

Chapter 12 Substance-Related and Addictive Disorders

Psychoactive-altering mood, perception, or brain function

Analgesic- a drug that reduces pain

Addiction: chronic pattern of habitual maladaptive behavior, often experienced as compulsive and uncontrollable, that tends to provide immediate gratification

1. Substance use Disorders

- a. Four clusters
 - i. Impaired control over use of the substance
 - ii. Social impairments that result from use
 - iii. Risky use of the substance
 - iv. Pharmacological criteria, namely tolerance and withdrawal
- b. Tolerance is a need for increasing amounts of a substance in order to have a desired effect
- c. Withdrawal is a specific psychological and physiological reaction to discontinuation of a substance which taking the substance can relieve
 - i. Neither tolerance or withdrawal is needed for a diagnosis of substance use disorder
- d. Severity is specified in terms of how many symptoms are present.
 - i. Mild two to three
 - ii. Moderate four to five
 - iii. Severe six or more
- e. The pattern of use produces significant social or occupational problems or interferes with fulfilling major role obligations in life
- f. Legal problems are often involved because of criminal activity
- g. Good diagnostic reliability

2. Substance-Induced Disorders

- a. Substance intoxication
 - i. Is a reversible change in behavior and cognition that occurs within a short time after ingestion of a substance and is a result of the substance's physiological effect on the central nervous system
 - ii. Onset is within minutes of use
 - iii. Resolves as the body metabolizes the substance
 - iv. Not all substances lead to dependence because of intoxication
 1. Ex. Tobacco
- b. Substance Withdrawal
 - i. Is a substance specific syndrome
 1. Involving behavioral, psychological, and cognitive changes that occurs after the cessation or reduction of substance use
 - ii. Symptoms are usually opposite of intoxication

- iii. Nearly always accompanied by cravings for the substance
 - 1. Administration of which usually reverses the withdrawal
 - iv. Withdrawal symptoms occur with many but not all substances of abuse
 - 1. Caffeine has withdrawal but no caffeine use disorder exists yet
 - 2. DSM 5 does not identify a substance withdrawal for hallucinogens or inhalants
 - a. Symptoms however can be severe and may be associated with disturbances and seizures
 - v. most intense withdrawal symptoms dissipate within a few days, the less intense ones can last weeks
3. Development of Substance Use Disorders
- a. Causal factors for substance dependence
 - i. Used to be viewed as a character weakness
 - 1. Evoked pity rather than contempt
 - ii. Moral failure model was contrasted with a physical disease model proposing that alcoholism was internal to the individual due to underlying and presumably genetically transmitted predisposing factors
 - iii. 4 stages
 - 1. Pre alcoholic
 - a. Social drinking becomes more frequent and tolerance increases
 - 2. Prodromal
 - a. Characterized by gulping of drinks, preoccupation with alcohol and occasional black outs
 - 3. Crucial
 - a. Binging and loss of control occurs and the individual is unable to stop drinking until intoxicated
 - 4. Chronic
 - a. Person is openly intoxicated in most settings and lives only to drink
 - iv. Biological disposition for alcoholism exists
 - 1. Disease view- alcoholics are unable to control their drinking due to the influence of powerful internal physiological forces
 - 2. Compulsive drinking was a sign of alcoholism, non-drinking was a sign of its absence
 - 3. Not drinking was a sign of its absence
 - v. Central to most concepts of addiction are the inability to stop the behavior and the high rate of relapse
 - vi. Increased attention to environmental contributions to substance disorders and better understanding of genetics, the disease concept of addiction is gradually being modified into a more interactive perspective
 - vii. Disease concept is being modified into a more interactive perspective
 - b. Biological components

- i. Genetics
 - 1. Alcohol dependence runs in families
 - a. Adoption studies
 - 2. Greater heritability for males
 - 3. Males metabolize alcohol faster than females, on average a similar amount of alcohol will have a greater effect on females
 - 4. Certain genes related to dopamine synthesis and expression such as DRD2 receptor gene are associated with increased risk of alcohol dependence
- ii. Neurological factors
 - 1. Drugs affect the mesocorticolimbic dopamine pathway (pleasure pathway)
 - 2. Repeated exposure to a drug produces adaptations in a single neuron which in turn alters the neural circuit
 - 3. Brain responds to the artificially higher levels of neurotransmitters by down regulating the NT's natural activity
- c. Psychosocial Components
 - i. Cultural Factors
 - 1. Asians
 - a. Alcohol flush reactions can keep them away from alcohol
 - 2. Religious customs and practices can affect alcohol consumption
 - 3. Exposure to alcohol varies country to country
 - ii. Drugs as reinforcers
 - 1. Drugs reward the use of the substances without conditioning
 - a. Environmental stimuli associated with drugs take on value as discriminative stimuli setting the occasion for use, as conditioned stimuli eliciting craving, and as conditioned reinforcers maintaining the chain of behaviors leading to drug ingestion
 - b. Stimulus paired with a drug could be used as a conditioned reinforce to maintain operant responding
 - c. Stimuli paired with a drug can be used to alleviate withdrawal in rats
 - iii. Conditioning Factors
 - 1. Overdose fatalities involved experienced drug users who died after a dose that had not previously been lethal
 - 2. Environmental cues present during drug administration are paired with the onset of drug effect
 - 3. Tolerance is a response that becomes conditioned to the stable environmental stimuli that have reliably accompanied recurrent drug use in the past
 - 4. Tolerance can have environmental cues