

ALCOHOLISM

Alcohol - ethyl alcohol (C₂H₅OH), volatile, flammable, colorless liquid having penetrating odor and burning taste. Formed by distillation of fermented grains, fruit juices, sugars and starch with the help of yeast enzymes.

Types of Alcoholic Beverages : Grouped into 2 categories: **undistilled and distilled**. Undistilled alcoholic beverages are produced by simple fermentation of raw materials eg: liqueurs and wine. Distilled alcoholic beverages (spirit) are distilled after fermentation to raise their strength (alcoholic content ranges from 40 to 50%). Eg: brandy, whisky.

Addiction - Addiction to alcohol is called **alcoholism**. Alcoholics are found in all sections of the society. The drinkers begin with small doses, but soon the dose increases finally becoming addicts. Alteration in the chemistry of brain, with regular intake of alcohol, causes the body to crave for alcohol for the pleasurable feeling which is reason for alcohol addiction. Gamma-amino butyric acid controls impulsive actions of our body, but under the influence of alcohol that function is decreased.

Effects of Alcohol Consumption - Alcohol affects not only the individual, but also the family a society as a whole.

Effect on Individual - Effects of alcohol on various body organs are mentioned below:

Cardiovascular System: Even though certain studies suggest that alcohol consumption improves health of the cardiovascular system, excessive alcohol consumption leads to an increased risk of **heart failure**. There is an increased risk of **hypertension and stroke** among alcoholics.

Nervous system: Heavy alcohol consumption impairs normal **brain development** and causes brain shrinkage. Chronic excessive alcohol intake is also associated with a range of **neuropsychiatric complications** and **cognitive disorders**. Chronic consumption of alcohol may result in increased plasma levels of the toxic amino acid homocysteine, which may be the cause of alcohol withdrawal seizures. Heavy drinking is also associated with **strokes** and widespread brain lesions. Excessive alcohol intake is associated with impaired prospective **memory**.

Gastrointestinal Tract: A small dose of low concentration of alcohol stimulates secretion of gastric juice. But, a large dose of high concentration of alcohol causes **gastritis** (painful inflammation of gastric lining). Alcohol **damage the alimentary canal lining**, it causes malabsorption in the intestine, leading to **diarrhea**. Chronic heavy drinking causes **violent vomiting** which may lacerate lower end of the oesophagus, resulting in bleeding. This is called **Mallory-Weiss Syndrome**.

Liver and pancreas: **Liver suffers most** from alcohol consumption. Liver also synthesizes fat from alcohol. Finally, the liver changes from an important centre of carbohydrates, fats and protein metabolism to a mere storehouse of fat. This causes **fatty liver syndrome**. Then the liver

gradually hardens and dries up as its cells are replaced by fibrous tissues. This kind of liver degeneration is called **cirrhosis**. Use of alcohol causes painful inflammation of pancreas called **pancreatitis**. This may lead to lack of pancreatic juices with or without diabetes.

Lungs: Alcoholics have a higher risk of developing **acute respiratory distress syndrome (ARDS)** and experience higher rates of mortality from ARDS when compared to non-alcoholics.

Sexual dysfunction: Long term excessive intake of alcohol can lead to damage to the central nervous system and the peripheral nervous system resulting in **loss of sexual desire and impotency** in men.

Hormonal Imbalance: Alcohol beverages contain estrogen like compounds, which result in **hyperoestrogenisation**. In men, high levels of estrogen can lead to testicular failure and development of feminine traits including development of male breasts, called **gynecomastia**. In women, increased levels of estrogen due to excessive alcohol intake have been related to an increased risk of **breast cancer**.

Higher Risk of Cancer: Heavy drinking increases the risk of cancer of mouth, pharynx and larynx, oesophagus, colon and rectum.

Effect on Mental Health: Alcohol has an anaesthetic effect on the nervous system mainly Cerebrum. Person loses **judgement, will power and self control**. The person have a feeling of great joy or sadness and weep. Inhibition disappears and moral sense is lost, leading to anti-social behaviour. Alcoholics have a very **high suicide rate, depression, anxiety and panic disorder**.

Effect on Foetus: Babies of alcoholic mothers are often unhealthy and underweight and may even be abnormal. This is called **Foetal Alcohol syndrome (FAS)**. The latter is characterized by facial abnormalities, limb defect, defective heart and mental retardation.

Effect on the Family

- Alcoholism creates all sorts of **domestic problems**, including quarrels.
- **Anxiety, frustration, and insecurity** among children which makes them antisocial.
- Alcoholics often absent themselves from work due to drinking and may lose job. This reduces the family income. Alcoholics are often in debt which leads to antisocial activities such as corruption and crime.
- Family members of alcoholics often suffer from malnutrition and disease associated with it.

Effect on Society

Corrupt practices, violence in the society are often directly or indirectly due to drinking.

Alcohol de-addiction/Rehabilitation Programme

- * Dealcoholism - Deaddiction of alcoholism or withdrawal symptoms of alcohol
- * Done in a way that is safe for the patient
- * Greatly aided by socio-behavioural counselling
- * Step by step process that requires the support of a doctor, family members and friends

Detoxification: Detoxification is the process of allowing the body to get rid itself of a drug while managing the symptoms of withdrawal. Type of treatment required is initiated with a general check up. The patient is recommended adequate nutrition and rest. The symptoms of alcohol withdrawal vary from person to person.

Education: Being the core component it aims in changing the attitude about drug and alcohol use. Education programme tries to break through the denial and make the person more committed.

Counselling and Group Therapy: The patients receive individual counselling with a trained counsellor as well as participate in group therapy meetings with other addicts and non-addicts.

Family Meetings: Research has shown that including family and friends in the educational process significantly improves the outcome of the rehabilitation programme.

Aftercare Programme: Helps the individual to adjust with the real world outside the rehabilitation facility. Aftercare plan may include intensive outpatient treatment, weekly counseling

TOBACCO ADDICTION AND DEADDICTION

Tobacco is an agricultural product obtained by the processing of leaves of plant belonging to genus *Nicotiana*. *Nicotiana tabacum*, *Nicotiana rustica* are the commonly grown species of tobacco.

Nicotine, a poisonous alkaloid, is the main stimulating component, which causes addiction.

Modes of using Tobacco

Tobacco is used for smoking, chewing and snuffing. Inhaling tobacco smoke from cigars, cigarettes, beedies, is called smoking. Beedies, Cigars, hookahs are few products which contains the particular chemical. Inhaling powdered tobacco via nose is termed snuffing. Powdered tobacco is also chewed with pan and flavoured pan masala.

Chemicals in Tobacco Smoke

Tobacco smoke is composed mainstream smoke and side-stream smoke. Breathing someone else's cigarette smoke is called passive smoking.

- * Benzpyrene - one of the most potent carcinogens in tobacco smoke.
- * Benzene - carcinogen associated with leukaemia
- * Formaldehyde - cause cancer, respiratory, skin and gastrointestinal problems.
- * Acetone - Fragrant volatile liquid ketone, used as a solvent
- * Tar: - stimulate a series of changes that may lead to lung cancer.
- * Nicotine - chemical which causes addiction.
- * Carbon monoxide - reduces the oxygen binding capacity of haemoglobin.

Action of Nicotine

Nicotine is absorbed very readily by the blood and travels to the brain within a few seconds. It stimulates the nervous system to cause vasoconstriction. It also cause the release adrenaline from adrenal gland due to which heart rate and blood pressure increase. Nicotine also increases the stickiness of the blood platelets and so increases the risk blood clotting. Nicotine stimulates increased dopamine release in smokers which is associated with the characteristic pleasure, easing tension and causing addiction.

Effects of using Tobacco

Smoking causes health injuries not only to himself but also to the non-smokers around him. Tobacco use leads most commonly to diseases affecting the heart and lungs. Also smoking

causes severe diseases including cancer, pulmonary diseases, cardiovascular diseases, gastrointestinal diseases, impotency and several psychological effect.

Tobacco Addiction

Addiction is characterized by compulsive drug seeking and abuse and tobacco addiction is one of the leading causes of death worldwide. Most smokers use tobacco regularly because they are addicted to nicotine. Nicotine as well as monoamine oxidase (MAO) causes addiction.

Tobacco Deaddiction

Deaddiction process should be undertaken with much care and with the support of the medical professional or counselors to avoid nicotine withdrawal symptoms like irritability, craving, depression, anxiety, cognitive and attention deficits, sleep disturbances, and increased appetite.

The following measures may help in giving up use of tobacco.

- a) Motivation: Educate people about the dangers of tobacco. Large number of people have stopped using tobacco after understanding the ill-effects of this habit.
- b) Substitutes: Urge to smoke/use tobacco may be substituted by reading, conversation, playing games, eating something etc.
- c) Exercise: Regular exercise reduces anxiety and stress, builds up confidence and self esteem, whips up entire metabolism which results in good health.
- d) Tobacco Cessation Clinic: It is an initiative by the World Health Organization (WHO) and the Ministry of Health of India. The services offered at the clinic include individual intervention in the form of behavioural counselling, medication, and nicotine replacement therapy (NRT). NRTs are used in conjunction with behavioural support to relieve withdrawal symptoms.

Counseling

Counseling is the backbone of every de-addiction centre. Three ways of counseling are

- Individual counselling: After preliminary check-up medical officer gives treatment to the addicts. Then he is monitored by the counselor which help the addict to quit the addiction.
- Group counselling: When addicts come in a group of 3-4 persons, group is formed by mixing them with non-addicts or ex-addicts. The ill effects of tobacco are explained to them and group discussions were made.
- Family Counselling: The counsellor and community worker may visit houses and organise family counselling sessions.