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Drug, Its Various Forms, Abuse, ILL Effects and Remedial Measures

Abstract

Drug abuse is a serious public health problem that affects every community and family. Millions of serious illness or injuries all over the world are caused due to drug abuse every year. Abused drugs include Methamphetamines, Anabolic steroids, cocaine, Heroin, Inhalants, club drugs, Marijuana, Prescription drugs including opoids. Many major social problems such as drugged driving, violence, stress and child abuse are also caused by drug abuse. It may lead to homelessness, crime and missed work or problems with keeping a job. Unborn babies are harmed; even families are destroyed by it. Although there are different modes of treatments for drug abuse, the best one is to prevent drug abuse. A review of different categories of drug with their respective immediate and long-term effects in human body and mind has been made in the present endeavour. Research on drug abuse prevention provides evidence that more and more cordial and collective efforts are essentially needed from all corners to result in vigour for program effectiveness against drug abuses.

Keywords: Drug, Abuse, Substance Abuse, Symptoms, Narcotics, Depressant, Stimulant, Hallucinogen.

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Introduction

We are passing through such as age when prevalence of the social evil of drug addiction has become a black spot in our society. It has been killing thousands of people across the world each year. It is true that drug addiction does not kill all the patients but those who survive with it are living a life worst than hell. Younger generations who can not cope with presures and social demands are becoming victims of this evil practice. Even people of all age groups and all levels of society are major affected by it.

Some evidences suggest that there is an increasing use of illicit drugs and reported number point to over 3 million drug addicts in India. However, the World Health Organisation notes that there is significant difficulty in estimating drug usage and addiction rates in the country due to poor bureaucratic processes and census repoerting. It is also alarming to note that India records about 10 suicides per million due to drug or alcohal addiction. According to the National Crime Records Bureau, the states of Maharashtra, Madhya Pradesh, Tamil Nadu and Kerala are at the top of the table of drug related suicides. The data as shown by the National Crime Records Bureau indicate that there were 3647 such suicide cases in India in 2014, of which Maharashtra reported the highest at 1372, followed by Tamil Nadu with 552 cases, Kerala with 475 cases and Punjan with 38 such cases. The national average is three suicides per million of the population per year.

HIV is also a significant issue of drug addicts in India over 2.4 million people being infected. This places India as the third highest country in terms of rate of infection in the world. The injecting drug users make up nearly 10 percent of the affected groups. Some HIV positive people hide their status due to fears and anxieties about being denied medical care housing or job and this place others at risk. The increasing rate of HIV that spread throughout all the communities of India alarmed the Government who began on a policy of harm reduction which included needle exchange programs and maintenance therapy.

Definition and Mode of Action

Drugs are the chemicals and different drugs because of their chemical structures can affect the body in different ways. According to the WHO (World Health Organisation) the drug can be defined as “A drug is any chemical substance which when taken into the body affects the natural way of person’s body and mind work. Drugs can be natural substance or can be made artificially.” A drug in small amount acts as stimulant (speeds

one up), A greater amount acts as a sedative (slows one down), A even larger amount poisons and can kill.

Depending on the drug, it can enter the human body in a number of ways including injection, inhalation and ingestion. The method of how it enters the body impacts on how the drug affects the person. For example, injection takes the drug directly into the blood stream providing more immediate effects, while ingestion requires the drug to pass through the digestive system, delaying effects. Most abused drugs directly or indirectly target the brain's reward system by flooding the circuit with dopamine. Dopamine is a neurotransmitter present in the regions of the brain that regulate movement, emotion, cognition, motivation and feelings of pleasure. When drugs enter the brain they can actually change how the brain performs the job. These changes are what lead to compulsive drug use, the hallmark of addiction.

Most of the information about how drugs make a person feel, come from self reports of licit and illicit users of drugs. The data about how drugs affect body and how drugs work in the brain comes from well controlled experimental studies using non human animals.

Concepts of Misuse and Abuse of Drug Misuse

Misuse of drug generally refers to the deviation from instructions of doctor for prescription drugs. For example, taking more or fewer fills per dose or day, not using the drug the full time course as prescribed (e.g. antibiotics), using the drug past the expiration dates, using the drug with other drugs (e.g. alcohal wtih barbiturates) or sharing prescriptions with others without doctor's permission. Although most of these acts may not seem very serious, they can lead to very dangerous, every deadly consequences.

Abuse

It refers to use of a psychoactive substance to the extent that it produces some sort of physical, cognitive, behavioral or social impairment. However, the public often thinks of drug abuse as specific to illicit drugs like methamphetamine, cocaine, heroin and LSD (Lysergic acid diethylamide), even though alcohal, for example, is a licit drug that people can abuse.

Drug Tolerance, Dependance, Withdrawal and Addiction

Tolerance

It is the need to take increasing doses of a drug in order to achieve the same effects as previously achieved with lower doses.

Types

Metabolic Tolerance

It occurs when the repeated administrations of the drug made itno the body then latter produces more and more metabolic enzymes, thereby speeding up the rate of metabolism of that drug.

Cellular Tolerance

It is the reduced sensivity of the receptors in the Brain to the drug because of continuous or repetitive presence of the drug. The result is the need for more drug in order to get the same level of effect in the brain.

Behavioral Tolerance

It involves learning. It can be observed in the presence of conditioned drug taking cues and be absent in novel environments or situations.

The drug serves as the unconditioned stimulus and the drug effect as an unconditioned Response. Drug administering paraphernalia (e.g. white uniform, syringe and needle etc.) and a specific location (e.e. doctor's office, night club etc.) where drug is administered can serve as unconditioned stimuli, when paired with the drug (unconditioned stimulus) come to elicit conditioned responses that are similar to unconditional response.

Dependance

It exists when a person must continue taking a drug to function normally and avoid the symptoms of withdrawal (physiological changes associated with the cessation of the drug). Physical dependance signifies that the body has adjusted physiologically to the repeated or continued presence of the drug. When a person stops using a drug his body goes through 'withdrawal' a group of physical and mental symptoms grow. Many people who take a prescription medicine every day over a long period of time can become dependent. When they go off the drug they need to do it gradually to avoid withdrawal discomfort.

But people who are dependent on a drug or medicine are n't necessarily addicted.

Withdrawal

It is a series of symptoms that may appear when a drug on which a user is physically dependent is topped or significantly reducecd. The withdrawal symptoms vary depending on a range of factors including the drug type and tend to be opposite to the effects produced by the drug. When the body has become accustomed to the drug for normal function and use is ceased the body will try to counterbalance for the change producing withdrawal symptoms.

Addiction

Under tolerance and dependence, addiction is a disease. But like tolerance addiction can result from taking drugs or alcohal repeatedly. If a person keeps using a drug and can't stop despite negative conequences from using the drug they have an addiction. This is also called a severe substance use disorder (SUD). A person can also be dependent on a drug or have a high tolerance to it without being addicted to it.

Categories of Drug

Depressants

These have the effect of dampening down depressing the central Nervous System. Following are the types of substances

a) Sedane Hypnotics – Alcohols
b) Benzodiazepines – Diazepam, Nitrazepam
c) The Barbiturates – Amylobarbitone, Butabarbitone
d) Non-Barbiturate – Methaqualone, Glutethimide, Glutethimide etc.
e) Opiate Analgesics – opium, Heroin, Brownsugar
f) Non-opiate Analgtesics – Aspirin, Paracetamol

g) General Anaesthetic – Ether, nitrous oxide, Cannabis (in low doses)

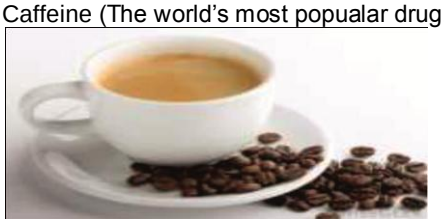
The most commonly abused depresants are alcohals, antipyretic (Temperature reducing) analgesics and tranquillisers.

Stimulants

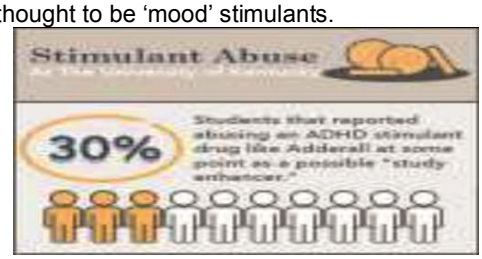
These have the effect of stimulating the Central Nervous System (CNS).

Types of substances included–

1. Nicotine
2. Amphetamines and related drugs like Dexamphetamine, Methamphetamine, Methylphenidate,
3. Cocaine
4. Caffeine (The world's most popualar drug.)



It may be noted that Nicotine (in tobacco) has both stimulant and depressant effect on the nervous system, Amphetamines are drugs related to those chemicals found naturally in the brain. These are thought to be 'mood' stimulants.



Hallucinogens

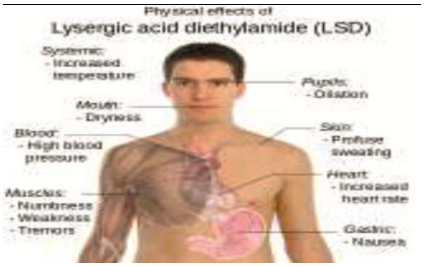
These have the effect of distorting our perceptions.

Substances Included

LSD (Lysergic Acid Derivatives), DMT, Psilocybin, Psilocin, Bufotemine, Mescaline, cannabis (in high doses), Dirtan etc.

These are often called as Psychedelic (Mind - manifesting), Psychotdmimetic (Psychosis – imitating) drugs. They are capable of serious alterations of perception and thought processes.

Drug Separation:-



Illegal

Heroin, Cannabis cocaine, Brown sugar etc.

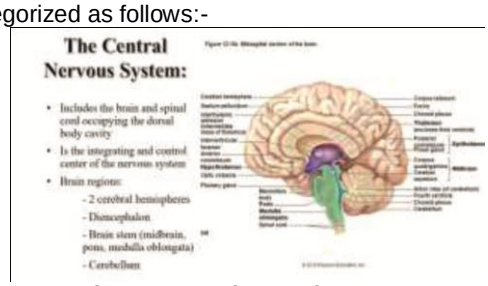
Legal

Tobacco, Alcohol, Betel Nut, Aerosols etc.

Medicines

Aspirin, valium, cough syrup, Serapax etc.

On the basis of physiological and pharmacological activities drugs may also be categorized as follows:-



1. Drugs acting on CNS (Central Nervous System)

a) Drugs affecting mental activity

Lysergic Acid and Diethylamide

Hallucinogenic drug prepared by partial synthesis from the ergot alkaloids or by artificial culture.

Mescaline

Hallucinogenic drug obtained from Peyote Cactus.

Cannabis

Hallucinogenic active constituents obtained from the resin of cannabis sativa.

Purine bases

Constituents of beverages – (e.g. caffeine, theonine) - coffee, tea, coco cola stimulating mental activity.

Cocaine

Stimulant obtained from Erythroxylon Coca (One of the earliest drugs)

Reserpine

Drug obtained from Rauwolfia Spp. Depressing mental activity and used in Psychiatric treatment.

b) Analeptic Drugs

These act stimulants on the Central Nervous System in addition to mental stimulant e.g.

Lobeline

Obtained from Lobelia inflata

Strychnine

Obtained from Strychnos Spp.

Camphor

Obtained from cinnamommum camphora

c) Central depressants of motor function Tropane alkaloids like Atropine, Lyoscine etc.

d) Analgesic and Antipyretic drugs.

Narcotics or Addicting Analgesics

These drugs relieve pain. They have also antipyretic, antiinflammatory and antirheumatic properties, e.g. Salicylates, paraaminophenol derivatives, Pyrazolon derivatives.

Narcotic Analgesics

E.g. Morphine (Principal alkaloid of opium)

Effective for relief of severe pain, depressant action.

Codeine (Methyl Morphine)

Less active than morphine. It is much safer drug for the relief of pain and for the use as cough suppressant.

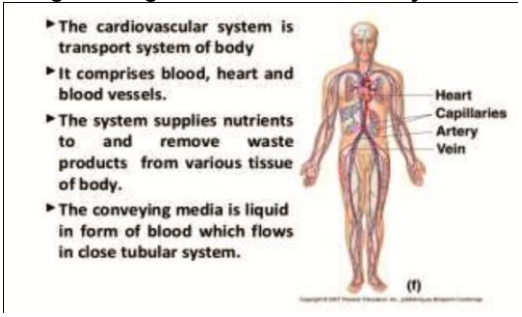
Anti Epileptic Drugs

These drugs are effective for the patients of epilepsy having the symptoms of losing speech, fixing of teeth, contraction of hands, distortion of eyes, issuing of foam from the mouth, e.g. Bromides, Phenobarbital etc.

Anaesthetics Groups

1. Administered through intravenous route.
2. Administered by inhalation e.g. volatile gas or liquid, nonpolar agents.

2. Drugs Acting On Cardio Vascular System



1. Cardio glycosides e.g. Digitalis, Stropanthus seed
2. Antirrhythmic drug (valuable for resetting normal cardial rythm) e.g. Quinidine (from cinchona bark)
3. Antianginal or vasodilator drugs (Increase the blood flow to the deprived (oxygen) tissue] e.g. Nitrites.

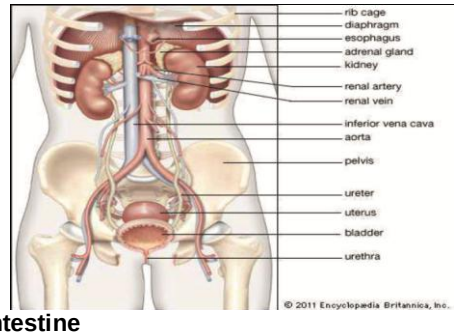
3. Drugs Acting on Blood Vessels

1. Peripheral vasoconstrictor drugs. e.g. Ergotamine (claviceps purpurea), Ephedrine (Ephedra sp.)
2. Central vasoconstrictor drugs – Increase the blood flow to the deprived tissue.
3. Vasodilator drugs – e.g. Papavarine (opium), Xanthine derivatives (Caffeine, theobromine, theophyline), Reserpine, veratrum alkaloids.

4. Drugs Acting on Gastrointestinal and Renal System

On Stomach

1. Carminatives (Relieve gastric troubles)
2. e.g. Peppermint, Camphor, Cinnamom
3. Emetics (Stimulate vomiting eentre)
4. e.g. Picrastin
5. Antiemetics (control nausea ie. vomiting tendency) e.g. phenothiazone compounds.
6. Digestants e.g. Pep; sin, Hcl, bile salts etc.
7. Gastric antacids e.g. Aluminium hydroxide, Magnesium carbonate.



On Intestine

1. Cathartics (Promotes faecal passage) These may be stimulant cathartics – like emodines, Senna (from casia sp etc. osmotic – like Magnesium sulphate, Bulk C – like Bran fibre and Lubricants – like Liqid paraffin.
2. Chelating agents –e.g. cholestyramine, an insoluble onion resin having strong affinity for complexing cholates (Bile salts) – thus useful in chronic cholestatic jaundice.
3. Antidiarrhoea agents – These may have Sedative activities e.g. opiates or Demulscent activities e.g. Bismuth, calcium & Magnesium salts relieving irritation of mucuous membrane.

On Renal System

Diuretics

These increase urine formation and rid the body of excess sodium e.g. Mannitol urea.

5. Drugs acting on Hematopoetic System

i) For Anaemia – e.g. Iron, Vitamin B12, Folic Acid

ii) Anticoagulants – e.g. Heparin.

6. Drugs/Hormones modifying Endocrine Activity

1. Pituitary hormones – ACTH, TSH, Gonadotropin (LH, FSH), Somatotropin, Prolectin, Vasopressin.
2. Adrenal cortex hormones – Glucosteroid (cortisol)
3. Thyroid hormones – Thyroxine.
4. Gonadal hormones – Oestrogens, Progesterone (Used in making contraceptive and for treatment of uterine bleeding)
5. Insulin (From Pancereas) — Used as an antidiabetic agent.
6. Parathyroid hormones – These drugs are used in hypothyroidism maintaining calcium ion (Ca^{++} - ion) level in Blood Plasma.
7. Histamines and Antihistimines – Biogenic amines related to many physiological activities.
8. Serotonin – These are present in the brain and intestinal argentattin cells, the platelets of blood.

These act on cardiovascular System, alimentary system and respiratory system. It is true that there potential dangers in each category of drug. Drugs cause one in every five deaths among 'all ages'. People who live with substance dependence have a higher risk of all bad outcomes including unintentional accidents, risk of domestic violence, medical problems and death. The impact of drug abuse and dependence can be far reaching, affecting almoset every organ in the human body weakening the immune system, increasing susceptibility to infections and also affecting different systems of the body as already pointed out.

Following are the immediate and long-term effects of some commonly used drugs which should be made aware of to every drug-user to keep himself away from the drugs :–

1. Alcohal

Immediate Effects

Relaxation, Slow reaction, Blurred vision, slurred speech, unclear judgement, vomiting, uncoordinated movements, unconsciousness, hangover i.e. headache, nausea (vomiting tendency), shakiness due to dehydration.

Long Term Effects

Poor diet, memory loss, confused thinking, Depression, Skin problems, Liver damage, poor work performance, Brain damage, Stomach inflammations, Heart and Blood disorder, neurological complications, Pancreatic problems, damage to reproductive organs, relationship problem even legal problems.

Tolerance and dependence to Alcohal

Tolerance of alcohal means that a person needs increasing quantities of it to achieve the same effects as they did before with the smaller amount.

Dependence on alcohal means that alcohal become central to a person's thoughts, emotions and activities. Wlithdrawal symptoms may be mentioned in this regard as anxiety, sweating, tremor, vomiting, convulsion, hallulcinations. The matter of tolerance and dependence is applicable to other drugs also.

2. Tobacco (Having Stimulant Activities)

Dried leaves of tobacco plant (Nicotiana Tabacum) used in the forms of cigarettes, Pipes, chewing tobacco as mood altering substance.

Immediate Effects

Increased pulse rate, Temporary rise in blood pressure, Acid in stomach, weaker appetite, less urine formation by Kidneys, decreased blood flow to body extremities like finger end toes, Dizziness, watery eyes.

Long Term Effects

Shortness of breath, coughing, Increased risk of respiratory infections e.g. colds, Pneumonia, Chronic bronchitis, increased risk of emphysema (a chronic progressive lung disease), increased risk of heart attack and coronary heart disease, increased risk fo cancer of lungs, mouth, larynx, pharynx, vesophagus, kidney, pancreas, Increased risk of stomach ulcer, speeding up some physical signs of ageing such as dry skin and wrinkles.

[That every letter of the word 'CIGARETTE' indicates a single disease as may be mentioned in this context :- C – Cancer, I – Ischaemic heart disease, G – Gastric Ulcer, A – Atheroxlerotia, R – Respiratory trouble, E– Emphysema, T– Tuberculosis, T–Thromboembolic disease, E– Eye disease (Even Blindness also]

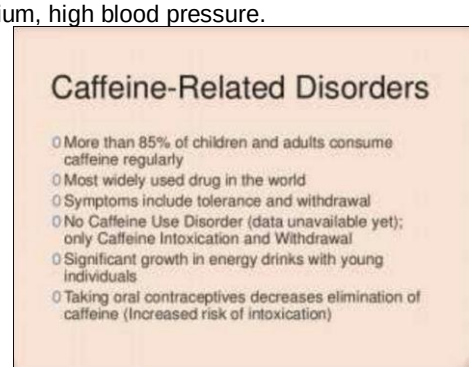
Tolerance and Dependence on nicotine are similar to those of alcohal as mentioned earlier, whereas the withdrawal symptoms are as follows:- Increased nervousness and tension, stomach and bowel disburbances, loss fo concentration, muscle spasms.

3. Caffeine (Having Stimulent Activities)

It is the world's most popular and widely used drug used through drinking tea and coffee. Today world consumption of caffeine is estimated at about 70 mg per person per day. Approximately 64% of this is in coffee, 43% in tea and 3% in all other forms. (Coffee plant – coffea arabica, Tea plant – Thea chineusis)

Immediate Effects

Increase of general metabolism and body temperature, Increase of urination, alertness, secretion of gastric acid. In large individual doses (especially in non-users) headache, nervousness, delirium, high blood pressure.



Long Term Effects

Consumption below 600 mg/day

There is no evidence of caffeine producing any toxic effects in the body.

Consumption above 600 mg / day

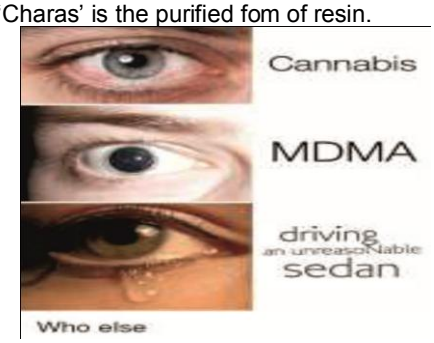
Users may suffer from insomnia, anxiety, depression and stomach upset, heart problems, miscarriage in case of pregnancy. [A regular cup of coffee or tea contains approximately 50 - 100 mg of caffeine. So 10 gm of caffeine is equivalent to approximately 100 - 200 cups of coffee or tea.

Safe Doze

200 mg i.e. 2 - 4 cups of coffee or tea per day]

4. Cannabis (Depressant and Natural Hallucinogen)

It is the hemp plant (cannabis sativa). Dried flowers and leaves of the female plant are generally used as drug, known by different names like 'Siddhi' 'Ganja', 'Bhaang', 'Dakka', 'dope', 'Marijuana', 'mull', 'yarnie' etc. The resinous exudation from the female plant is known as 'Hashish', the oily liquid is known as 'Hashish oil' containing THC (Delta–g tetra hydro canna binol) affecting the mood and perception of the user. 'Charas' is the purified fom of resin.



Immediate Effects

Small Dose

Feeling of well-being, Increased appetite, Reddened eyes, A tendency to talk and laugh more than usual. Impaired balance and coordination Tunnel awareness (a person focuses his awareness on one thing and ignores all others.)

Large Dose

Confusion, feeling of excitement, Restlessness, Hallucinations, Detachment from reality, Anxiety or panic.

Long Term Effects

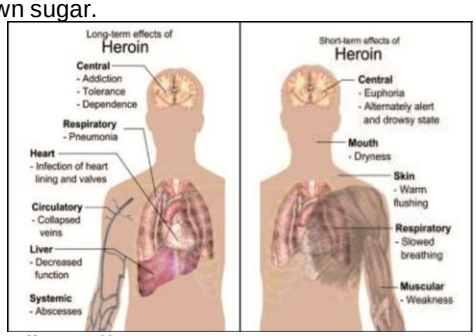
Increased risk of bronchitis, lung cancer and respiratory diseases (Marijuana cigarettes have much more tar than tobacco), decreased concentration, change in motivation, lowered sexual drive, irregular menstrual cycles (in case of females), reduced growth of the baby in the uterus.

[Cannabis can be dangerous when combined with other drugs like alcohal. If these are consumed together the same can be much more dangerous than using either drug by itself.]

5. Heroin / Brown Sugar (Having Depressant Activities)

It is the group of drugs called narcotic analgesios or opoids. Morphine and codeine are the natural products as present in resinous exudation (opium) from the Poppy plant (Papavar sp), specially the fruit wall, while pethidine, methadone are synthetically produced.

Heroin ('Smack', 'Skag', 'hammer', 'h', 'horse') is usually manufactured from morphine or codeine by a chemical process can be much stronger drug. The drug is obtained in two powdered forms like white powder which is; more refined while Brown Powder which is pink or brown 'rocks' known as Brown sugar.



Immediate Effects

Heroin can be injected, snorted or smoked ('chasing') and is very quickly absorbed into the blood stream with the following effects- Relief of pain (analgesic), slow breathing, Feeling of well being (Euphoria), constipation, Nausea and vomiting, Itching, Sleepiness, the pupils of the eyes becoming smaller, slowing down of CNS (Central Nervous System) activity, even death due to injecting overdose of street haroin (Mixture of heroin and other substances like glucose or other medications).

'Long Term Use' Effects

Collapsecd veins, Pneumonia, chronic constipation, Tetanus, Impotence (in men), Hepatitis B and C, loss of appetite, Irregular menstruation and sometimes infertility (in female), Heart and bronchial problems.

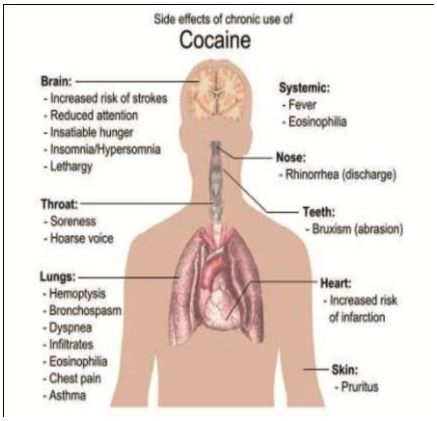
6. Cocaine (Having Stimulant Activities)

This drug is obtained from the dried leaves of coca plant (Erythroxylum coca)

This drug was used as ingredient of coca - cola until 1903 amd also was used extensively in the west and elsewhere as an anaesthetic especially in dental surgery. Currently cocaine is one of the most widely used illegal drugs in the US. This drug is the white powder (cocaine hydrochloride) is sniffed through the nose (Snorted) or injected. It can be smoked because the drug is destroyed at high temperature.

Immediate Effects

Lower dose reduced appetite, increased heart rate, Sexual arousal, Increased body temperature, Enlarged pupils of the eyes, Increased alertness and energy, Inability to judge risks.



Higher Dose

Headache, dizziness, violent/aggressive behaviour, loss of concentration, loss of interest in sex, loss of ambition and motivation, Heart problems.

'Long Term Injection of Cocaine' Effects

Blockage of bloodvessels, major damage to the body's organs, Ilrregulaer heart beats, lung failure, bursting of blood vessels in the brain.

Withdrawl Symptoms

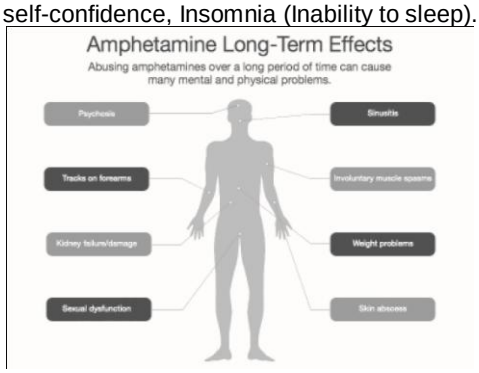
Deep depression, suicidal feelings, Nausea and vomiting fatigue disturbed sleep, muscle pain.

7. Amphetamines (Having Stimulant Activities)

These drugs are commonly known as 'Speed', sold on the street in the form of white or yellow powder manufactured illegally. These can also be sold as tablets or as liquid in capsules which can be swallowed, inhaled ('Snorted') or injected.

Immediate Effects

Reduced appetite, increased rate of breathing, increased blood pressure, Hyperactivity, talkativeness, Anxiety and irritability, suspiciousness, over self-confidence, Insomnia (Inability to sleep).



Long Term Effects

Malnutrition, Reduced resistance to infection, violence for no apparent reason, emotional disturbance, Blockage of blood vessels, high risk of infection of HIV which causes AIDs and hepatitis B through injection by sharing needles or unclean needles, miscarriage or underweight of babies or miscarriage in case of pregnancies.

8. MDMA (Methylene Dioxy Meth Amphetamine)

It is the chemical hallucinogen having Stimulant activities, commonly known as 'Ecstasy'. It is sold as small tablets with a variety of colours and sizes. Powdered form of the drug is also sold and it can be inhaled through nose ('snorted'). It was first developed in 1914 by a German Chemical Company as an appetite sppressant. MDM A is mainly used by those who dance all night to experience hallucinogenic effects.

Immediate Effects

Increased Blood Pressure and Pulse rate, feelings of closeness with other people, sweating, dehydration, Jaw clenching, grinding teeth, nausea, Anxiety, Paranoid feelings (e.g. fear of persecution or feelings of superiority).

Higher Dose Effects

Hallucinations, floating, irrational behaviour, convulsions, vomiting, 'hangover' effects like depression, loss of appetite, insomnia (sleeplessness).

Long Term Effects

Damage to the brain, heart and liver, higher blood pressure, very high temperature of the body, strong hallucinations in case of high doses.

9. Tranquillers (Having Depressant Activities)

These are the group of drugs known as 'Benzodiazepines' (Often called the 'Benzos') Minor tranquillers may be medicinally classifiecd as sedatives (for calming), hypnotic (for inducing sleep), anxiolytics (for relieving anxiety). These drugs act on Central Nervous System when orally or intravenously after getting the drug absorbed in the blood stream.

Immediate Effects

Relaxation, Blurred or double vision, relief from anxiety and tension, loss of short term memory, drowsiness, lethargy, dizziness, slurred speech.

Long Term Effects

Lethargy, lack of motivation, Irritability, skin rash, Nausea, Increased appetite, increased weight, Loss of sexual interest, Headache.

Combination with Other Drugs

Alcohal which generally reduces alertness and judgement of time, space and distance may result in death if consumed in large amount mixing with minor tranquillisers.

The Low

Only doctors can prescribe minor tranquillsers as these are restricted substances. Illegal use, possession or supply of tranquillisers carries a fine of upto Rs. 2.00 Lakh / twenty years of imprisonment.

10. LSD (Having Hallucinogenic Effect)

This drug (Full form – Lysergic Acid Diethylamide) is also known as 'Trip'/'Acid'. It is white and odourless powder sold also as liquid, tablet, capsule and squares of gelatine or blotting paper.

Immediate Effect

Seeing things in a distorted way or that don't exist, Intense sensory experiences, distorted body image, numbness, muscle weakness, twitching, dilated pupils, shakiness, poor coordination, nausea, vomiting, unpleasant hallucinogenic effect (e.g. spiders crawling on the skin), risky behaviour (e.g. running across a busy street).

Long Term Effect

'Flash back' experiences involving some kind of visual hallucination mostly seeing shapes and patterns that don't exist, impairment of user's memory and conception.

11. Psilocybin ('Magic Mushrooms')

It is the natural hallucinogenic drug obtained from certain mushrooms. In pure state it is white Powder. It is usually sold as dried mushrooms. People sometimes make mistakes with poisonous mushrooms for those containing Psilocybin. Certain kinds of mushrooms may cause death or permanent damage of liver within hours of ingestion.

The effects are similar to those of LSD being belonged to same chemical family.

12. PCP (Phencyclidine or 'Angel Dust')

This drug is originally developed as an anaesthetic and mescaline made from the Pulp of the Peyote cactus. It has the same hallucinogenic effect like Psilocybin.

13. Volatile Substances

The most commonly used volatile substances inhaled or sniffed as drug are :- 1) Petroleum fuels 2) Nail Polish removers 3) Aerosol Sprays such as fly sprays 4) Typist correction fluid 5) Hydrocarbons 6) Glue 7) Paint thinners 8) Anaesthetic products 9) Antifreeze.

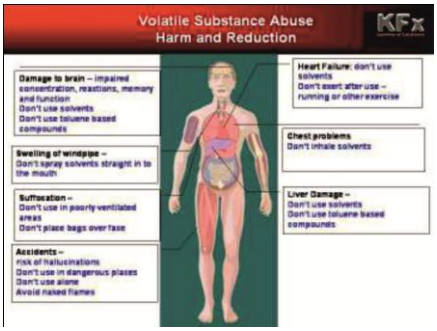
Inhaling or sniffing the fumes from volaltile substances has become increasingly popular in recent decades by young people throughout the world.

Immediate Effect

Petrol sniffing is more likely to create health problems. This is because the lead found in some petrol accumulates in the body and cause leukemia and other types of cancers. Other effects are:- Irreversible disease of brain, Anorexia, Abnormal jerky movements.

The types of volatile substances as found in different substances are as follows:-

1. Toluene in glues/solvents, paint/paint thinners, petrol (lead or unleaded), varnish,
2. Butane (Hydrocarbons used as propellants in some aerosols) in cigarette, Lighters, Spray Paints, deodorants, fly spray
3. Trichloroethane in correction fluids, degreasing agents, nail polish removers and dry cleaning fluid.



These have some immediate effects which are similar to those of alcohals like Excitement, Slurred Speech, weakness, Blurred vision, Hallucinations, lead poisoning (from Petrol), suffocation from plastic bags, choking on vomit.

Reasons Pushing for Drug Addiction

There several reasons why drug usage soon gets changed to drug abuse. At a very base level this happens because the person concerned feels a desperate need to deal with stress, to get a momentary high or to just 'fit in' with his or her Peers, as happens in the case of youngstars. It soon reaches a stage when this need becomes much more important than other needs in life and the person begins to believe their survival depends on those drugs.

Following are the reasons pushing for drug addiction which can shed some light for addicts or family members of addicts dealing with this burning question :-

1. People suffering from anxiety, bipolar disorder, depression or other mental illnesses use drugs and alcohals to ease their suffering.
2. People see family members, friends, role models or entertainers using drugs and rationalize that they can too.
3. People become bored and think drugs will help relieve stress.
4. People figure if a drug is prescribed by a doctor, it must be ok.
5. People get physically injured and unintentionally get horked on prescribed drugs.
6. People use drugs to cover painful memories in their past.
7. People think drugs will help them fit in.
8. People chase the high they once experienced. Once a Person feels this extreme pleasure, it's common for that person to become hooked on a drug simply chasing the intial high they once felt.
9. As a Fashion and to show maturity a huge proportion of youth are addicted to drugs although initially they start to use drug for a fun.
10. Usually Persons addicted to these drugs such as brown sugar, Morphine, Mandrex etc. form a group. In order to attract others in the beginning the drug is offered. A Person enjoys first few trips. Subsequently his requirement of the drug to produce the same effect increases and gradually he becomes dependent on drug and feels that he can't live without the drug.

Control of Drug Addiction

Sustained treatment is the only option for people who have already gone down the road of drug

abuse and are highly into it. The treatment for a drug abuse normally depends on the kind of drug that the person has been using. The certain areas of individual's life like medical, psychological, work related needs etc. can be emphasized for best treatment of drug abuse. The treatment sessions combine medications and behavioural therapy so that the victim of drug abuse gradually stops feeling the urge to do drugs. Epidemiological studes indicate that psychiatric disorders including mental disorders and substance use disorders (SUDs) are common among adults and highly comorbid (a condition referred to as 'dual' or 'co-occurring' disorders). Integrated treatments refers to the focus of treament of two or more conditions and to the use of multiple treatments such as the combination ofpsychotherapy and pharmacotherapy.Integrated treatment for comorbidity has been found to be consistently superior compared to treatment of individual disorders with separate treatment plans.

Some Treatment Modalities

Cognitive Behavioural Therapy (CBT)

It is effective in treating substance abuse issues (Psychiatric clinics of North America). CBT helps the individual to manage their though pattersns, essentially controlling the negative thought patterns that may lead to substance abuse or other destructive behaviour.

Motivational Enhancement Therapy (MET)

A therapy helps a patient to tap into their personal motivations to resist drug use. Accdording to a study published in Advances in Psychiatric Treatment, those who participated in MET experienced reduced rates of drug use.

Family Therapy

Since family member serve as the core support for recovering individuals once they exit a rehab program. It is imperative that family members are able to understand the process of recovery. So, they can best serve as sources of encouragement and support. Family therapy can also be used to address underlying familial issues that may have contributed to the substance abuse issue and repair relationships that were damaged due to addiction.

Twelve - Step Program

Narcotics Anonymous, Cocaine Anonymous and Alcohalics Anonymous are considered excellent ways to extend and complement the skills learned during a professional treatment program. However, for most people these programs do not provide all of the compoments needed for successful recovery.

Substance Abuse Services

Substance abuse services can be formed through private and public - funded treatment programs. Using substance use monitoring or pharmaco therapy may be a required part of long term treatment program. Some services also offer counseling and individual therapy for patients who have finished a residentail treatment program but still need regular support.

Those who are mentally ill are more likely to abuse drugs and/or alcohal. The two issues often go hand in hand. According to SAMHSA (Substance Abuse and Mental Health Administration), 26.7% of people with mental health issues abused illicit drugs in 2012. In the general public only 13.2% of people abused drugs.

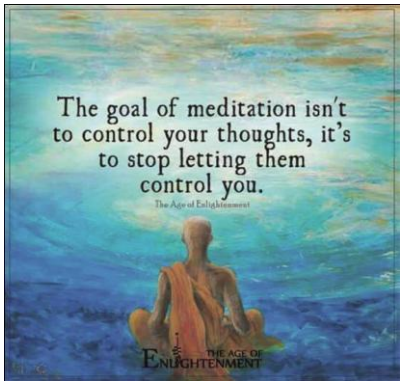
It is surprising that despite being aware of these harmful outcomes many people who use drugs continue to take them which is the nature of addiction.

Treatment for drug addiction generally is n't a cure. However, addiction is treatable and can be successfully managed. People who are recovering from an addiction will be at risk for relapse for years. Research shows that combining addiction treatment medicines with behavioural therapy ensures the best chance of success for most patients. More good news is that drug use and addiction are preventable. Results from NIDA (National Institute for Drug Abuse) – funded research have shown that Prevention program involving families, schools, communities and the media are effective for preventing or reducing drug use and and addiction. Although personal events and cultural factors affect drug use trends, when young people view drug use as harmful they tend to decrease their drug taking. Therefore, education and outreach are key in helping people understand the possible risks of drug use.

Teachers, parents and health care providers have crucial roles in educating young people and preventing drug use and addiction.

Meditation, A Technique To Overcome Drug Addiction

1. The deep experience of peace, love and purity during meditation as the original attributes of the soul results in a natural aversion therapy and creates a real and inwardly felt emotion of repulsion towards the unhealthy habit.
2. When a person reduces the dose of the drug with the help of meditation a new self-confidence and faith in technique are generated. Thus, he takes deep interest in the practice of meditation and his general habits of thought are changed and inner power keeps on increasing and in due course he is able to overcome the unhealthy habit completely.
3. By turning his mind to God who is the ocean of all spiritualpowers the person is able to improve his own will power and thus initially at least to reduce the dosage and regulartity of his addiction.
4. A person experiences an immediate sense of tranquility and relation during yoga. This natural feeling of well being removesthe intense craving for the artificial alternative.



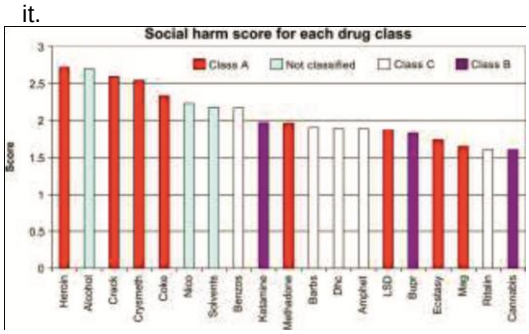
Thus meditation is of great help for achieving drug or stress-free-life for both adolesceents and adults and certainly for academic purposes also.

Some Practical Observations

1. On the basis of the recent study by the All India Institute of Medical Sciences (AIIMs) 46410 cases of substances abuse by street children were reported in Delhi in the year 2017 by the Ministry of Social Justice and Empowerment. The case of consumption of drug substances during the year were - heroin (840), opium (420), Pharmaceutical opoids (210) and Sedatives (210).
2. It was also observed that about 50 923 children lived on the streets of Delhi in 2011. Out of these 46 411 children were addicted to drugs.
3. As per the records of the National crime Records Bureau 53 and 34 unnatural deaths of children below 18 years were recorded due ot a drug overdose during 2015 and 2016 respectively.
4. Social harm score for each drug class, as shown in the bar diagram, indicates that Heroin tops the list while cannabis remains at the bottom. Heroin is followed by Alcohal in respect of social harm.

Some Positive Initiatives As Taken Against Drug Abuse

1. The Haryana Government implemented a scheme titled 'Central Sector Scheme of Assistance for Preventtion of Alcohalism and Substance (Drug) Abuse' to curb the issue of drug abuse. A financial assistance was given to eligible NGOs, Panchayati Raj institutions and urban local bodies by the government, which in turn will provide integrated services for the rehabilitation of addicts.
2. An advisory was issued by the Central Government to all states and Union Territories asking them to take measures for prevention of substance abuse among children.
3. 'Charitra Nirman Sewadal', an NGO engaged in de-addiction and social reformation stated that about 80% of the prisoners in Tihar are addicted to either tobacco, ganja, smack or alcohal. It suggested that there is a need of more counselors in the jail to tacle depression among the prisoners who consorted to drugs because of it.



4. 'Chetna' is an NGO which runs an un official recreation centre for children inside the Nizamuddin Police Station. They mainly focus on developing friendly relations between the Police and the children who are more susceptible to drugs and crime.
5. The Delhi AIDs control Society (DACS) suggested a plan in which more than 400 medical officers working in 260 Delhi government dispensaries and 150 Specialists working in 32 Delhi Government hospitals will be trained on a long term basis at the Institute of Behaviour amd Allied Sciences (IHBAS) as there was a scarcity of Psychiatrists and trained manpower to tackle the patients of drug abuse. They also advised keeping a Street Check on the sale and purchase of addictive medicines available in Pharmacies. The licences of 20 shops had been cancelled in 2016 who sold harmful drugs.
6. The Delhi Zonal Unit of the Narcotics Control Bureau suggested to utilize stake holders like Police, Excise, Customs, Directorate of Revenue Intelligence in the fight against drug abuse. They have the equal power as per the Nacotic Drugs Psychotropic Substances Act, 1985.
7. The Ministry of Social Justice and Empowerment is nowundertaking a National level survey in collaboration with National Drug Dependence Treatment centre, AIIMS, New Delhi.
8. A Memorandum of Understanding (MOU) was signed in August, 2016. The survey will provide national and state level estimates of proportion and absolute nuber of individuals using drugs and suffering from Substance use disorders.
9. The Ministry has issued an Advisory on 11th August, 2016 to all the States / UTs on combating drug abuse which advises them to prepare an Action Plan inter alia, includes conducting sensitization and Preventive education Programmes in schools and colleges throught the year.
10. The Ministry organised two Regional Workshops during the year 2015-16 in collabhoration with NSS (National Service Scheme) at Shillong and Indore for creating awareness and ill-effects of alcohalism and drub abuse.
11. The Ministry celebrates the International Day against Drug Abuse and Illicit Trafficking on 26th June every year by holding functions and organisating exhibitions to sensitize the people about the ill-effects of drug abuse. National Awards are also conferred to individuals and institutions in order to recognise the efforts and encourage excellence in the field of Prevention of Substance abuse.
12. The Ministry has set up a National Toll Free Drug De-addiction Helpline Number 1XXX-XX-00 31 with effect from 7th January, 2015 to help the victims of drug abuse, their family and society at large. The Helpline has been functional on 24X7 basis w.e.f. March, 2017.
13. The Ministry implements "Central Sector Scheme of Assistance for Prevention of Alcohalism and Substacnce (Drug) Abuse'' under which financial assistance is provided to eligible Non-Government Organisations , Panchayet Raj Institutions, Urban Local Bodies etc. for, inter-

alia, running and maintenance of Integrated Rehabilitation Centres for Addicts.

Conclusion

Drug addiction is progressive like other diseases that affect the body and mind. Every case of drug addiction begins with recreational and experimental use. Although some of the effects of drug use may be uncomfortable or frightening such as confusion, impaired judgement, memory loss, or rapid heart rate — the pleasurable sensations of intoxication still overweigh the negative side-effects. The user starts to develop a tolerance for the substance or need to take larger amounts to achieve the same high. Any attempt to quit results in withdrawal symptoms and overpowering cravings which include tremors, nausea and vomitting, Muscle or bone pain, sweats, fever, insomnia, depression, high Blood Pressure etc. depending upon the drug of choice. Despite serious health problems, job loss, personal issues of legal complications the addict continues to use. Seeking, obtaining and using the drug consume most of his / her time and energy. Without medical detox and a drug treatment program the addict may continue to relapse again and again. Drug treatment can include behavioural therapy (e.g. cognitive — behavioural therapy or contingency management), medications or their combination. Advances in abuse treatment include methadone, buprenorphine against opoids while naltrex one against alcohalism, Nicotine Preparations (Patches, gum, lozenges, nasal spray), medications vare-nicline and bupropion against tobacco addiction. Treatment of Prescription drug abuse tend to be similar to those for illicit drugs that affect the same brain systems. For example, buprenorphine used to treat heroin addiction, can also be used to treat addiction to opoid pain medications. Behavioural therapies can help motivate people to participate in drug treatment, improve communication, relationship. The best programs provide a combination of therapies and other services to meet an individual patient's need, psychoactive medications e.g. antidepressants, anti-anxiety agents, mood stabilizers and anti-psychotic medications. Group therapy that provides social re-inforcement and help enforce behavioural contingencies that promote abstinence and non-drug-using lifestyle can also be employed.

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