Pattern and Severity of Substance Use Disorder among Patients Seeking Treatment at De-addiction Centres in District Amritsar, Punjab

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Abstract:

Introduction: Worldwide substance use is a major public health problem. There are multiple socio-demographic correlates of substance use disorders. **Objective:** To study pattern and severity of substance use disorder (SUD) among patients seeking treatment at two de-addiction centres in Amritsar. **Methods:** A cross-sectional study was conducted on 203 patients with substance use disorders seeking treatment selected by total enumerative method in the time period from 25th March – 24th April,2025 using a predesigned and pretested proforma. The severity of substance use disorder was graded as Mild=2-3, Moderate= 4-5 and Severe=6+ using Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) criteria for substance use disorder. **Results:** Mean age of the study participants was 36.4±11.1 years and majority (98%) were males. In order of frequency, substances used were opioids 170 (83.7%), alcohol 77 (37.9%), OTC (over the counter drugs) 42 (20.7%) and tobacco 31 (15.3%). Peer pressure was the commonest reason for the initiation of substance use. By grade, 170 (83.7%) participants had severe, 24 (11.8%) had moderate and 9 (4.5%) participants had mild grade of substance use disorder. Significant associations between severity of substance use disorder and frequency of substance use (OR= 3.61,95% CI=1.10-11.85), clinically diagnosed depression (OR=3.75, 95% CI=1.25-11.19), financial or legal issues faced due to substance use (OR =4.68, 95% CI=2.08-10.50) and current pattern of substance use (OR=4.30 95%, CI=1.50-12.32) were found. **Conclusion:** Sociocultural factors play a dominant role in substance use disorders. Socio-culturally relevant behaviour change communication and targeted interventions are need of the hour.

Keywords: Alcohol, Depression, Opioid, Peer pressure, Substance use disorder, Tobacco

Introduction:

Substance abuse has become a great public health concern across the globe. According to the latest United Nations Office on Drugs and Crime (UNODC) World Drug Report, the number of people using drugs in 2025 was 316 million and this number has increased by 28% over the past decade.[1] The most commonly abused drugs are alcohol, marijuana (Ganja), bhang, hashish (charas), various kinds of cough syrups, sedative tablets, brown sugar, heroin, cocaine, tobacco (cigarette, gutka, pan masala) etc. It is estimated that in India, there are approximately 62.5 million alcohol users, 8.7 million cannabis users and 2 million opioid users. Also, India stands second as a tobacco consumer worldwide with an estimated 250 million tobacco users of age 10 years and above.[2,3]

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The self-administration of those substances which produces mental and behavioural disorders are called psychoactive substances according to ICD -11 (International Classification of Diseases). World Health Organization (WHO) states that substance abuse is persistent or sporadic use of psychoactive drugs, alcohol and other illicit drugs which is inconsistent with or unrelated to acceptable medical practice.[4]

Many studies have shown that substance use usually starts during adolescence or early youth and there are multiple social, biological and psychological factors that are responsible for substance abuse. Peer pressure, the desire of experimentation and low self-esteem makes them vulnerable to substance abuse.[5]

Various community-based surveys have reported that substance use disorders have many physical, social, psychological and financial implications. Substance abuse is a risk factor for many non-communicable diseases. Injectable drug users are at risk of infections like HIV, Hepatitis C and Hepatitis B.[6]

Recent data on the pattern and extent of substance use is scanty; hence the present study was conducted to know the pattern and severity of substance use and the factors affecting substance use disorder.

Methods:

The study was a cross-sectional study conducted among the patients with substance use disorders seeking treatment at two de-addiction centres in Amritsar after taking due permissions from the Institutional Ethical Committee (letter no. SGRD/IEC/2025-430 dated 24/3/2025). Data was collected over a period of 1 month from 25th March to 24th April 2025. Informed consent was taken from all the study subjects and confidentiality of information was assured.

The study included all patients with substance use disorder who were seeking treatment at any one of two de-addiction centres in Amritsar and provided informed consent, as well as those who were able to comprehend and communicate clearly. Based on this a total of 203 study subjects were recruited for the study by complete enumeration method

Study tool: A self designed questionnaire which included questions on socio-demographic variables and substance use was administered to the study participants. The questionnaire also included a pre-validated scale; Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) [7] which was used to assess the severity of substance use disorder.

Data collection: Students of MBBS admission batch 2021 who chose research as elective along with a clinical psychologist conducted the interviews after sensitization and training in the art of interviewing. The questionnaire was interviewer administered. Back translation was used to convert the questionnaire to the vernacular language.

Statistical Analysis: The data collected were compiled and analysed using SPSS version 23.0. Descriptive statistics were applied as means and percentages. Inferential statistics like odds ratio with confidence intervals were calculated and valid conclusions were drawn.

Operational definitions:

Substance use: World Health Organisation states that substance use is persistent or sporadic use of psychoactive drugs, alcohol and other illicit drugs which is inconsistent with or unrelated to acceptable medical practice.

DSM-5[7]: The "Diagnostic and Statistical Manual of Mental Disorders", Fifth Edition, text revision, often called as the DSM-V-TR or DSM-5-TR criteria. The DSM-5-TR allows clinicians to specify how severe or how much of a problem the substance use disorder is, depending on how many symptoms are identified.

- Mild: Two or three symptoms indicate a mild substance use disorder.
- Moderate: Four or five symptoms indicate a moderate substance use disorder.
- Severe: Six or more symptoms indicate a severe substance use disorder.

Results:

Table 1 shows that mean age of the study participants was 36.4±11.1 years and the median income of the family was 25,000 per month with the interquartile range (IQR) from 15,000 to 35,000 per month. Out of the

total 203 study participants, 199 (98%) were males, majority i.e. 86 (42.4%) were semi-skilled workers and 35.5% had studied up to high school. 140 (69%) were married and 61.1% belonged to nuclear family.

Figure 1 shows that most common substances abused were opioids 170 (83.7%) followed by alcohol 77 (37.9%), OTC (over the counter drugs) 42 (20.7%) and tobacco 31 (15.3%).

Table 1: Distribution of study participants according to socio-demographic parameters (N=203)

Sociodemographic parameters	n (%)
Gender	
Male	199 (98%)
Female	3 (1.5%)
Transgender	1 (0.5%)
Occupation	
Professional	18 (8.9%)
Skilled	47 (23.2%)
Semi - skilled	86 (42.4%)
Unskilled	35 (17.2%)
Unemployed	17 (8.4%)
Educational status	
Graduate and above	40 (19.7%)
High school	72 (35.5%)
Till matric	60 (29.6%)
Till primary	21 (10.3%)
Illiterate	10 (4.9%)
Marital status	
Married	140 (69%)
Unmarried/Bereaved/separated	63 (31%)
Type of family	
Nuclear	126 (62.1%)
Joint/others	77 (37.9%)

Figure 1: Percentage distribution of substances used by the study participants

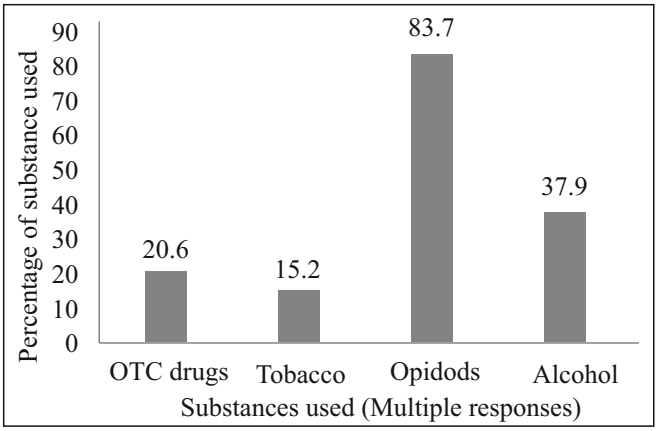

Table 2: Distribution of the study participants according to factors associated with substance use (N=203)

Factors associated with substance use	n (%)
Frequency of substance use	
Daily use	135 (66.5%)
≥3 times	55 (27.1%)
<3 times	1 (0.5%)
Irregular	12 (5.9%)
Number of routes by which substance used	
Single (Oral/parenteral/Inhalation)	163 (80.3%)
Dual	37 (18.2%)
All	3 (1.5%)
Status of substance use	
Stopped/under treatment	17 (8.4%)
Continued with same substance as initiated on	121 (59.6%)
Addition of another substance to substance initiated on	57 (28.1%)
Changed to another substance	8 (3.9%)
Occasion for indulging in substance use now (n=186)	
Recreational/happy	31 (16.7%)
Sad/Depressed/anxious	53 (28.5%)
Not related	102 (54.8%)
Know someone with substance use disorder	
Yes	149 (73.4%)
No	54 (26.6%)
Most compelling reason for first use	
Peer pressure	105 (51.7%)
Curiosity	42 (20.7%)
Stress relief	32 (15.8%)
Any other	24 (11.8%)
Perception- My substance use habit is problematic	
Yes	188 (92.6%)
No	15 (7.4%)
Previously sought treatment for substance abuse	
Yes	115 (56.7%)
No	88 (43.3%)
Faced financial/legal issues due to substance abuse	
Yes	124 (61.1%)
No	79 (38.9%)
Debt incurred due to substance use	
Yes	137 (67.5%)
No	66 (32.5%)
Clinically diagnosed case of depression	
Yes	62 (30.5%)
No	141 (69.5%)

Perusal of table 2 reveals that the mean age of starting substance use was 24.9±7.26 years and median expenditure on substance use is 5600/month which ranged from 2000 to 10,000 per month; 137 (67.5%) had incurred debt for indulging in substance use; 149 (73.4%) knew someone with substance use before initiating and the commonest reason for initiation to substance abuse was peer pressure in 105 (1.7%) cases followed by curiosity, stress relief and others.

Majority i.e., 135 (66.5%) were practising substance use daily and the most common route of administration was single i.e. either oral, parenteral or inhalation 163 (80.3%) followed by double either oral+parenteral, oral+inhalation or parenteral+ inhalation 37 (18.2%) and 3 (1.5%) were using through all the three routes. Regarding the current pattern of substance use, 121 (59.6%) were continuing with the same substance as they were initiated on, others either added another or changed to some other substance or stopped taking respectively.

Table 3: Distribution of the study participants according to the severity of substance use disorder using DSM -5 criteria (N=203)

Grade (Score)	n (%)
Mild (2-3)	9 (4.5%)
Moderate (4-5)	24 (11.8%)
Severe (≥ 6)	170 (83.7%)

More than half, 102 (54.8%) reported that indulging in substance use was not related to feeling of sadness or happiness. Out of the total study subjects, 62 (30.5%) were clinically diagnosed cases of depression, 188 (92.6%) perceived substance use as a problem, 115 (56.7%) had undergone treatment for substance use in the past too. 124 (61.1%) participants reported facing financial and legal issues due to indulging in substance use.

Table 3 shows the severity of substance use disorder according to DSM-5 criteria. Out of the total 203 study subjects 170 (83.7%) had severe substance use disorder.

Perusal of Table 4 shows that frequency of substance use (OR= 3.61, 95% CI=1.10-11.85), clinically diagnosed depression (OR=3.75, 95% CI 1.25-11.19), financial or legal issues due to substance use (OR=4.68, 95% CI=2.08-10.50) and the current pattern of substance use (OR=4.30, 95% CI=1.50-12.32) were significantly associated with the severity of SUD while no association was found with type of family, marital status, in touch with somebody with substance use, debt incurred due to substance use, number of routes of substance use and substance use perceived as a problem.

Table 4: Association of variables related to substance use with severity of substance use (N=203)

Variables related to substance use	Mild/ Moderate, n=33	Severe, n= 170	Odds Ratio (95%CI)	p value
Know someone with substance use disorder				
No	5 (9.3)	49 (90.7)	0.44 (0.16-1.20)	0.103
Yes	28 (18.8)	121 (81.2)		
Frequency of substance use				
Irregular or <3 times/day	5 (38.5)	8 (61.5)	3.61 (1.10-11.85)	0.024
Daily or ≥3 times/day	28 (14.7)	162 (85.3)		
Pattern of substance use				
Stopped/under treatment	7 (41.2)	10 (58.8)	4.30 (1.50-12.32)	0.003
Same substance/ Addition/ Changed	26 (14.0)	160 (86.0)		
Number of routes of substance use				
Single	29 (17.8)	134 (82.2)	1.94 (0.64-5.90)	0.231
Dual or All	4 (10.0)	36 (90.0)		
Debt incurred due to substance use				
Yes	25 (18.2)	112 (81.8)	1.61 (0.68-3.81)	0.267
No	8 (12.1)	58 (87.9)		
Faced financial/legal issues due to substance abuse				
No	23 (29.1)	56 (70.9)	4.68 (2.08-10.50)	<.001
Yes	10 (8.1)	114 (91.9)		
Clinically diagnosed case of depression				
No	29 (20.6)	112 (79.4)	3.75 (1.25-11.19)	0.01
Yes	4 (6.5)	58 (93.5)		

Discussion:

Present study showed that mean age of the subjects with substance abuse was 36.4 ± 11.1 years. The findings were not in concordance with many of the studies as most of the studies on substance abuse are done either on adolescents or school children.[8,9] The study by Saikia N et al.[8] on male adults in North-East India also reported that substance use is more common in skilled and semi-skilled workers and that the likelihood of substance use goes down with increasing educational status. A study in Nigeria by Dapap DD et al.[10] done on the patients with substance use in the emergency department showed that 59.5% were married, similarly in present study we found that 69% were married.

A study by Kumar S et al.[11] in Karnataka reported that in their study 22% were tobacco users and 8.2% were tobacco users. A National Survey on Extent, Pattern and Trends of Drug Abuse in India also reported that most commonly used substances in India are alcohol (21%), cannabis (3%) and opiates (0.7%).[12] Another cross-sectional study done in India by Rao R et al.[13] showed that most commonly used substance was tobacco (31.4%) followed by alcohol (23.8%) and cannabis (4.1%).

In the present study, it was found that continued close association with a substance user was found in 149 (73.4%) of the study participants. Peer pressure, 105 (51.7%) was identified as the most common reason for initiation to substance use. A review done in India by Gupta H et al.[14] on medical students also reported that family history and peer pressure are the important associated factors for SUD. Another study done on male adolescents in suburban areas of Delhi by Daniel LT et al.[15] showed that substance use is seen more among those who had nuclear families (67.2%) and having low educational status (52.7%). A study in Nigeria by Vincent CN et al.[16] showed that the mean age of starting substance abuse was 23± 3.7 years which is consistent as in our study. Present study showed that out of the total 66.5% were practicing substance use daily and 80.3% were using single route of administration. A study on school students in Nigeria by Adelekan ML et al.[17] reported that approximately 50% of the study subjects sniff or snort and 52.9% used substance on daily basis.

The present study observed that the average income of the families of substance user was 25,000/month ranging from 15,000 to 35,000/month and the median expenditure is 5600/month ranging from 2000 to 10,000 per month. The expenditure was found to be ranging from 1.4% to 66.7% of the family income. Studies done by Murthy P et al.[18] and Patel R et al.[19] have also mentioned about the socio-economic impact or the financial burden in the family due to substance use.

In the present study, it was observed that majority i.e., 83.7% were suffering from severe substance use disorder and the factors significantly associated with the severity of substance use disorder were frequency of substance use, diagnosed case of depression, those who had faced some financial or legal issues due to substance use and the pattern of substance use; other factors like age, sex, type of family, marital status, age of initiation, anyone known with substance use and type of substance use did not affect the severity of substance use disorder. A descriptive cross-sectional study by Olashore AA et al.[20] on socio-demographic correlated reported that factors significantly associated with substance use were age, poor participation in religious activities, earning more than 150 USD per month and having a father or friend indulged in substance use.

Another community-based study by Kamate RP et al.[21] on adolescents reported that low socio-economic status and family history were significantly associated with substance use.

Present study provides data on individuals seeking treatment for substance abuse which is one of its kind, as majority of studies on substance use are either done in adolescents or school children.

Conclusion:

Health communication in terms of designing behaviour change communication models should be customized taking into account the regional burden of substance use and the pattern of substance use. The targeted interventions also must align with the pattern and severity of the substance use for them to be able to

bring about a decrease in the burden of substance use in the community. Periodic surveys should be carried out to assess the effectiveness of behaviour change communication and targeted interventions.

Limitations:

Small sample size and health facility-based survey make the present study less generalizable. More studies need to be conducted to address the issue of substance use.

Declaration:

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Conflict of Interest: Nil

Annexure:

List of Co-Investigators:

Davinder Singh Bajwa; Harleen Kaur Ghara; Riya Gupt; Arshanpreet Kaur; Brisleen Kaur; Sehajpreet Kaur; Ivjeet Singh Kalkat; Pooja Khanna; Aditya Raj Malhotra; Kabir Singh Sadana; and Akarshit Saini, MBBS Student, Sri Guru Ram Das Institute of Medical Sciences and Research, Amritsar, India.

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