Adolescent Substance Use Disorders in Primary Care

David Camenisch, MD/MPH
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Disclosures

• No conflict of interest
• Off-label use of medications will be discussed
Objectives

• Participants will earn about prevalence and patterns of use of alcohol and illicit drugs in adolescents
• Participants will learn about DSM-5 diagnostic changes for substance use disorders (SUDs)
• Participants will become familiar with CRAFFT screening tool and the assessment and referral process for treating SUDs
• Participants will learn about the relationship between marijuana and psychosis
Quick Facts - SUDs

- Second most prevalent mental health condition (ADHD > SUD > depression)
- 1.3 million adolescents (5%) affected
- Patterns of use/abuse fairly stable across race, ethnicity and sex.
- Prevalence increases with age
- Boys are twice as likely to have SUD in adulthood
MTF 2016 Update (http://monitoringthefuture.org)

- Use of tobacco and alcohol are down in all grades surveyed (8th, 10th, 12th)
- All drug use, except marijuana, is down. 6% of 12th graders report daily use.
- Misuse of prescription opiates and stimulants is down.
- Binge drinking is still at concerning levels.
Substance use in WA

- 5% of adolescents aged 12-17 (or 60,000) have used illicit drugs within the past year (2014 Washington Behavioral Health Barometer)

- How do we compare with national average in terms of illicit drug use? Higher - 2.5 times national average (US 2%)

- 54% enrolled in substance abuse treatment are there for treatment for both drug and alcohol use.
Bud W.

- 17 y/o
- BIB by ambulance due to SI statements
- BAL .15, “hanging out with friends”, 6 beers in previous 2 hours, same behavior “most weekends”
- Treated for depression by PCP
- Poor attendance this past year, grades dropped
- Father is ETOH, mom uses marijuana for fibromyalgia
How common is alcohol use?

- How common is alcohol use?
  12th = 64%
  10th = 47%
  8th = 26%

- Are teenager’s drinking more or less?
  Less (down 2%)

- Is perceived risk going up or down?
  No Change

- Is peer disapproval going up or down?
  No Change

- Is it getting easier to get alcohol?
  No. Teens report availability is down.

(www.monitoringthefuture.org)
Alcohol Use in WA

- biggest substance abuse problem in terms of magnitude, cost and consequences.
- 6% of all Washington residents aged 12 or older abused alcohol within the past year.
- one-third of all traffic deaths in the State of Washington were caused by drunk driving.
- > 5000 children in WA die annually because of alcohol-related car crashes, murders, suicides, and other accidents. (2014 Washington State Healthy Youth Survey)
- 23% high-school seniors self-report that their alcohol use is “heavy” or a “problem”.
How to you characterize his drinking?

- Use – at least once in past 30 days/past year
- Misuse – emerging pattern of use
- (Use) Disorder – pattern of misuse with impairment and/or consequences, inability to control use or physiological symptoms
Is there a problem - CRAFFT
(Knight et al, 1999)

C  Have you ever ridden in a **CAR** driven by someone who had been using drugs or alcohol?

R  Do you ever use alcohol or drugs to **RELAX**, feel better about yourself or fit in?

A  Do you ever use alcohol or drugs while you are **ALONE**?

F  Do you ever **FORGET** things you did while using drugs or alcohol?

F  Do your **FAMILY** or **FRIENDS** tell you to cut down?

T  Have you ever gotten into **TROUBLE** while you are using drugs or alcohol?

If ≥ 2, positive screen and more evaluation is needed.
What about binge-drinking?

• Is binge drinking (> 4 drinks) going up or down?
  Down to 15% from 18.9% in 2009-2010 due to aggressive education and prevention. National rate is 7%.

• Who is at risk?
  Teens, behavior problems, family dysfunction, disconnected/marginalized, psychiatric symptoms, family history

• What age does it start?
  22% over the age of 12

• Is peer approval up or down?
  Down
Does he have a “disorder?” (DSM 5)

• A. Pattern of use w/ impairment or distress; 2 or more in 12 months
  • Larger amounts/longer period than intended
  • Persistent desire or unsuccessful efforts to cut down
  • “Great deal” of time spent to obtain, use or recover
  • Urges and cravings
  • Failure to fulfill responsibilities at home, school, work
  • Use despite personal or social consequences
  • Important activities reduced or given up because of use
  • Recurrent use in situations that are dangerous
  • Use despite awareness of physical and psychological consequences
  • Tolerance
  • Withdrawal
DSM 5 changes

- Diagnosis no longer distinguish between abuse and dependence
- Each substance considered separately (poly-substance diagnosis removed)
- Expanded number of criteria which includes consequences of use as well as symptoms of dependence, tolerance and withdrawal
- “Legal problems” removed
- Severity criteria (Moderate = 2 or 3; Severe > 3)
Should he keep taking SSRI?

- You learn he is binge drinking 1-2 times/week, he asks if he should keep taking his medication...?

- What is relationship between SUDs and depression?

- He endorses intermittent suicidal ideation but denies any suicide attempts. What needs to be considered in creating a crisis plan?
Depression and SUD risk

- Depression doubles the risk of developing a SUD
- Depression usually *precedes* SUD
- Co-occurrence of a substance use disorder and depression increases the risk of completed suicide
- Acute intoxication is an immediate risk factor for suicide completion
What about genetics and parent behaviors?
(Kandler et al AJP 2014)

• How does father’s history impact your advice to teen?
  2-4X risk in off-spring if parents have SUD
  *Sons of male alcoholics up to 9X risk of SUD*

• How does mother’s behavior impact her son’s use?
  Decreased risk in SUD offspring if parents abstinent from age 12-14
How do you address alcohol use in treatment planning?

- Screening v. full CD assessment
- MI strategies to see where teen is their thinking?
- Incorporate in safety plan?
Robert Marley

• 13 y/o
• Referred by caregiver (maternal grandmother)
• Smoking “most days, ...if I can find it.”
• Used to be A-B student. Grades are down.
• Being treated for anxiety with SSRI by PCP
• GM worried about his “going crazy “like his Uncle who also smoke a lot of pot.
How common is marijuana use?

- How common is marijuana use?
  
  12\textsuperscript{th} = 45 \%  
  
  10\textsuperscript{th} = 31 \%  
  
  8\textsuperscript{th} = 16 \%  

- Are teenager’s smoking pot more or less?
  
  About the same. 8\textsuperscript{th} and 10\textsuperscript{th} graders down a little, 12\textsuperscript{th} graders up a little.

- Is perceived risk going up or down?
  
  Way down

- Is peer disapproval going up or down?
  
  Down

- Is it getting easier to get marijuana?
  
  No - No info specifically for WA state.
Marijuana Use in WA

• 25% of all drug treatment admissions are for marijuana.
• 70% of all marijuana admissions are male.
• What percentage of admissions for marijuana treatment are under the age of 18?
  50%
• 27% high-school seniors, self-report use of marijuana within the past 30 days.(trending up)
• What percentage of high-school seniors used marijuana > 10 days within the past month?
  10%
Risk Factors for Psychosis related to Cannabis Use

• Dose and frequency
• Potency (THC:CBD-1)
• Synthetic >> “natural”
• Genetics (AKT1, D2 receptor variants)
• Age (adolescents; prenatal exposure)
Cannabis and psychosis

- Epidemiologic data – cannabis use increases risk of psychosis (Gage et al, Bio Psych 2016)
- Laboratory – acute administration of THC induces positive symptoms, cognitive symptoms and EEG changes consistent with psychosis
- Research of psychotic disorders suggests disruption in endogenous endocannabinoid system (ECS) may play a role
- Imaging studies demonstrate neuro-anatomic changes (hippocampus, PFC, amygdala and cerebellum) may be related to earlier age of onset and heavier cannabis use. (Lorenzetti et al, Bio Psych 2016)
- Users with psychotic disorders present for psychiatric services at younger age than non-users (Di Forti et al, Bio Psych 2016)
- Daily users of high-potency cannabis experience first episode of psychosis 6 years sooner than non-users. (Di Forti et al, Bio Psych 2016)
- Cannabis use correlates with higher rate of relapse in individuals with psychotic disorders (Schoeler et al, Lancet 2016)
Could marijuana use be affecting his grades?

- *acute* impairment in learning, attention and working memory
- motivational problems, even when users are not “high.”
- effects correlate with frequency, duration, and *age of onset of use*
- earlier age of use is associated with greater degree of neuropsychological impairment
- not clear is how much is too much and what point acute deficits become chronic and irreversible – controversy over irrecoverable decrease in IQ
- Possible mechanism – use of exogenous cannabinoids can disrupt pruning and myelination
Anxiety and SUD risk

- SUDs affect 1 in 5 with anxiety disorders
- Internalizing disorders confer greater risk than externalizing disorders
- Anxiety increases risk of alcohol use developing into more serious alcohol problem and earlier drug use
Synthetic Marijuana

- Too many names to keep up with - Spice, K2, Mr. Nice Guy, Green Buddha, Blaze, Special-K, AK-47, Barely Legal, etc) – consult Erowid.com
- Most not detected with urine and blood tests
- Fortunately, use is decreasing due to increased education and decreased availability.
Synthetic Marijuana

- 2nd most widely used illicit drug by 12th graders; rates rising in younger samples (4.4% of 8th graders) (MTF.org)
- Especially common in student athletes (not detected)
- Cannabis-like high (THC >>> CBD)
- Synthetic THC sprayed on herbs; often contaminated w/ other illicit drugs
- Adverse effects medical events include acute renal failure, MI and seizures
- Adverse behavioral affects include anxiety/panic, aggression, suicidal ideation and psychosis
- AE and withdrawal states can persist for weeks
W. Bill Cody

• 8 y/o M; lives with mom
• ADHD diagnosed at age 5
• On Concerta and guanfacine
• Recently having more behavioral issues. Meets criteria for ODD.
• Dad treated for ADHD when younger. Can’t hold a job. Anger problems.
Behavioral Disorders and SUD risk

- 1 in 4 with behavioral disorder (ODD, CD, ADHD) develop SUD
- ADHD confers 2X risk of SUD; 50% SUD co-morbidity; ADHD treatment reduces SUD
- ODD/CD increase risk of first use and development of alcohol SUD
- 80-90% of CD develop SUD
- High rate of mood disorder if CD+SUD
- Early intervention for DBDs can decrease risk of SUDs
Harry Wynn

• 18 y/o
• Former A student, lacrosse player
• Got hooked on prescription pain killers after knee surgery.
• Started using heroin since 10th grade. Also regularly uses, cocaine and marijuana.
• Several attempts at inpatient and outpatient treatment.
• Being treated for depression. History of SI.
Heroin Use in WA

- Heroin use is up and affects all ages, races and income levels
- Rates of use, addiction and overdose are all trending lower in terms of age of those affected
- Highest heroin death rate is in the 25-34-year-old-age group.
- Over the last decade the 15-34-year-old age group saw the largest increase in heroin overdose deaths.
- Increase in heroin use is in part due to successful efforts to decrease availability of prescription opiates and legalization of marijuana
How to spot heroine/opiate use

- Signs and symptoms of use
  - Skin flushing
  - Small pupils
  - Watery eyes
  - Runny nose
  - Dry mouth
  - Nausea/vomiting
  - Itching
  - Decreased HR and breathing
- Health risks – infections (vasculitis, heart valves), kidney/liver damage, hepatitis B/C and HIV, overdose/death
- Detectable in the urine for up to 24 hours and blood for 48 to 72 hours
Heroin Withdrawal

Mild/Moderate
- Nausea/vomiting/diarrhea
- Tearing/runny nose
- Yawning
- Tremors/restless/agitation
- Poor concentration
- Fatigue
- Goose bumps

Severe
- Insomnia
- Anxiety/depression
- Suicidal ideation
- Rapid heart rate/↑ BP
- Muscles spasms
- Drug cravings
- NOT potentially fatal
Rescue Medication for Overdose

- Naloxone (Narcan)
- Opioid antagonist; block receptors
- Treatment for any opiate overdose (heroin, prescription pain medications)
- Works every time, i.e. can’t develop tolerance
- Can precipitate withdrawal, but not fatal
- Naloxone + buprenorphine = Suboxone
NCS-A: Relationship between mental disorders and development of SUDs

- JACAAP April 2016
  “Association of Lifetime Mental Disorders and Subsequent Alcohol and Illicit Drug Use” Conway et al.
  - national sample
  - 10,123 adolescents age 13-18
  - examined comprehensive range of mental disorders
  - comprehensive, in-person interview (CIDI 3.0)
  - cross-sectional, retrospective, dated data (2001-2004)

Knowledge gap: What is the impact of mental disorders on development of substance use disorders?

Clinical Application: To optimize interventions at different stages of substance use to prevent substance use disorders and minimize morbidity/mortality.
Clinical Implications

• Identifying substance misuse/experimentation early can decrease risk of SUDs
• Decreasing access to tobacco can decrease risk of developing SUDs
• Early intervention for behavior disorders can decrease risk of SUDs
• Early screening for DBDs in school and primary care is effective strategy for preventing SUDs
• Substance use prevention strategies should be routinely incorporated into treatments for depression and anxiety
Substance Abuse Assessment

• Performed by Substance Abuse Counselors/Chemical Dependency Professionals (CDPs)
• Specialized assessment – not part of typical mental health or psychiatric assessment
• Lengthy, comprehensive, multi-dimensional
Treatment Levels

- Level 0.5: early Intervention
- Level I: outpatient (< 9 hr/week)
- Level II: intensive outpatient (9-19 hr/week)
- Level III: residential/inpatient
- Level IV: medically managed intensive inpatient
Psychosocial Treatments

• Brief Strategic Family Therapy
• Multidimensional Family Therapy
• Behavior Therapy
• Cognitive Behavioral Therapy
• Multi-systemic Therapy
• Harm Reduction Models
• Motivational Interviewing
Harm Reduction

- Client centered approach applying readiness to change concept
  - Pre-contemplation, contemplation, preparation, action, maintenance, relapse
  - Focus on reducing consequences of use
  - Develop strategies and skills

- Controversial but valuable as intermediate treatment goal
Motivational Interviewing

- Client-centered approach focusing on ambivalence
- Express Empathy
- Develop Discrepancy
- Roll with Resistance
- Support Self-Efficacy
Pharmacologic Treatments

• Limited research with few controlled studies and very small samples
  • Nicotine - bupropion, varenicline, nicotine replacement
  • Alcohol - disulfiram, naltrexone, acamprosate, topirimate, odansetron, baclofen
  • Opiates - methadone, buprenorphine, naltrexone, (clonidine)
  • Marijuana - NAC, buspirone, gabapentin, topirimate, rimonabant
Where to get treatment

- WA Recovery Help Line
  - [http://www.warecoveryhelpline.org/for-teens/](http://www.warecoveryhelpline.org/for-teens/)
  - 866-789-1511
- UW Alcohol and Drug Abuse Institute
  - [http://adai.uw.edu/WAstate/](http://adai.uw.edu/WAstate/)
- Washington DSHS
  - [https://www.dshs.wa.gov/bha/substance-use-treatment-services](https://www.dshs.wa.gov/bha/substance-use-treatment-services)
- SAMHSA
  - [https://findtreatment.samhsa.gov/](https://findtreatment.samhsa.gov/)
  - 1-800-662-435
SSRI and substance use

• 17 y/o
• 6.5 months abstinent from etoh, cannabis and cocaine.
• Started on sertraline for anxiety in context of stopping drug use. Denies pre-existing depression and anxiety but some gaps in history.
• Patient is asking PCP to stop sertraline - "doesn't want to be dependent on anything. Doing really well. Doesn't think he needs it."
• GAD-7 and PHQ-9 sub threshold scores.
• Continues in outpatient CD treatment but no info on frequency or nature of support.
Discussion Questions

1. What else would you like to know to help you decide whether this is a good idea?
2. How would you stop it?
3. How likely is it that anxiety was only consequence of stopping drug use?
4. How often would you see him back?
5. What would you be looking for that would suggest he should stay on it?
Stimulant Use in Late Adolescence

- 19 y/o in community college
- Historical diagnosis of ADHD by a distant past provider.
- Prescribed MPH IR for homework and projects “for years.” He tried not using it last academic year and school performance declined. He resumed use of it this academic year and is doing better.
- IEP accommodations have been dropped and prefers not seek additional help at school.
- Not interested in therapy or improving study skills
- No indication of impact or impairment in any other area.
- Plans to attend Semester at Sea program from January to April and wants long-term stimulant treatment to cover that time-frame.
Discussion

• Is this appropriate use or misuse?
• Does a decline in performance without it change your thinking?
• What do you need to know to feel okay continuing this approach?
• Is it possible he did in fact have ADHD and has outgrown the need for stimulants on daily basis?
• How could you get clarification of his diagnosis?
Questions?