

Substance ^{Related} Use Disorders.

Substance Related disorders involves psychoactive substances that affect thought, emotions, and behaviour. Two categories of disorder are related to these substances: substance-use disorders and substance-induced disorders.

Substance use disorders

There are 2 subgroups, those related to substance dependence and those related to substance abuse.

① Substance dependence. - In this there is intense craving for the substance to which the person is addicted, and that person shows tolerance, withdrawal symptoms and compulsive drug-taking.

* Tolerance means that the person has to use more and more of a substance to get same effect.

* Withdrawal refers to physical symptoms that occur when a person stops or cut down on the use of a psychoactive substance.

* Compulsive substance use involves drug seeking behaviour - behaviour related to obtaining the substance.

① Substance Abuse refers to recurrent and significant adverse consequences related to use of substance

Substance Induced Disorders
Ingestion of different substance can lead to various behavioural, physiological & psychological symptoms. These symptoms are referred to as substance-induced disorders. In substance intoxication there are reversible substance-specific symptoms due to recent ingestion. Indications of substance intoxication include disturbances of perception, attention and thought.

Alcohol-Related Disorders

Ethanol alcohol is the chemical compound contained in various types of alcohol drinks - beer, wine and hard or distilled liquor. However, these types of beverages differ in the percentage of their total volume that is made up of alcohol.

Excessive Alcohol Use

Negative effects from the overuse of alcohol are a serious problem. 12% of Americans are heavy drinkers. Level of alcohol use is related to ethnic

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cultural factors and acculturations
Physiological dependence on alcohol is
measured by tolerance and withdrawal
symptoms. Alcohol abuse is measured by
behavioural indications like poor job
performance and interpersonal relations.
Alcohol intoxication refers to clinically
significant behavioural and psychological
changes. Alcohol is associated with a
high rate of other diagnosable disorders.

Theories and treatment

Alcohol related disorders have multiple
causes, and there are a number of
theories concerning known and possible
determinants.

Ingestion of alcohol first induces anxiety
and then has a depressant effect on
the body. The first step in treatment
is detoxification. People may vary greatly
in their sensitivity to the effect of alcohol.
Women may be more sensitive to alcohol
than men. The biological perspective
views alcoholism as a result of the
operation of metabolic, genetic and
neural processes.

Biological Approach.

After first drink the average person
experiences a lessening of anxiety.

As more alcohol is consumed, the
depressant action of alcohol affects brain

functions. The individual staggers, and his or her mood becomes markedly unstable.

EM Jellinek, often referred to as the father of the modern study of alcoholism, believed that alcoholism is a permanent and irreversible condition and that alcoholics are essentially different from nonalcoholics. He contended, especially, that alcoholics have an irresistible physical craving for alcohol. Satisfaction of this craving leads to loss of control as a result of increasing physical dependence. Alcoholics feel compelled to continue drinking after ingesting even a small amount of alcohol. Jellinek believed that the only way alcoholics could return to normal life was through complete abstinence.

Metabolism of alcohol.
Individual sensitivity to the effects of alcohol varies greatly. As noted earlier, some people can remain conscious after drinking a quantity of alcohol that would cause others to pass out, become comatose, or even die. Others are so sensitive

to alcohol that just one or two drinks can produce acute discomfort accompanied by obvious physiological changes. These individual variations are probably due to differences in the ability to metabolize alcohol or to innate differences in the central nervous system's sensitivity to alcohol.

Women appears to be more vulnerable than men to some of the adverse consequences of alcohol use. When compared to men, women have much less of a specific stomach enzyme that neutralizes and break downs alcohol. As a result, when a women and a men drink the same amount proportionately for their size and weight, about 30% more alcohol enters women's body blood stream. In addition women's body contain less water than men of similar body weight, and this results in higher concentration of alcohol in the blood. When women and men drink at the same rate, women are at higher risks for certain medical consequences of alcohol abuse, including liver, brain and heart damage.

Genetic Factors

A comparison of people of different races may shed light on the genetic component of difference in alcohol metabolism. There is evidence of a high prevalence of sensitivity to alcohol among people of Asian descent. Signs of sensitivity - rapid facial flushing, elevated skin temperature, and increased pulse rate - after consuming moderate amounts of alcohol appear to be common among these groups but are seen in only 5% of Caucasians. These differences are based on genetic variations in the enzymes involved in alcohol metabolism. It has demonstrated many times that the alcoholism runs in families. For eg. Some of alcoholics are about four times more likely to be alcoholic than are some of non-alcoholics and adoption studies show that this is the true even when children have no further exposure to their biological parents after the first few weeks of life. Furthermore, ~~the~~ concordance rate for alcoholism in monozygotic twins are much higher in dizygotic twins.

The brain and Nervous System
Alcohol affects every system of the body, but its greatest, most immediate and most visible effects are on the central nervous system. All the complex features of an individual's thoughts, emotions, and actions are based on chemical and electrical processes that occur in billions of nerve cells at any instant. Alcohol ~~can~~ could interfere with ~~the~~ numerous processes involved in nerve cell function and if there is inherited variation in these processes it could result in either neurochemical vulnerability or resistance to alcoholism.

Biological treatment

In the past decade research into the pharmacological treatment of alcoholism has become increasingly active.

Several drugs have been developed ~~increasingly~~ for the treatment of alcohol dependence, which are used in the management of withdrawal symptoms the treatment of certain psychological problems (eg. anxiety) in heavy drinkers and in other aspects of rehabilitation.

One useful drug is naltrexone, which was originally developed for the treatment of opiate addiction. Disulfiram alters the body's response to alcohol by causing extreme and sometimes violent discomfort when a person ~~drinks~~ ^{consumes} alcohol within 12 hours after taking it.

Psychodynamic Treatment
Psychodynamic / psychoanalytic

Cognitive - Behavioural Treatment

Aversive Conditioning

Covert sensitization

Controlled drinking approach

Relapse Prevention Programme

Absstinence violation effect.

Evaluating Treatment approach

Alcoholics Anonymous.

OTHER DRUGS

Strictly speaking, alcohol is a drug - it is a chemical substance that leads to physiological and psychological changes when ingested. In addition to alcohol, psychoactive drugs may be classified into several groups: barbiturates, and tranquilizers, the opioids, cocaine, amphetamines, hallucinogens, phencyclidine (PCP), inhalants, marijuana and nicotine.

Barbiturates and tranquilizers:

These 2 are grouped together because they both have a depressant effect on the central nervous system.

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Both groups of drugs are specially dangerous in combination with alcohol. Both types of drugs reduce anxiety and insomnia and affect a wide range of body bodily functions.

Barbiturates are prescribed by ~~pe~~ physicians for relief of anxiety or to prevent convulsions.

→ Mild dose - effective as sleeping pills, although may cause sleeping disorder if used over a long period.

→ Higher dose - taken by addicted person - trigger an initial period of excitement followed by slurred speech, loss of coordination, severe depression, an impairment of thinking and memory.

3 types of barbiturates

Chronic intoxication - in which people obtain prescriptions, often more than one physician. Initially they seek barbiturates to reduce insomnia and anxiety and they may become addicted to the drugs. Chronic leads to slurred speech and decreased effectiveness on the job.

Episodic intoxication in which individuals take barbiturates orally to produce a "high" or state of well being.

Intravenous injections in which drug is injected, often in combination with other drugs (such as heroin). Intravenous use does produce a "rush" of pleasant warm, drowsy feeling. Many complications are associated with prolonged use of the drugs in this manner.

The Opioids

Opioids is the term used to describe all drugs with morphine like effects that binds to the opioids receptors in the brain. Some opioids occur naturally, and some are chemically synthesized (Opioids are sometimes called narcotics, but this term does not have same meaning to law officers, physicians, scientists and the public).

Natural opioids includes endorphins, enkephalines and dynorphins, all of which are manufactured by the brain and pituitary gland.

Opiates are members of the opioids groups that are derived from the juices of the opium poppy - for eg - morphine and heroin.

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Opioids cause mood changes, sleepiness, mental clouding, constipation and slowing of the activity of the respiratory center in the brain.

The withdrawal reaction from opioids can be severe like muscles ache, sweating, diarrhea, yawning, fever, insomnia, Nausea and vomiting etc.

There are 2 compelling views of opioid addiction. According to exposure orientation theory, the cause of addiction is simply exposure to opioids. When a person experiences stress, endorphines are secreted and produce a stress-induced analgesia (increased tolerance of pain).

An addict may continue to use opioids because drug use has broken down the body's normal pain-relief system.

— According to the interactional orientation, both the person and the situation are important factors in the development of addiction: people's characteristics (their expectations, worries etc) and situations they face in life, particularly those that create stress, jointly influence their need for the reactions to drugs.

Treatment

The first step in treatment for opioid dependence consists of detoxification in a hospital, with removal of the drug from the body by metabolism, while withdrawal symptoms are also being treated.

Methadone maintenance is the most widely used treatment for opioid addicts. Methadone is a synthetic substance that blocks the effects of heroin. It was originally synthesized in Germany at the end of world war II, when morphine supplies were not readily available. It can be taken orally, prevents or withdraws symptoms for 24 hours and prevents or decreases the euphoric effects or rushes that occur if heroin is taken while the methadone is active. Its withdrawal effects are also less intense (though somewhat more prolonged) than those of heroin, and their appearance is delayed.

Methadone can allow a heroin dependent person to function in society because the craving of heroin is relieved.

Cocaine

Cocaine, a drug from leaves of the coca bush stimulates the central nervous system and increase heart rate, raise blood pressure and temperature and decrease appetite. It can produce feeling of euphoria, but in larger dose can produce a manic state, paranoia, and impaired judgement.

Crack is a more potent form of cocaine that is highly addictive. It differs from other forms of cocaine primarily because it is easily vaporised and inhaled and thus its effects have an extremely rapid onset. Adolescents prefer this because of low prices.

Many cocaine users have joined mutual-help groups such as Cocaine Anonymous or Narcotics Anonymous. These programs are more or less the same approach developed by Alcoholics Anonymous.

Inhalants are volatile substances or organic solvents (such as gasoline or spray paints) that can be used to produce changes in perception. This recurrent use may cause withdrawal from social, occupational and recreational activities. Inhalants are commonly used by young people because of their accessibility.

Tolerance and withdrawal symptoms occur when inhalants cause dependence.

Nicotine

It is a chemical found in tobacco acts at least in part by directly stimulating certain receptors that are sensitive to the neurotransmitter acetyl-choline. Normal doses of nicotine can ↑ heart rate & blood pressure, the drug ↑ the heart's need for oxygen and may cause chest pains or a heart attack in people with atherosclerosis.

Despite their knowledge that smoking is hazardous to health, many people find the habit of smoking difficult to give up. Cognitive research has identified 3 stages of change relevant to smoking cessation.

These are: commitment to change, implementation of change, maintenance of change with emphasis on relapse prevention.

When used along with the counselling program, nicotine gum and transdermal nicotine patches can be helpful in reducing tobacco use.

Caffeine.

Caffeine can be addictive. It has mind altering properties and in high dose can cause anxiety and nervousness. Tolerance and withdrawal symptoms also can occur. Symptoms of caffeine intoxication include excitement, insomnia, restlessness, nervousness, and high heart rate.