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Unveiling the Shadow World: A Comprehensive Review of Psychoactive Substance Abuse in India, from Children to Organized Crime

Ms Shristi Aich[1], Ms Priyanka Ghosh[2], Ms Rothika Ganapathi[3], Ms Monisha R[4], Ms Jayashree Rai BD[5]

[1]Assistant Professor, Department of Forensic Science, Kristu Jayanti College, Bangalore-560077
[2,3,4,5]Student, Department of Forensic Science, Kristu Jayanti College, Bangalore-560077

Abstract

The consumption of psychoactive substances has become the most common problem in India. These substances have affected people belonging to all age groups. This review paper has been drafted after conducting in-depth research from reports provided by drug bureaus, scholarly literature, polls, and other resources. This contains thorough research on the state of psychoactive substance abuse. This study discusses the trends and frequency of substance consumption across all age cohorts. It also highlights the concerns due to the increased demand for such substances and making children addicted, and the intricacies involved in managing adult substance abuse. Further exploring the relationship between psychoactive substances and organized crime, the study clarifies how these chemicals are used illegally. Through this exploration, the paper underscores the urgent need for multifaceted interventions to address the multifaceted challenges posed by psychoactive substance abuse in the country.

List of Abbreviations:

Sl.No	TERMS	ABBREVIATION
1.	LSD	Lysergic Acid Diethylamide
2.	MDMA	3,4-methylenedioxy-N-methylamphetamine
3.	PCP	Phencyclidine
4.	GABA	Gamma-aminobutyric acid
5.	IMFL	Indian Made Foreign Liquor
6.	NCPCR	National Commission for Protection of Child Rights
7.	PWID	People who Inject Drugs
8.	NDPS	Narcotic Drugs and Psychoactive Substances

9.	**SSRI**	**Selective Serotonin Reuptake Inhibitor**
10.	**SUD**	**Substance Use Disorder**
11.	**GC-MS**	**Gas Chromatography with Mass Spectrometry**
12.	**GC-FID**	**Gas Chromatography with Flame Ionization Detector**
13.	**LC-UV**	**Liquid Chromatography with Ultraviolet Detection**
14.	**LC/ToF**	**Liquid Chromatography with Time of Flight Mass Spectrometry**
15.	**HPLC**	**High Performance Liquid Chromatography**
16.	**HPLC-ESI-MS**	**High-Performance Liquid Chromatography-Electrospray Ionization Mass Spectrometry**
17.	**PDA**	**Photodiode Array Detector**
18.	**TLC**	**Thin Layer Chromatography**
19.	**HPLC-MS**	**High Performance Liquid Chromatography with Mass Spectrometry**
20.	**LC-MS-MS**	**Liquid Chromatography with Tandem Mass Spectrometry**
21.	**LC-MS**	**Liquid Chromatography with Mass Spectrometry**
22.	**GC-IR**	**Gas Chromatography with Infrared Spectroscopy**

Introduction.

The civilisations of Babylon, Egypt, Greece, Rome, China, and India contributed to the understanding of herbal and chemical drugs, documenting their use and dosages. Historically, knowledge of medicinal plants and treatments dates back to ancient cultures, as seen in texts like the Vedas. Chloral hydrate was infamously used for inducing unconsciousness, earning the nickname "Mickey Finn Specials." Additionally, the 1960s saw widespread misuse of drugs such as barbiturates, methaqualone, and amphetamines, often administered as tablets and capsules (Klaassen et al., 2001; Gupta, 2017; J Ramsey). It is common for people to commit crimes by using drugs, i.e. robbery, sexual assault, and money extortion have been the most common issues worldwide for the last few years. The drugs used by criminals, spanked with beverages or food items, may alter the victim's behavior, such as state of awareness, judgment, and memory. These types of criminals are commonly known as the "Jahar Khurani gang" or Nasha Khurani gang or drugging. Nasha is a simple Hindi/ Urdu word that means intoxication, the state of feeling drunk as a result of something. The term poison was derived from the Latin word potion, which is a deadly draught. Nowadays, drugging is also simply called 'nasha karna' sometimes, though Nasha can generally

include any type of intoxicant. The word gang comes from the word gonge, originally meaning in short means a journey (Marcus Hoover, 1999). Susruta Samhita elaborated on several modes of poisoning and explained how the toxins were mixed with food, drink, and honey, and sprinkled on horses' saddles, shoes, garlands, jewelry, etc. in Ancient India. Nowadays, naturally occurring poisons are frequently used for the robbery of travelers, murder, and suicide (Gupta, 2017).

1.1 Types of psychotropic Substances used in India

Sr No	Classes of drugs	Name of drugs	Effect of drugs	References
1.	**Hallucinogens**	LSD, MDMA, and PCP (angel dust), Marijuana leaves (cannabis)	Changes in perception (hearing sounds, images, and sensations that seem real, but do not exist), feeling sensations, thought, emotion, and consciousness.	Dolder et al., 2018
2.	**Narcotics**	Hydrocodone, methadone, morphine, oxycodone (and codeine-containing pain relievers, such as Tylenol 3 (acetaminophen and codeine),	suppressing the central nervous system's ability to relay pain messages to the brain	
3.	**Stimulants**	Amphetamines, methamphetamines, and cocaine	·Reduced appetite ·Potential for addiction and dependence · Elevated heart rate and blood pressure	Pierce et al., 2011;
4.	**Depressants**	Barbiturates, clonazepam benzodiazepinesSleeping pills flurazepam , lorazepam (Dalmane) and quazepam diazepam Chloral hydrate	Acts on the central nervous system and relieves anxiety by producing an increase in activity of a neurotransmitter, GABA.	Singh et al., 2015;
5.	**Plant origin**	Cannabis, Datura, nutmeg	•Dry skin and mucosa •Flushing •Mydriasis	Khanra et al, 2016

The historical utilization of psychoactive substances has been a longstanding aspect of Indian culture, but contemporary trends indicate a concerning shift toward widespread substance abuse. While previous studies have offered foundational insights, methodological limitations underscore the necessity for updated research.

The use of psychoactive substances in India has significantly increased in recent years, with a shift towards widespread substance abuse. Previous studies have provided some insights, but limitations in methodology, such as sampling errors and gender biases, have led to the need for regular updates. In 2016, the Ministry of Social Justice and Empowerment launched the "National Survey on Extent and Pattern of Substance Use in India" to provide valuable insights and guide policy responses. The survey highlights the widespread use of psychoactive substances, primarily affecting adult males, and highlights differences in substance usage among different substances and between states. Alcohol is the most commonly used substance, with men using it more than women. Cannabis and painkillers are the most widely used substances, followed by inhalants and sedatives. The survey emphasizes the need for comprehensive approaches to address substance use problems nationwide while considering local variances and preferences.

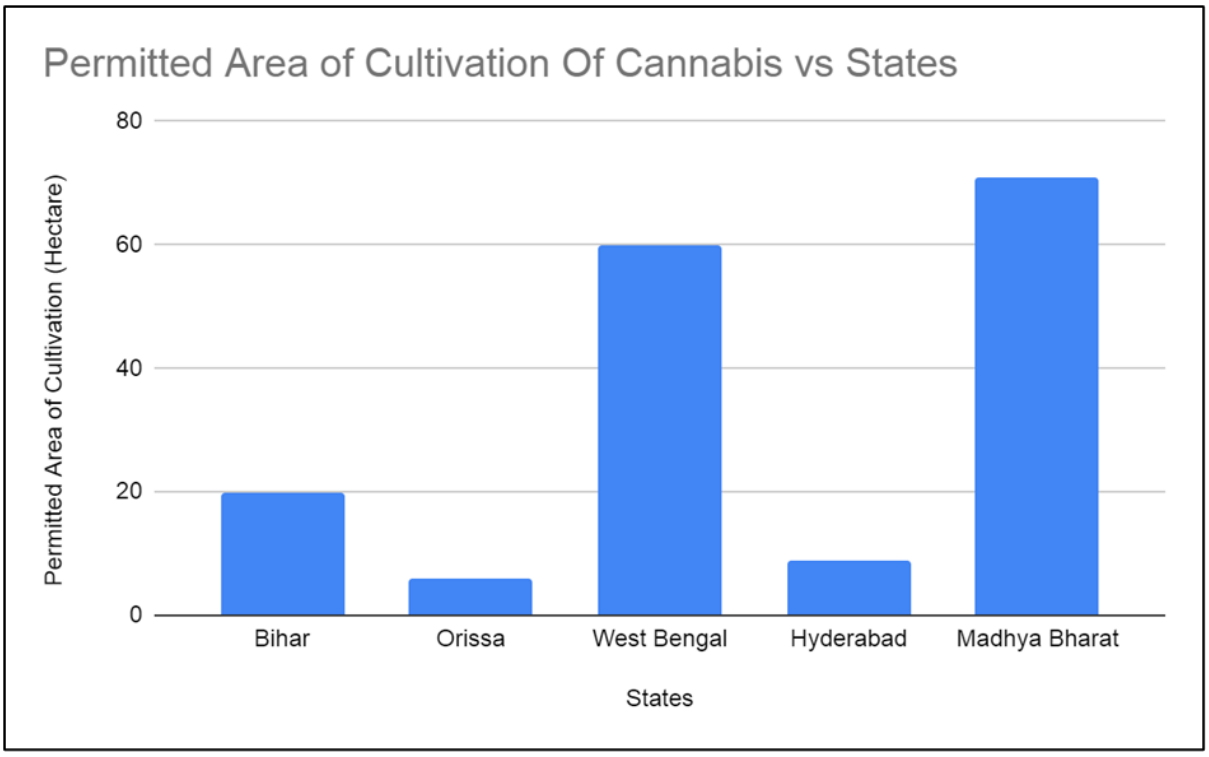
Cannabis

According to the United Nations-based research study, The Use of Cannabis Drugs in India, a study by. C. Chopra, R. N. Chopra

The cultivation of cannabis in India remains regulated, with specific states designated for its growth. According to recent data, the following states permit cannabis cultivation:

- Bihar: 20 hectares
- Orissa: 6 hectares
- West Bengal: 60 hectares
- Hyderabad: 9 hectares
- Madhya Bharat: 71 hectares
- Mysore: 16 hectares

This information sheds light on the geographic distribution of cannabis cultivation within the country.



The information reveals patterns in cannabis production and consumption from 1950 to 1954, emphasizing variations in usage quantified in pounds and kilograms. Significantly, bhang and ganja experienced a consistent rise during this time, whereas charas displayed more fluctuating trends. This data is important for researchers, policymakers, and stakeholders interested in drug policy, public health, and law enforcement.

According to the data released by the MINISTRY OF SOCIAL JUSTICE AND EMPOWERMENT, GOVERNMENT OF INDIA (2019), in India, cannabis usage includes legally available Bhang and illegal Ganja and Charas. About 2.8% of individuals aged 10-75 years are current cannabis users, with a higher prevalence of Bhang (2%) compared to Ganja/Charas (1.2%). Men are predominantly cannabis consumers. State-wise variations show higher usage in Uttar Pradesh, Punjab, Sikkim, Chhattisgarh, and Delhi. Notably, some eastern and northeastern states exhibit a reverse trend, with more illegal Ganja/Charas users compared to Bhang. Overall, 0.25% of Indians exhibit dependent cannabis use, with Ganja/Charas users more prone to harmful effects. Approximately 0.66% of individuals need help due to harmful or dependent cannabis use, with higher rates in states like Sikkim and Punjab.

Alcohol

In 2016, alcohol consumption in India stood at approximately 5.4 billion liters, with projections indicating an increase to about 6.5 billion liters by 2020. While the average alcohol intake per adult in India is relatively lower compared to developed countries like the United States, there is a concerning prevalence of heavy drinking among young Indians. Men are notably more inclined towards alcohol consumption than women, with male drinkers reportedly consuming around 18.3 liters of alcoholic beverages per capita in 2020. Despite legal restrictions, studies show that over 88% of individuals under the age of 25 in India purchase alcohol, contributing to the enforcement of limitations or bans on alcohol in certain states. Among Indian metropolitan cities, Mumbai leads in alcohol consumption, accounting for 39% of total wine consumption, followed by Delhi at 23% and Bengaluru at 20%.

At the national level, approximately 14.6% of individuals aged 10-75 years, totaling about 16 crores people, are current alcohol users in India. This prevalence is significantly higher among men, with rates 17 times higher than those among women. Among alcohol consumers in the country, both Country liquor ('desi') and spirits (IMFL - Indian Made Foreign Liquor) are the most commonly consumed beverages, each constituting about 30% of alcohol consumption. About 5.2% of Indians, accounting for more than 5.7 crore individuals, are estimated to suffer from harmful or dependent alcohol use, indicating that one in every three alcohol users in India requires assistance for alcohol-related issues. States with notably high prevalence rates of alcohol use include Chhattisgarh, Tripura, Punjab, Arunachal Pradesh, and Goa. Furthermore, states with prevalence rates of alcohol use disorders exceeding 10% are Tripura, Andhra Pradesh, Punjab, Chhattisgarh, and Arunachal Pradesh.Prasad (2009)

Opioids

According to a survey on substance use in India between December 2017 and October 2018, the prevalence of current use of opioids in the country stood at approximately 2.06 percent. Four percent of males were users, while female users constituted only 0.2 percent. Most notably, children between 10 to 17 years of age had a higher share of current use of opioids in the form of opium, heroin, or pharmaceutical drugs at 1.8 percent.

At the national level, Heroin is the most commonly used opioid, with a current usage rate of 1.14%, followed by Pharmaceutical opioids at 0.96%, and Opium at 0.52%. The overall prevalence of current opioid use is 2.06%, with an estimated 0.55% of Indians needing assistance for their opioid use issues, encompassing harmful use and dependence. A larger proportion of individuals are dependent on Heroin compared to Opium and Pharmaceutical Opioids. Among the approximately 60 lakh people estimated to have opioid use disorders nationwide, more than half originate from specific states, including Uttar Pradesh, Punjab, Haryana, Delhi, Maharashtra, Rajasthan, Andhra Pradesh, and Gujarat. Regarding the percentage of the population affected, states in the northeast (Mizoram, Nagaland, Arunachal Pradesh, Sikkim, Manipur), alongside Punjab, Haryana, and Delhi, are among the highest-ranking states in the country.

The quantity of the drugs having medicinal use seized under the Narcotic Drugs and Psychotropic Substances Act, 1985, during the years 2020-2022 is at Annexure-I.

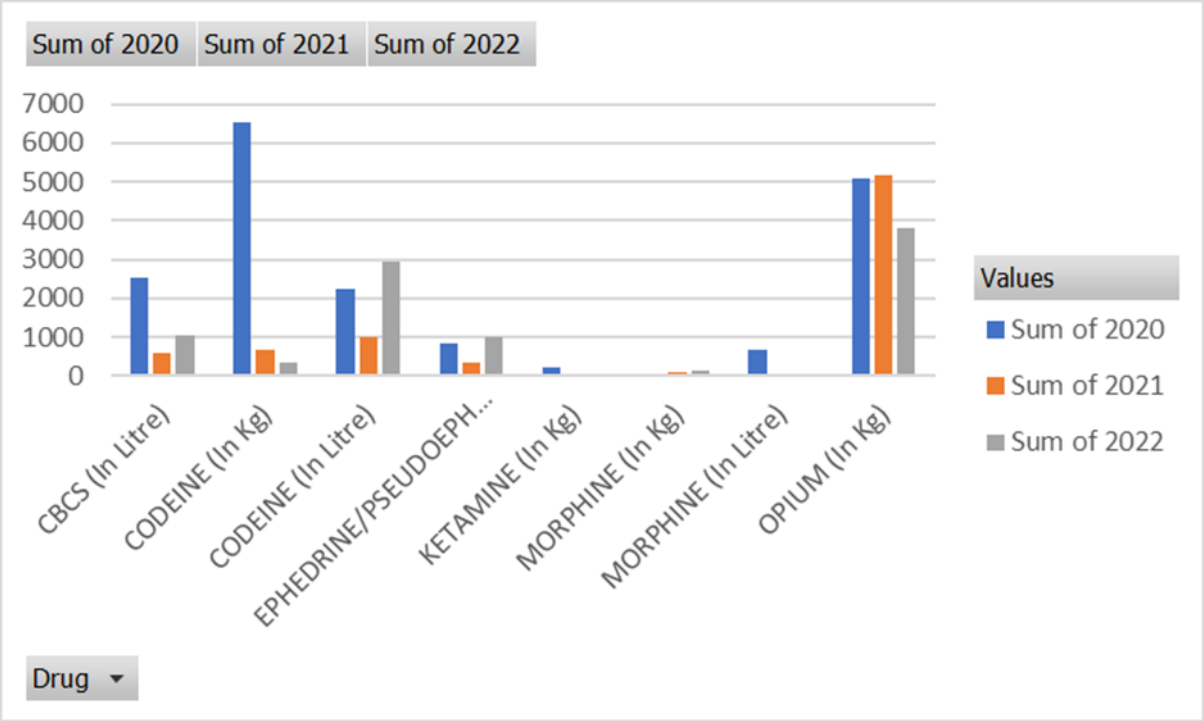
Drug/Year	**2020**	**2021**	**2022**
CODEINE (In Kg)	6,537	660	355
CODEINE (In Litre)	2,229	994	2,922
CBCS (In Litre)	2,542	569	1,059
EPHEDRINE/PSEUDOEPHEDRINE (In Kg)	841	325	1,001
KETAMINE (In Kg)	228	1	3
MORPHINE (In Kg)	17	96	129
MORPHINE (In Litre)	684	35	0
OPIUM (In Kg)	5,097	5,161	3,805

Sedatives and Inhalants

Approximately 1.08% of individuals aged 10-75 in India, totaling around 1.18 crore people, are current users of sedatives for non-medical, non-prescription purposes. States with the highest prevalence of current sedative use include Sikkim, Nagaland, Manipur, and Mizoram. However, Uttar Pradesh, Maharashtra, Punjab, Andhra Pradesh, and Gujarat house the largest populations of individuals using sedatives. Inhalants are a notable exception, with a higher prevalence of current use among children and adolescents (1.17%) compared to adults (0.58%). Nationally, an estimated 4.6 lakh children and 18 lakh adults require assistance for their inhalant use, indicating harmful use or dependence. States with a high population of children needing help for inhalant use include Uttar Pradesh, Madhya Pradesh, Maharashtra, Delhi, and Haryana. Conversely, cocaine (0.10%), amphetamine-type stimulants (0.18%), and hallucinogens (0.12%) exhibit the lowest prevalence of current use in India. On a national scale, there are approximately 8.5 lakh people who inject drugs (PWID), with Uttar Pradesh, Punjab, Delhi, Andhra Pradesh, Telangana, Haryana, Karnataka, Maharashtra, Manipur, and Nagaland having high numbers of

PWID. The opioid group of drugs is predominantly injected by PWID, with heroin and pharmaceutical opioids each accounting for 46% of cases. Additionally, a significant proportion of PWID report engaging in risky injecting practices.

Seizures of Medicinal Drugs under NDPS Act: Trends and Patterns (2020-2022)



Discussion

The impact of psychoactive substance abuse on Youth and adolescents

India has the largest child population, making substance use among urban adolescents a critical issue. Reports show alarming substance misuse rates: 20% of students use glue, while 28% consume alcohol. The situation is exacerbated by a significant population of street children facing poverty and abuse. There are two main patterns of substance use: affluent children often use club drugs like ecstasy and methamphetamine, whereas street children are more likely to use inhalants. A comprehensive NCPCR study involving over 4,000 children found that more than two-thirds used tobacco and alcohol, with 35% using cannabis and inhalants, and 18% using pharmaceutical opioids. Bhattacharjee et al. (2016)

"The prevalence of substance misuse among these adolescents is 'alarming,' with over 20% reported to be using glue and 28% consuming alcohol." - "Many of these vulnerable children endure conditions of poverty, hunger, and physical abuse within their homes." - "This survey employed a combination of random and convenience sampling methods to examine substance use patterns in over 4000 children..." - According to a survey conducted by the National Sample Survey Organization of the Indian Government, it is estimated that around 20 million children aged 10-14 are using tobacco. This shocking number is exacerbated by the addition of approximately 5500 new users every day, resulting in two million new users annually. Agarwal et al. (2013). Findings from the Global Youth Tobacco Survey revealed that 4.2% of students between the ages of 13-15 were smokers, while 13.6% were tobacco consumers other than cigarettes. Agarwal et al. (2013)

Dhawan et al.'s study on street children in Delhi found that tobacco(31.1%) was the most common substance, followed by alcohol(13.5%) and inhalants(11.3%). The research underscores the need for targeted interventions and preventive measures to address substance abuse in this vulnerable population. The study's success in generating representative data highlights the importance of local-level interventions in guiding public health policies to combat substance abuse among street children. Dhawan et al. (2020)
A study carried out by Singh M., Bala N., Garg P.D., Bansal S., Bumrah S., and Attri A. delves into the prevailing problem of substance abuse among children and adolescents. The research findings shed light on key aspects concerning this issue.
“The majority of individuals seeking substance abuse treatment fall within the 16-19 age bracket. Understanding socio-demographic and behavioral factors pla**ys** a vital role." This research underscores the immediate necessity for targeted interventions in tackling the problem of substance abuse among the youth. Understanding socio-demographic and behavioral factors plays a vital role in addressing this public health challenge**.**M. Singh et al. (2017b)

Prescription events for psychotropic drugs and information sources for recording events
This study investigated the first psychotropic drug prescription, the second redeemed prescription, the first inpatient or outpatient visit to psychiatry departments in Denmark, the first attempted suicide, and the first intentional self-harm incident. The Personal Identification Number (CPR) assigned to Danish inhabitants at birth or immigration allowed for linking between data sources. Various registers were employed, including the Danish Civil Registration System, the Danish National Patient Registry, the Danish Psychiatric Central Register, and the National Prescription Registry. Demographic data, such as age, sex, marital status, citizenship, and municipality of residence, were used to link data sources. The Charlson Comorbidity Index (CCI) was computed using data from the register. A Danish algorithm (DK algorithm) was used to detect completed suicide and intentional self-harm. The study also considered the use of hypnotics, which may be a sign of mental stress. The highest educational level attained was considered in this investigation.
The investigation sponsored by the Indian Psychiatric Society offers valuable insights into the prescribing tendencies of psychiatrists in India. By examining data from 4480 patients across different medical facilities, the study illuminates the patterns in recommending psychotropic medications. It discloses that selective serotonin reuptake inhibitors (SSRIs) like escitalopram are frequently administered antidepressants, while olanzapine and risperidone are commonly utilized antipsychotics. Moreover, the usage of valproate for mood stabilization surpasses that of lithium. (Grover et al., 2014).
The study highlights a decline in the prescription rates of tricyclic antidepressants (TCAs) and typical antipsychotics, emphasizing the need for larger multi-center studies to understand prescribing patterns comprehensively. It underscores the importance of sociodemographic and clinical factors in medication selection, as outlined in treatment guidelines (Grover et al., 2016). Employment status significantly influenced prescriptions, with employed individuals receiving fewer benzodiazepines, likely due to concerns about cognitive impairment and daytime drowsiness. Among them, lorazepam was preferred over clonazepam due to its shorter duration of action. Unemployed individuals were more likely to be prescribed amisulpride, as it helps treat negative symptoms of schizophrenia and may improve future employability. Additionally, the employed cohort had a higher utilization of lithium, likely due to its lower sedative effect compared to valproate (McIntyre et al., 2013). The Indian Psychiatric Society Multicentric Study involved 4,480 patients, primarily aged 20–65 years, with an average age of 37.28 years (Grover et

al., 2016). Married individuals constituted 71.8% of the sample, and 54.8% were male, while 48.8% belonged to nuclear families. A significant proportion reported a family income below Rs. 7,322, highlighting the socioeconomic challenges affecting mental health outcomes. The study provides valuable insights into psychotropic prescription patterns in India, emphasizing the need for personalized treatment approaches in psychiatric care. Understanding these trends is crucial for refining clinical practices and addressing gaps in mental health management.

The impact of psychoactive substance abuse on aged people

The demographic landscape is undergoing a significant shift globally, reaching nearly 19% according to the "An Aging World" report published in 2015. The true extent of SUDs remains elusive due to underreporting, under-identification, underdiagnosis, and undertreatment. "Grover and Avasthi (2018)

The Ministry of Social Justice and Empowerment, Government, has released a report titled "Substance use in the elderly: a way forward - Indian perspective" by Ajeet Sidana and Vibha Goel from the Department of Psychiatry, Government Medical College & Hospital (GMCH), Chandigarh. The report highlights several factors contributing to the increasing prevalence of substance use among older adults. The All India Institute of Medical Sciences (AIIMS) reported that 14.6% of people in India between the ages of 10 and 75 consume alcohol, with over 160 million currently drinking. Over 57 million people have harmful or addictive drinking habits. Approximately 2.8% of the population uses cannabis, with 0.66% needing help for cannabis-related problems. The opioid use rate was just under 2.06%, with 0.55% classified as harmful or dependent users. Additionally, 1.08% of the population consumes sedatives and inhalants, with children and adolescents having a higher consumption rate than adults.

The aging population, with increased life expectancy and longer lifespans, is a significant demographic for substance use disorders (SUDs). This demographic often resorts to substance use due to various risk factors, including physical, psychological, and social stressors, which ultimately lead to addiction. Physical risk factors include chronic pain, physical disabilities, diminished mobility, poor health, chronic illnesses, and polypharmacy. Psychiatric risk factors include a history of substance use disorders, preexisting or current mental health conditions, coping mechanisms like avoidance and sleep disturbances, and social risks like family isolation, lack of social support, bereavement, egocentric tendencies, the pursuit of personal gratification, lifestyle transitions, family conflicts, involuntary retirement, fluctuating income, evolving familial roles, and changing cultural norms and attitudes towards substance use. These factors highlight the complex interplay of factors driving substance use among the elderly, necessitating comprehensive prevention and intervention strategies tailored to the unique needs of this demographic. Inclusive strategies for prevention and intervention are necessary to accommodate the distinctive requirements of this population. Gupta et al. (2023)

Rural India and the Burden of Substance Abuse

The descriptive cross-sectional study conducted by Sandeep Sitaram Kadu sheds light on the alarming prevalence of substance abuse among children in slum areas of India. With a staggering 87% of children identified as drug abusers, predominantly boys, the study underscores the urgent need for intervention and support in these vulnerable communities. The findings reveal a concerning trend of substance abuse correlating with increasing age, with tobacco, alcohol, inhalants, sedatives, and opium being the most commonly abused substances. Additionally, the study highlights the significant role of parental education, peer influence, and socioeconomic factors in contributing to substance abuse among these children.

Despite efforts to educate and rehabilitate, the study indicates a considerable challenge in addressing substance abuse, with only a fraction of affected children expressing a willingness to quit. The findings emphasize the pressing need for targeted interventions and support systems to combat substance abuse effectively and safeguard the well-being of children in slum areas. Kadu (2023).

The Department of Psychiatry at Government Medical College and Hospital, Chandigarh, conducted a crucial epidemiological survey. To understand the prevalence and patterns of alcohol and substance dependence among rural and urban slum populations. With a sample size of 2992 individuals surveyed, the study found that 6.88% met the dependence criteria outlined in the ICD-10. Alcohol emerged as the primary substance of dependence, particularly among urban slum residents and rural dwellers. The survey also revealed that individuals in these communities initiated substance use at an early age, with significant health and familial repercussions reported. These findings underscore the urgent need for community-level interventions to address substance dependence and its associated challenges effectively. Chavan et al. (2007).

The role of organized crime in substance abuse

Recent literature highlights the increasing use of psychoactive substances by criminal gangs, particularly the Nasha Khurani gang, to commit theft and robbery. These gangs often target railway passengers and laborers, using colorless, tasteless sedatives to incapacitate victims (Karmakar, 2018). Datura, a potent hallucinogen, is frequently employed in robberies, with victims experiencing confusion, dizziness, and amnesia after consuming laced food or drinks (Tnn, 2017). Some criminals even inject drugs into victims using syringes before stealing valuables. Such drug-facilitated crimes impair judgment, slow reaction times, and cause hallucinations or unconsciousness (F. Kripke, 2013). If administered in high doses, these substances can lead to coma or death (Dorcas, 2012). The emergence of new psychoactive substances (NPS), also called designer drugs, further complicates the issue (Luethi et al., 2020; Peacock et al., 2019). These synthetic compounds mimic the effects of regulated substances and pose serious risks (Soussan et al., 2017). Criminals exploit NPS to bypass legal restrictions while achieving the desired psychoactive effects (Battisse et al., 2020). Addressing this rising threat requires stringent enforcement, public awareness, and improved forensic detection methods.

The misuse of drugs for criminal activities is a major public health issue in India, with substances like sedatives, hypnotics, and opium derivatives commonly used to incapacitate victims for theft. The Nasha Khurani gang often disguises itself as sellers of traditional medicines, mixing psychoactive substances or toxic plant extracts into food or drinks. Datura, a hallucinogenic plant, is frequently involved in crimes such as robbery and sexual assault (Garff et al., 2016). It is sometimes used in Hindu rituals, and cases of Datura-laced food, such as *prasad*, have been reported (Shaikh and Yagnik, 2016). Jahar Khurani gangs have been implicated in numerous drug incidents, with Delhi police arresting members in 2016 for using Ativan tablets in crimes. Between 2009 and 2013, over 3,400 cases of train passengers being drugged were recorded (Times of India, 2014). Northern Railway reported 265 and 122 cases of drugging and robbery in 2011 and 2010. A study in Bihar (2005–2009) found a rising trend, with 154 cases in 2009 (TOI, April 13, 2017). Despite police efforts, these gangs continue to evade capture, particularly in railway divisions, with the East Central (663 cases) and Eastern (470 cases) divisions reporting the highest incidents (Times of India, 2014). Ketamine and lorazepam, commonly used in surgeries, have been misused by criminals to sedate victims on trains and buses. These incidents highlight the urgent need for stricter law enforcement and public awareness to combat drug-facilitated crimes.

6. Forensic Approaches to Drug Detection in Viscera

In forensic science, a toxicologist may be asked to test for substances ranging from toxic metals, cyanide, carbon monoxide, alcohol, and abused drugs to prescribed or over-the-counter drugs. (Forensic Aspects of Poisons book) .These drugs were once an occasional problem; today, they have become much more common. Due to the structural similarity of the specimens encountered by the forensic laboratory, an array of instruments is needed to correctly identify these substances. A range of analytical techniques is usually required, including immunoassay, GC-MS, GC-FID, and LC-UV. We aimed to develop a simple, generic method to screen for these analytes using a single analytical technique based on LC/ToF. (Guale et al. 2012) A high-performance liquid chromatography (HPLC) method with photodiode array detection (PDA) was developed for the determination of three commonly used stupefacients(bringing out stupor) or commonly referred to as sedative, lidocaine, diazepam, and ketamine, in foodstuffs and drinks used for cheating or deceiving a person (Subhra et al. 2014). Various qualitative and quantitative methods like HPLC-ESI-MS, Spectrophotometric assay, TLC, HPLC, HPLC/MS, LC/MS/MS, and immunoassay have been employed for the detection of various drug toxins from human blood and viscera matrices**.** An analytical tool, Liquid chromatography coupled with mass spectrometry (LC-MS), used for screening and identification of drug metabolites in biological matrices, has been discussed in the literature**.** Various drug extraction methods and techniques from visceral matrices were described**.** Some useful data highlight counterfeit drug identification by using some analytical techniques, i.e. colorimetry through chromatographic methods, mass spectrometry, nuclear magnetic resonance, and vibrational spectroscopies (Martino et al., 2010). GC/IR was applied for forensic analysis of drug samples to distinguish closely related compounds.

Conclusion

Psychoactive substance abuse in India remains a multifaceted issue with far-reaching consequences, spanning from vulnerable children to the influence of organized crime. This review highlights the deeply ingrained socio-economic, cultural, and political factors that perpetuate substance abuse and trafficking. The demand for these substances is increasing, with children getting addicted.

Adult abuse is also a concern, with the "Jahar Khurani gang" or "Nasha Khurani gang" being criminals who used poisonous substances to alter victims' behaviors. Cannabis cultivation in India is regulated, with specific states allowing growth. A survey on psychotropic substance use in India from The Ministry of Social Justice and Empowerment Government of India (2019) shows that from December 2017 to October 2018 revealed a prevalence of approximately 2.06% of current opioid use, with a higher share of children aged 10-17 using opium, heroin, or pharmaceutical drugs. Heroin is the most commonly used opioid, with an estimated 0.55% of Indians needing assistance for their issues.

While government policies and rehabilitation efforts have made strides in addressing the crisis, challenges persist due to inadequate enforcement, social stigma, and the ever-evolving tactics of criminal networks. Addressing such issues is essential with factors in improving the education and knowledge by the Government of India and through policy regulation systems.

A comprehensive approach that integrates education, public health initiatives, stricter law enforcement, and community involvement is essential to curbing substance abuse. Special attention must be given to at-risk populations, particularly children and marginalized communities, to break the cycle of addiction and exploitation. Ultimately, addressing this crisis requires a collaborative effort between policymakers, law enforcement, healthcare professionals, and society at large to ensure a safer and healthier future for India.

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