

Module 11: Substance-Related and Addictive Disorders

Module 11 Outline

- 11.1. Clinical Presentation
- 11.2. Epidemiology
- 11.3. Comorbidity
- 11.4. Etiology
- 11.5. Treatment

Module 11 Learning Objectives

- Describe how substance-related and addictive disorders present.
- Describe the epidemiology of substance-related and addictive disorders.
- Describe comorbidity in relation to substance-related and addictive disorders.
- Describe the etiology of substance-related and addictive disorders.
- Describe treatment options for substance-related and addictive disorders.

11.1 Clinical Presentation

Section 11.1 Learning Objectives

- Define substances and substance abuse.
- Describe the properties of substance abuse.

Section 11.1 Key Terms

Amphetamines: Stimulant drugs manufactured in a laboratory setting (e.g., Ritalin, Adderall, Dexedrine).

Anxiolytics: These drugs have a calming and relaxing effect on individuals and are commonly used to treat anxiety disorders; in this class of drugs, barbituates and benzodiazepines are commonly abused.

Caffeine: A natural stimulant found in coffee beans and some types of tea (e.g., black tea), as well as chocolate.

Cannabis: A mild hallucinogen when compared to LSD or PCP; it is derived from the hemp plant.

Cocaine: A stimulant drug extracted from the coca plant, grown in South America.

Freebasing: Involves heating cocaine with ammonia to extract the cocaine base.

Hallucinogens: Natural sources of hallucinogens (e.g., a specific type of mushroom) and have been involved in cultural and religious ceremonies for thousands of years; however, synthetic forms have also been created, including PCP, Ketamine, LSD, and Ecstasy; these substances induce hallucinations.

Opioids: These drugs are derived from the sap of the opium poppy (e.g., morphine, heroin, oxycontin).

Substances: Any ingested materials that cause temporary cognitive, behavioral, or physiological symptoms within the individual.

Substance abuse: When an individual consumes the substance for an extended period or has to ingest large amounts of the substance to get the same effect a substance provided previously.

Substance intoxication: The changes that are observed directly after or within a few hours of ingestion of the substance.

Tolerance: The need to continually increase the amount of ingested substance to achieve the desired effect.

Withdrawal symptoms: Once an individual is addicted to a psychoactive substance, no longer using the substance will result in withdrawal symptoms; these symptoms can be physical (e.g., cramping, sweating, nausea) or psychological (e.g., cravings); some substances have more severe and life-threatening withdrawal symptoms (e.g., alcohol and benzodiazepines) than others (e.g., cannabis).

Section 11.1 Key Takeaways

- An individual is diagnosed with Substance Intoxication, Use, and/or Withdrawal specific to the substance or substances being ingested though the symptoms remain the same across substances.
- Substance Intoxication occurs when a person has recently ingested a substance leading to significant behavioral and/or psychological changes.
- Substance Use Disorder occurs when a person experiences significant impairment or distress for 12 months due to the use of a substance.
- Substance Withdrawal occurs when there is a cessation or reduction of a substance that has been used for a long period of time.
- Depressants include alcohol, sedative-hypnotic drugs, and opioids.
- Stimulants include cocaine and amphetamines, but caffeine as well.
- Hallucinogens come from natural sources and produce powerful changes in sensory perception.
- Cannabis is also derived from a natural plant and produces psychoactive effects.
- Many drugs are taken by users in combination which can have dangerous results depending on the interactions between the substances.

Section 11.1 Review Questions

1. What is a substance?
2. What is the difference between substance intoxication and substance abuse?
3. What is the difference between tolerance and withdrawal?
4. Create a table listing the three types of substances abused, as well as the specific substances within each category.
5. What are the common factors that affect alcohol absorption?
6. What are the effects of sedative-hypnotic drugs?
7. What receptors are responsible for increasing activity in alcohol and benzodiazepines?
8. What is responsible for the addictive nature of opioids?
9. What neurotransmitters are implicated in cocaine use?
10. What are the different ways cocaine can be ingested?

11. List the common types of amphetamines.

11.2 Epidemiology

Section 11.2 Learning Objectives

- Describe the epidemiology of depressants.
- Describe the epidemiology of stimulants.
- Describe the epidemiology of hallucinogens.

Section 11.2 Key Terms

N/A

Section 11.2 Key Takeaways

- More men and Native Americans are addicted to depressants.
- Cocaine is more prevalent in suburban neighborhoods due to its cost, and methamphetamine is used equally by men and women.
- Hallucinogens, which include cannabis, are used by up to 14% of the general population.

Section 11.2 Review Questions

1. Identify the gender and ethnicity differences of substance abuse across the three substance categories.

11.3 Comorbidity

Section 11.3 Learning Objectives

- Describe the comorbidity of substance-related and addictive disorders.

Section 11.3 Key Terms

N/A

Section 11.3 Key Takeaways

- Substance abuse has a high comorbidity within itself and with mental health disorders.

Section 11.3 Review Questions

1. With what other conditions is substance-related and addictive disorders highly comorbid?

11.4 Etiology

Section 11.4 Learning Objectives

- Describe the biological causes of substance-related and addictive disorders.

- Describe the cognitive causes of substance-related and addictive disorders.
- Describe the behavioral causes of substance-related and addictive disorders.
- Describe the sociocultural causes of substance-related and addictive disorders.

Section 11.4 Key Terms

Brain reward system: Motivates us to behave in ways, such as eating and having sex, that tend to help us survive as individuals and as a species; psychoactive drugs trigger this system to some degree.

Expectancy effect: Positive expectations are thought to increase drug-seeking behavior, while negative experiences would decrease substance use.

Section 11.4 Key Takeaways

- Biological causes of substance-related and addictive disorders include a genetic predisposition though if the individual is not exposed to the substance they will not develop the substance abuse and the brain reward system.
- Cognitive causes of substance-related and addictive disorders include the expectancy effect, though research provides stronger support for positive expectancy over negative expectancy.
- Behavioral causes of substance-related and addictive disorders include positive and negative reinforcement.
- Sociocultural causes of substance-related and addictive disorders include friends and the immediate environment.

Section 11.4 Review Questions

1. Discuss the brain reward system. What neurobiological regions are implicated within this system?
2. Define the expectancy effect. How does this explain the development and maintenance of substance abuse?
3. Discuss operant conditioning in the context of substance abuse. What are the reinforcers?
4. How does the sociocultural model explain substance abuse?

11.5 Treatment

Section 11.5 Learning Objectives

- Describe biological treatment options for substance-related and addictive disorders.
- Describe behavioral treatment options for substance-related and addictive disorders.
- Describe cognitive-behavioral treatment options for substance-related and addictive disorders.
- Describe sociocultural treatment options for substance-related and addictive disorders.

Section 11.5 Key Terms

Agonist drugs: Provide the individual with a “safe” drug (e.g., Methadone) that has a similar chemical make-up to the addicted drug.

Alcoholics Anonymous (AA): The original self-help, peer-supported twelve-step program; it has the overarching goal of abstinence from alcohol.

Antagonist drugs: These drugs block or alter the effects of an addictive drug (e.g., Naloxone).

Aversion therapy: Form of treatment for substance abuse that pairs the stimulus with some type of negative or aversive stimulus.

Community reinforcement: The community around the patient reinforces the positive choices of abstaining from substance use.

Contingency management: A substance abuse treatment approach that emphasizes operant conditioning—increasing sobriety and adherence to treatment programs through rewards.

Detoxification: The medical supervision of withdrawal from a specified drug.

Relapse prevention training: Involves identifying potentially high-risk situations for relapse and then learning behavioral skills and cognitive interventions to prevent the occurrence of a relapse.

Residential treatment programs: In this type of substance abuse treatment, individuals are completely removed from their environment and live, work, and socialize within a drug-free community while also attending regular individual, group, and family therapy sessions.

Section 11.5 Key Takeaways

- Biological treatment options for substance-related and addictive disorders include detoxification programs, agonist drugs, and antagonist drugs.
- Behavioral treatment options for substance-related and addictive disorders include aversion therapy and contingency management.
- Cognitive-behavioral treatment options for substance-related and addictive disorders include relapse prevention training.
- Sociocultural treatment options for substance-related and addictive disorders include Alcoholics Anonymous, residential treatment centers, and community reinforcement.

Section 11.5 Review Questions

1. Discuss the differences between agonist and antagonist drugs. Give examples of both.
2. What are the two behavioral treatments discussed in this module? Discuss their effectiveness.
3. What are the main components of the 12-step programs? How effective are they in substance abuse treatment?