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Drug Use in Teens

Learning Objectives

By the end of this presentation you will be able to:

- Appreciate how common substance use is in teens
- Understand the interplay between depression and substance use
- Understand how to best manage substance use once identified

How Common is Teen Substance Abuse?

- According the NIH, in the last year among 8th to 12th graders in the US¹ :
 - 58% used alcohol
 - 35% used cannabis
 - 8% abused prescription stimulants
 - 5% abused opiate pills

1- National Institute on Drug abuse. <https://www.drugabuse.gov/publications/drugfacts/high-school-youth-trends>. Accessed 9/12/2016



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Substance Abuse is a Risk Factor for Many Poor Outcomes

- In 2008, substance use was a factor in a third of all suicides that were reported in 16 states¹
- Increased use of alcohol or drugs is a risk factor for an impending suicide¹⁻²
- Drug and alcohol use is associated with unprotected sexual activity³ and fatal accidents⁴⁻⁵

1- Substance Abuse and Mental Health Services Administration: Suicide Prevention. <http://www.samhsa.gov/suicide-prevention>. Accessed 9/17/2016

2- Pompili et al. *Substance abuse and suicide risk among adolescents*. Eur Arch Psychiatry Clin Neurosci. 2012;262: 469.

3- Ramrakha et al. *The relationship between multiple sex partners and anxiety, depression, and substance dependence disorders: a cohort study*. Arch Sex Behav. 2013 July;42(5):863-72

4- Wilson et al. *Fatal crashes from drivers testing positive for drugs in the U.S., 1993-2010*. Public Health Rep. 2014;129(4):342-350.

5- Biecheler et al. *SAM survey on "drugs and fatal accidents": search of substances consumed and comparison between drivers involved under the influence of alcohol or cannabis*. Traffic Inj Prev. 2008;9(1):11-21.



Common Presentations

- Withdrawn
- Apathetic
- Decrease in school performance, **especially extracurricular activities**¹
- Frequent lateness
- Deterioration in family relationships

¹ National Institute on Drug abuse. <https://www.drugabuse.gov/publications/drugfacts/high-school-youth-trends>. Accessed 9/12/2016

What is Cannabis?

- Most commonly abused illicit drug
- 35% of adolescents report using cannabis in the last year¹
- In 2015 daily cannabis use in teens (6%) became more common than daily cigarette use (5.5%)¹

1- National Institute on Drug abuse. <https://www.drugabuse.gov/publications/drugfacts/high-school-youth-trends>. Accessed 9/12/2016

Cannabis Intoxication

- Bloodshot eyes
- Inc heart rate
- Dry mouth
- Euphoria or anxiety

Risks Associated With Cannabis Use

- When used as a teen:
 - Permanently decreases IQ scores (dose dependent) ¹
 - Poor short term memory, lower test scores ¹⁻²
 - ~Four-fold risk of developing schizophrenia by the age of 26 ³⁻⁴, and increased risk of developing psychosis (paranoia, hallucinations and bizarre thought) ⁵
- The teenage brain is still developing and is vulnerable to insult
- Long-term heavy use associated with reduced amygdala/hippocampal volumes ⁶
 - Deficits in learning and memory
- Risk of lung cancer as polycyclic aromatic hydrocarbons (PAHs) are present, just as in cigarettes ⁷

¹ Meier et al. *Persistent cannabis users show neuropsychological decline from childhood to midlife*. PNAS 2012; 109 (40); E2657–E2664.

² Bolla et al. *Dose-related neurocognitive effects of marijuana use*. Neurology 2002. 59 (9): 1337–43

³ Arseneault et al. *Cannabis use in adolescence and risk for adult psychosis: longitudinal prospective study*. BMJ 2002; 325(7374):1212-3.

⁴ Andréasson et al. *Cannabis and schizophrenia: a longitudinal study of Swedish conscripts*. Lancet 1987; 2 (8574): 1483–1485.

⁵ Bechtold et al. *Concurrent and Sustained Cumulative Effects of Adolescent Marijuana Use on Subclinical Psychotic Symptoms*. Am J of Psychiatry 2016 173:8, 781-789.

⁶ Yucel et al. *Regional Brain Abnormalities Associated With Long-term Heavy Cannabis Use*. Arch Gen Psychiatry. 2008; 65(6):694-701.

⁷ Collier et al. *Marijuana use and risk of lung cancer: 42-year cohort study*. Collier et al. Cancer Causes Control. 2012 Oct; 23(10):1811-20.



Proposed medical uses of cannabis

- Chronic pain **Moderate evidence**
- Spasticity due to MS **Moderate evidence**
- Nausea/vomiting due to chemotherapy **Poor evidence**
- Appetite stimulation in end of life in HIV/AIDS **Poor evidence**
- Glaucoma **Poor evidence**
- Sleep disorders **Poor evidence**
- Intractable seizures **Poor evidence**
- ADHD **No evidence**
- Autism **No evidence**
- Tourette syndrome **No evidence**
- Psychosis **Increases risk!**
- Anxiety disorder **Increases anxiety**
- Depression **Increases depression**

Artificial cannabinoids (K2, spice)

- Modified THC made in a lab
- Illegal in PA, but readily available
- “Not for human consumption”
- Metabolites are different so **users will be negative on a drug test**
- Presentation more like PCP
 - Agitated
 - Aggressive
 - Psychotic
 - Will forget large periods of time



Alcohol¹

- Most widely abused substance
- 12 to 20 year olds consume an estimated 11% of the country's alcohol¹
- Underage drinkers are more likely to consume more alcohol per occasion than adult drinkers
- In 2013, a survey of HS students showed that in the last 30 days about 35% drank some amount of alcohol, and 21% acknowledged binge drinking¹
- 20% of teen drivers involved in fatal accidents involved the use of alcohol²

¹ National Institute on Drug abuse. <https://www.drugabuse.gov/publications/drugfacts/high-school-youth-trends>. Accessed 9/12/2016

² Centers for Disease Control and Prevention: Teen Drinking and Driving. <http://www.cdc.gov/vitalsigns/teendrinkinganddriving/> Accessed 9/12/2016



Opiates

- In teens, most commonly obtained from family member's supply
- Vicodin most commonly abused opiate¹
- Common pattern is:
- Rx pills from family → rx pills from street → snorting heroin → IVDA
- Presentation when intoxicated
 - Tiny pupils
 - Sleepy, slurring of words

1- National Institute on Drug abuse. <https://www.drugabuse.gov/publications/drugfacts/high-school-youth-trends>. Accessed 9/12/2016

PCP (Phencyclidine)

- 'Angel dust' when solid, 'wet'/'dippers' when aqueous
- Smells like formaldehyde.
- Presentation:
 - Sudden change in behavior that may be violent
 - May be acutely psychotic.
 - Nystagmus- eye moving back and forth very quickly.



Cocaine

- Stimulant that can snorted or smoked as in crack cocaine
- In teens, powder form most commonly abused
- Associated with highest rates of prostitution ¹

¹ National Institute on Drug abuse. <https://www.drugabuse.gov/publications/drugfacts/high-school-youth-trends>. Accessed 9/12/2016

Risk factors for drug use

- High availability of drugs in the community
- Poverty
- Family history of substance abuse
- Personal history of sexual/physical abuse
- In utero exposure to drugs
- Lack of parental involvement

Interventions

- Non-judgmental listening.
 - Why do they pursue an escape?
- Family alliance is key!
 - Family as a unit may need treatment.
- Emphasize the concern for well-being of the person.
- Referral to individualized therapy.
- Intensive outpatient program for addiction treatment.

Citations

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What is PCP?

- Schedule 2 drug, but no longer used in practice.
- Was used as an anesthetic
- \$10 for one 'dipper'
- Easy to manufacture