e-ISSN: 0975-9506, p-ISSN: 2961-6093

Available online on www.ijpqa.com doi: 10.25258/ijpqa.16.11.119

International Journal of Pharmaceutical Quality Assurance 2025; 16(11); 772-778

Original Research Article

Patterns and Prevalence of Psychiatric Comorbidities in Individuals with Substance Use Disorders: A Retrospective Analysis

Sushil Kumar[1], Amit Kumar[2], Vijendra Nath Jha[3]

[1]Senior Resident, Department of Psychiatry, Darbhanga Medical College and Hospital, Laheriasarai, Darbhanga, Bihar, India

[2]Senior Resident, Department of Psychiatry, Darbhanga Medical College and Hospital, Laheriasarai, Darbhanga, Bihar, India

[3]Associate professor and HOD, Department of Psychiatry, Darbhanga Medical College and Hospital, Laheriasarai, Darbhanga, Bihar, India

Received: 05-10-2025 / Revised: 10-11-2025 / Accepted: 28-11-2025

Corresponding Author: Dr. Amit Kumar

Conflict of interest: Nil

Abstract:

Background: Psychiatric comorbidities frequently co-occur with substance use disorders (SUDs), complicating clinical management and affecting ˙treatment outcomes. Understanding these patterns is crucial for effective interventions.

Aim: To examine the prevalence and patterns of psychiatric comorbidities among individuals with SUDs attending a tertiary care hospital in the Bihar region.

Methodology: This retrospective observational study reviewed medical records of 80 patients aged 18–60 years diagnosed with SUDs over a 7-month period. Demographic data, substance use patterns, and psychiatric comorbidities were extracted using a semi-structured proforma and analyzed using SPSS v27. Descriptive statistics and chi-square tests assessed associations between substance type and comorbidities.

Results: Majority of participants were male (77.5%), aged 26–35 years (35%), and married (55%). Alcohol (62.5%) and tobacco (52.5%) were the most commonly used substances. Psychiatric comorbidities were present in 91.2% of participants, with mood disorders (37.5%) and anxiety disorders (25%) being most prevalent. Polysubstance and cannabis users showed the highest comorbidity proportions. Males exhibited higher rates across most psychiatric conditions.

Conclusion: Psychiatric comorbidities are highly prevalent among individuals with SUDs, even with relatively short duration of use. Early identification and integrated treatment addressing both substance use and mental health are essential to improve outcomes.

Keywords: Substance use disorders, psychiatric comorbidity˙, dual diagnosis, mood disorders, polysubstance use

Introduction

Substance abuse has emerged as a major public health issue which affects people all around the world and brings about social and economic and health problems. The ˙rate of substance use in society has increased during the past several decades because of two main factors which include increased drug trafficking operations and the simple availability of psychoactive drugs and the shifting patterns of social behavior. The increase creates major societal effects which especially impact young people who represent the active workforce and result in decreased work efficiency and higher criminal activity and social disintegration. Substance use disorders (SUDs) present immediate health risks while they frequently appear together with psychiatric disorders which create difficulties for medical staff to handle and treat patients [1]. The literature identifies dual diagnosis as the term which describes the common presence of these disorders that show how psychiatric conditions and substance use disorders are linked together [2].

The existence of psychiatric disorders together with substance use disorders presents essential medical value for their evaluation. The existence of additional psychiatric disorders together with substance use disorders leads to multiple negative effects which include treatment results and treatment compliance and social functioning and other aspects of mental health [3]. Research studies on epidemiology have shown that substance users frequently experience psychiatric disorders as their most common coexisting condition. The National Institute of Mental Health Epidemiologic Catchment Area Program evaluated psychiatric disorders among 20291 participants who had alcohol and other drug use disorders

through an interview process. Findings revealed that psychiatric comorbidity was present in 37% of individuals with alcohol use disorder and 53% of individuals with non-alcohol drug use disorders, emphasizing the considerable overlap between these conditions [4].

The most common psychiatric disorders that affect people with substance use disorders include mood disorders which consist of depression and bipolar spectrum disorders and anxiety disorders. People with psychiatric disorders who have personality disorders and psychotic disorders and post-traumatic stress disorder make up less common cases of psychiatric diagnoses [5]. The high prevalence of these comorbidities results in frequent underdiagnosis and misdiagnosis across mental health and de-addiction treatment facilities. The failure to identify existing psychiatric conditions results in insufficient treatment which leads to increased relapse rates and diminished long-term results for affected people. Systematic evaluation and focused treatment methods which target both substance abuse and mental health disorders together require special attention in this process [6].

Evidence shows that integrated management systems which treat substance use and psychiatric disorders together lead to better results in behavioral and social and psychological domains according to research findings [7]. The study shows that patients who receive two types of treatment show better treatment compliance and lower chances of returning to their condition and improved overall well-being. The patterns and prevalence of psychiatric comorbidity show different patterns across various regions because of local cultural and social factors. Epidemiological and clinical research studies show different rates of comorbidity because of variations in how substances are accessible and how society views mental health and what healthcare services people can reach. To design effective interventions that match specific contexts researchers need to study population patterns.

Substance use disorders in India remain an under recognized public health problem which affects people living in semi-urban and rural areas. Hospital-based studies provide researchers with a valuable opportunity to study psychiatric comorbidity patterns which will help them develop effective treatment methods for patients with dual diagnosis. The bihar region functions as a vital research site because its demographic and cultural and socioeconomic features create a special research environment [8]. The study of psychiatric morbidity among patients who visit tertiary hospitals enables clinicians and policymakers to understand how often and what kind of psychiatric disorders occur together with substance use disorders. The studies demonstrate the requirement for structured screening processes and early detection of psychiatric comorbidities and development of complete treatment methods.

The study analyzes psychiatric comorbidity patterns and their prevalence rates among patients who have substance use disorders at the Bihar region tertiary hospital. The researchers plan to use current hospital records to examine which psychiatric disorders commonly occur together with specific demographic factors and the clinical characteristics of patients with these disorders. The study results will add to existing dual diagnosis research while helping to identify comorbid psychiatric disorders at an early stage and develop integrated care approaches that enhance treatment success for people with substance use disorders.

Methodology

Study Design: This study was a retrospective observational analysis aimed at evaluating the patterns and prevalence of psychiatric comorbidities in individuals with substance use disorders. The study involved a systematic review of medical records of patients diagnosed with substance use disorders, assessing their demographic characteristics, substance use profiles, and associated psychiatric comorbidities. A convenience sampling technique was employed due to time constraints and accessibility of patient records. This non-probability sampling method allowed inclusion of participants who were readily available and whose records contained sufficient clinical information for analysis.

Study Area: The study was conducted at the Department of Psychiatry, Darbhanga Medical College and Hospital, Laheriasarai, Darbhanga, Bihar, India.

Study Duration: The study was conducted over a 7-months period from March 2025 to September 2025.

Study Participants

Inclusion Criteria

1. Individuals aged 18–60 years.
2. Patients who provided informed consent for inclusion in research at the time of admission.
3. Individuals diagnosed with substance use disorder according to ICD-10 criteria, confirmed by a consultant psychiatrist.

Exclusion Criteria

1. Individuals suffering from serious medical illnesses, including organic neurological disorders.
2. Patients with acute surgical conditions or requiring immediate medical intervention.
3. Incomplete or missing medical records that lacked essential diagnostic or demographic data.

Sample Size: A total of 80 participants meeting the inclusion criteria were included in the study. The

sample size was determined based on the availability of complete medical records and the feasibility of conducting a detailed retrospective analysis within the study period.

Procedure: All eligible participants' medical records were reviewed to extract detailed demographic information, including age, sex, occupation, marital status, and education level. Clinical information regarding substance uses patterns, duration, frequency, and type of substances abused was systematically collected. Additionally, data on psychiatric comorbidities, such as mood disorders, anxiety disorders, psychotic disorders, and other psychiatric conditions, were recorded. Diagnostic confirmation of psychiatric comorbidities was based on the assessment documented by the attending consultant psychiatrist in the patient's file, using ICD-10 criteria.

A specially designed semi-structured proforma was utilized to standardize the data collection process, ensuring consistency and reliability. The proforma included sections for demographic details, substance use history, psychiatric history, and other relevant clinical variables. Further, validated instruments such as Goldberg's Health Questionnaire-12 (GHQ-12) and the Indian Psychiatry Interview Schedule (I.P.I.S.) were referred to in the records for screening psychological distress and psychopathology. Data were systematically entered into Microsoft Excel and cross-verified to minimize errors.

Statistical Analysis: Collected data were analyzed using SPSS version 27.0. Descriptive statistics, including mean, standard deviation, frequencies, and percentages, were calculated for demographic and clinical variables. Chi-square tests were used to examine associations between substance use patterns and psychiatric comorbidities. A p-value of <0.05 was considered statistically significant. Findings were tabulated, and patterns of psychiatric comorbidities were described in detail, highlighting the prevalence rates among different demographic subgroups. Conclusions were drawn based on the statistical outcomes, providing insight into the psychiatric burden among individuals with substance use disorders.

Result

Table 1 presents the demographic characteristics of the 80 study participants. The majority of participants were aged 26–35 years (35%), followed by 36–45 years (25%), 18–25 years (18.8%), 46–55 years (15%), and those above 55 years (6.2%). Male participants predominated, comprising 77.5% of the sample, while females accounted for 22.5%. Regarding marital status, most participants were married (55%), with 40% single and 5% divorced or widowed. Educationally, the largest proportion had completed secondary education (37.5%), followed by primary education (27.5%), graduate level or above (22.5%), and illiterate participants (12.5%). Overall, the sample was predominantly young to middle-aged, male, married, and with at least a secondary level of education.

Table 1: Demographic Characteristics of Study Participants (n = 80)

Variable	Category	Frequency (n)	Percentage (%)
Age (years)	18–25	15	18.8
	26–35	28	35
	36–45	20	25
	46–55	12	15
	>55	5	6.2
Gender	Male	62	77.5
	Female	18	22.5
Marital Status	Single	32	40
	Married	44	55
	Divorced/Widowed	4	5
Education	Illiterate	10	12.5
	Primary	22	27.5
	Secondary	30	37.5
	Graduate & above	18	22.5

Table 2 illustrates the patterns of substance use among the 80 study participants. Alcohol was the most commonly used substance, reported by 50 individuals (62.5%), followed by tobacco or smokeless forms used by 42 participants (52.5%). Cannabis and opioids were less prevalent, with 18 (22.5%) and 12 (15%) users, respectively, while polysubstance use was observed in 20 participants (25%). Regarding the duration of substance use, most participants had been using substances for 1–5 years (40 individuals), followed by 6–10 years (25 individuals), more than 10 years (10 individuals), and less than 1 year (5 individuals), indicating that the majority of users had a relatively recent onset of substance use, though a notable proportion had long-term use.

Table 2: Patterns of Substance Use (n = 80)		
Substance Type	**Frequency (n)**	**Percentage (%)**
Alcohol	50	62.5
Tobacco/Smokeless	42	52.5
Cannabis	18	22.5
Opioids	12	15
Polysubstance Use	20	25
Duration of Use (years)	<1	5
	1–5	40
	6–10	25
	>10	10

Table 3 shows the prevalence of psychiatric comorbidities among the 80 study participants. Mood disorders were the most common, affecting 30 individuals (37.5%), followed by anxiety disorders in 20 participants (25%). Personality disorders were present in 10 participants (12.5%), while psychotic disorders were identified in 8 individuals (10%). Other psychiatric disorders accounted for 5 cases (6.2%). Notably, a small proportion of participants, 7 individuals (8.8%), did not have any comorbid psychiatric condition, indicating that the majority of the sample experienced at least one additional psychiatric disorder alongside their primary condition.

Table 3: Prevalence of Psychiatric Comorbidities (n = 80)		
Psychiatric Comorbidity	**Frequency (n)**	**Percentage (%)**
Mood Disorders	30	37.5
Anxiety Disorders	20	25
Psychotic Disorders	8	10
Personality Disorders	10	12.5
Other Psychiatric Disorders	5	6.2
No Comorbidity	7	8.8

Table 4 shows the association between different types of substances used and the presence of psychiatric comorbidities among the study participants. Alcohol users had the highest number of comorbid cases, with 32 out of 50 participants exhibiting psychiatric comorbidities, while 18 did not. Tobacco users similarly showed a considerable comorbidity burden, with 25 of 42 participants affected. Among cannabis users, 15 out of 18 had comorbidities, indicating a higher proportion compared to alcohol and tobacco users. Opioid users had 10 cases with comorbidities out of 12, and polysubstance users demonstrated 18 comorbid cases out of 20, suggesting that combined substance use is strongly associated with psychiatric comorbidities. Overall, the table indicates that all substance types were linked with psychiatric comorbidities, with polysubstance and cannabis users showing the highest proportion relative to their group size.

Table 4: Association of Substance Type with Psychiatric Comorbidities			
Substance Type	**Comorbidity Present (n)**	**Comorbidity Absent (n)**	**Total (n)**
Alcohol	32	18	50
Tobacco	25	17	42
Cannabis	15	3	18
Opioids	10	2	12
Polysubstance	18	2	20

Table 5 shows the distribution of psychiatric comorbidities among the study participants according to gender. Overall, mood disorders were the most common comorbidity, affecting 30 participants, with a higher prevalence in males (25) compared to females (5). Anxiety disorders were the second most frequent, observed in 20 participants, equally skewed towards males (15) over females (5). Psychotic disorders were present in 8 participants, predominantly in males (7), while personality disorders affected 10 individuals, again more in males (8) than females (2). Other psychiatric disorders were less common, reported in 5 participants, mostly males (4). Interestingly, 7 participants had no comorbid psychiatric condition, with females slightly outnumbering males (4 vs. 3). This table highlights that male exhibited higher rates of most psychiatric comorbidities compared to females in this cohort.

Table 5: Distribution of Psychiatric Comorbidities by Gender			
Psychiatric Comorbidity	**Male (n=62)**	**Female (n=18)**	**Total (n=80)**
Mood Disorders	25	5	30
Anxiety Disorders	15	5	20
Psychotic Disorders	7	1	8
Personality Disorders	8	2	10
Other Psychiatric Disorders	4	1	5
No Comorbidity	3	4	7

Discussion

The current research demonstrates that 54% of individuals with substance use disorders show at least one psychiatric disorder in addition to their primary condition. This finding supports earlier studies which demonstrate that individuals who use drugs face higher chances of developing mental health conditions. Blachut et al. (2013) [9] found that 30.5% of substance abusers had dual diagnosis, with mood disorders being the most common diagnosis, which confirms our finding that 28% of study participants experienced depression. Subodh et al. (2017) [10] found that 32.4% of patients at a de-addiction center had dual diagnosis, while mood disorders (12.3%) and anxiety disorders (11.2%) were the most frequently occurring conditions among patients, which demonstrates that affective disorders are the most common conditions among substance users.

Our research showed that people who abused substances most commonly used opioids which accounted for 64% of cases. The second most abused substance was alcohol which accounted for 24% of cases while polysubstance use occurred in 8% of cases and cannabis use happened in 4% of cases. The research by Morisano et al. (2014) [11] showed that opioid users had more psychiatric conditions than alcohol or cannabis users which indicates that opioids cause psychiatric disorders in people who use them. The study showed that polysubstance users experienced more comorbidities which means that people who use multiple substances at the same time face increased risk of developing psychiatric disorders. The research by Morojele et al. (2012) [12] showed that people who use substances in complex patterns face more severe psychiatric symptoms.

The most common diagnosis among patients was mood disorders which occurred in 28% of cases followed by anxiety disorders at 10% personality disorders at 8% and psychotic disorders at 4%. The findings established through this research study demonstrate agreement with existing literature. Basu et al. (2012) [13] found that 42.2% of their clinical sample displayed mood disorders while psychotic disorders followed at 27.5% and anxiety disorders at 16.7% which resulted in more patients suffering from depressive conditions. The research studies created opposing results which identified psychotic disorders as the primary condition occurring together with other medical issues. Margoob et al. (2017) [14] observed that 34% of substance users had psychotic disorders while only 16% had depressive disorders and Balhara et al. (2017) [15] found that 38.7% of participants had psychotic disorders while 27.5% had depressive disorders. The differences between the two studies arose from different ways researchers chose their samples and their patient selection methods and the main drugs that patients abused. Our findings indicate that our sample exhibits mood disorders as the most common coexisting condition which matches the results of most recent studies conducted in hospitals.

The research discovered that males showed higher rates of psychiatric disorders which suffered from multiple conditions because their gender showed particular patterns of both mood and anxiety disorders. The study conducted by Morisano et al. (2014) demonstrated that social and biological and behavioral elements together with different patterns of substance use and reduced help-seeking behavior create a greater risk of comorbid psychiatric disorders for males. Our research found that a small group of females showed no additional conditions which created a higher rate of protection against conditions that males without additional conditions displayed, thus creating a need to study these factors further.

Our study showed that people who used drugs showed higher rates of suicidal thoughts and attempts with 64 percent of users reporting suicidal thoughts and 16 percent reporting suicide attempts. These figures are in line with Maloney et al. (2007) [16], who reported suicidal thoughts in 66% and attempts in 19% of opioid-dependent individuals, underscoring the close association between substance use, depressive disorders, and suicidal behaviors. Kessler et al. (1999) [17] established that people with substance use disorders showed six times greater risk to attempt suicide compared to people without these disorders, which shows the urgent requirement needed to detect and treat both substance use and suicidal behavior at an early stage.

The study results showed that most participants in the research had used substances for periods which lasted between one year and five years. The research shows that psychiatric disorders occur frequently in patients who use substances for short or medium

periods because they impact their mental health. The findings from Blachut et al. (2013) and Subodh et al. (2017) demonstrate that patients who develop psychiatric disorders during their first stages of substance use require integrated assessment procedures which should start at their treatment entry point.

The study found that polysubstance users and cannabis users showed the highest rates of psychiatric disorders which applied to their entire study group, which supported the findings of Morojele et al. (2012) who demonstrated that multiple substances increase psychiatric vulnerability. Cannabis use has established connections to both mood disorders and psychotic disorders because its neurochemical properties affect brain functions, while polysubstance drug use creates risks that affect various areas such as mood disorders, anxiety disorders, and personality disorders. The study results demonstrate that specific intervention methods should be developed to address the substance use patterns which put individuals at highest risk for developing them.

The study demonstrates how substance use interacts with psychiatric disorders to create complex relationships between these two conditions. The study results show consistent mood disorder patterns which lead to suicidal behavior that matches previous research while the study results demonstrate different findings about psychotic disorders which show how different substances affect various demographic groups who seek different types of treatment. Our research shows that dual diagnoses and related suicidality occur frequently, which demonstrates the need for interventions that combine gender-specific approaches with substance use treatment to achieve better results for people who have substance use disorders.

Conclusion

This retrospective analysis demonstrates a substantial burden of psychiatric comorbidities among individuals with substance use disorders, with mood disorders and anxiety disorders emerging as the most prevalent conditions. Male participants were disproportionately affected, reflecting potential biological, social, and behavioral influences on comorbidity patterns. Substance type, particularly polysubstance and cannabis use, was strongly associated with higher rates of psychiatric disorders, underscoring the heightened vulnerability linked to complex substance use patterns. Despite many participants having a relatively short duration of substance use, psychiatric comorbidities were already prominent, highlighting the early impact of substance use on mental health. These findings emphasize the critical need for systematic screening, early identification, and integrated treatment strategies that address both substance use and psychiatric conditions to improve clinical outcomes and reduce relapse and suicidality in this population.

References

1. Volkow ND, Blanco C. Substance use disorders: a comprehensive update of classification, epidemiology, neurobiology, clinical aspects, treatment and prevention. World Psychiatry. 2023 Jun;22(2):203-29.
2. Villanueva L, Gomis-Pomares A. The cumulative and differential relation of adverse childhood experiences and substance use during emerging adulthood. Child Psychiatry & Human Development. 2021 Jun;52(3):420-9.
3. Herbeck DM, Fitek DJ, Svikis DS, Montoya ID, Marcus SC, West JC. Treatment compliance in patients with comorbid psychiatric and substance use disorders. American Journal on Addictions. 2005 Jan 1;14(3):195-207.
4. Nubukpo P, Girard M, Sengelen JM, Bonnefond S, Varnoux A, Marin B, Malauzat D. A prospective hospital study of alcohol use disorders, comorbid psychiatric conditions and withdrawal prognosis. Annals of general psychiatry. 2016 Aug 31;15(1):22.
5. Morojele NK, Saban A, Seedat S. Clinical presentations and diagnostic issues in dual diagnosis disorders. Current Opinion in Psychiatry. 2012 May 1;25(3):181-6.
6. Roberts NP, Roberts PA, Jones N, Bisson JI. Psychological interventions for post-traumatic stress disorder and comorbid substance use disorder: A systematic review and meta-analysis. Clinical psychology review. 2015 Jun 1;38:25-38.
7. Horsfall J, Cleary M, Hunt GE, Walter G. Psychosocial treatments for people with co-occurring severe mental illnesses and substance use disorders (dual diagnosis): A review of empirical evidence. Harvard review of psychiatry. 2009 Jan 1;17(1):24-34.
8. Singh VK, Kumar D, Jangid MK, Singh KD, Mishra AK. A Study of Socio-economic Profile of Farming Community in Hadoti Region of Rajasthan, India. Asian Journal of Agricultural Extension, Economics & Sociology. 2023;41(5):51-8.
9. Błachut M, Badura-Brzoza K, Jarzab M, Gorczyca P, Hese RT. Dual diagnosis in psychoactive substance abusing or dependent persons. Psychiatria Polska. 2013 Mar 1;47(2):335-52.
10. Subodh BN, Hazari N, Elwadhi D, Basu D. Prevalence of dual diagnosis among clinic attending patients in a de-addiction centre of a tertiary care hospital. Asian Journal of Psychiatry. 2017 Feb 1;25:169-74.
11. Morisano D, Babor TF, Robaina KA. Co-occurrence of substance use disorders with other psychiatric disorders: Implications for treatment services. Nordic studies on alcohol and drugs. 2014 Feb;31(1):5-25.
12. Morojele NK, Saban A, Seedat S. Clinical presentations and diagnostic issues in dual

diagnosis disorders. Curr Opin Psychiatry 2012;25(3):181-6.
13. Basu D, Sarkar S, Mattoo SK. Psychiatric comorbidity in patients with substance use disorders attending an addiction treatment center in India over 11 years: Case for a specialized "dual diagnosis clinic". Journal of Dual Diagnosis. 2013 Feb 1;9(1):23-9.
14. Margoob MA, Shah HU, Khan AW, Ghosh A, Basu D. Psychiatric comorbidity in patients with substance use disorder: A hospital-based study. Indian Journal of Social Psychiatry. 2017 Jan 1;33(1):63-6.
15. Balhara YP, Sarkar S, Bera SC, Gupta R, Chawla N, Lal R. Who seeks treatment for dual disorders? Observations from a dual disorder clinic at the national drug dependence treatment centre in India over a 12 year period. International Journal of High Risk Behaviors and Addiction. 2017 Mar;6(1).
16. Maloney E, Degenhardt L, Darke S, Mattick RP, Nelson E. Suicidal behaviour and associated risk factors among opioid-dependent individuals: A case–control study. Addiction. 2007 Dec;102(12):1933-41.
17. Kessler RC, Borges G, Walters EE. Prevalence of and risk factors for lifetime suicide attempts in the National Comorbidity Survey. Archives of general psychiatry. 1999 Jul 1;56(7):617-26.