Adolescent Substance Use

Understanding Substance Use Disorder

Tuesday February 6, 2024

THE UNIVERSITY of NORTH CAROLINA at CHAPEL HILL

Background:

- Adolescence often described as a time of experimentation with risky behaviors (including substance use)
- Normative changes in brain development during this time period
  - Increases in "sensation-seeking" (tendency to pursue new and different sensations/ feelings/ experiences) linked to changes in dopaminergic activity during puberty. Hyper-sensitivity to rewards.
  - Pre-frontal cortex/ cognitive control system still developing through mid 20's. Important in judgment and decision-making (especially appreciation for long-term consequences)
- Substance use is common during adolescence:
  - Majority of US high school students have engaged in some form of substance use (NC rates similar to national data)
    - 50% have ever used e-cigarettes, 47% alcohol, 28% cannabis, 24% cigarettes
    - Lifetime use of other substances less common: 12% report ever mis-using a prescription opioid, 8% ever used inhalants, 7% synthetic marijuana, 3% ecstasy, 2.5% cocaine, < 2% meth/ heroin
  - Of all students who report ever using substances, ~30% report using in the past MONTH
    - Most commonly endorsed substances used in past month: alcohol (23%), cannabis (16%), e-cigarettes (11%), binge-drinking (>4 drinks for females, 5 drinks for males in one occasion; 10.5%), prescription opioid mis-use (6%)
- In general, substance use involvement during adolescence has been declining since mid 1970's/ early 1980's. Trends of cannabis use rose during early 1990's but has since declined.
  - Even vaping/ e-cigarette use among adolescents has begun to decline in past few years
  - Likely due to changes in public policy targeting access to substances (legal drinking age/ age of sale for tobacco, vape flavor bans)
    - Limits access, but also impacts justice involvement
- Most who use substances do not become addicted
  - 3-11% of adolescents who use substances meet criteria for a substance use disorder by age 18
    - Require 2+ out of 10 criteria in past year.
    - Diagnostic criteria range in terms of severity:
      - Ex- needing more of it to get the same effect (tolerance); experiencing cravings/ urges to use
      - Ex - development of withdrawal symptoms; using substances in risky/hazardous situations
  - Although juvenile offenders have higher rate of SUDs compared to general adolescent population (25-65%), in most samples, the majority of offenders do not have a clinical SUD diagnosis

Substance Use in Adolescence versus Adulthood:

- Choice of substances:
  - Alcohol, cannabis, tobacco are by far most commonly used substances in both age groups
  - Adolescents more likely to binge-drink (4+/5+ drinks for women/men)
  - Adults more likely to mis-use prescription pain medications and sedatives; more likely to use illicit drugs
- Reasons/ motives for use:
  - In both adolescents and adults, social motives (e.g., "improves parties/celebrations") and enjoyment/ enhancement motives (e.g., "gives pleasant feeling," "because it's fun") are most common
    - More common than "to fit in" / "because of social pressure"
  - Experimentation is also a commonly endorsed reason for adolescents
  - "Coping" (e.g., "To forget worries," "to help feel less depressed/ nervous") is more common in SUD/ juvenile offender populations

Treatment Considerations:

- Engagement in treatment
  - Adolescents are less likely to seek treatment for substance use on their own compared to adults
  - Largest proportion of adolescents who receive treatment are referred by juvenile justice system
    - Only ~50% of juvenile offenders with an SUD receive treatment
  - May feel like they don't need help. Engaging adolescents in treatment requires special considerations
- "Abstinence-only" vs. "Harm Reduction" perspectives to treatment
  - Traditionally, treatment approaches have focused on complete abstinence as goal/ marker for successful treatment
    - But zero-tolerance approaches are largely ineffective. Tend to see short-term cessation of substance use, but rarely achieve long-term abstinence (even with best evidence-based case)
    - "Setting up to fail" based on what we know about process of addiction (brain changes due to drug use can last for months to years after abstinence; returning to use is often part of process)
  - Harm reduction approaches are more congruent with what we know about addiction (AND adolescent development & risk-taking)
    - Promotes strategies to reduce *consequences / harms* of use
    - Acknowledges that many will at least experiment with use
    - Accepts that drug use (both licit and illicit) in society is inevitable – focus is on reducing adverse consequences of use
    - Not "condoning" use – in treatment, recommend and encourage teen to stop/reduce use, AND provide them with information aimed at reducing harmful consequences when the behavior occurs
- The National Institute on Drug Abuse (NIDA) & the American Academy of Child and Adolescent Psychiatry (AACAP) have recommended principles of treatment for Criminal Justice populations:
  - Drug addiction is a brain disease that affects behavior
  - Recovery requires effective treatment and management over time
  - Treatment must ast long enough (and be comprehensive enough) to produce stable behavioral changes
    - Tend to recommend 3+ months of treatment
    - Multiple episodes of treatment may be required
  - Clinical assessment is the first step in treatment
  - Treatment should be tailored to fit the unique needs of the individual
  - Continuity of care/ aftercare is essential in maintaining long-term recovery
  - *Recommend the least restrictive setting that is safe and effective (AACAP)
  - *Family involvement is important

Psychosocial/ Behavioral Treatments:

- Treating substance use among juvenile offenders is complicated because youths involved in justice system also tend to face a range of other difficulties (other mental health disorders, academic difficulties, parental substance use, etc.)
  - So, treatment needs to address these co-occurring problems
- Involving families increases participation and improves treatment outcomes
  - ...But can be challenging!
  - Strategies to increase family involvement: provide information & emotional support, involve families in care decisions when possible
  - Stigmatizing families (e.g., for contributing to youth's SUD) reduces likelihood of family involvement
- Family-based treatments:
  - Aim to improve family relationships, guardian discipline practices, increase youths' association with prosocial peers, improve school outcomes
  - Examples: Multisystemic Therapy (MST), Multidimensional Family Therapy (MDFT)
    - Targets both substance use and other antisocial behavior – has been shown to reduce substance use and long-term recidivism

        - Can be alternative to residential SUD treatment among youth who meet criteria for higher level of care – outpatient MDFT similar improvements in substance use at 1-year follow up compared to youth in residential treatment program
- Individual therapy:
    - Aim to improve adolescents' coping, communication, decision-making, problem-solving associated with drug use/ craving (example: Cognitive Behavioral Therapy)
    - Motivational Enhancement / Motivational Interviewing can be used to strengthen youth's motivation for and movement towards reductions in substance use by eliciting and exploring their own arguments for change
- 12-Step programs and recovery-specific education classes unlikely to be effective treatments on their own, but could be included as possible adjunctive interventions

Medications to Support Treatment:

- Often underutilized
- Work well in combination with behavioral treatments
- Medications to support SUD recovery in adolescents:
    - Buprenorphine-naloxone (FDA approved in adolescents down to age 16): improves outcomes and treatment retention in opioid use disorder
    - Nicotine patch or bupropion SR to improve tobacco cessation
    - N-acetylcysteine (NAC) to reduce cannabis craving
    - Acamprosate and naltrexone to decrease pleasurable effects of alcohol

Sanctions, Consequences, Incentives:

- Balance taking responsibility/ accountability and not overly penalizing typical course of addiction/recovery
    - Use sanctions and incentives to promote positive behavioral change (rather than to simply use as punishment)
    - Apply in response to lack of effort or adherence to treatment (rather than exhibiting signs of SUD)
    - Harms of use (including public safety) vs. detection of use
- Consistency and predictability
- Graduated consequences (imposition or increase in curfew conditions, requirement of community service hours, increase frequency of court contacts)
- Include positive incentives to recognize progress (praise from judge, certificates/ tokens, vouchers/ tickets to community events)