update

- 30+ day detection window often exaggerates duration of detection window
- Detection time: at 50 ng/mL cutoff
  - up to 3 days for single event/occasional use
  - up to 10 days for heavy chronic use
- Detection time: at 20 ng/mL cutoff
  - up to 7 days for single event/occasional use
  - up to 21 days for heavy chronic use
“Chemical Dependency” Assessment

• Usually performed by Chemical Dependency Professionals (CDPs)

• Assessment usually consists of a clinical interview that addresses the 6 dimensions of American Society of Addiction Medicine (ASAM) Patient Placement Criteria (PPC)
ASAM PPC Levels

- Level 0.5: Early Intervention
- Level I: Outpatient Services: ≤9 hours/week
- Level II: Intensive outpatient (9–19 hours/week)/Partial hospitalization (>20 hours/week)
- Level III: Residential/inpatient services (e.g., imminent risk of relapse, continued use or poor recovery environment)
- Level IV: Medically managed intensive inpatient services
## Evidence Base: Psychosocial Treatments

<table>
<thead>
<tr>
<th>Program</th>
<th>Level of Support</th>
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<tbody>
<tr>
<td>Multisystemic Therapy (MST)</td>
<td>Evidence-based</td>
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<tr>
<td>Adolescent Assertive Community Care</td>
<td>Research-based</td>
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<tr>
<td>Adolescent Community Reinforcement Approach (ACRA)</td>
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<td>MET/CBT-5 for youth MJ use</td>
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<td>Multidimensional Family Therapy</td>
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<td>Teen Marijuana Check Up</td>
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<td>Therapeutic Communities</td>
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<td>Matrix Model</td>
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<td>Dialectical Behavioral Therapy</td>
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<td>Recovery Support Services</td>
<td>Promising</td>
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<tr>
<td>Seven Challenges</td>
<td>Promising</td>
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</tbody>
</table>

(Source: WSIPP)
Multisystemic Therapy

- Manualized approach addressing multiple determinants of substance use and antisocial behaviors
- Engages family members as collaborators
- Stresses the strength of youth and families
- Addresses barriers to treatment goals
- Therapists familiar with several therapies including CBT and structural family therapy
- Frequent home visits and on-call full time
Behavioral Therapy

- Contingency management: utilize reward systems
- Cash incentives reduced smoking
- Vouchers improved treatment retention
CBT

- Based on social learning theory
- Functional analysis of substance use
- Skills training and self-regulation strategies
- Supported by research
- Efficacy appears to be enhanced by a FAMILY component
Twelve-Step

- Alcoholics Anonymous (AA), Narcotics Anonymous (NA), and many other substance specific programs
  - Focus on building support network
  - Spiritually based and abstinence only
  - Most common but no true RCT
Harm Reduction

- Client centered approach applying readiness to change concept
- Focus is on reducing consequences of use, rather than demanding or promoting abstinence
- Develop strategies and skills
Motivational Approaches

• Motivational interviewing (MI)
  • Client-centered approach focusing on ambivalence

• MI Techniques
  • Open-ended Questions
  • Express Empathy, Listen Reflectively
  • Develop Discrepancy
  • Roll with Resistance
  • Summarize and Affirm
  • Elicit **Self-motivational** Statements
Medication Treatment

- Cannabis
  - NAC (1200 mg BID)
- Alcohol
  - Naltrexone
  - Disulfiram
  - Ondansetron, Topiramate, Acamprosate
- Opiate
  - Methadone
  - Buprenorphine
  - Naltrexone

ALL OFF-LABEL
Summary: Treatment

- Treatment is better than no treatment
- Well-defined, structured approaches targeting broad dimensions work best
- Treatment completion --> better outcome
- Family-based treatments have strongest support
- Growing support for CBT, contingency management, motivational approaches
Co-Occurring Disorders

• COD is the Rule, Not the Exception
• Common Conditions
  • Disruptive Behavior Disorders (DBDs)
  • Depression & other mood disorders
  • Anxiety disorders
  • Attention-Deficit Hyperactivity Disorder (ADHD)
  • Learning disabilities & sensory problems
  • Others: Bulimia, Psychosis, Personality Disorders
• Increased Role for Medications
Integrated Treatment

• Combined Treatment of depression, conduct disorder and substance use disorder in 2007 RCT:
  • CBT/ Fluoxetine vs. CBT/Placebo
  • CBT/ Fluoxetine →→ Greater Improvement in Depression

• Combined Treatment of ADHD and substance use disorder
  • Some support for treatment with long-acting methylphenidate or atomoxetine -- Caution advised
Overall Summary

- The sky is not falling in general, but there is a core group of very impaired teens
- Screening and detection are worth it
- There is a role for urine testing, and urine testing is evolving
- There are no magic bullets, but good treatment is better than no treatment
- There is a role for medications, but it is modest
Tips for Primary Care

• Use screening tools: when in doubt REFER!
• Gather collateral information (including drug testing) and educate parents on warning signs
• Know your local resources and assemble your own referral/treatment network
• Know the content of services
• Involve family
• Involve family
• Involve family
Tips for Primary Care II

- Encourage adolescents to engage in pro-social activities and recovery support
- Treat co-occurring disorders: consider medications for primary psychiatric disorders
- Consider training in Motivational Interviewing
- Consider training in Buprenorphine
- Judicious use of medications with addictive potentials when indicated