Original Article

Substance Use Disorder Patterns and Follow-Up Compliance in Addictions Clinic at Mental Hospital in Rupandehi, Nepal: A Cross-Sectional Study

Manoj Dhungana[1], Neena Rai[2], Maushami Thapa[3], Mijash Pokhrel[4], Pradip Chhetri[5]

[1] Department of Psychiatry, Devdaha Medical College, Rupandehi, Nepal
[2] Department of Psychiatry, KIST Medical College, Lalitpur, Nepal
[3] Chautari Hospital (Mental Hospital and Rehabilitation Centre), Rupandehi, Nepal
[4] Addiction Unit, Chautari Hospital, Rupandehi, Nepal
[5] Community Medicine Department, Universal College of Medical Sciences, Bhairahawa , Nepal

Article History
Recived: 5 Jul, 2025
Accepted: 17 Jul, 2025
Published: 31 Jul, 2025

Funding Sources: None

Conflict of Interest: None

Online Access

DOI: https://doi.org/10.61122/jkistmc351

Correspondence

Dr. Manoj Dhungana
Associate Professor, Department of Psychiatry
Devdaha Medical College, Rupandehi, Nepal
Email: drmanoj3536@gmail.com

Citation: Dhungana M, Rai N, Thapa M, Pokhrel M, Chhetri P. Substance Use Disorder Patterns and Follow-Up Compliance in Addictions Clinic at Mental Hospital in Rupandehi, Nepal: A Cross-Sectional Study. J. KIST Med. Col 2025;7(14):6-11.

Abstract

Introduction: Substance use disorders (SUDs) are a growing public health concern in Nepal. We aimed to assess diagnostic patterns and follow-up adherence among patients in a drug rehabilitation clinic.

Methods: This cross-sectional study included 91 male patients diagnosed with SUDs in Addiction Clinic at Chautari Hospital (Mental Hospital and Rehabilitation Centre) in Rupandehi during 1year. Data on demographics, diagnoses, and follow-up compliance were analyzed using chi-square tests and Cramer's V to assess associations ($P<0.05$).

Results: Opioid dependence (41.8%) and alcohol dependence (39.6%) were most prevalent. Follow-up compliance dropped from 48.4% to 31.9% between the first and second visits. Alcohol users demonstrated significantly higher compliance than opioid users (77.8% vs. 31.6%). Diagnosis and age were both significantly associated with follow-up adherence.

Conclusion: Younger patients with opioid dependence showed poorer compliance. Increased misuse of prescription drugs and cannabis calls for targeted, culturally sensitive interventions to improve outcomes.

Keywords: Alcohol dependence; follow-up compliance; substance use disorder; opioid dependence

Introduction

Substance use disorders (SUDs) impose substantial health and social burdens globally. The World Drug Report 2023 estimates 296 million people used drugs in 2021, a 23% rise over the last decade.[1] In South Asia, population-based surveys show sizable burdens; for example, Punjab's National Mental Health Survey reported a 2.3% prevalence of illicit substance use[2]. In Nepal, evolving drug use patterns—from traditional alcohol and cannabis to heroin and other psychotropics—have been documented in both earlier and more recent reports[3]. Alcohol remains a major driver of disease and injury globally; the WHO's 2024 report emphasizes alcohol's contribution to over 200 health conditions and the need to scale treatment for SUDs[4]. Parallel to alcohol-related harms, opioid use has escalated in Nepal, with heroin and pharmaceutical opioids increasingly misused[5]. Opioids account for a disproportionate share of drug-related morbidity and mortality worldwide[6], and structural factors—including stigma, treatment gaps, and limited service capacity—compound risks in South Asia[7].

Copyrights & Licensing © 2025 by author(s). This is an Open Access article distributed under Creative Commons Attribution License (CC BY NC)

Beyond alcohol and opioids, misuse of psychotropic medicines has emerged as a critical challenge. Pregabalin misuse has been described across Europe and Asia8. National risk-factor surveillance and international monitoring further underscore shifting substance trends and the need for system-level responses[9,10]. A growing body of evidence details pregabalin/gabapentin misuse patterns and harms[11,12], while benzodiazepine misuse remains common and clinically consequential13. Concerns about prescription opioid analgesics (e.g., tapentadol) in the region illustrate how pharmaceutical markets can influence misuse trajectories[14]. Cannabis use disorder is also linked to psychiatric comorbidity and cognitive effects, with implications for clinical outcomes[15].

Against this backdrop, we analyzed clinical patterns and follow-up adherence among patients attending a specialized addiction clinic of Chautari Hospital (Mental Hospital and Rehabilitation Center) in Rupandehi, Nepal, with attention to polysubstance use and psychotropic misuse.

Methods

Cross-sectional study was conducted at Addiction clinic of Chautari Hospital (Mental Hospital and Rehabilitation Centre), in Rupandehi, Nepal. The sample comprised 91 male patients diagnosed with substance use disorders between February 2024 to January 2025. Diagnoses were based on International Classification of Disease-10 Diagnostic and Research Criteria (ICD-10-DCR)[16].

Data included age, SUD diagnoses (including polysubstance use), and follow-up attendance at two time points (1st within a month and 2nd within 3 months). Polysubstance use was defined as concurrent use of more than one substance meeting independent diagnostic thresholds.16 Patients were categorized into three age groups: 18–29, 30–49, and ≥50 years.

As per ICD-10- DCR guidelines, patients could receive more than one SUD diagnosis if criteria were independently met for each substance, and overlapping diagnoses were recorded accordingly. This approach allowed accurate representation of polysubstance use patterns.[16]

Descriptive statistics were computed using SPSS v16. Associations between age, diagnosis, and follow-up adherence were analyzed using chi-square tests, and effect sizes assessed using Cramer's V. $P<0.05$ was considered statistically significant. Institutional approval (IRC-DMCRI-028/2024) and informed consent were obtained prior to data collection.

Results

All 91 patients were male. The mean age was 38.65 years (SD ± 8.2). Opioid-dependent patients had a lower mean age (32.4 years), while alcohol-dependent patients were older (42.8 years).

Table 1: Age Distribution of Study Participants (n= 91)

Age in Years)	Frequency (n)	Percent (%)
>18–29	30	33.0%
30-49	41	45.0%
≥50	20	22.0%

Table 2: Distribution of Substance Use Disorder Diagnoses (n= 91)

Diagnosis	Frequency (n)	Percent (%)
Opioid (Brown Sugar)	38	41.8%
Alcohol Dependence	36	39.6%
Cannabis Use Disorder	21	23.1%
Nicotine Dependence	14	15.4%
Pregabalin Dependence	11	12.1%
Benzodiazepine Dependence	8	8.8%
Polysubstance Use Disorder	22	24.2%

Footnote:

Polysubstance Use Disorder includes patients who met diagnostic criteria for dependence on two or more substances concurrently, as per ICD-10-DCR guidelines.

Note: Percentages may exceed 100% due to multiple ICD-10- DCR based diagnosis.16

Table 3: Follow Up Compliance Rates by Diagnosis

Follow up	Category	Total Diagnosed	Attended	Missed	Percent
First	All Patients	91	44	47	48.4%
Second	All patients	91	29	62	31.9%
First	Opioid Users	38	12	26	31.6%
Second	Opioid Users	38	6	32	15.8%
First	Alcohol Users	36	28	8	77.8%
Second	Alcohol Users	36	18	18	50.0%

Table 4: Chi-Square Test of Association Between Variables and Follow-Up Compliance

Variables	Follow up	χ^2	P-value	Cramer's V
Diagnosis	First	14.82	0.001	0.32
Diagnosis	Second	11.59	0.003	0.35
Age Group	First	10.27	0.006	0.29
Age Group	Second	13.72	0.001	0.38

Discussion

This study demonstrates the predominance of opioid and alcohol dependence among patients with substance use disorders (SUDs) attending a rehabilitation center in Rupandehi, Nepal. The findings are consistent with broader epidemiological trends in South Asia, where increasing availability and affordability of opioids have led to rising use, particularly among younger populations[3,5]. In this study, opioid dependence was most common among individuals under 30 years of age, reflecting a shift from traditional substances like alcohol and cannabis to more potent and addictive synthetic opioids and heroin. The 41.8% prevalence of opioid use in this clinical population significantly exceeds community-based estimates, such as the 2.3% prevalence reported in Punjab, India[2], highlighting the disproportionately high treatment burden in rehabilitation centers.

Alcohol use disorder was more prevalent among older individuals and showed a strong association with better treatment adherence. Among alcohol-dependent patients, 77.8% attended the first follow-up, and 50% attended the second—substantially higher than the 15.8% second follow-up adherence observed in the opioid-dependent group. Alcohol's relatively higher social acceptability in Nepali society likely contributes to increased family support and engagement with treatment services. Family-centered recovery models have been shown to improve adherence and reduce relapse risk among alcohol-dependent patients[9], a finding mirrored in national surveys indicating higher healthcare engagement among harmful alcohol users than among illicit drug users[9].

In contrast, opioid users face intense societal stigma, legal repercussions, and family alienation, all of which contribute to poor continuity of care[7]. The low second follow-up rate observed in this study aligns with global literature showing high dropout rates among opioid-dependent patients, often linked to severity of dependence, withdrawal discomfort, and lack of psychosocial support[6]. This discrepancy underscores the critical need for tailored interventions targeting opioid users, including opioid agonist maintenance therapy, structured counseling, and peer-support models to improve retention in treatment programs.

Prescription drug misuse, particularly of pregabalin (12.1%) and benzodiazepines (8.8%), emerged as a significant concern. These substances were often used recreationally or concomitantly with opioids, creating complex clinical presentations and increasing the risk of overdose, respiratory depression, and poor treatment outcomes[8,11,12,13]. The combination of psychotropic abuse with illicit opioid use complicates detoxification and highlights the need for stricter regulation and prescription monitoring in Nepal. Cannabis use disorder (23.1%) also represents a clinical challenge due to associations with cognitive impairment, psychosis, and reduced functional recovery[15]. Polysubstance use was observed in 24.2% of patients, consistent with ICD-10 diagnostic and research criteria allowing multiple independent diagnoses where thresholds for separate substances are met[16]. This multidimensional substance use pattern complicates treatment, increases relapse risk, and necessitates individualized, integrated care approaches[14].

The clinical implications of these findings are significant. Patients presenting with multiple substance use disorders require not only pharmacological interventions but also comprehensive psychosocial support addressing comorbid psychiatric conditions, social determinants of health, and family dynamics. Psychotropic misuse, particularly benzodiazepines, adds further complexity to detoxification protocols and necessitates vigilant clinical monitoring to prevent adverse events. Strengthening community-based rehabilitation, reducing societal stigma, and integrating opioid substitution therapy into public health frameworks could enhance adherence and reduce relapse rates. In collectivist societies like Nepal, stigma remains a major barrier, discouraging patients from seeking help and contributing to delayed presentation and poor treatment engagement[7].

Philosophical and existential considerations provide additional insight into substance use behavior. Dostoevsky's Crime and Punishment illustrates the cyclical despair, guilt, and self-destructive tendencies that may underlie addictive behaviors[17], while Yalom's existential psychotherapy links substance use to experiences of meaninglessness, emotional isolation, and existential anxiety[18]. Incorporating these perspectives into psychiatric care could enhance therapeutic engagement, foster patient insight, and support sustainable recovery.

While this study provides valuable clinical insights, its design has limitations. As an observational cross-sectional study based on medical interview, it does not account for unmeasured confounding factors and cannot establish causality. The reliance on self-reported follow-up attendance also introduces potential bias. Moreover, the exclusively male sample limits generalizability across genders. Future studies should employ larger, more diverse populations and use longitudinal designs to better capture treatment trajectories and outcomes.

In summary, the high prevalence of opioid and polysubstance use among younger patients, combined with poor follow-

up adherence and rising psychotropic misuse, signals a need for urgent, multifaceted interventions. These should include tighter regulation of psychotropic medication, culturally adapted counseling, mobile follow-up strategies, and peer-supported recovery models to improve long-term engagement and reduce relapse risk.

Conclusion

Opioid and alcohol dependence are the most common substance use disorders among patients attending the rehabilitation center in Rupandehi. Follow-up adherence was significantly lower among opioid users compared to alcohol users. Age and diagnosis were statistically associated with follow-up behavior. The rising misuse of psychotropic substances and cannabis, along with frequent polysubstance use, indicates an urgent need for integrated interventions.

Culturally sensitive approaches including mobile outreach, family-based therapy, and peer support can improve engagement. Regulatory enforcement on prescription drugs such as pregabalin and benzodiazepines must be strengthened. Public education and stigma reduction efforts are critical to improving treatment outcomes and preventing relapse.

Acknowledgment

The authors deeply express their heartfelt thanks to all who participated in the study for immense support and cooperation.

References

1. United Nations Office on Drugs and Crime. World drug report 2023 [Internet]. Vienna: UNODC; 2023 [cited 2025 June 22]. Available from: https://www.unodc.org/unodc/data-and-analysis/world-drug-report-2023.html
2. Chavan BS, Garg R, Das S, Puri S, Banavaram AA. Prevalence of substance use disorders in Punjab: Findings from National Mental Health Survey. Indian J Med Res. 2019 Apr; 149(4): 489-496. DOI: 10.4103/ijmr.IJMR_1267_17 PMID: 31411172 PMCID: PMC6676856
3. Shankar PR, Kumar P, Theodore AM, Partha P, Shenoy N. A survey of drug use patterns in western Nepal. Singapore Med J. 2003 Jul; 44(7): 352-6. PMID: 14620727
4. World Health Organization. Global status reports on alcohol and health and treatment of substance use disorders [Internet]. Geneva: WHO; 2024 [cited 2025 June 22] Available from: https://www.who.int/publications/i/item/9789240096745
5. Humagain S, Karki B, Thapa P. Opioid use in Nepal: an emerging public health crisis. Subst Abuse Treat Prev Policy. 2022; 17(1): 33.
6. Degenhardt L, Grebely J, Stone J, Hickman M, Vickerman P, Marshall BDL, et al. Global patterns of opioid use and dependence: harms to populations, interventions, and future action. Lancet. 2019 Oct 26;394 (10208):1560-1579. DOI: 10.1016/S0140-6736(19)32229-9 PMID: 31657732
7. Narayanan S, Bhandari S, Shrestha N. Substance use disorders in South Asia: challenges and opportunities. Indian J Psychiatry. 2018;60(Suppl 4):S588-95.
8. Chiappini S, Schifano F. Pregabalin misuse: a growing concern. Eur Neuropsychopharmacol. 2018;28(6):665-74.
9. Aryal KK, Neupane S, Mehata S, Vaidya A, Singh S, Paulin F, et al. Non-communicable diseases risk factors: STEPS Survey Nepal 2019 [Internet]. Kathmandu: Nepal Health Research Council 2019 [cited 2025 June 22]. Available from: https://nhrc.gov.np/wp-content/uploads/2020/04/NEPAL%E2%80%93Noncommunicable-disease-risk-factors-STEPS-Survey-2019-%E2%80%93-Tobacco-Factsheet.pdf
10. European Monitoring Centre for Drugs and Drug Addiction. European drug report 2022: trends and developments [Internet]. Luxembourg: Publications Office of the European Union; 2022 [cited 2025 June 22]. Available from: https://www.euda.europa.eu/publications/edr/trends-developments/2022_en
11. Evoy KE, Sadrameli S, Contreras J, Covvey JR, Peckham AM, Morrison MD. Abuse and Misuse of Pregabalin and Gabapentin: A Systematic Review Update. Drugs. 2021 Jan;81(1):125-156. DOI: 10.1007/s40265-020-01432-7 PMID: 33215352
12. Schjerning O, Rosenzweig M, Pottegård A, Damkier P, Nielsen J. Abuse Potential of Pregabalin: A Systematic Review. CNS Drugs. 2016 Jan;30(1):9-25. DOI: 10.1007/s40263-015-0303-6 PMID: 26767525
13. Votaw VR, Geyer R, Rieselbach MM, McHugh RK. The epidemiology of benzodiazepine misuse: A systematic review. Drug Alcohol Depend. 2019 Jul 1;200:95-114. DOI: 10.1016/j.drugalcdep.2019.02.033 PMID: 31121495 PMCID: PMC6639084

14. Basu D, Mahintamini T, Ghosh A, Roub F, Subodh BN, Mattoo SK, Avasthi A. Tapentadol, the new kid on the block in India: Is it time to worry? Indian J Psychiatry. 2020 Nov-Dec;62(6):697-702. DOI: 10.4103/psychiatry.IndianJPsychiatry_332_20 PMID: 33896976 PMCID: PMC8052882

15. Urits I, Gress K, Charipova K, Li N, Berger AA, Cornett EM, et al. Cannabis Use and its Association with Psychological Disorders. Psychopharmacol Bull. 2020 May 19;50(2):56-67. DOI: 10.64719/pb.4606 PMID: 32508368 PMCID: PMC7255842

16. World Health Organization. The ICD-10 classification of mental and behavioural disorders: diagnostic criteria for research. Geneva: World Health Organization; 1993. Chapter V, F10-F19 Mental and behavioural disorders due to psychoactive substance use.

17. Dostoevsky F. Crime and punishment. Project Gutenberg; 2006 Available from: https://www.gutenberg.org/files/2554/2554-h/2554-h.htm.

18. Yalom ID. Existential psychotherapy. New York: Basic Books; 1980.