



Association of Borderline Personality Disorder and Antisocial Personality Disorders with Substance Use Disorder in a Teaching Hospital

Tayyib Tariq¹, Imtiaz Ahmad Dogar², Muhammad Salman Tariq³

¹⁻²Department of Psychiatry and Behavioural Sciences, Allied II Hospital, Faisalabad, Pakistan

³Department of Psychology, Riphah International University, Faisalabad, Pakistan

ARTICLE INFO

Keywords: Substance use disorder; Borderline personality disorder; Antisocial personality disorder; Comorbidity; Pakistan

Correspondence to: Tayyib Tariq, Department of Psychiatry and Behavioural Sciences, Allied II Hospital, Faisalabad, Pakistan.

Email: doctortayyib@gmail.com

<https://orcid.org/0009-0003-6394-0382>

Declaration

Authors' Contribution: All authors equally contributed to the study and approved the final manuscript.

Conflict of Interest: No conflict of interest.

Funding: No funding received by the authors.

Article History

Received: 03-06-2025 Revised: 27-06-2025

Accepted: 06-07-2025 Published: 10-07-2025

ABSTRACT

Background: Substance use disorder is frequently associated with psychiatric comorbidity, particularly personality disorders, which can complicate treatment and worsen outcomes. Data on the prevalence and patterns of personality disorders among individuals with substance use disorder in Pakistan remain limited.

Objective: To determine the frequency of Borderline Personality Disorder and Antisocial Personality Disorder and examine their association with sociodemographic factors among patients with substance use disorder. **Methods:** This cross-sectional study was conducted at a tertiary-care teaching hospital in Pakistan from 31 Dec 2024 to 31 May 2025. Male patients aged 18–60 years diagnosed with substance use disorder were recruited using consecutive sampling. Borderline Personality Disorder was assessed using the English version of the McLean Screening Instrument for Borderline Personality Disorder, while Antisocial Personality Disorder was diagnosed using the Urdu version of the Mini International Neuropsychiatric Interview (MINI 7.0.2). Sociodemographic and clinical data were collected using a structured proforma. Data were analyzed using descriptive statistics and chi-square tests. **Results:** A total of 88 participants were included. Borderline Personality Disorder was identified in 42.0% of participants, while Antisocial Personality Disorder was present in 58.0%. A significant comorbidity was observed between Borderline Personality Disorder and Antisocial Personality Disorder, with a higher proportion of individuals with Borderline Personality Disorder also meeting criteria for Antisocial Personality Disorder. Antisocial Personality Disorder was significantly more common among participants residing in rural areas, whereas no significant association was found between residence and Borderline Personality Disorder. **Conclusion:** Personality disorders, particularly Borderline Personality Disorder and Antisocial Personality Disorder, are highly prevalent among patients with substance use disorder, with substantial comorbidity between the two conditions. These findings highlight the importance of routine screening for personality disorders in substance use treatment settings and support the integration of comprehensive psychiatric assessment into addiction care.

INTRODUCTION

Substance use disorder (SUD) is a chronic, relapsing mental health condition characterized by compulsive substance seeking and continued use despite significant physical, psychological, and social consequences. It constitutes a major public health challenge globally and is associated with substantial morbidity, mortality, and disability. The World Health Organization (WHO) identifies substance use disorders as a leading contributor to the global burden of disease, with profound implications for health systems, economic productivity, and social well-being. (1)

WHO reports emphasise that the harmful use of psychoactive substances is associated with an increased

risk of non-communicable diseases, infectious diseases, injuries, and suicide, thereby positioning substance use disorders as a critical global health priority.(1,2,3) The burden of SUD is disproportionately higher in low- and middle-income countries, where limited access to mental health services, persistent stigma, and delayed help-seeking behaviours further exacerbate adverse health outcomes. (2,3)

The United Nations Office on Drugs and Crime (UNODC) has documented increasing complexity in global substance use patterns, including rising polysubstance use and expanding treatment needs. The World Drug Report 2024 highlights South Asia as a region with a substantial unmet demand for evidence-based addiction treatment services.

(4) In Pakistan, UNODC assessments indicate that a large number of individuals require treatment for drug dependence, underscoring the urgent need to strengthen hospital-based addiction and mental health services. (4) A defining clinical characteristic of substance use disorder is its high rate of psychiatric comorbidity, which significantly influences disease severity, prognosis, and response to treatment. A prospective cohort study conducted in Norway among patients with severe substance use disorders demonstrated a high prevalence of co-occurring mental health symptoms, with psychiatric comorbidity associated with poorer clinical outcomes and increased treatment complexity. (5) In addition, contemporary clinical reviews from academic addiction psychiatry settings have shown that psychiatric comorbidity in SUD is associated with earlier onset of substance use, higher relapse rates, increased treatment drop-out, and impaired psychosocial functioning. (6) Among psychiatric comorbidities, personality disorders warrant particular attention due to their strong influence on impulsivity, emotional regulation, interpersonal functioning, and adherence to treatment. Evidence synthesized from specialized addiction treatment settings indicates that personality disorders are markedly over-represented among individuals receiving treatment for substance use disorders compared with the general population. (6) Within this group, borderline personality disorder (BPD) and antisocial personality disorder (ASPD) are consistently identified as the most frequently associated personality disorders. (6) Borderline personality disorder is characterized by pervasive emotional instability, impulsivity, unstable interpersonal relationships, and recurrent self-harm or suicidal behavior. Clinical literature from university-affiliated psychiatric services demonstrates that individuals with substance use disorders exhibit significantly higher rates of borderline personality features than the general population, and that this comorbidity is associated with more severe substance use patterns, greater emotional dysregulation, and poorer treatment outcomes. (6) WHO mental health frameworks further emphasize that failure to identify borderline personality pathology in patients with substance use disorders may undermine long-term recovery and increase reliance on emergency and inpatient psychiatric services. (2) Antisocial personality disorder is defined by a persistent pattern of disregard for social norms and the rights of others, impulsivity, aggression, irresponsibility, and lack of remorse, typically beginning in childhood or adolescence. Clinical studies from European university hospitals focusing on patients undergoing treatment for alcohol use disorder demonstrate a strong association between antisocial personality disorder and substance use disorders, with comorbidity linked to early relapse and premature discontinuation of treatment programs. (7) In addition, neurobiological and psychopathological research supports overlapping dysfunction in reward-processing and impulse-control pathways among individuals with antisocial personality disorder and substance use disorder. (8)

Importantly, borderline personality disorder and

antisocial personality disorder frequently co-occur with substance use disorders and share overlapping clinical and etiological features. Contemporary clinical reviews and empirical studies from academic addiction psychiatry settings highlight that both personality disorders are characterized by marked impulsivity, impaired emotional regulation, and risk-taking behaviors, which increase vulnerability to the initiation, escalation, and persistence of substance use. (6,7) Evidence further suggests that individuals with substance use disorder and comorbid borderline or antisocial personality pathology demonstrate more severe substance use patterns, poorer treatment adherence, higher relapse rates, and increased utilization of inpatient and emergency psychiatric services compared with individuals without personality disorder comorbidity. (6,7) These shared vulnerabilities and adverse clinical outcomes underscore the importance of systematically assessing both borderline and antisocial personality disorders in patients with substance use disorder.

Evidence from Pakistan further supports the clinical relevance of personality-related pathology in substance use disorders. Studies conducted in Pakistani rehabilitation centers and hospital-based treatment settings report prominent antisocial behaviors and personality-related vulnerabilities among individuals with substance use disorders, which adversely affect treatment engagement and clinical outcomes. (9) In addition, WHO country-level reports for Pakistan emphasize the importance of integrating mental health and substance use services and strengthening systematic assessment of comorbid psychiatric conditions within hospital-based care. (3)

Despite strong international evidence and emerging regional data, systematic research from tertiary-care teaching hospital settings in Pakistan remains limited regarding the frequency of borderline personality disorder and antisocial personality disorder among patients with substance use disorder. (3,4,9) Teaching hospitals commonly manage patients with severe and complex clinical presentations, where undetected personality pathology may contribute to poor treatment adherence, interpersonal conflict, repeated relapse, and suboptimal outcomes. (3,6,9) Identifying the frequency of borderline and antisocial personality disorders in this population is therefore essential for early detection, individualized treatment planning, and improvement of long-term clinical outcomes. This study aims to determine the frequency of borderline personality disorder and antisocial personality disorder among patients with substance use disorder in a teaching hospital.

Objective of the study: The objective of this study is to determine the frequency and distribution of borderline personality disorder and antisocial personality disorder among patients diagnosed with substance use disorder receiving care at a teaching hospital and to describe their distribution according to socio-demographic variables and substance use related variables.

MATERIAL AND METHODS

Study Design

A descriptive cross-sectional study design was employed

to determine the frequency and distribution of borderline personality disorder and antisocial personality disorder among patients diagnosed with substance use disorder.

Study Setting

The study was conducted in the Department of Psychiatry and Behavioural Sciences, Allied-2 Hospital, Faisalabad Medical University, Faisalabad, Pakistan 31 Dec 2024 to 31 May 2025, a tertiary-care teaching hospital providing outpatient and inpatient psychiatric services.

Study Duration

The study was carried out over a period of five months.

Study Population

The study population comprised male patients aged 18 to 60 years diagnosed with substance use disorder who were receiving psychiatric care at the outpatient department or admitted to the psychiatry ward of Allied-2 Hospital during the study period.

Sample Size

The sample size was calculated using the WHO sample size calculator, taking an anticipated proportion of 15%, a confidence level of 95%, and an absolute precision of 7.5%. The calculated sample size was 88 patients.

Sampling Technique

A non-probability consecutive sampling technique was used. All patients fulfilling the inclusion criteria and presenting during the study period were enrolled consecutively until the required sample size was achieved.

Inclusion Criteria

- Male patients aged 18–60 years
- Patients diagnosed with substance use disorder according to ICD-11 diagnostic criteria
- Patients who were clinically stable and able to participate in an interview
- Patients who provided written informed consent

Exclusion Criteria

- Patients who did not provide informed consent
- Patients with cognitive impairment or intellectual disability
- Patients with comorbid psychiatric disorders other than borderline or antisocial personality disorder
- Patients with a history of head injury, epilepsy, or other neurological disorders that could interfere with assessment

Data Collection Procedure

After obtaining approval from the Institutional Ethical Review Committee, Faisalabad Medical University, Faisalabad, eligible patients were recruited from the psychiatry outpatient department and inpatient ward of Allied-2 Hospital. Written informed consent was obtained from all participants prior to enrolment. A structured demographic and clinical proforma in Urdu was used to record socio-demographic variables including age, marital status, education level, residence, socioeconomic status, and employment status. Substance-use related variables such as type of substance used, route of administration, duration of substance use, and pattern of use were also documented. The diagnosis of substance use disorder was

established through a detailed clinical interview according to ICD-11 diagnostic criteria.

Assessment Tools

Assessment of Borderline Personality Disorder: Borderline personality disorder was assessed using the McLean Screening Instrument for Borderline Personality Disorder (MSI-BPD). The MSI-BPD is a 10-item dichotomous (yes/no) screening instrument developed in 2003. Total scores range from 0 to 10, and a cutoff score of seven or more was considered indicative of borderline personality disorder. (10)

In the original validation study, the MSI-BPD demonstrated good diagnostic accuracy, with reported sensitivity of approximately 0.81, specificity of approximately 0.85, and acceptable internal consistency (Cronbach's alpha \approx 0.74). (10) In the present study, the Urdu version of the MSI-BPD was used. The Urdu version has been formally translated and psychometrically validated, demonstrating good reliability and validity in a Pakistani population. (12)

Assessment of Antisocial Personality Disorder: Antisocial personality disorder was assessed using the Mini International Neuropsychiatric Interview (MINI), version 7.0.2. The MINI is a structured diagnostic interview originally developed in 1998 and subsequently updated to align with contemporary diagnostic systems, including DSM -5 (11). The MINI has demonstrated high reliability and validity across multiple studies, with good inter-rater reliability and diagnostic concordance when compared with longer structured diagnostic interviews. (13) In this study, the Urdu version of MINI version 7.0.2 was used. Official non-English translations of the MINI, including Urdu versions, are distributed and licensed through the instrument's authorized body to ensure standardized administration. (14)

Statistical Analysis

Data were entered and analysed using the Statistical Package for Social Sciences (SPSS) version 25. Quantitative variables such as age and duration of substance use were summarized as mean \pm standard deviation. Qualitative variables such as marital status, education level, socioeconomic status, type of substance used, route of substance use, and presence of borderline and antisocial personality disorders were expressed as frequencies and percentages. To examine the distribution of borderline and antisocial personality disorders across different socio-demographic and substance-use-related variables, stratification was performed. Post-stratification, the chi-square test was applied. A p-value \leq 0.05 was considered statistically significant.

Operational Definitions

Substance Use Disorder: Substance use disorder was operationally defined as a pattern of psychoactive substance use fulfilling the diagnostic criteria of the International Classification of Diseases, 11th Revision (ICD-11), as determined through a structured clinical interview.

Borderline Personality Disorder: Borderline personality disorder was operationally defined as a score of seven or more on the McLean Screening Instrument for

Borderline Personality Disorder (MSI-BPD) administered in English. Patients meeting this cutoff score were classified as having borderline personality disorder for the purpose of this study.

Antisocial Personality Disorder: Antisocial personality disorder was operationally defined as a diagnosis established through the antisocial personality disorder module of the Mini International Neuropsychiatric Interview (MINI) version 7.0.2 administered in Urdu, according to DSM -5 diagnostic criteria.

Duration of Substance Use: Duration of substance use was defined as the total number of years from the onset of regular substance use to the time of assessment, as reported by the participant.

Socioeconomic Status: Socioeconomic status was classified as low, middle, or high based on self-reported monthly income and occupation.

Ethical Considerations

Ethical approval for the study was obtained from the Institutional Ethical Review Committee, Faisalabad Medical University, Faisalabad. Permission to conduct the study was also obtained from the administration of Allied-2 Hospital. Written informed consent was obtained from all participants after explaining the purpose and procedures of the study. Participants were assured that their participation was voluntary and that they had the right to withdraw from the study at any time without any effect on their treatment. Confidentiality of personal and clinical information was strictly maintained by assigning identification codes and restricting data access to the research team only. All data were used solely for research purposes.

RESULTS

This section provides an overview of the key findings of the study. The results are organised to first describe the demographic profile of the participants, followed by patterns of substance use and routes of administration, and finally the prevalence and associations of borderline personality disorder (BPD) and antisocial personality disorder (ASPD). Both descriptive and inferential analyses are presented to highlight clinically and statistically relevant findings.

Table 1

Age Characteristics of the Study Participants (N = 88)

Variable	Mean ± SD	Minimum	Maximum
Age (years)	31.0 ± 9.25	18	58

The mean age of participants was 31.0 years with a standard deviation of 9.25, reflecting moderate variability in age within the sample. Ages ranged from 18 to 58 years, describing the distribution limits of the study population. Table 2 summarises the socio demographic profile of the study participants. A slightly higher proportion of participants resided in urban areas (54.5%) compared with rural areas (45.5%). In terms of marital status, more than half of the participants were married (56.8%), while 40.9% were single; divorced and other marital status categories were rarely reported. Educational attainment was generally low, with nearly two-thirds of participants (63.6%) being uneducated or having completed only

primary education. Participants with middle and high levels of education accounted for smaller proportions of the sample (19.3% and 17.0%, respectively). The majority of participants belonged to the low socioeconomic status category (68.2%), followed by the middle category (29.5%), with only a small proportion classified as high socioeconomic status (2.3%).

Table 2

Socio-Demographic Characteristics of the Study Participants (N = 88)

Characteristic	Category	n	%
Place of residence	Rural	40	45.5
	Urban	48	54.5
Marital status	Single	36	40.9
	Married	50	56.8
	Divorced	1	1.1
	Other	1	1.1
	Uneducated	28	31.8
Educational level	Primary education	28	31.8
	Middle education	17	19.3
	High education	15	17.0
Socioeconomic status	Low	60	68.2
	Middle	26	29.5
	High	2	2.3

Note. n represents frequency and % represents percentage of the total sample (N = 88).

Figure 1

Distribution of Substances Used by Participants (N = 88)

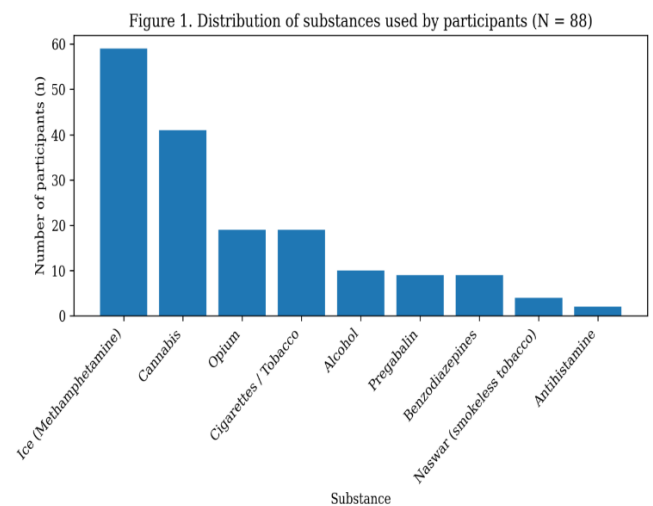


Figure 1 presents the prevalence of individual substances used by participants. Ice was the most frequently reported substance, used by 67.0% (n = 59) of participants. Cannabis was the second most commonly reported substance (46.6%, n = 41). Opium and cigarettes/tobacco products were each reported by 21.6% (n = 19) of participants. Alcohol use was reported by 11.4% (n = 10), while pregabalin and benzodiazepines were each reported by 10.2% (n = 9). Smaller proportions of participants reported naswar (4.5%, n = 4) and antihistamine use (2.3%, n = 2). As participants could report more than one substance, these values represent substance prevalence rather than mutually exclusive categories.

Figure 2
Most Common Substance Use Combinations Among Participants (N = 88)

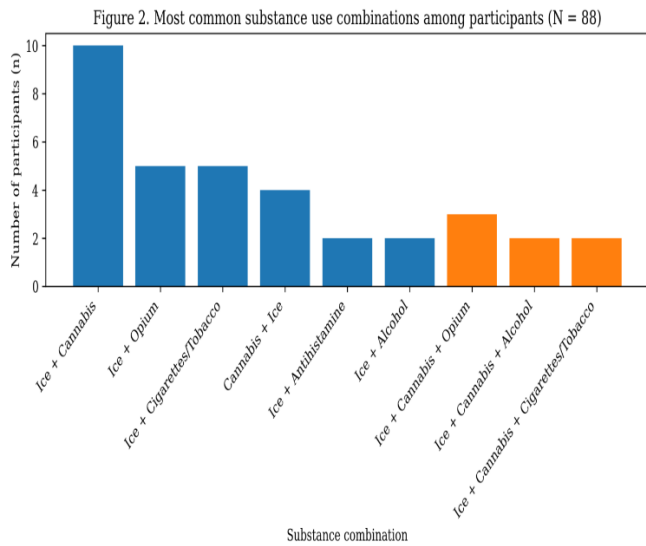


Figure 2 illustrates the most frequently reported substance use combinations, including both two-substance and three-substance patterns. Two-substance combinations were more commonly reported than three-substance combinations. The most frequent two-substance combination was ice with cannabis, reported by 11.4% (n = 10) of participants. This was followed by ice with opium and ice with cigarettes/tobacco products, each reported by 5.7% (n = 5), and cannabis with ice (4.5%, n = 4). Less frequent two-substance combinations included ice with antihistamines and ice with alcohol.

Among three-substance combinations, ice, cannabis, and opium was the most frequently reported pattern (3.4%, n = 3), followed by ice, cannabis, and alcohol and ice, cannabis, and cigarettes/tobacco products, each reported by 2.3% (n = 2) of participants. Overall, the figure demonstrates that polysubstance use patterns most commonly involved ice in combination with other substances, highlighting its central role in multi-substance use within the study population.

Figure 3
Routes of Substance Administration Among Participants (N=88)

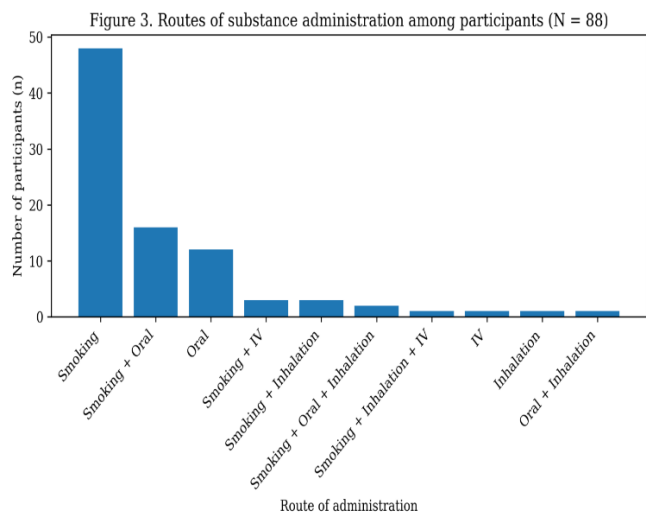


Figure 3 illustrates the routes of substance administration reported by participants. Smoking was the most common route, reported by 54.5% (n = 48) of participants. Combined routes were also frequently reported, particularly smoking with oral administration (18.2%, n = 16). Oral administration alone accounted for 13.6% (n = 12) of cases. Less common routes included combinations involving intravenous and inhalation methods, each reported by small proportions of participants. Overall, the figure demonstrates that smoking, either alone or in combination with other routes, was the predominant mode of substance administration in the study population.

Table 3
Prevalence and Comorbidity of Personality Disorders Among Participants (N = 88)

Diagnostic classification	n	%
Comorbid Borderline Personality Disorder and Antisocial Personality Disorder	29	33.0
Borderline Personality Disorder	8	9.1
Antisocial Personality Disorder	22	25.0
Neither Borderline Personality Disorder nor Antisocial Personality Disorder	29	33.0

Table 3 shows the prevalence and comorbidity of personality disorders in the study sample. Comorbid Borderline Personality Disorder and Antisocial Personality Disorder were identified in 33.0% (n = 29) of participants. Antisocial Personality Disorder without Borderline Personality Disorder was present in 25.0% (n = 22) of participants, while Borderline Personality Disorder without Antisocial Personality Disorder was observed in 9.1% (n = 8). A further 33.0% (n = 29) of participants did not meet criteria for either disorder. Overall, 67.0% (n = 59) of participants met criteria for at least one personality disorder, indicating a high level of personality disorder comorbidity within the sample.

Table 4
Association Between Residence and Personality Disorders among participants (N = 88)

Personality disorder	χ^2	df	p
Borderline Personality Disorder	0.62	1	.430
Antisocial Personality Disorder	4.36	1	.037*

Note. χ^2 = chi-square statistic; df = degrees of freedom. Residence was categorized as urban and rural. $p < .05$.

A chi-square test of independence was conducted to examine the association between residence and personality disorders. There was no statistically significant association between residence and Borderline Personality Disorder, $\chi^2(1, N = 88) = 0.62, p = .430$. In contrast, a statistically significant association was observed between residence and Antisocial Personality Disorder, $\chi^2(1, N = 88) = 4.36, p = .037$, indicating that the distribution of Antisocial Personality Disorder differed by place of residence.

Figure 4 illustrates the distribution of Antisocial Personality Disorder across residence categories. A greater number of participants residing in rural areas met criteria for Antisocial Personality Disorder compared with those residing in urban areas, which is consistent with the statistically significant association identified in the chi-square analysis.

Figure 4
Distribution of Antisocial Personality Disorder by residence
(N = 88)

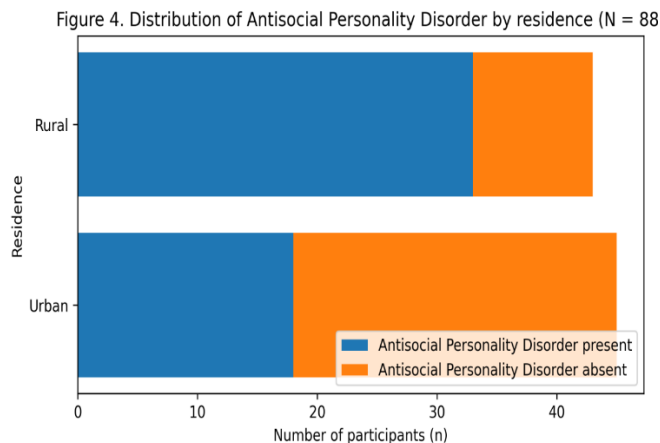


Table 5
Association between Borderline Personality Disorder and Antisocial Personality Disorder among participants (N = 88)

Borderline Personality Disorder	Antisocial Personality Disorder present	Antisocial Personality Disorder absent	Total
Present	29 (78.4%)	8 (21.6%)	37 (100%)
Absent	22 (43.1%)	29 (56.9%)	51 (100%)
Total	51 (58.0%)	37 (42.0%)	88 (100%)

Note. Values are presented as n (% within Borderline Personality Disorder category).

A chi-square test of independence indicated a statistically significant association between Borderline Personality Disorder and Antisocial Personality Disorder, $\chi^2 (1, N = 88) = 11.26, p = .001$. Participants with Borderline Personality Disorder had higher odds of Antisocial Personality Disorder (odds ratio = 4.78, 95% CI [1.83, 12.47]).

Table 5 presents the association between Borderline Personality Disorder and Antisocial Personality Disorder within the study sample. A statistically significant relationship was observed between the two conditions, $\chi^2 (1, N = 88) = 11.26, p = .001$. Among participants who met criteria for Borderline Personality Disorder, 78.4% (n = 29) also met criteria for Antisocial Personality Disorder, compared with 43.1% (n = 22) among participants without Borderline Personality Disorder. The odds of Antisocial Personality Disorder were substantially higher among participants with Borderline Personality Disorder (odds ratio = 4.78, 95% CI [1.83, 12.47]), indicating a strong comorbid relationship between the two personality disorders.

DISCUSSION

Substance use disorder is increasingly recognized as a complex psychiatric condition that frequently coexists with other mental health disorders, particularly personality disorders, and this burden has been highlighted in global reports on substance-related harms and treatment gaps¹. The present study, conducted among male patients with substance use disorder attending a tertiary-care teaching hospital in Pakistan, demonstrates a substantial burden of personality pathology. Borderline Personality Disorder was identified in 42.0% of

participants, while Antisocial Personality Disorder was present in 58.0%, indicating that personality disorder comorbidity represents a common and clinically significant feature of substance-using populations in hospital settings.

The high frequency of personality disorders observed in this study is consistent with international research examining psychiatric comorbidity among individuals with substance use disorders. In a prospective cohort study conducted in Norway in 2021, Charlotte F. Aas, Jan H. Vold, Rolf Gjestad, Stig Skurtveit, and Jørgen G. Bramness examined patients with severe substance use disorders and reported high levels of co-occurring psychiatric symptoms, supporting the observation that mental health comorbidity is common in treatment-seeking addiction populations¹⁵. More recently, in 2023, Russell W. Carpenter reviewed clinical and epidemiological evidence on the co-occurrence of personality disorders and substance use disorders and highlighted shared mechanisms such as impulsivity, emotional dysregulation, and impaired behavioral control that may explain the frequent overlap between these conditions¹⁶. These findings support the interpretation that the elevated rates observed in the present study reflect the severity of the clinical population rather than an atypical pattern.

Borderline Personality Disorder in the current study was assessed using the McLean Screening Instrument for Borderline Personality Disorder. This instrument was originally validated in 2003 by Mary C. Zanarini, Andrew A. Vujanovic, and Elizabeth A. Parachini, who demonstrated its effectiveness as a screening tool for identifying borderline personality pathology⁷. The availability of a validated Urdu version, established in Pakistan in 2021 by Khalid Munawar and Maria Aqeel, supports the cultural and linguistic appropriateness of the instrument for use in local clinical settings⁸. However, screening instruments may yield higher prevalence estimates than structured diagnostic interviews; therefore, the observed frequency should be interpreted as indicating a high level of borderline personality features requiring further clinical assessment rather than definitive diagnostic prevalence.

Antisocial Personality Disorder was assessed using the Mini International Neuropsychiatric Interview, a structured diagnostic interview developed in 1998 by David V. Sheehan and Yves Lecrubier and subsequently validated across multiple countries and clinical populations^{9,10}. The use of authorized Urdu translations further supports its applicability in Pakistani psychiatric practice¹¹. The high frequency of Antisocial Personality Disorder observed in this study aligns with prior clinical research linking antisocial pathology to substance use severity and poor treatment outcomes. In a study conducted in 2021, Shubham Pandey, Inger Bolstad, Lars Lien, and Jørgen Bramness examined patients with alcohol use disorder and found that Antisocial Personality Disorder was associated with early relapse and treatment dropout, highlighting its clinical importance in addiction care⁴. In addition, a narrative review published in 2023 by Raymond S. Y. Wong examined structural and biochemical correlates of Antisocial Personality Disorder and

described deficits in impulse control and reward processing that may contribute to persistent substance use and difficulty maintaining treatment engagement¹⁷.

A particularly important finding of the present study is the strong comorbidity between Borderline Personality Disorder and Antisocial Personality Disorder. Among participants with Borderline Personality Disorder, 78.4% also met criteria for Antisocial Personality Disorder, and statistical analysis demonstrated a significant association between the two conditions, with markedly increased odds of Antisocial Personality Disorder among individuals with borderline pathology. This pattern is consistent with contemporary conceptualizations of cluster B personality disorders, which emphasize overlapping dimensions of impulsivity, emotional instability, and interpersonal dysfunction^{16,17}. The presence of such comorbidity suggests a more severe clinical phenotype that may require intensified and carefully structured treatment approaches.

The significant association observed between rural residence and Antisocial Personality Disorder further highlights the influence of contextual and sociodemographic factors on personality pathology in substance-using populations. While Borderline Personality Disorder did not show a significant relationship with residence, Antisocial Personality Disorder was more frequently observed among participants from rural areas. This pattern may reflect disparities in access to mental health services, delayed treatment seeking, and broader socioeconomic stressors affecting rural populations, as documented in international substance use reports^{1,3}.

Substance use patterns such as polysubstance use and stimulant consumption observed in this study are consistent with trends reported in international drug surveillance reports, which emphasize increasing clinical complexity and psychiatric comorbidity among treatment-seeking populations¹. These patterns are clinically relevant because stimulant use is associated with increased impulsivity, aggression, and psychiatric symptom exacerbation, which may further interact with underlying personality pathology¹⁷.

Several limitations should be acknowledged. The cross-sectional design limits causal inference regarding the temporal relationship between substance use and personality disorders. The sample included only male participants from a single tertiary-care hospital and employed non-probability sampling, which may restrict generalizability. In addition, Borderline Personality Disorder was assessed using a screening instrument rather than a structured diagnostic interview. Despite these limitations, the use of validated assessment tools and

the focus on a clinically relevant population represent important strengths of the study.

In conclusion, the present study demonstrates a high burden of Borderline Personality Disorder and Antisocial Personality Disorder among patients with substance use disorder in a tertiary-care hospital setting in Pakistan, with substantial comorbidity between the two conditions and a significant association between Antisocial Personality Disorder and rural residence. These findings underscore the importance of integrating structured personality disorder assessment into substance use treatment services and highlight the need for comprehensive, multidisciplinary approaches to improve outcomes in this vulnerable population^{1,15,16}.

CONCLUSION

This study demonstrates a high prevalence of Borderline Personality Disorder and Antisocial Personality Disorder among male patients with substance use disorder attending a tertiary-care teaching hospital in Pakistan, with a particularly strong comorbidity between the two conditions. Antisocial Personality Disorder was more frequently observed among individuals from rural areas, highlighting the potential influence of contextual and service-related factors. These findings emphasize the importance of routine assessment for personality disorders in substance use treatment settings and support the integration of comprehensive psychiatric evaluation into addiction care to improve treatment planning and outcomes.

Strengths and Limitations

A key strength of this study is the use of validated assessment instruments, including culturally adapted Urdu versions, within a clinically relevant tertiary-care population. However, the cross-sectional design limits causal inference, and the inclusion of only male participants from a single center may restrict generalizability. Additionally, Borderline Personality Disorder was assessed using a screening instrument rather than a structured diagnostic interview, which may influence prevalence estimates.

Clinical and Research Implications

Routine screening for personality disorders in substance use treatment settings may facilitate early identification of high-risk patients and support more individualized management strategies. Future studies should employ longitudinal designs, include female participants, and use multivariable analyses to further explore predictors and outcomes associated with personality disorder comorbidity in substance use disorder.

REFERENCES

1. World Health Organization. Global status report on alcohol and health and treatment of substance use disorders. Geneva: World Health Organization; 2024. <https://www.who.int/publications/i/item/9789240096745>
2. World Health Organization. Mental health atlas 2024. Geneva: World Health Organization; 2024. <https://www.who.int/publications/i/item/9789240114487>
3. World Health Organization. World mental health report: transforming mental health for all. Geneva: World Health Organization; 2022. <https://www.who.int/publications/i/item/9789240049338>
4. United Nations Office on Drugs and Crime. World drug report 2024. Vienna: United Nations Office on Drugs and Crime; 2024. <https://www.unodc.org/unodc/data-and-analysis/world-drug-report-2024.html>

5. Aas CF, Vold JH, Gjestad R, Skurtveit S, Lim AG, Gjerde KV, et al. Substance use and symptoms of mental health disorders: a prospective cohort of patients with severe substance use disorders in Norway. *Subst Abuse Treat Prev Policy*. 2021; 16:20. <https://doi.org/10.1186/s13011-021-00354-1>
6. Carpenter RW. The co-occurrence of personality disorders and substance use disorders: recent advances and clinical implications. *Curr Psychiatry Rep*. 2023; 25:1-10. <https://doi.org/10.1007/s11920-023-01452-6>
7. Pandey S, Bolstad I, Lien L, Bramness JG. Antisocial personality disorder among patients in treatment for alcohol use disorder: characteristics and predictors of early relapse or drop-out. *Subst Abuse Rehabil*. 2021; 12:11-22. <https://doi.org/10.2147/SAR.S296526>
8. Wong RSY. Psychopathology of antisocial personality disorder: from the structural, functional and biochemical perspectives. *Egypt J Neurol Psychiatr Neurosurg*. 2023; 59:113. <https://doi.org/10.1186/s41983-023-00717-4>
9. Saddiqua A, Zunnurain MZ. Prevalence of anti-social behavior among women with substance use disorder in Pakistan. *Adiktologie*. 2024;24(2):81-87. <https://doi.org/10.35198/01-2024-002-0004>
10. For borderline personality disorder: the McLean Screening Instrument for Borderline Personality Disorder (MSI-BPD). *J Pers Disord*. 2003;17(6):568-73.
11. Sheehan DV, Lecrubier Y, Sheehan KH, Amorim P, Janavs J, Weiller E, et al. The Mini-International Neuropsychiatric Interview (MINI): the development and validation of a structured diagnostic psychiatric interview for DSM-IV and ICD-10. *J Clin Psychiatry*. 1998;59 Suppl 20:22-33. [https://doi.org/10.1016/s0924-9338\(97\)83296-8](https://doi.org/10.1016/s0924-9338(97)83296-8)
12. Munawar K, Aqeel M, Rehna T, Shuja KH, Bakrin FS, Choudhry FR. Validity and reliability of the Urdu version of the McLean Screening Instrument for Borderline Personality Disorder. *Front Psychol*. 2021; 12:533526. <https://doi.org/10.3389/fpsyg.2021.533526>.
13. Sheehan DV, Lecrubier Y, Harnett Sheehan K, Janavs J, Weiller E, et al. The validity of the Mini International Neuropsychiatric Interview (MINI) according to the SCID-P and its reliability. *Eur Psychiatry*. 1997;12(5):232-41. [https://doi.org/10.1016/s0924-9338\(97\)83297-x](https://doi.org/10.1016/s0924-9338(97)83297-x)
14. Mapi Research Trust. Mini International Neuropsychiatric Interview (MINI): official instrument information and translations. Lyon: Mapi Research Trust; 2025. <https://eprovide.mapi-trust.org/instruments/mini-international-neuropsychiatric-interview>
15. Aas CF, Vold JH, Gjestad R, Skurtveit S, Bramness JG. Substance use and symptoms of mental health disorders: a prospective cohort of patients with severe substance use disorders in Norway. *Substance Abuse Treatment, Prevention, and Policy*. 2021; 16:20. <https://doi.org/10.1186/s13011-021-00354-1>
16. Carpenter RW. The co-occurrence of personality disorders and substance use disorders: recent advances and clinical implications. *Current Psychiatry Reports*. 2023; 25:1-10. <https://doi.org/10.1007/s11920-023-01452-6>
17. Wong RSY. Structural and biochemical correlates of antisocial personality disorder. *Neuroscience and Biobehavioral Reviews*. 2023;144:104971.