

# ORIGIN OF SUBSTANCE, SUBSTANCE USE DISORDER AND IMPACT IN ERA OF COVID-19 STATUS

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## Abstract-

Substance use disorder has become a world issue. The COVID-19 pandemic has serious implications for people with SUD as well as semipermanent socioeconomic and public health effects. Mainly, it will begin with experimental use of recreational medicine. That will alter the brain structure similarly as performed. These medicines result in inability to regulate behaviour and illicit drug use. There are several new entrants in misuse scenario: anodyne containing cough sirup, buprenorphine injection, inhalant, and latest being 'club and rave drugs'. a few years past, sublimate cocaine was the most active ingredient in tonics, elixir, physiological condition etc. and was additionally within the formulation of Coca-Cola. However, analysis has since shown that cocaine is an associated habit-forming substance thus within the gift year it's prohibited. There are four main things that were extracted: family issue (separation from family, loneliness), social factor (arduous job, state, negative attitude), environmental factor (enabler like friends, socialisation with drug users), and private issues (wealth, genetic, illness, curiosity). Substance use and Covid scenarios increase conditions of misuse or disorder similarly as relapse due to social isolation and stress that comes throughout Covid-19. Recent studies on prevalence of misuse and Covid standing that majorly peoples are stricken by comorbid conditions ends up in hospitalization or death. Recently, in the Republic of India most typically use alcohol followed by opiates and cannabis. war ends up in chop-chop rising levels of drug use in many countries. Due to Covid associated restrictions individuals feel stress that affects the increased consumption of product and depressant, whereas decrease in stimulation drug demand is ascertained thanks to inconvenience of usual recreational settings. In management of white plague chiefly embody hindrance, psychological support and treatment like buprenorphine, methadone, naloxone.

**Keywords:** Drug abuse, Cannabis, Covid-19, Opiates, Substance use disorder etc.

## INTRODUCTION

26<sup>th</sup> June is international day against drug abuse and illicit trafficking i.e., world drug day since 1989. Recently, drug addiction term is identified by substance use disorder i.e., SUD. Often, the term drug addiction is applied to those who abuse drugs through mindfulness or drug abuse. It has undergone a dramatic change in behaviour as a result of continued drug use leading to chemical reactions in the brain. Tetrahydroisoquinoline (THQ) is heavy matter present in the brain and due to this chemical people cannot control themselves.

Drugs are widely used differently and are divided into three categories. First-line drugs include painkillers, cough syrups, ointments, second-line drugs such as alcohol, cigarettes, cocaine, heroin, cannabis, opium, and third-line drugs are non-alcoholic such as glue, colophony, paint, cleaning liquid, gasoline. Drug addiction,

abuse, dependence, tolerance policies are related to substance abuse disorders. Drug addiction is often targeted at those who are abusing it. Drug tolerance reduces the effect from a fixed dose of the drug by increasing the small number of drugs needed to produce a certain level of effect. Physical dependence is another manifestation of tolerance and withdrawal symptoms. Substance abuse is the first stage of drug dependence and continued drug use can lead to drug addiction. Substance use disorder from an evolutionary perspective evaluates biology, psychology and social influence in its threefold nature. <sup>(9)</sup> The Golden triangle (Myanmar, Thailand, Laos) and golden crescent (Iran, Afghanistan, Pak) are international drug trafficking zones. <sup>(1)</sup> Mainly SUD can start with experimental use. In substance use and Covid immune, pulmonary system more susceptible so there are more chances of changes occurs in body system then it creates a complication. <sup>(7)</sup>

### **The Origin and History of Drugs**

The name of the drug ranges from the old French drug (dry pot) to the gentle nature of the 19th century to relieve men's pain. The first chloral hydrate for the discovery of chloral hydrate was discovered in 1869 and was introduced as a sedative and hypnotic. This first chlorohydrate drug was discovered by Justus Liebig in 1832 when this reaction occurred while he was reacting with ethanol chlorine. The history of the discovery of the drug from the first 19th century and the second period is the 20th century a new pharmaceutical building where it is found. In the 1800's, chemists and physicians began to study how to extract cells from living organisms that have a therapeutic effect and test them to determine the specific effect of certain molecules. The first artificial medicine was invented by Friedrich Serturmer, a German scientist in 1804. He took the active ingredient of opium into his laboratory and named it the morphine of the Greek sheep god. This research process was recognized early in Pharmacology and then successfully identified salicin as a pain reliever in aspirin. They also found cocaine and Morphine in opium poppies. Some pharmacists also start manufacturing textile and asphalt industries. The bark of the willow tree namely aspirin, One of the oldest trees in human history. More than 3500 years ago willow bark was used as a traditional pain reliever. Opium is the oldest drug in the world known as opium poppy. It is followed by Hippocrates in the 4th century as the property of analgesia. For thousands of years people in South America have chewed and applied coca leaves i.e., Erythroxyton coca. More than a hundred years ago cocaine hydrochloride was the preferred chrome plant.

The Japanese, American and British soldiers used amphetamines but the Germans were the first enthusiastic recipients, a pill from the battlefield during the war. In this way, methamphetamine becomes part of the Nazi military strategy. Throughout the war, the Germans used pertivin and amphetamine in combination, methamphetamine. While those results already represent enough reasons to deliver the drug to the military, through the mill. It has a psychological impact and makes it very valuable. This is the truth that made Hitler win so many battles.



**Fig: 1 Drugs**

## Separation of Addictive Drug

There are seven types of drugs that cause paralysis in a variety of physical, social, and psychological functions.

### 1. Depressant-

Depressors are lower, also known as antidepressants. That can reduce brain function Includes hypnotic, alcohol, Barbiturates such as phenobarbital, pentobarbital, Benzodiazepines, Methaqualone, GHB (Gammahydroxybutyrate). Apart from this, many drugs come from official prescription drugs such as Diazepam, temazepam, Barbiturates etc. Because this medicine has other therapeutic effects such as insomnia, reducing anxiety, antiepileptic dulling pain etc. Alcohol is a widely used depressive disorder. In some cases, an overdose of solvent leads to a large heart, lung, nerve, kidney problem and especially hepatic.

Opioid drugs such as Morphine, Heroin extracted from the latex of the poppy plant *Papaver somniferum*. It binds to a specific Opioid receptor present in the central nervous system and intestinal tract. Generally, it is taken by sneezing and injection. Morphine is very effective in relieving pain, relieving pain, and in patients who have undergone surgery.

### 2. Incentives -

An incentive for the central nervous system. It suppresses appetite and fatigue. The drug has increased strength and alertness. This category of drugs includes cocaine (freebase and crack), nicotine, amphetamine (preludin), caffeine, methamphetamine, (methedrine, speed, crystal ice, crank), MDMA (Ecstasy), Ritalin, cyllert etc. Nicotine is found in tobacco products such as cigarettes, smokeless tobacco. It can be used for smoking, chewing, sucking, toothpaste and gums. In smoking bid, tobacco, hookah and smokeless tobacco such as gutkha, khaini, zarda.

Cocaine disrupts the transport of the neurotransmitter dopamine. It had powerful motivating effects on the phineas producing the saints of euphoria and the growing power.

### 3. Negative ideas -

Hallucinogens are psychedelics. It involves significant loss of colour and hearing loss. It also has the added effect of relaxation, joy and fear. Includes phencyclidine (PCP), lysergic acid diethylamide (LSD), psilocybin, mescaline, marijuana

### 4. Prescribed drugs -

The drug is used as an aid in providing treatment for medical conditions that abuse and misuse prescription drugs. However, there may be dangerous drugs eg codeine, morphine, oxycodone, Barbiturates, Temazepam etc.

#### 5. Steroid Use -

Steroids can be used by athletes by increasing physical activity and muscle strength. They use narcotic analgesics, anabolic steroids, stomach and certain hormones. Side effects of anabolic steroids in women include masculinity, increased aggression, mood swings, depression, irregular menstrual cycles, excessive facial hair growth, clitoris enlargement, voice and male impotence including acne, increased erectile dysfunction, reduced productivity sperm, kidney and liver impairment, breast enlargement, premature baldness, bladder enlargement. This effect can be permanent with long-term use.

#### 6. Inhalant -

Breaths are inhaled or mixed and give difficulty with the sense of smell, movement, confusion etc. e.g., Glue, light paint, petrol, aerosol spray laughter.

#### 7. Conventional anesthesia -

Dissociative anesthesia with catatonia analgesia, amnesia, catalepsy. Eg. Nitrous oxide in this case, there was no loss of consciousness.

#### ➤ **How to work -**

Addiction is a neurological disorder. That impact is seen on the reward system in the brain in a healthy person. The reward system sends important survival values such as food, sex work and social interaction. Abuse drugs steal the leak system, turning a person's natural needs into drug needs. The main reward pathway involves a dopamine transmitter from the ventral tegmental region of the midbrain, to the limbic system and frontal cortex. Involvement in pleasant activities generates the action of dopamine that produces VTA neurons that trigger the release of dopamine into the synaptic space. Dopamine then binds to activate the dopamine receptor in the receiving neuron. This encouragement is believed to produce good results. Dopamine molecules are also removed from the synapse and returned to the transmitting neuron via a special protein called dopamine transporter. This removal of dopamine ensures that postsynaptic neurons are not over-stimulated. Many abuse drugs increase the level of dopamine in the reward pathway.

Some drugs such as alcohol, heroin, and nicotine indirectly stimulate the dopamine-producing neuron in the VTA and therefore produce more potent action. Cocaine in the nervous system. It binds to dopamine transport and prevents dopamine reuptake. Methamphetamine, a psychostimulant, works similarly to cocaine in preventing the removal of dopamine. In addition, it can activate the transmitting neuron into a dopamine-containing vesicle, being the cause of dopamine release even if no action is possible., this results in continuous stimulation perhaps in addition to stimulating neuron receptors and this which is responsible for longevity and greater pleasure experience for drug users. Repeated exposure to dopamine surges caused by drugs ultimately does not reduce the reward system. The system no longer responds to daily tasks. The only thing that rewards the tree is the way dogs change the beginning of human life. After some time even the drug loses its ability to leak and high doses are required to achieve the same happy result. This eventually leads to drug overdose.

Drinking alcohol lowers the body's immune system, leading to an increased risk of infectious diseases such as Covid 19. As a result, smoking cocaine or inflammation causes changes in the brain that lead to stress within the central nervous system and increased risk of injury to the lungs or respiratory system. High-dose opioids affect the brain stem causing slow breathing which lowers the level of oxygen in the blood. Methamphetamine

use is also dangerous because it causes narrowing of the blood vessels and leads to high blood pressure and lung damage. Marijuana drugs cause cancer and lung damage or lung infection as a result of a Covid-19 infection in the lungs.

### ➤ Indications

A possible indication that causes a person to use drugs or not. Symptoms such as Problems at School or Work, Physical Problems, Appearance, Behavior Changes, Behavior of Money or Request, Craving for Certain Foods, Smell of Cannabis in Yellow Clothes, Anxiety Disorders, Confusion, Reduce contact, Dry mouth, Red eyes, Sweating, Increase blood pressure and heart rate, Body aches, Feeling happy, High sensations, Paranoia, Changed perception of sight, hearing, and taste of vision, Loss of muscle control, Delirium, Panic attack etc. Problems with addiction i.e., Communication between drug abusers and health. There are many health problems like liver damage, lung disease, heart disease, stroke, cancer etc. As a result of excessive alcohol consumption that causes liver damage, chewing tobacco leads to cancer of the mouth, lips, and lungs. Dental problems occur as a result of methamphetamine abuse. In some cases, it destroys nerve cells, mental disorders, sleep problems, fainting, changes in mood. <sup>(10)</sup>

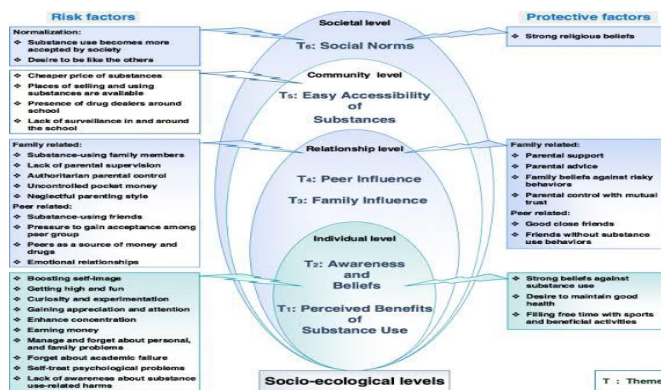


Fig: 2 Prospective Risk Factor

### Effect of drug addiction on family and social behavior

1) Impact on children- The main effect of the drug problem is seen in children. These disorders may have played a role in the child's developmental and learning development. <sup>(3)</sup> This responsibility stems from neglect of basic and secondary needs. There is a link between addiction and the increased risk of future abuse. Studies have shown that abused children have a chance of getting.

2) Increased stress- Addiction will leave all the burden on their partner. High risk of developing post-traumatic stress disorder increases blood pressure and anxiety. This condition affects family members due to stress and discomfort.

3) Financial problems - Every person who loses a job due to poor performance or work after that addiction will turn to saving for it, leading to family problems in paying for basic necessities that create a financial crisis in the family. <sup>(2)</sup>

4) Loss of trust - Addicts will not follow agreement or obligations, in this case. That creates tension in the relationship. They may also forget about the promises they make to children that make it difficult for children to form relationships with other people.

5) Physical and emotional abuse - Simple disagreements can lead to great battles and everyone feels misunderstood and behaved in an uncontrollable way. <sup>(10)</sup> The whole second process can be a daily cycle that can be broken by psychotherapy.

6) Fear and confusion - Addictive behavior becomes unpredictable because they do not know how to react to any situation. In an effort to avoid physical and mental conditions. Family members can start working with them. He seems to be a lovely addict. In the same situation, the end result is a culture of fear and confusion that ensures that the home is seldom happy.

### ➤ World drug report

The data analysis report was submitted by the National Institute for Drug Addiction (NDDTC) as follows-

Opium - 2.6 crore people in India use Opioid. More than 60 lakh people in India suffer from Opioid use disorder (OUD). Uttar Pradesh, Punjab, Haryana, Delhi, Maharashtra, Rajasthan, Andhra Pradesh, Gujarat contribute to more than half of all Opioid-affected people.

Seductive and Inhalants- About 1.18 crore people in India have used antiretroviral drugs. 4.6 lakh children and 18 lakh adults need help due to the use of Inhalants. Initial use is higher in children than in adults. Uttar Pradesh, Madhya Pradesh, Maharashtra, Delhi, Haryana with very high children which is why it leads to overcrowding. <sup>(11)</sup>

Injecting - More than 8.5 lakh people inject themselves and are addicted. The standard engine of Jitendra heroine 48% and buprenorphine 46% and 27% of drug users agree to share needs with other people where there is a risk of diseases such as HIV and Hepatitis C. <sup>(12)</sup>

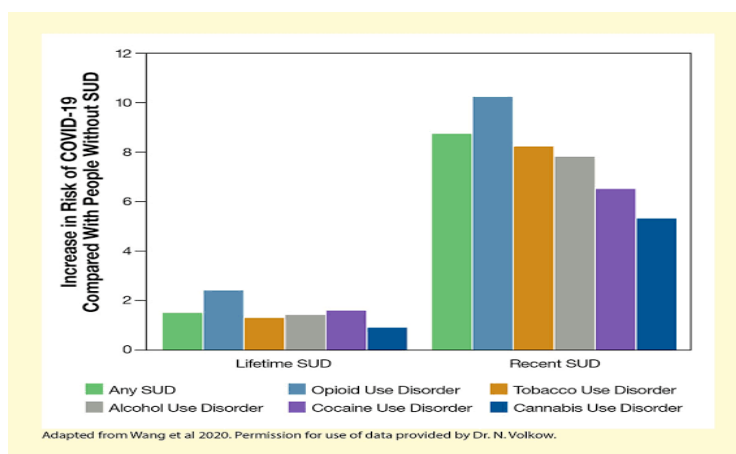
Alcohol- 16 crore of the Indian population. He still clarifies that the syska road people need him because of the dangerous use in Uttar Pradesh, Tripura, Punjab, Goa, Andhra Pradesh the most widely used alcohol. <sup>(11)</sup>

According to a UNODC report, sometimes the use of illicit drugs has satisfied about 5 percent of adults. An estimated 275 million people used drugs worldwide last year, while more than 36 million people have a substance abuse problem. According to a UNODC report, over the past 24 years the potential for cannabis has increased by 4 times in some parts of the world, even though 40 percent of young men consider the drug to be dangerous. One of the highest rates of injecting drug use is in Europe and most injectors use opiates. While in Australia and New Zealand Methamphetamine is widely used as a stimulant. The status of Covid 19 has changed the behavior of retailers by switching to e-commerce and online shopping. The practice not only affected licensed assets but also regulated psychotropic drug use (NPS). <sup>(6)</sup>

According to the Union National Office on Drugs and Crime (UNODC) 2021 World Drugs Report, on study data analysis shows that personal factor 22.2 %, family 28.5%, social factor 11.1% and environment factor had greatest effect on the tendency for drug abuse i.e 38%.

### ➤ Impact of covid status on drug

cultivation, production, marketing, trafficking and human health: As recently as mid-2020, a Global study was being conducted among the most addictive drugs in the world. This survey leads to increased drug use in 64%, 42% of cannabis use and a 30% reduction in cocaine. The epidemic of covid -19 has led to changes in drug use. Due to the increased pressure, more time, changes in financial resources leading to marijuana use and MDMA, LSD, Cocaine has been used less due to the closure of social and recreational facilities. Likely, global opium production by 2020 has not been affected by the epidemic. The production of cocaine leaves was unaffected but the distribution of cocaine-related products was disrupted in the early stages. Drug trafficking slowed down during the first closure but resumed at the same rate or increased immediately after removing the lock. A different approach to drug trafficking was affected in the second quarter of 2020. This is fine in some areas only where other drugs are stored Methamphetamine, cocaine etc. and other areas not affected by this condition. The seizure of drug trafficking occurs by air and land. The earth is badly affected by the epidemic, and the seabed is relatively undisturbed. UNODC has reported that the increase in marijuana production and the increase in demand is leading to an increase in marijuana production worldwide but there is no change in the sales of products disrupted by Covid-19 measures. Due to the small environment and locally produced marijuana production, it is difficult to monitor and challenge the impact of Covid's actions. In some countries, the number of drugs taken dropped in the 2nd and 3rd quarters of 2020 but not in many others.



**Fig:3 Statistics Data Evaluation**

### ➤ Drug abuse and covid -19 cross

There are some things to know about drug abuse and covid-19 conditions such as, there is an increase in the tendency to substance abuse, depression, addiction and relapse due to social isolation and stress during covid-19. In drug use and conditions of the covid-19 immune system, the pulmonary system and respiratory system are most affected and therefore there is a high risk of infectious changes occurring in the immune system, which can then cause problems. <sup>(7)</sup> When two disorders occur in the same person at the same time they are described as comorbid. The research report provides information on the high prevalence of severity between drug use disorders and other disease conditions in their treatment. However, further progress has been made with research on new and existing treatments for comorbidity. As a result of the crisis, economic systems collapse and that is

why millions of people are unemployed or underemployed. (2,7) Comorbidities and environmental hazards to substance abuse may have covid risks.

There are a number of SUD and Covid combination complications such as social, economic i.e. money spent on treatment is an additional burden on their family. Disturbed family environments and violence are other consequences. (2) Drug and alcohol users share a joint with a smoking pipe, blunts, syringe and contribute to covid infection. Unsustainable housing that limits saving resources and clean water, soap increases the risk of infection. Public health measures, social dialogue, solitude, mental health problem, loneliness. This situation may prevent the availability of medical services for the diseases used. Covid signals, complex structures and increase risk in relation to covid measures. Not solely Covid standing however additionally polygenic disease, abnormal heart disease, avoirdupois etc. chronic life-threatening comorbidity impact on SUD treatment.

### ➤ **Treatment -**

In the drug addiction treatment family plays a major role. Any positive activity of a relative or family member for removing from addiction. There are six dysfunctional roles that each family member plays to sustain balance and normally. Opioids cause risk of hypoxia i.e respiratory depression, may impact on the host response of the virus. This condition leads to drug-drug interaction, particularly due to cardiac adverse effects. According to some authors study, the acetylcholine receptor plays an important role in pathophysiology of covid- infection and might show a target for prevention and control of the covid infection (5). Relapse prevention medication for alcohol dependence Such as disulfiram use have often been based upon regular supervising and clinical monitoring. (4) Opiate treatment during these covid periods significant changes is required. Methadone and Buprenorphine are synthetic drugs used orally ksa te (sublingual), This is the WHO list of Essential Medications. In alcohol addiction treatment Naltrexone, Disulfiram (Antabuse), Acamprosate (Campral), Topiramate medications are available for alcohol dependence. For the Tobacco addiction treatment Nicotine replacement therapy are atus (NRT), Bupropion (zyban), varenicline (chantix) medications are preferred. **The various therapies are used for addiction treatment as Follows:**

- 1) Cognitive Behavioural therapy (CBT) -  
e.g-alcohol marijuana, cocaine, methamphetamine, Nicotine
- 2) Contingency management interventions (Motivational incentives) -  
e.g Alcohol, stimulants, opioids, Marijuana, Nicotine
- 3) Community Reinforcement approach and Voucher Based Reinforcement (VBR)- e.g cocaine, opioids alcohol
- 4) Motivational Enhancement therapy (MET) -e.g Marijuana, Nicotine, alcohol
- 5) The matrix model (stimulant)- e.g methamphetamine, cocaine
- 6) Step Facilitation therapy e.g stimulants, Opioids, alcohol
- 7) Family behavior therapy
- 8) Multisystemic therapy
- 9) Brief strategic family therapy
- 10) functional family therapy
- 11) combined with behavioural therapy
- 12) Nicotine Replacement therapy.

Buprenorphine is a weak mu-opioid receptor agonist and kappa-opioid receptor antagonist used for opioid treatment (OMT). It is mainly used for norbuprenorphine in a pharmacy that works with cytochrome P450 (CYP) isozyme 3A4. This can cause drug and drug interactions under a combination of inhibitors or inducers of CYP3A4. <sup>(8)</sup> In Combinations of Buprenorphine and naloxone, Buprenorphine is 50% bioavailable but Naloxone is not absorbed, if tablet is crushed and injected then Both drugs are active and displaces buprenorphine withdrawal producing a short withdrawal reaction. The mono constituent i.e buprenorphine is only preferred for pregnant patients because it withdraws in infants and who have an allergy to naloxone.

#### ➤ Discussion -

Initially, drug addiction can be triggered by the use of recreational drug testing in social service situations and by other people the drug becomes commonplace. Usually, the site comes in the form of a partner, older child or close users etc. Compared to patients with substance abuse disorder (SUD) they had an increase in chronic diseases such as liver, heart, kidney, lungs etc than in a patient other than SUD. Opioids are respiratory suppressants and corona infections also work in the human respiratory system so opium used in the current condition can be dangerous. Recently, there is no longer any work to study the effects of drugs such as opium, marijuana, alcohol etc. on the effects of covid-19 infection. In the current situation, patients with opioid use had a higher risk of developing covid infection compared to patients without a recent SUD diagnosis or by the general public. Steroids and other performance enhancing drugs (APEDS) are often used by men to improve their appearance by building muscle mass of the drugs Cocaine, Heroin and marijuana. During the outbreak of the epidemic many sources found people using drugs, a dark web and a clear web.

#### ➤ Conclusion -

Mainly, drug addiction begins with experimental use of recreational drugs in social situations and may for some people the drug become more frequent. In some cases, it starts with exposure to prescribed medication. This condition affects the person's brain and behaviour then it leads to patients unable to control use of legal or illegal drugs. Many people try a drug but few people develop strong addiction because of genetic, environmental, developmental factors.

The global Covid-19 pandemic status also affect for increase substance use disorder. In this context, the different effects not only affect the lives of drug abusers but also affect their families and society as a whole. UNODC research reports conclude that cannabis users are the largest number of illicit drug abusers and amphetamine is on the second number. In terms of harmful use Opioids would be ranked at top. Among the most problematic drug users' route by injecting that causes severe disease like HIV, Hepatitis C etc. due to shearing injection equipment or unsafe protection. There are very close relationships between crime and drug abuse. The number of people suffering from substance use disorder has increased disproportionately for the first time in six years. Analysing over several years as per report shows that with changing social norms towards cannabis, it's use has climbed in parallel with high acceptability towards drugs. In comorbid condition, due to the changes in drug use pattern it induces systemic shock during Covid-19 situation. The patient having both SUD and Covid infection had worse conditions leading to hospitalization or death.

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