

DRUG AND ALCOHOL ABUSE

ABSTRACT

Drug and alcohol abuse are very serious health concerns for people, families, and societies around the world. These are substances that people usually take for recreational or self-medication purposes and have serious physical, mental, and social repercussions. Addiction to drugs and alcohol generally results in chronic health problems, social isolation, and impaired functioning that affects the quality of life and well-being of those who struggle with substance use disorders. This chapter will outline the etiology, types, effects, and treatments of drug and alcohol abuse, focusing on the challenges posed by these addictive substances and strategies for prevention and intervention.

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I. INTRODUCTION

Drug & alcohol abuse refers to the excessive use of drugs (cocaine, heroin, or methamphetamine) & alcohol that affect brain & social behaviour of an individual. In other words, use of illicit drugs or the overuse or prescription of medications for purposes other than those for which they are intended, or in quantities that exceed recommended limits. Substance use disorders, which include addiction and abuse, are defined by a self-destructive pattern of substance use that result in serious issues and suffering. These issues may include tolerance to or withdrawal from the substance.

Alarming Facts

- About 190 million people all over the world consume one drug or the others
- Five million heroin addicts are there in India.
- Cannabis, heroin are the most frequently abused drugs used in India.

Etiology of Drug Abuse

1. Familiar Factors

- Parental use
- Marital dispute
- Intrauterine exposure
- Family dysfunction
- Use among relatives
- Distress
- Parent-child conflict, child abuse

2. Community Factors

- Availability of the drug in the community
- Deviant group in society
- Law and norms about use
- Social seclusion.

3. Individual Factors

- Lack of behavioral self-control
- Hyperactivity disorder

- Low self-esteem
- Poor social skills (aggressive, passive, etc)
- Language, and cognitive impairments
- School failure (low commitment to school)
- Antisocial behavior

4. Biological Factors

- **Heredity:** Although the exact reasons for substance misuse are unknown, psychological issues and coping mechanisms are major causal factors. Addiction to substances runs in families.
- **Genetics:** Genetics are estimated to contribute between 40-60% to the risk of developing an addiction.
- **Physiological Vulnerability:** Race-specific differences in metabolic variability can be attributed to genetic variations, including polymorphisms in liver enzymes.
- **Gender:** Males are more likely than females to develop substance use disorders because of biological, psychological and social factors.

5. Psychological Factors

- Past trauma, including physical, emotional, or sexual abuse
- People with low self-worth or negative self-image may use drugs or alcohol to feel better.
- Individuals with conditions like depression, anxiety etc turn to substances to self-medicate and alleviate symptoms.

6. Personality Traits

- Traits of the personality such extreme impulsivity, hostility, and sensation seeking.

Mental Health Disorders

- Mental health conditions like major depressive disorder, anxiety disorders, schizophrenia, attention deficit hyperactivity disorder (ADHD), and post-traumatic stress disorder (PTSD) can elevate the likelihood of substance abuse. Individuals with these disorders may use drugs or

alcohol as a way to cope with their symptoms or to alleviate emotional distress.

- Elevated the level of stress, inadequate coping mechanism.
- Curiosity
- Medical illness and other disorders.
- Low self esteem childhood trauma and loss.

Types of Drug Abuse

Any drug can be abused intentionally in the following ways:

- 1. Too Much:** Taking any drug in excessive amounts at one time or consuming small doses of a drug too frequently can result in life-threatening consequences. For example, an overdose of sleeping pills can depress the respiratory system, potentially leading to death. Similarly, other substances, like opioids or stimulants, when abused, can cause severe organ damage, respiratory failure, or cardiac arrest, and may ultimately result in fatality.
- 2. Too Long:** A drug is abused if it is used continuously over a long period.
E.g. Use of pain killers
- 3. Wrong Use:** A drug can be abused if it is used improperly or without the recommended dosage. For instance, using the antiepileptic medication phenobarbitone for purposes other than those recommended by a doctor.
- 4. Wrong Drug:** Certain medications, such as brown sugar, have no acceptable uses and a very high potential for harm.

Groups of Substance-Related Disorders

- Substance use disorders (addiction): Symptom patterns caused by the continued use of a substance, despite the fact that the person is having problems as a result.
- Substance induced disorders (intoxication and withdrawal): Substance use disorders are described along with other substance or medication induced mental diseases, including intoxication, withdrawal etc.

Commonly Abused Drugs

- Amphetamine, cocaine
- Cannabis
- Hallucinogen
- Inhalant
- Tobacco
- Opioids
- Sedatives, hypnotics and anxiolytics

1. **Amphetamine Dependence:** Amphetamine dependence refers to a psychological reliance on drugs within the amphetamine class. Unlike substances that cause physical withdrawal symptoms, stimulants like amphetamines and cocaine typically lead to neurological and psychological symptoms when use is stopped, rather than physical symptoms.

Clinical Features: Euphoria, Hypersexuality, Tachycardia, Diaphoresis, Reduced Cognitive function, Sweating, Trouble sleeping, Tremors, Ataxia, Diarrhea etc.

2. **Cannabis:** Cannabis refers to the psychoactive products derived from the plant *Cannabis sativa*. The principal active ingredient is tetrahydrocannabinol, commonly referred to as THC. Cannabis at low doses can produce both stimulant and depressant effects; however, with increasing doses, the depressant action becomes more prominent. Cannabis is available in different preparation.

Clinical Features

- Euphoria and disinhibition, anxiety or agitation, suspiciousness or paranoid ideation.
 - Temporal slowing, Auditory, Visual or tactile illusions, depersonalization and derealization.
 - Increased appetite and dry mouth, Conjunctival injection and tachycardia.
3. **Hallucinogens:** Hallucinogens, also known as psychedelics, are a class of drugs that alter perception, mood, and cognitive processes. They include both naturally occurring compounds and synthetic chemicals. Usually causing illusions or hallucinations, hallucinogens cause alteration in emotions, thoughts, and perceptions.

Clinical Features

- Dysfunctional behavior or perceptual abnormalities.
- Anxiety and fearfulness.
- Auditory, visual or tactile illusions or hallucinations.
- Depersonalization and derealization.
- Paranoid ideation and ideas of reference.
- Tachycardia and palpitations.
- Sweating and chills and tremor
- Blurring of vision, pupillary dilatation and in-coordination.

4. **Inhalant:** Solvents, often referred to as "inhalants" or "volatile substances," are products that emit vapors into the air. When these vapors are inhaled, they can produce a "high" or altered state of consciousness. The term "glue-sniffing" (or "huffing") is often used to describe the use of various inhalants. These substances are typically inhaled through the nose or mouth. This category includes gases like nitrous oxide, as well as highly volatile liquids or mixtures such as gasoline, paint, glues, aerosol propellants, and paint thinners.

Clinical Features

- Apathy and lethargy
- Liability of mood
- Impaired judgment
- Impaired attention and memory
- Psychomotor retardation
- Slurred speech, nystagmus
- Muscle weakness
- Blurred vision or diplopia
- Hypotension, Hypothermia and depression of the gag reflex

5. **Tobacco:** Tobacco is a plant cultivated for its leaves, which are dried and processed before being used in tobacco products. It contains nicotine, a substance known for its addictive properties.

Nicotine: Nicotine is a short-acting psychoactive drug found in tobacco that leads to addiction among smokers. The strength of addiction is said to be as

powerful as or more so than that of heroin. Nicotine is a poison. Swallowing one drop of pure nicotine can kill an adult.

Tar: When a cigarette is smoked, it produces tar, which is a primary contributor to lung and throat cancer in smokers.

Carbon Monoxide: Smokers often have elevated blood levels of carbon monoxide, which when combined with nicotine raises the risk of heart disease, artery hardening, and other circulatory issues.

Clinical Features: Insomnia, Bizarre dreams, lability mood, Derealization, Nausea or vomiting, Sweating, Tachycardia and cardiac arrhythmias.

6. **Opioids:** The term "opioids" refers to substances derived from the poppy plant (*Papaver somniferum*), as well as semi-synthetic and synthetic drugs that have similar effects. These compounds interact with opioid receptors in the brain. Opioids include morphine derivatives like heroin, as well as fully synthetic opioids such as pethidine and methadone. Prolonged use of opioids can lead to tolerance, meaning higher doses are required for the same effect, and may also lower the pain threshold, making even mild pain seem more intense.

Clinical Features: Drowsiness Nodding off", Analgesia, Euphoria, Tranquility (calmness), Orthostatic hypotension, Respiratory depression, Decreased level of consciousness.

Diagnosis of Drug Abuse

- **History:** To diagnose drug abuse, a thorough medical history is required. Information about risk factors for unhealthy substance use and how substance use affects a patient's role functioning can be found in their history.

During taking history, examine carefully a history of strained social and familial bonds, neglect of obligations at work or education (such as losing a job or receiving low grades). Inquire about any prior financial difficulties, violent conduct, child abuse, and sexual history (number of partners, sex habits etc.).

- **Physical Examination:** During physical examination, we examine for -
 - Poor personal hygiene

- Significant weight loss or weight gain
 - Signs of injection on skin
 - Signs of drug inhalation (Nasal atrophy and septum perforation)
 - Evidence of acute intoxication such as slurred speech, instability, atypical behavior, sweating, pinpoint pupils, watery eyes, tachycardia etc.
- **Examination of Mental State**
 - Behavior – Aroused, agitated, or sedated.
 - Voice – Slurred or pressured
 - Judgment – Altered
 - Appearance – Personal hygiene, clothes,
 - Mood – Euphoria, depressed mood
 - Perception: Hallucination
 - Insight: Poor insight
 - Thoughts: Delusions, Paranoia
 - Cognition: Amnesia, Disorientation, Decrease concentration span [1]

Alcohol Abuse: Alcohol, often known as ethanol or ethyl alcohol, is the psychoactive drug most frequently consumed globally. Alcoholism is a chronic condition characterized by inability to control drinking habits due to physical & mental (emotional) dependence on alcohol. Alcohol depresses the central nervous system and has an impact on behavior, emotions, motor skills, and thinking processes. The blood concentration of BAC is connected to these behavioral changes.

Definition of Alcohol Abuse: The American Psychological Association defines alcohol abuse as "a pattern of drinking that leads to significant and recurrent negative outcomes." Individuals who abuse alcohol may continue to have legal, relationship, or job-related problems caused by their drinking, but they continue drinking anyway.

Definitions of Alcoholism

Alcoholism is a state where a person is powerless to stop the drinking that seriously alters his normal living pattern.

—National Council on Alcoholism (USA)

Alcoholism is a physical condition associated with a mental possession. It is considered to be partly physical, partly psychological, partly sociological and partly caused by the effect of alcohol.

—**Alcoholics Anonymous**

Clinical Types of Alcohol Dependence

Jellineck's classification of alcohol dependence (based on pattern of use)

- **Alpha Alcoholism:** Excessive, inappropriate drinking without loss of control.
- **Beta Alcoholism:** Excessive and improper drinking, no evident physical or psychological dependence, and health consequences. There is gastritis and cirrhosis.
- **Gamma Alcoholism:** Tolerance for physical and psychological reliance, loss of control, and a progressive path.
- **Delta Alcoholism:** Symptoms of withdrawal from tolerance and inability to refrain minimal disruption to society occurs.
- **Epsilon Alcoholism:** Convention drinking, dipsomania, or mandatory drinking are types of intermittent drinking.

Dipsomania and mania a Potu (extreme excitement) are seen with alcohol dependence.

Clinical Features of Alcohol Dependence

Acute Alcohol Intoxication	Alcohol Withdrawal State
<ul style="list-style-type: none"> • Disinhibition, argumentativeness, aggression, and lability of mood. 	<ul style="list-style-type: none"> • Tremors of the hands, tongue, or eyelids and sweating
<ul style="list-style-type: none"> • Impaired attention, impaired judgment, and interference with personal functioning. 	<ul style="list-style-type: none"> • Nausea or vomiting.
<ul style="list-style-type: none"> • Unsteady gait, difficulty standing, slurred speech, nystagmus (repetitive, uncontrolled eye movements). 	<ul style="list-style-type: none"> • Tachycardia or hypertension and psychomotor agitation.
<ul style="list-style-type: none"> • Decreased level of consciousness(e.g. stupor, coma). 	<ul style="list-style-type: none"> • Headache, insomnia, malaise, or weakness.
<ul style="list-style-type: none"> • Flushed face and conjunctival injection. 	<ul style="list-style-type: none"> • Transient visual, tactile, or auditory hallucinations or illusions. Grand Mal convulsions

Complications of Alcohol Abuse

- Hepatitis (inflammation of the liver)
- Fatty liver, which fat is being built up in the liver
- Death of brain cells (can lead to brain disorder and lowered level of mental and physical function).
- Cirrhosis is a severe medical condition caused by liver damage.
- Pancreatitis (the inflammation of the pancreas, and can also cause nerve damage).
- Risk of liver cancer increased.

Treatment

Detoxification

- To help break your body's physical addiction to alcohol. Typically takes one week to complete and is done in hospitals. To prevent shaking, confusion, hallucination, convulsions.

Counseling

The counseling may form a very important part of alcohol addiction treatment. It will provide an opportunity for one to share his or her experience in a non-criticizing environment. Such groups allow the emotional needs of the person to be met, reduce feelings of isolation, and provide insights into how to cope better.

Medication

- Disulfiram, Acamprosate, Naltrexone

II. BEHAVIORAL TREATMENT

Behavioral treatments focus on modifying drinking habits through counseling techniques.

Self-careGroups

- Alcoholics Anonymous (AA) and other 12-step programs provide peer support for people quitting or cutting back on their drinking.

Marital and Family Counseling

- Having strong family support through family therapy improves the likelihood of sustaining abstinence from alcohol, compared to those receiving individual counseling.

Nursing Management

- Provide supportive care in a safe and caring atmosphere.
- Perform nursing assessments every four hours.
- Monitor withdrawal symptoms and adjust the care plan to meet needs.
- Adequate intake of food and fluid, allowing for increased appetite and hunger.
- Observe for depression and assess risk for suicide.
- Implement strategies to improve sleep, relaxation, and mood swings along with physical discomfort.
- Check vital signs daily. Monitor physical and emotional status regularly. Remain calm, empathetic, and supportive.
- Providing food and fluids to maintain nutritional status and fluid balance.

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