

The Nature of Adolescent Substance Use and Addiction

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Objectives

- ▶ Why do teenagers use drugs?
- ▶ How to think/ talk about alcohol and other drug problems
- ▶ Why are teenagers more vulnerable for problem development?
- ▶ What drugs are teenagers using?
- ▶ Risk and protective factors
- ▶ Case presentations and course of illness
- ▶ Questions, comments, discussion

Why do teenagers use drugs?

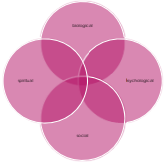
- ▶ To feel good – positive reinforcement
- ▶ To feel better – negative reinforcement (takes away stress, anxiety, depression, ptsd, etc.)
- ▶ To do better – attempting to increase performance in a certain area
- ▶ Curiosity and social pressure – developmentally appropriate for teenagers to start taking risks and be more peer-oriented (there are many faces of risk taking)
- ▶ Belonging, connection, competency – some developmental tasks

Alcohol and other drug problems

- ▶ Substance use and substance use problems vary widely overall
- ▶ DSM 5: shift to dimensional diagnosis ranging from mild to moderate to severe (formerly a categorical "abuse" or "dependence")
- ▶ "Addiction": still a useful specifier (assigning of a debtor to a creditor)
 - ▶ Moderate to Severe Substance Use Disorder
- ▶ No longer use "abuse"
 - ▶ Morally charged (child abuse – sexual abuse – physical abuse – abuse of power)
 - ▶ Not an accurate specifier

Addiction: bio-psycho-social-spiritual

- ▶ Addiction as a bio-psycho-social-spiritual illness with bio-psycho-social-spiritual manifestations. It is a one-of-a-kind deeply human experience.
- ▶ You can't ask a rat how it's doing
- ▶ Nobody chooses to become addicted

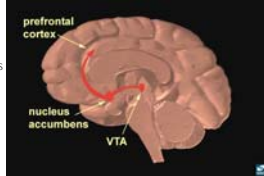


Addiction as a chronic illness

- ▶ Compares to hypertension, diabetes, and asthma in the following ways:
 - ▶ Marked by patterns of onset that may be sudden or gradual
 - ▶ Have a prolonged or permanent course that varies from person to person in:
 - ▶ intensity (mild to severe) and pattern (constant to recurrent)
 - ▶ Have effective treatments, self-management protocols, peer support frameworks
 - ▶ Often generate psychological responses that include hopelessness, low self-esteem, anxiety, and depression
 - ▶ Generate excessive demands for adaptation by families and intimate social networks

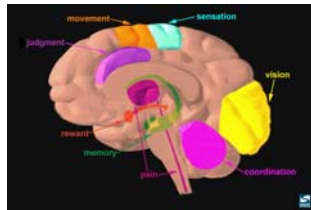
Biological grounding for addiction

- ▶ Hijacking of the endogenous pleasure/ reward circuit
- ▶ Tolerance – withdrawal – craving
- ▶ Increased incentive salience, reduced capacity for reward, reduced functioning of executive control systems (these are not subtle effects)
- ▶ Genetic component (implicated in about 50% of patients)

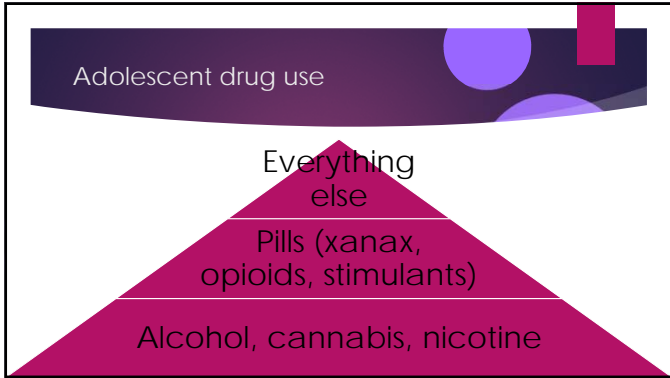


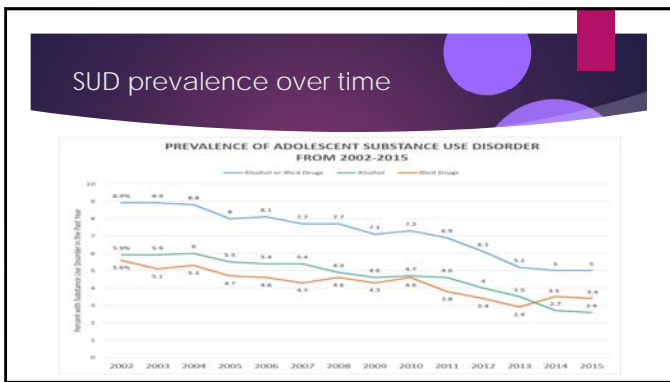
Adolescent brain

- ▶ Still developing until around 25
- ▶ Not an insignificant part that is still developing – prefrontal cortex
- ▶ It's like having a gas pedal with no brake pedal
- ▶ 90% of adults with AOD problems started using before age 18









- ### DSM 5 Criteria for Substance Use Disorder
- ▶ 1. Often taken in larger amounts or over a longer period than was intended
 - ▶ 2. There is a persistent desire or unsuccessful efforts to cut down or control use
 - ▶ 3. A great deal of time is spent in activities necessary to obtain, use, or recover from its effects
 - ▶ 4. Craving or a strong desire or urge to use
 - ▶ 5. Recurrent use resulting in a failure to fulfill major role obligations at work, school, or home
 - ▶ 6. Continued use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of use

DSM 5 Criteria for Substance Use Disorder

- ▶ 7. Important social, occupational, or recreational activities are given up or reduced because of use
- ▶ 8. Recurrent use in situations in which it is physically hazardous
- ▶ 9. Use is continued despite knowledge of having a persistent or recurrent physical or psychological problem likely to have been caused or exacerbated by use
- ▶ 10. Tolerance as defined by either of the following:
 - ▶ A need for markedly increased amounts to achieve intoxication and desired effect
 - ▶ A markedly diminished effect with continued use of the same amount
- ▶ 11. Withdrawal as manifested by either of the following
 - ▶ Withdrawal syndrome
 - ▶ Substance taken to relieve or avoid withdrawal symptoms

DSM 5 "Big Four" for adolescents

- ▶ 4. Craving or a strong desire or urge to use
- ▶ 5. Recurrent use resulting in a failure to fulfill major role obligations at work, school, or home
- ▶ 7. Important social, occupational, or recreational activities are given up or reduced because of use
- ▶ 11. Withdrawal as manifested by either of the following
 - ▶ Withdrawal syndrome
 - ▶ Substance taken to relieve or avoid withdrawal symptoms

Signs and symptoms

- ▶ Drugs or paraphernalia
- ▶ Dramatic, unexplained changes in:
 - ▶ Health
 - ▶ Mood
 - ▶ Friends
 - ▶ Habits
 - ▶ Interests - important social, occupational, or recreational activities are given up
 - ▶ School performance
- ▶ Unusual requests for money, money missing, valuables missing
- ▶ Teen sells his xbox

Risk factors

- ▶ Genetics
 - ▶ Any co-occurring mental health problem + drug use
 - ▶ Especially true for Bipolar Disorder (or family hx of bipolar disorder), ADHD, and Major Depressive Disorder
- ▶ Age of first use
- ▶ Family conflict/ family modeling
- ▶ Adverse childhood experiences
- ▶ Sexual/ physical abuse
 - ▶ 80% of women with addiction report past abuse
- ▶ LGBTQ+
- ▶ Personality traits such as high impulsivity, aggression, and sensation seeking
- ▶ Low perception of risk
- ▶ Permissive parents

Protective factors

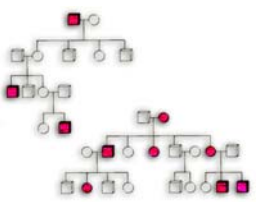
- ▶ Positive attachment between parent and child
- ▶ Appropriate and clear expectations and accountability
- ▶ Parent disapproval of drug use
- ▶ Social competence
- ▶ Success in school
- ▶ Positive peer group norms
- ▶ Strong sense of neighborhood/ community
- ▶ Physical, mental, and spiritual health
- ▶ Internal locus of control
- ▶ Perception of risk

Ingredients for a problem

A Venn diagram consisting of three overlapping circles. The top circle is labeled 'Genetics'. The bottom-left circle is labeled 'Psycho-socio-spiritual'. The bottom-right circle is labeled 'Exposure to use'. The circles overlap in the center and at the intersections between two circles.

Genetics

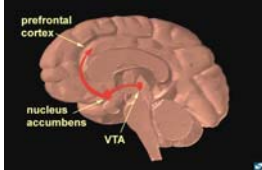
- ▶ Family, adoption, and twin studies help us understand the genetic risks for addiction



A pedigree chart illustrating the inheritance of addiction across three generations. Squares represent males and circles represent females. Filled symbols indicate affected individuals. The chart shows a clear pattern of inheritance, with affected individuals appearing in every generation and often passing the trait to their offspring.

Exposure to use

- ▶ The earlier one starts, the worse the prognosis
- ▶ Hijacking the pleasure/ reward system
- ▶ Not all substances are created equally
- ▶ Prescribed medications becoming problematic



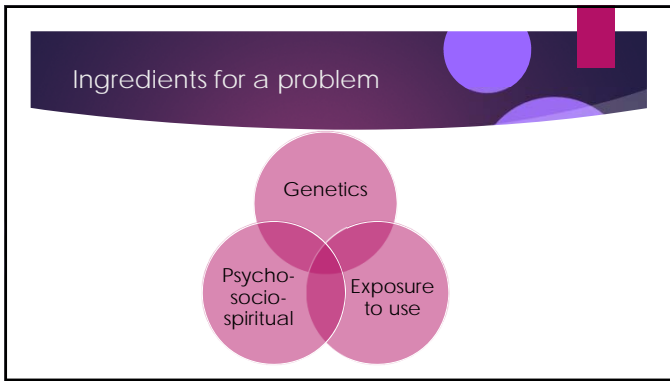
A diagram of a human brain in sagittal view. A red line traces a path from the VTA (ventral tegmental area) in the midbrain, through the nucleus accumbens in the forebrain, and towards the prefrontal cortex. Labels point to the 'prefrontal cortex', 'nucleus accumbens', and 'VTA'.

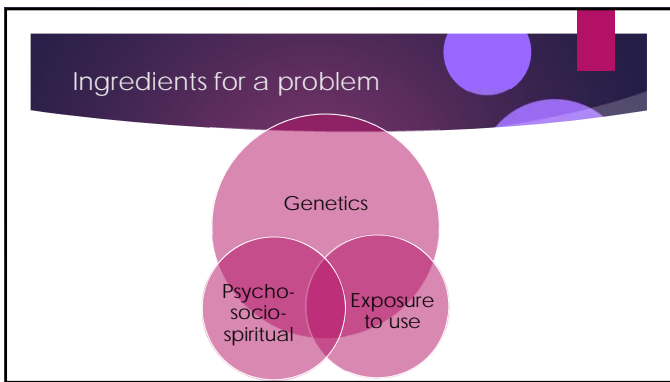
Psycho-socio-spiritual + environment

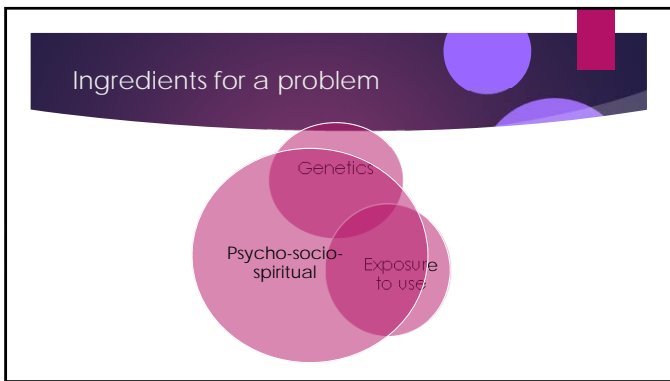
- ▶ Adverse childhood experiences
- ▶ Family modeling, family conflict
- ▶ Physical/ sexual trauma
- ▶ Community attitudes towards drug use
- ▶ Peer pressure
- ▶ School performance, participation and commitment
- ▶ Co-occurring disorders



An illustration of four nesting dolls of various sizes and colors (yellow, green, red, blue). The dolls are arranged in a row, with the largest one on the left and the smallest on the right. They represent different levels or aspects of the environment.







Ingredients for a problem

A Venn diagram with three overlapping circles. The top circle is labeled 'Genetics', the bottom-left circle is 'Psycho-socio-spiritual', and the bottom-right circle is 'Exposure to use'. The circles overlap in the center and at the intersections between two circles.

Questions and comments

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NIDA Principles for Adolescent Treatment

1. Adolescent substance use needs to be identified and addressed as soon as possible
2. Adolescents can benefit from a drug use intervention even if they are not addicted to a drug
3. Routine annual medical visits are an opportunity to ask adolescents about drug use
4. Legal interventions and sanctions or family pressure may play an important role in getting adolescents to enter, stay in, and complete treatment
5. Substance use disorder treatment should be tailored to the unique needs of the adolescent
6. Treatment should address the needs of the whole person, rather than just focusing on his or her drug use

NIDA Principles for Adolescent Treatment

7. Behavioral therapies are effective in addressing adolescent drug use
8. Families and the community are important aspects of treatment
9. Effectively treating substance use disorders in adolescents requires also identifying and treating any other mental health conditions they may have
10. Sensitive issues such as violence and child abuse or risk of suicide should be identified and addressed
11. It is important to monitor drug use during treatment
12. Staying in treatment for an adequate period of time and continuity of care afterward are important
13. Testing adolescents for sexually transmitted diseases like HIV, as well as hepatitis B and C, is an important part of drug treatment

Monitoring the future (2018)

Drug	Time Period	8th Graders				10th Graders				12th Graders			
		2015	2016	2017	2018	2015	2016	2017	2018	2015	2016	2017	2018
Alcohol	Lifetime	26.10	[22.80]	23.10	23.50	47.10	[43.40]	42.20	42.20	64.00	61.20	61.50	[58.50]
	Past Year	21.00	[17.60]	18.20	18.70	41.90	[38.30]	37.70	37.80	58.20	55.60	55.70	[53.30]
	Past Month	9.70	[7.30]	8.00	8.20	21.50	19.90	19.70	[18.60]	35.30	33.20	33.20	[30.20]
	Daily	0.20	0.20	0.20	0.10	0.50	0.50	0.60	0.50	1.90	[1.30]	1.60	1.20

Monitoring the future (2018)

Drug	Time Period	8th Graders				10th Graders				12th Graders			
		2015	2016	2017	2018	2015	2016	2017	2018	2015	2016	2017	2018
Marijuana/ Hashish	Lifetime	15.50	[12.80]	13.50	13.90	[31.10]	29.70	30.70	[32.60]	44.70	44.50	45.00	[43.60]
	Past Year	11.80	[9.40]	10.10	10.50	25.40	23.90	25.50	[27.50]	34.90	35.60	37.10	[35.90]
	Past Month	6.50	[5.40]	5.50	5.60	14.80	14.00	[15.70]	16.70	21.30	22.50	22.90	22.20
	Daily	1.10	[0.70]	0.80	0.70	3.00	2.50	2.90	3.40	6.00	6.00	5.90	5.80

Monitoring the future (2018)

Drug	Time Period	8th Graders				10th Graders				12th Graders			
		2015	2016	2017	2018	2015	2016	2017	2018	2015	2016	2017	2018
Any Vaping	Lifetime	21.70	17.50	18.50	[21.50]	32.80	29.00	30.90	[36.90]	35.50	33.80	35.80	[42.50]
	Past Year	-	-	13.30	[17.60]	-	-	23.90	[32.30]	-	-	27.80	[37.30]
	Past Month	8.00	6.20	6.60	[10.40]	14.20	11.00	13.10	[21.70]	16.30	12.50	16.60	[26.70]
