

Unit V: States of Consciousness

Module 25
Psychoactive Drugs

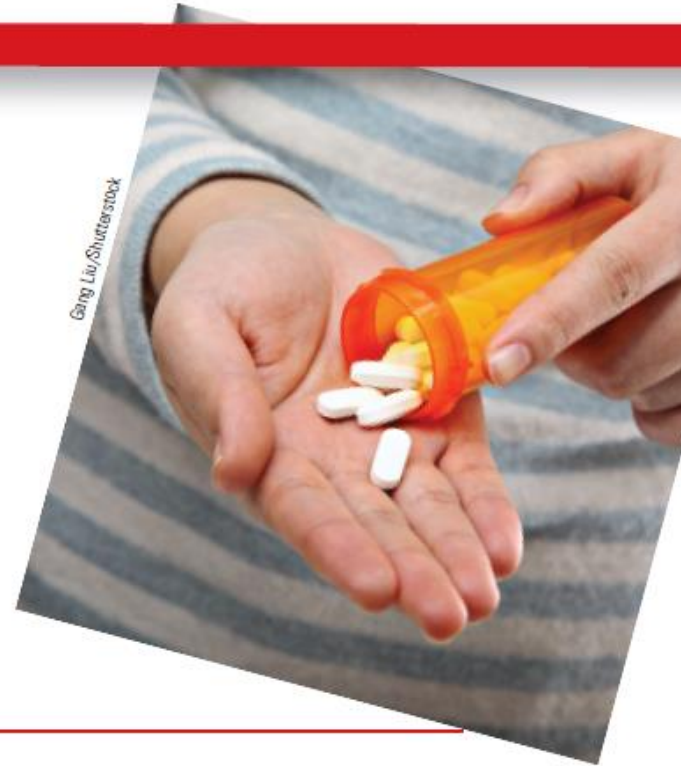


Module 25

Psychoactive Drugs

Module Learning Objectives

- 25-1** Define substance use disorders, and explain the roles of tolerance, withdrawal, and addiction.
- 25-2** Identify the depressants, and describe their effects.
- 25-3** Identify the stimulants, and describe their effects.
- 25-4** Identify the hallucinogens, and describe their effects.



Tolerance & Addiction

25-1

Psychoactive Drugs

25-1

- Psychoactive Drug: A chemical substance that alters perceptions and mood (affects consciousness).
- Use of such substances can develop into a substance use disorder, which causes significant life disruption

When Is Drug Use a Disorder?

A person may be diagnosed with *substance use disorder* when drug use continues despite significant life disruption. Resulting changes in brain circuits may persist after quitting use of the substance (thus leading to strong cravings when exposed to people and situations that trigger memories of drug use). The severity of substance use disorder varies from *mild* (two to three symptoms) to *moderate* (four to five symptoms) to *severe* (six or more symptoms) (American Psychiatric Association, 2013).

Impaired Control

1. Uses more substance, or for longer, than intended.
2. Tries unsuccessfully to regulate substance use.
3. Spends much time gaining, using, or recovering from substance use.
4. Craves the substance.

Social Impairment

5. Use disrupts obligations at work, school, or home.
6. Continues use despite social problems.
7. Use causes reduced social, recreational, and work activities.

Risky Use

8. Continues use despite hazards.
9. Continues use despite worsening physical or psychological problems.

Drug Action

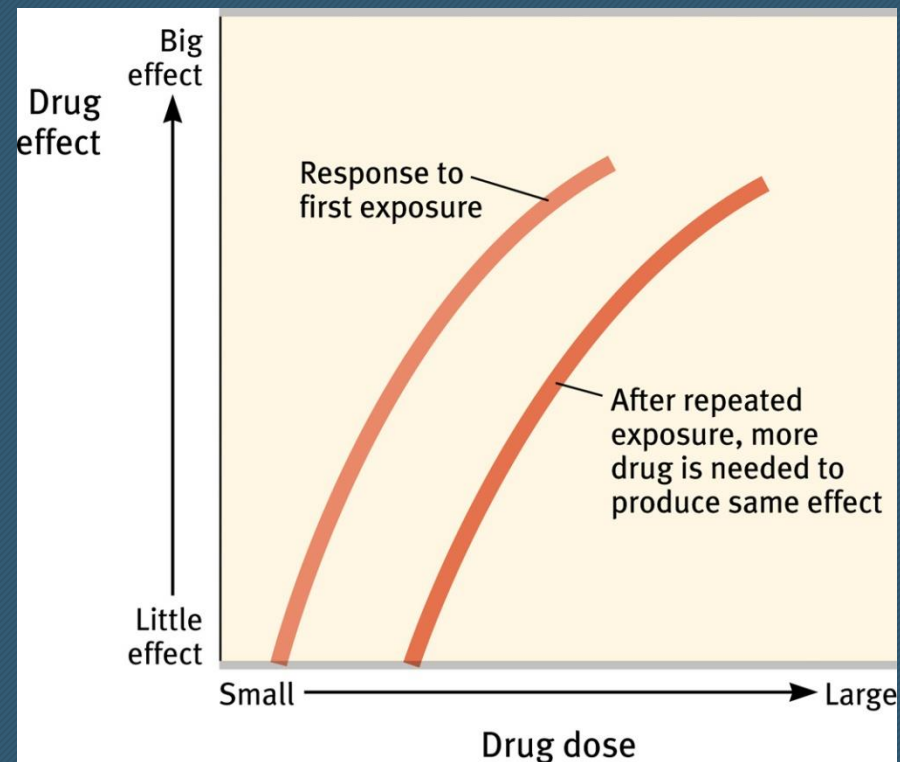
10. Experiences tolerance (needing more substance for the desired effect).
11. Experiences withdrawal when attempting to end use.

Table 25.1, p. 247

Tolerance

25-1

- Continued use of a psychoactive drug produces tolerance.
- With repeated exposure to a drug, the drug's effect lessens.
- Thus it takes greater quantities to get the desired effect.



Withdrawal & Dependence

25-1

- Withdrawal: Upon stopping use of a drug (after addiction), users may experience the undesirable effects of withdrawal.
- Absence of a drug may lead to a feeling of physical pain, intense cravings (physical dependence), and negative emotions (psychological dependence).



Addiction

25-1

Addiction is a craving for a chemical substance, despite its adverse consequences (physical & psychological).

Cautions about the concept of addiction:

- Viewing addiction as an uncontrollable disease can undermine people's belief in their ability to change
- Debate over the concept being stretched too far gambling, video-gaming, internet use, etc.)



Depressants

25-2

Depressants

25-2

Depressants are drugs that reduce neural activity and slow body functions. They include:

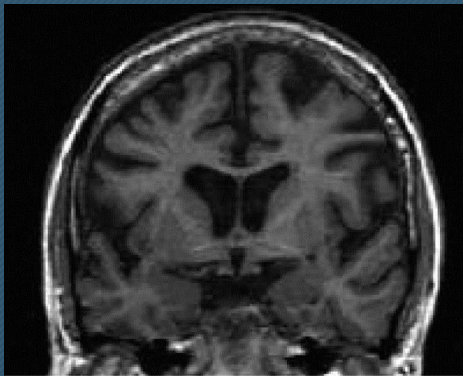
1. Alcohol
2. Barbiturates
3. Opiates



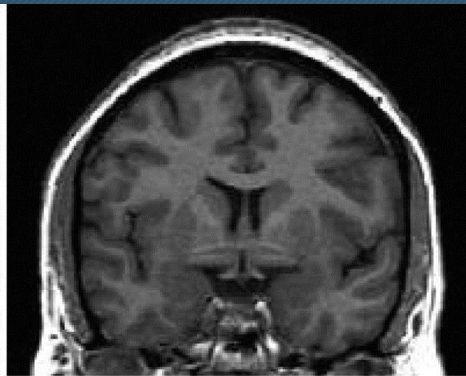
Depressants

25-2

1. Alcohol affects motor skills, judgment, and memory...and increases aggressiveness while reducing self awareness.



Scan of woman
with alcoholism



Scan of woman
without alcoholism

Excessive alcohol consumption can shrink the brain, especially in women.



Drinking and driving can produce disastrous results.

Depressants

25-2

- Barbiturates: Drugs that depress the activity of the central nervous system, reducing anxiety but impairing memory and judgment. Nembutal, Seconal, and Amytal are some examples.



Depressants

25-2

3. Opiates: Opium and its derivatives (morphine and heroin) depress neural activity, temporarily lessening pain and anxiety. They are highly addictive.

When repeatedly flooded with an artificial opiate, the brain eventually stops producing its own opiates, endorphins, which can lead to overdose to relieve pain.



Simulants

25-3

Stimulants

25-3

Stimulants are drugs that excite neural activity and speed up body functions. Examples of stimulants are:

1. Caffeine
2. Nicotine
3. Cocaine
4. Ecstasy
5. Methamphetamines



1998



2002

Caffeine & Nicotine

25-3

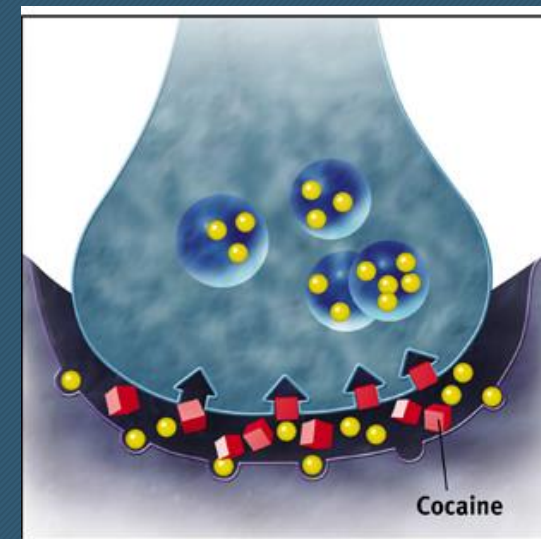
- Caffeine and nicotine increase heart and breathing rates and other autonomic functions to provide energy.



Cocaine

25-3

- Cocaine induces immediate euphoria followed by a crash.
- Crack, a form of cocaine, can be smoked.
- Other forms of cocaine can be sniffed or injected.



(c)

By binding to the sites that normally reabsorb neurotransmitter molecules, cocaine blocks reuptake of dopamine, norepinephrine, and serotonin (Ray & Ksir, 1990). The extra neurotransmitter molecules therefore remain in the synapse, intensifying their normal mood-altering effects and producing a euphoric rush. When the cocaine level drops, the absence of these neurotransmitters produces a crash.

Methamphetamine

25-3

- Methamphetamine triggers the release of dopamine, which enhances energy and mood
- Aftereffects include irritability, depression, insomnia, seizures, and violent outbursts



Ecstasy

25-3

- Ecstasy or Methylenedioxymethamphetamine (MDMA) is a stimulant and mild hallucinogen.
- It produces a euphoric high and can damage serotonin-producing neurons, which results in a permanent deflation of mood and impairment of memory.



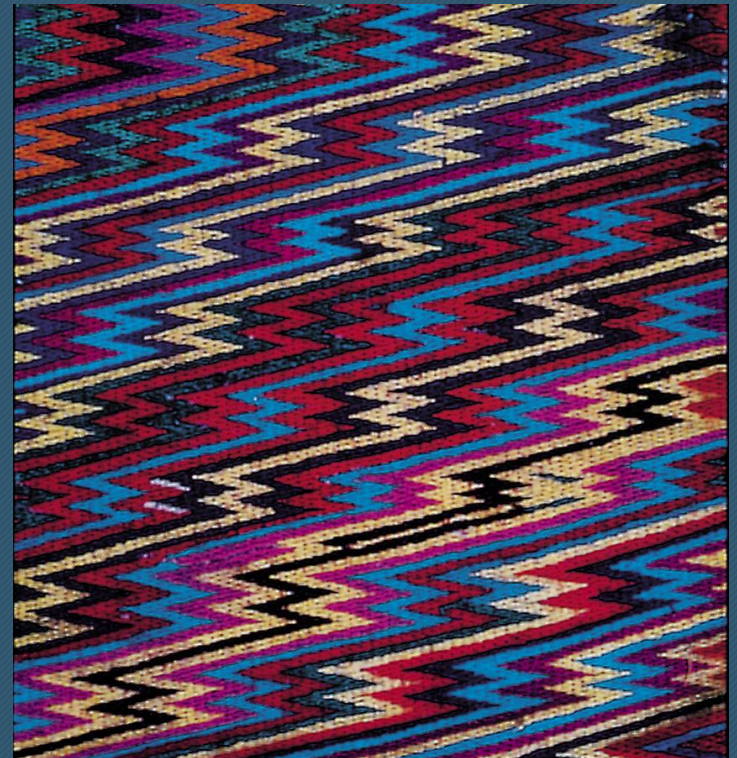
Hallucinogens

25-4

Hallucinogens

25-4

Hallucinogens are psychedelic (mind-manifesting) drugs that distort perceptions and evoke sensory images in the absence of sensory input.



Hallucinogens

25-4

1. LSD: (lysergic acid diethylamide) powerful hallucinogenic drug that is also known as *acid*.
2. THC: the major active ingredient in marijuana that triggers a variety of effects, including mild hallucinations. Marijuana also:
 - relaxes & disinhibits (like alcohol)
 - impairs motor coordination, perceptual skills, & reaction time
 - disrupts memory formation & recall



A Guide to Selected Psychoactive Drugs

Drug	Type	Pleasurable Effects	Adverse Effects
<i>Alcohol</i>	Depressant	Initial high followed by relaxation and disinhibition	Depression, memory loss, organ damage, impaired reactions
<i>Heroin</i>	Depressant	Rush of euphoria, relief from pain	Depressed physiology, agonizing withdrawal
<i>Caffeine</i>	Stimulant	Increased alertness and wakefulness	Anxiety, restlessness, and insomnia in high doses; uncomfortable withdrawal
<i>Methamphetamine</i>	Stimulant	Euphoria, alertness, energy	Irritability, insomnia, hypertension, seizures
<i>Cocaine</i>	Stimulant	Rush of euphoria, confidence, energy	Cardiovascular stress, suspiciousness, depressive crash
<i>Nicotine</i>	Stimulant	Arousal and relaxation, sense of well-being	Heart disease, cancer
<i>Ecstasy (MDMA)</i>	Stimulant; mild hallucinogen	Emotional elevation, disinhibition	Dehydration, overheating, depressed mood, impaired cognitive and immune functioning
<i>Marijuana</i>	Mild hallucinogen	Enhanced sensation, relief of pain, distortion of time, relaxation	Impaired learning and memory, increased risk of psychological disorders, lung damage from smoke

Table 25.2
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