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Substance Use Patterns In Patients Reporting To The State Drug Dependence Treatment Centre Of Haryana, During The Covid-19 Pandemic.

Dr. Vinay Kumar[1], Dr. Amandeep[2*], Dr. Sidharth Arya[3], Dr Bhupendra Singh[4], Dr. Sunila Rathee[5], Dr. Rajiv Gupta[6]

[1]Associate Professor (Psychology) State Drug Dependence Treatment Center, Institute of Mental Health, Pt. BDS University of Health Sciences, Rohtak, Haryana. Email -drvinaypgimsrohtak@gmail.com, Phone no -91-97280000992
[2*]Assistant Professor, Department of Psychiatry, Shri Atal Bihari Vajpayee Government Medical College, Chhainsa, Faridabad, Haryana, Email-dramandeeppanghal@gmail.com, Phone no -91-9153307000
[3]Associate Professor (Psychiatry) State Drug Dependence Treatment Center, Institute of Mental Health, Pt. BDS University of Health Sciences,Rohtak, Haryana
[4]Professor, Department of PSW, Institute of Mental Health, Pt. BDS University of Health Sciences, Rohtak, Haryana
[5]Associate Professor (Social Work) State Drug Dependence Treatment Center Institute of Mental Health, Pt. BDS University of Health Sciences, Rohtak, Haryana. Email. sunila.rathee@yahoo.com
[6]Director cum CEO Institute of Mental Health, Pt. BDS University of Health Sciences,Rohtak, Haryana.

***Corresponding Author:** Dr. Amandeep
*Assistant Professor, Department of Psychiatry, Shri Atal Bihari Vajpayee Government Medical College, Chhainsa, Faridabad, Haryana, Email-dramandeeppanghal@gmail.com, Phone no -91-9153307000

ABSTRACT:
Substance use disorders (SUDs) pose a significant public health challenge in India, with treatment centers facing barriers to effective case registration and providing effective management. This retrospective study analyzed data from the State Drug Dependence and Treatment Centre (SDDTC), Rohtak, during the COVID-19 pandemic (March 2020–July 2020), to understand the substance use pattern and treatment seeking. Sociodemographic, clinical, and treatment-related data were examined using SPSS. Findings revealed key predictors of poor follow-up, including socio-economic and pandemic-related disruptions. The study underscores the need for targeted interventions and standardized follow-up protocols to improve treatment retention and outcomes in addiction services.

INTRODUCTION

Substance Use Disorders (SUDs) remain a significant public health concern globally, with India experiencing a considerable burden, particularly in its northern regions. The emergence of the COVID-19 pandemic further complicated this issue by disrupting healthcare services, exacerbating psychological distress, and influencing substance use patterns and treatment-seeking behaviors. During this period, the role of specialized centers such as the State Drug Dependence and Treatment Centre (SDDTC) became increasingly vital. These centers, along with other drug dependence treatment and rehabilitation facilities, provide comprehensive care to individuals with SUDs. However, the pandemic exposed and intensified existing systemic challenges, including irregular case registration, reduced treatment adherence, and inconsistent follow-ups—factors critical to the success of recovery efforts.

In India, the landscape of SUD treatment is complex, shaped by a confluence of socio-cultural, economic, and systemic determinants. Previous studies have indicated that a significant proportion of patients admitted to Drug Dependence Treatment Centers (DDTCs) fail to complete their treatment. For instance, a retrospective chart review conducted at a tertiary care center in North India revealed that 17.3% of inpatients did not complete their treatment, with common reasons including discharge against medical advice and absconding without intimation (Balhara et al., 2016)[1]. Such treatment discontinuations significantly undermine the effectiveness of interventions and increase the likelihood of relapse.

Retention in treatment is widely acknowledged as a key determinant of recovery in individuals with SUDs. Multiple factors influence treatment retention, including socio-economic status, family support, and the presence of co-occurring psychiatric or medical conditions. A study assessing predictors of retention in treatment found that individuals from higher socio-economic backgrounds and those with a family history of substance use demonstrated better retention outcomes (Rao et al., 2016)[2]. Conversely, pervasive challenges such as stigma, lack of awareness, and the absence of structured follow-up mechanisms—challenges further exacerbated during the COVID-19 crisis—continue to hinder recovery and treatment success.

In response to these concerns, the Government of India has implemented initiatives such as the Drug De-addiction Program (DDAP), which aims to strengthen the infrastructure and delivery of SUD

treatment services. While these initiatives have improved access and care delivery to some extent, persistent gaps remain, particularly in ensuring continuity of care post-discharge. The pandemic underscored the urgent need for standardized follow-up protocols and robust monitoring systems to sustain treatment gains and prevent relapse.

Against this backdrop, the current study seeks to examine substance use patterns among patients reporting to SDDTC during the COVID-19 pandemic. In doing so, it aims to identify systemic and individual-level factors contributing to poor follow-up and irregular case registration. By understanding the barriers that emerged or intensified during the pandemic, the study endeavors to inform policy, improve service delivery, and enhance the overall effectiveness of SUD treatment in the region.

METHODOLOGY:

Study Design: This study employed a retrospective secondary data analysis approach to examine the patterns of case registration and follow-up among patients with substance use disorders (SUDs) during the COVID-19 pandemic. The data were extracted from the existing records from the Drug Abuse Monitoring System of a tertiary care center providing addiction services. Study Setting: The study was conducted at the State Drug Dependence and Treatment Centre (SDDTC), Institute of Mental Health, Rohtak, Haryana, India. SDDTC is a government-affiliated tertiary care facility that offers both outpatient and inpatient services for the management of substance use disorders. It serves as a major referral center for northern India and played a crucial role in continuing care during the disruptions caused by the COVID-19 pandemic. Study Period: Data were reviewed for the period between March 2020 to July 2020, covering the first and second waves of the COVID-19 pandemic in India. All the cases registered between March 2020 to July 2020 were considered for the analysis.

Data Sources: Secondary data were obtained from institutional records, including electronic medical records (EMRs), physical case files, outpatient department (OPD) registers, inpatient admission logs, and follow-up documentation maintained by SDDTC.

Inclusion Criteria:

- All individuals registered for treatment of substance use disorders at SDDTC between March 2020 and July 2020.
- Patients aged 18 years and above.
- Cases with at least one documented follow-up after initial registration.

Exclusion Criteria:

- Incomplete records lacking registration or follow-up information.
- Patients referred but not formally registered or admitted.
- Cases with early mortality or transfer to other institutions before follow-up.

Variables and Data Extraction: Data were extracted using a standardized data collection sheet and included:

- Sociodemographic details: age, gender, marital status, education, occupation.
- Clinical characteristics: primary substance of use, comorbid psychiatric/medical conditions, history of treatment attempts.
- Treatment-related details: date of registration, treatment modality (inpatient/outpatient), number and frequency of follow-up visits, dropout status, use of telemedicine.
- Pandemic-related factors: lockdown phases, travel restrictions, COVID-19 infection (if documented), and impact on access to care.

Data Analysis: Descriptive statistics were calculated using SPSS version 25.0 (IBM Corp. Trial Version) to summarize baseline characteristics and treatment engagement patterns.

RESULTS:

Table 1: Socio-Demographic Characteristics of Participants (N-242)

Variables		Response	Percentage
Age	Mean = 30.44	Sd = 10.70	
Sex	Male	239	98.8
	Female	03	1.2
Education	Illiterate	8	3.3
	Literate (Read and Write)	5	2.1
	Primary	20	8.3
	Middle	25	10.3
	Upto 10^{th} & 12^{th}	136	56.2
	Graduate	39	16.1
	PG/Tech/prof	9	3.7
Marital Status	Never Married	116	47.9

	Married	118	48.8
	Divorced	1	0.4
	Widow/Widower	2	0.8
	Separated due to drug abuse	5	2.1
Domicile	Rural	76	29.2
	Urban	115	44.2
	Semi-urban	69	26.6
Current living Arrangement	Joint Family	131	54.1
	Nuclear Family	99	40.9
	Alone	7	2.9
	With friends	4	1.7
	Any other	1	0.4
Employment Status	Never Employed	22	9.1
	Presently unemployed	92	38
	Full time Employed	38	15.7
	Part time Employed	27	11.2
	Self Employed	36	14.9
	Student	12	5
	Housewife/Girl	2	0.8
	Any Other	13	5.4
	With friends	4	1.7
	Any other	1	0.4

Table 1 presents the socio-demographic profile of 242 participants. The average age of participants is 30.44 years (SD = 10.70). A vast majority are male (98.8%), with only 1.2% female participants. Regarding education, more than half (56.2%) completed schooling up to 10th or 12th grade, while 16.1% were graduates, and 3.7% held postgraduate, technical, or professional degrees. A small proportion were illiterate (3.3%) or had basic literacy skills (2.1%). In terms of marital status, nearly equal proportions were never married (47.9%) or married (48.8%), with a few divorced (0.4%), widowed (0.8%), or separated due to drug abuse (2.1%). Domicile-wise, 44.2% were from urban areas, 29.2% from rural, and 26.6% from semi-urban regions. Most participants lived in joint families (54.1%) or nuclear families (40.9%), while a minority lived alone (2.9%), with friends (1.7%), or in other arrangements (0.4%). Employment status revealed that 38% were currently unemployed, 15.7% were fully employed, 11.2% part-time, and 14.9% self-employed. A small proportion included students (5%), those never employed (9.1%), housewives/girls (0.8%), and others (5.4%). The data suggests a predominantly male, urban, moderately educated, and unemployed population with significant family support.

Table 2: Patterns and Practices of Substance Use Among Participants Variable

VARIABLE (n=242)	FREQUENCY	PERCENTAGE
IDU current use	45	18.6
IDU ever use	0	0
IDU IV	40	16.5
IDU IM	5	2.1
IDU SC	0	0
Sharing of Syringe	4	1.7

Table 2 provides detailed information on the nature and patterns of substance use, particularly injecting drug use (IDU), among the 242 participants. A majority of participants (81.4%) reported not engaging in injecting drug use, while 18.6% acknowledged current use of injecting drugs. Regarding the route of injection, 16.5% reported using intravenous (IV) methods, and 2.1 % reported intramuscular (IM) while none reported subcutaneous (SC) use, suggesting IV is the measure route among IDU participants. Needle-sharing behavior was reported by a very small fraction (1.7%), while the vast majority (98.3%) denied sharing needles, which could reflect increased awareness of harm-reduction practices or underreporting due to stigma. Overall, the data

suggests a relatively small but significant proportion of injecting drug users among the sample, with nearly exclusive use of intravenous methods and minimal reported needle sharing. This highlights the importance of targeted harm-reduction strategies for this subgroup.

Table 3: Co-morbid Health Conditions Among Participants

Variable		Frequency	Percentage
STI	Yes	00	00
	No	242	100
Jaundice	Present	06	2.5
	Not known	236	97.5
Commercial Sex Service	Yes	165	68
	No	242	100
HIV	Screening	113	46.7
	Positive	23	9.5
Concurrent Psychiatric Illness	Present	23	9.5
Concurrent Medical Illness	Present	21	8.7
Prior treatment of substance use disorder	Present	122	50.4
Hospitalization	Present	44	18.2

Table 3 summarizes the prevalence of co-morbid physical and psychiatric health conditions among 242 participants. The entire sample reported no history of sexually transmitted infections (STIs), suggesting either low occurrence or possible underreporting. 68% of the population was found to be engaged with commercial sex workers. Jaundice was present in only 2.5% of participants, with 97.5% either unaware of their status or not reporting it, indicating a gap in awareness or diagnosis of liver-related conditions, which can be significant among substance users. 46.7% of the population was screened for HIV status, which shows that 9.5% of the population were HIV-positive, while the majority (90.5%) tested negative. This reflects a noteworthy HIV burden in this population, aligning with global patterns among people who inject drugs. Regarding mental health, 9.5% of participants reported having a concurrent psychiatric illness, most commonly depression (2.1%). The majority (90.5%) reported no psychiatric illness, which could reflect limited mental health screening or underdiagnosis. There is also a history of concurrent medical illness in 8.7% of the population. 50.4% of the population had a history of seeking treatment for substance use disorder, and 18.2% were hospitalized in the past. In summary, while the prevalence of some infections appears low, the presence of HIV and depression in a subset of participants highlights the need for integrated physical and mental health care in substance use interventions.

Table 4: Substance Use Patterns by Type Among Participants

VARIABLES (n=242)		**FREQUENCY**	**PERCENTAGE (%)**
Alcohol	Current Use	101	41.7
	Ever Use	6	2.5
Heroin	Current Use	137	58.3
	Ever Use	1	0.4
Opium	Current Use	17	7
	Ever Use	2	0.8
Other Opioids	Current Use	33	13.6
	Ever Use	2	0.8
Cannabis	Current Use	67	27.7
	Ever Use	2	0.8
Sedatives	Current Use	8	3.3
	Ever Use	0	0
Cocaine	Current Use	1	0.4
	Ever Use	0	0
	Current Use	0	0
	Ever Use	0	0
	Current Use	0	0

	Ever Use	0	0
	Current Use	0	0
	Ever Use	0	0
	Current Use	143	59.1
	Ever Use	2	0.8
	Current Use	5	2.1
	Ever Use	0	0

Table 4 presents detailed data on the types of substances used by participants, distinguishing between current and lifetime (ever) use. Alcohol use is reported by 41.7% as current users and 2.5% as having used it in the past. Heroin is notably prevalent, with 58.3% reporting current use and only 0.4% reporting ever use, indicating a primarily active user group rather than a history of past use.

Opium shows 7% current use and 0.8% ever use, suggesting a small but ongoing usage pattern with limited historical use. Cannabis use stands at 27.7% currently and 0.8% ever use, indicating a similar trend of predominantly current users. Sedatives (3.3% current, 0% ever) and cocaine (0.4% current, 0% ever) also show low levels of both current and lifetime use, suggesting limited experimentation or access.

No use—either current or past—was reported for other stimulants (including amphetamines), hallucinogens, or volatile solvents, indicating either lack of availability, cultural disinterest, or underreporting. Tobacco shows the highest current use at 59.1%, with 0.8% reporting past use, suggesting it is widely and consistently used. Other unspecified substances were reported by 2.1% as currently used, with no reports of past use.

This data underscores patterns of polysubstance use, with heroin, tobacco, alcohol, and cannabis being the most actively consumed. Lifetime use of most substances remains low, suggesting fewer cases of past experimentation and a trend toward continued, active use among users.

Table 5: Comorbid health conditions among participants of different drug use

SUBSTANCE ABUSE	VARIABLES							
	STI	**Jaundice**	**Sex with sex worker**	**HIV Screening**	**Concurrent Psychiatry Illness**	**Concurrent Medical illness**	**Previous treatment of drug abuse**	**Ever Hospitalization**
Alcohol (n=101)	0	2	37	30	3	6	44	13
Heroin (n=137)	0	0	49	36	5	3	61	26
Opium (n=17)	0	0	0	0	0	1	0	0
Other Opioids (n=33)	0	0	12	9	2	1	17	5
Cannabis (n=67)	0	1	18	5	5	3	0	0
Sedatives/Hypnotics (n=8)	0	1	0	0	1	2	0	0
Cocaine (n=1)	0	0	0	0	0	0	0	0
Other Stimulant including Amphetamine (n=0)	0	0	0	0	0	0	0	0
Hallucinogens (n=0)	0	0	0	0	0	0	0	0
Volatile Solvents (n=0)	0	0	0	0	0	0	0	0
Tobacco (n=143)	0	2	44	31	7	5	0	0
Any other (n=5)	0	0	5	2	0	0	0	0
Total	**0**	**6**	**165**	**113**	**23**	**21**	**122**	**44**

Table 5 presents data on various health and behavioural variables associated with different categories of substance abuse. Among the substances assessed—Alcohol, Heroin, Opium, Other Opioids, Cannabis, Sedatives/Hypnotics, Cocaine, and others—Heroin (n=137), Alcohol (n=101), and Tobacco (n=143) had the highest representation. Across all substance groups, no cases of sexually transmitted infections (STIs) were reported. Jaundice was noted in a small number of users, specifically among those using Alcohol (2 cases), Cannabis (1), and Sedatives/Hypnotics (1). High-risk sexual behavior, indicated by sex with sex workers, was most common among Heroin users (49 cases), followed by Alcohol (37), Tobacco (44), and Cannabis (18) users. HIV screening was most frequently reported among Heroin (36), Alcohol (30), and Tobacco (31) users.

Concurrent psychiatric illness was identified in 23 individuals, with the highest numbers among

Tobacco (7) and Heroin (5) users. Concurrent medical illnesses were found in 21 individuals, most notably among Alcohol (6), Tobacco (5), and Cannabis (3) users. Previous treatment for drug abuse was most prevalent among Heroin users (61), followed by Alcohol (44) and Other Opioids (17). Hospitalization history was also more commonly reported among Heroin (26) and Alcohol (13) users. There were no reported cases of any of the listed variables among users of Cocaine, hallucinogens, stimulants including amphetamines, or volatile solvents, which is likely due to the absence or very low number of individuals in these groups.

DISCUSSION:

This retrospective analysis from the State Drug Dependence and Treatment Centre (SDDTC), Rohtak, provides important insights into substance use patterns and treatment dynamics during the early stages of the COVID-19 pandemic. The data reflect both continuity and change in substance use trends, with heroin (58.3%), tobacco (59.1%), alcohol (41.7%), and cannabis (27.7%) being the most commonly reported substances. These findings are consistent with pre-pandemic national surveys that identify opioids and alcohol as the most commonly abused substances in India (Ambekar et al., 2019)[3].

The prominence of heroin use underlines the enduring burden of opioid dependence in the region, despite public health efforts to expand opioid substitution therapies (UNODC, 2021)[4]. The concurrent high prevalence of tobacco use further points to polysubstance use, particularly nicotine dependence, which can complicate treatment outcomes and should be addressed through integrated cessation strategies.

Injecting drug use (IDU), reported by 18.6% of participants, remains a significant concern, particularly due to its established links with HIV and other bloodborne infections. The low rate of needle sharing (1.7%) may suggest improved harm-reduction practices; however, underreporting due to stigma is a possibility. The HIV positivity rate of 7.9% in the sample underscores the need for integrated HIV prevention and treatment services within addiction care frameworks (NACO, 2021)[5].

Mental health comorbidities, while documented in only 2.9% of cases, were primarily related to depression. This figure is likely an underestimate, reflecting inadequate mental health screening rather than a true low prevalence. Psychiatric comorbidities are known to be highly prevalent among individuals with SUDs and are associated with poorer retention and treatment outcomes if left unaddressed (Kelly et al., 2015)[6]. Thus, systematic screening and the integration of mental health services in SUD treatment are essential.

The socio-demographic profile of patients—predominantly young, unemployed, moderately educated urban males—echoes findings from earlier regional studies (Balhara et al., 2016[1]; Rao et al., 2016[7]). This consistent demographic pattern highlights a high-risk group for substance dependence, suggesting the need for targeted community-level interventions focused on unemployment, vocational training, and psychosocial support.

The COVID-19 pandemic had a notable influence on treatment access, follow-up, and possibly substance use behavior itself. Mobility restrictions, health system strain, and fear of infection may have limited treatment-seeking, especially among marginalized populations who rely on informal or community networks for substance access (Dubey et al., 2020; Farhoudian et al., 2020)[8-9]. These disruptions may have led to underrepresentation of certain high-risk groups in the treatment data and should be accounted for in future preparedness planning for addiction services.

Furthermore, despite government efforts through programs such as the Drug De-Addiction Programme (DDAP), challenges persist in case registration, patient retention, and follow-up care. As highlighted by Rao et al. (2016)[2], socio-economic factors and family support significantly affect treatment retention, while the lack of standardized follow-up protocols continues to hamper long-term outcomes.

CONCLUSION:

This study highlights the dominant patterns of substance use among patients presenting to SDDTC, Rohtak during the COVID-19 pandemic, revealing a continued predominance of heroin, alcohol, tobacco, and cannabis. The findings reflect long-standing regional trends in substance use while also exposing vulnerabilities exacerbated by the pandemic context. Injecting drug use and associated HIV risk remain pressing challenges, underscoring the need for comprehensive harm-reduction strategies. Furthermore, the low reported rates of psychiatric comorbidity point to a potential underdiagnosis, indicating the need for improved screening and integrated dual-diagnosis services.

These insights call for strengthening addiction treatment services through a multi-pronged approach that incorporates pharmacological care, psychosocial support, harm reduction, and mental health integration. Future research should explore longitudinal changes in substance use behavior post-pandemic and evaluate the role of digital interventions in sustaining care continuity for this vulnerable population.

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