

Prevalence and Patterns of Substance Use Among Young Adults Aged 18–35 Years Attending the Psychiatry Outpatient Department in Almora, Uttarakhand: A One-Year Retrospective Record-Based Cross-Sectional Study

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Abstract

Background: Young adulthood is a critical period for initiation and consolidation of substance-use behaviours. Facility records can provide locally actionable information where population-based data are limited. **Material and Methods:** A one-year retrospective record-based cross-sectional review was designed for young adults aged 18–35 years attending a psychiatry outpatient department in Almora, Uttarakhand. Unique index records of Almora residents were included. Documented substance use comprised current, past, or ever use with unclear timing. The primary denominator consisted of records in which substance use had been assessed and its status was known. Prevalence was reported with Wilson 95% confidence intervals (CIs). Associations were examined using chi-square or Fisher exact tests and exploratory multivariable logistic regression. **Results:** Of 500 eligible unique records, 480 (96.0%) contained an assessed and known substance-use status. Sixty patients had documented substance use, giving a prevalence of 12.5% (95% CI 9.8–15.8%); current use was documented in 52 patients (10.8% of the assessed denominator). Prevalence was 21.8% among males and 3.3% among females (odds ratio 8.06, 95% CI 3.74–17.40; $P < 0.001$). Male sex remained independently associated with documented use (adjusted odds ratio 8.17, 95% CI 3.76–17.74). Among users, any tobacco use was recorded in 70.0%, alcohol in 38.3%, opioids in 30.0%, and cannabis in 13.3%. Polysubstance use involving two substance groups was present in 70.0% (95% CI 57.5–80.1%). Mean age at first use was 18.7 ± 2.2 years. Harmful use or dependence was recorded in 45.0%. **Conclusion:** The review dataset indicates a clinically important burden of documented substance use among young adult psychiatry outpatients, marked by a major male excess, tobacco predominance, and frequent two-substance use. Routine standardized screening, brief intervention, and clearly documented referral pathways are warranted. These findings require confirmation in verified clinical records before scientific submission.

Keywords: Substance use; young adults; psychiatry outpatient department; tobacco; polysubstance use; retrospective study; Uttarakhand.

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INTRODUCTION

Substance use is a major public-health and clinical challenge because alcohol, tobacco, opioids, cannabis, sedatives, stimulants, and other psychoactive substances contribute to preventable morbidity, injury, mental illness, social disruption, and premature mortality. The World Health Organization has emphasized the large global burden of alcohol and drug use and the persistent treatment gap for substance-use disorders.^[1] In India, the national survey on the extent and pattern of substance use demonstrated substantial use of alcohol, cannabis, opioids, and other substances, with marked variation by sex, age, and geography.^[2] Young people and young adults require particular attention. A multicentric study of 1,630 persons aged 10–24 years attending primary health centres in 15 Indian states reported substance use in 32.8%, with a median initiation age of 18

years; tobacco, alcohol, and cannabis were the most common substances.^[3] Within Uttarakhand, a large survey among 14,203 adolescents and youth in suburban Dehradun reported prevalence estimates of 13.02% in Doiwala and 8.14% in Sahaspur.^[4] These estimates cannot be transferred directly to psychiatry outpatient populations, where referral patterns, psychiatric morbidity, help-

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seeking, stigma, and documentation practices may alter both the measured prevalence and the substance profile.

Psychiatry outpatient records offer an opportunity to identify clinically relevant substance use that may complicate diagnosis, treatment adherence, risk assessment, and prognosis. Previous facility-based work from northern India has shown a strong interface between mental illness and substance use,^[5] while long-term de-addiction-centre data demonstrate changing opioid, tobacco, sedative, and polysubstance patterns over time.^[6] Region-specific evidence from Uttarakhand remains limited, particularly for young adults attending routine psychiatry services in the Kumaon hills. Therefore, this study was designed to estimate the documented prevalence and describe the patterns of substance use among young adults aged 18–35 years attending a psychiatry outpatient department in a tertiary care center of Almora district, Uttarakhand.

Objectives

- To estimate the documented prevalence of substance use among assessed young adults aged 18–35 years attending the psychiatry outpatient department during one year.
- To describe the substances used, primary substance, frequency, route, age at initiation, duration, polysubstance use, clinical severity, comorbidity, and treatment/referral profile.
- To examine associations between documented substance use and selected sociodemographic and visit-related characteristics.

MATERIALS AND METHODS

Study design, setting, and period: This was a retrospective record-based cross-sectional study based on psychiatry outpatient records from a health facility in Almora, Uttarakhand. The defined review period was 1 July 2025 to 29 June 2026. The study was prepared in accordance with the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) recommendations.^[12]

Study Population and Eligibility: The study population comprised patients aged 18–35 years who attended the psychiatry outpatient department during the study period and were recorded as residents of Almora district. To prevent repeated visits from inflating the denominator, one index record per unique patient was retained. Records outside the age range or district, duplicate/non-index encounters, and records failing the predefined completeness rules were excluded. Total enumeration of all eligible unique records was used; therefore, no prospective sample-size calculation was applied.

Data Source and Variables: Data were extracted from available Psychiatry OPD records using a structured data sheet. Variables included sociodemographic characteristics, substance-use profile, clinical diagnosis, comorbidities, treatment history, management, referral, and follow-up plan.

Operational Definitions: Documented substance use was defined as an explicit record of current use, past use, or ever use with unclear timing of tobacco, alcohol, cannabis, opioids, sedatives/hypnotics, inhalants, stimulants, hallucinogens, or another psychoactive substance. The

primary prevalence denominator included only records in which substance use was assessed and the status was known. A sensitivity estimate used all eligible records as the denominator. For polysubstance analysis, smoked and smokeless tobacco were combined into a single tobacco group; polysubstance use denoted two or more distinct substance groups. Because the dataset recorded no patients with more than two groups, polysubstance use in this analysis represented exactly two groups.

Statistical Analysis: Categorical variables were summarized as frequencies and percentages. Continuous variables were summarized using mean±standard deviation and median (range), as appropriate. Prevalence estimates and selected proportions were presented with Wilson 95% CIs. Group comparisons used Pearson chi-square tests; Fisher exact tests were used for sparse 2×2 tables. A multivariable binary logistic regression model included sex, age group, residence, marital status, and student status. The single transgender/other record in the assessed dataset was excluded from the sex-based regression because the cell size was insufficient. Results are reported as odds ratios (ORs) or adjusted odds ratios (aORs) with 95% CIs. A two-sided $P < 0.05$ was considered statistically significant. Statistical analysis was performed using jamovi version 2.7.38, a free and open-source statistical software.

RESULTS

Record flow and documented prevalence: The dataset contained 500 eligible unique index records. Substance use was assessed and the status was known in 480 records (96.0%); 20 records (4.0%) were unassessed or had unknown status. Sixty of the 480 assessed patients had documented substance use, corresponding to a prevalence of 12.5% (95% CI 9.8–15.8%). When all 500 eligible records were used as a conservative sensitivity denominator, the prevalence was 12.0% (95% CI 9.4–15.1%). Current use was recorded in 52 patients, representing 10.8% (95% CI 8.4–13.9%) of the assessed denominator; six had past use and two had ever use with unclear timing.

Sociodemographic profile and associated factors: Among the 500 eligible records, 180 (36.0%) patients were aged 18–24 years, 160 (32.0%) were aged 25–29 years, and 160 (32.0%) were aged 30–35 years. Females constituted 50.0%, males 49.6%, and transgender/other persons 0.4%. Most patients were rural residents (70.0%), and 53.0% were unmarried. New visits accounted for 87.4%. Documented prevalence increased from 10.2% in the 18–24-year group to 14.5% in the 30–35-year group, but the trend was not statistically significant ($P = 0.489$). Prevalence was markedly higher among males than females (21.8% versus 3.3%; OR 8.06, 95% CI 3.74–17.40; Fisher exact $P < 0.001$). Residence, marital status, student status, and visit type were not significantly associated with documented use. In the exploratory adjusted model, male sex remained the only statistically significant factor (aOR 8.17, 95% CI 3.76–17.74).

Patterns of substance use: Among the 60 documented users, any tobacco use was most frequent (42, 70.0%): smoked tobacco was recorded in 26 (43.3%) and smokeless tobacco in 23 (38.3%), with overlap. Alcohol was recorded in 23 (38.3%), opioids in 18 (30.0%), cannabis in eight (13.3%), sedatives/hypnotics and stimulants in three each (5.0%), inhalants and other substances in two each (3.3%), and

hallucinogens in one (1.7%). The leading primary substances were smoked tobacco (25.0%), smokeless tobacco (18.3%), alcohol (18.3%), and opioids (16.7%). Forty-two users (70.0%; 95% CI 57.5–80.1%) had two-substance use, while 18 (30.0%) had single-substance use. The most common two-group combinations were tobacco plus alcohol (20.0% of users), tobacco plus opioids (13.3%), alcohol plus opioids

(8.3%), and tobacco plus cannabis (6.7%). Mean age at first use was 18.7 ± 2.2 years (median 18.5; range 15–23), and mean duration was 8.8 ± 4.7 years (median 9; range 1–20). Daily use was documented in 40.0%, and the most common routes were oral (43.3%), smoking (33.3%), and chewing/buccal use (18.3%).

Table 1: Sociodemographic characteristics and documented substance use

Characteristic	Eligible records, n (%)	Assessed n	Users, n (% of assessed)	P value
Age 18–24 years	180 (36.0)	176	18 (10.2)	0.489
Age 25–29 years	160 (32.0)	152	20 (13.2)	
Age 30–35 years	160 (32.0)	152	22 (14.5)	
Male	248 (49.6)	239	52 (21.8)	<0.001*
Female	250 (50.0)	240	8 (3.3)	
Transgender/Other	2 (0.4)	1	0 (0.0)	
Rural residence	350 (70.0)	336	40 (11.9)	0.651
Urban residence	150 (30.0)	144	20 (13.9)	
Unmarried	265 (53.0)	256	30 (11.7)	0.856
Married	227 (45.4)	217	29 (13.4)	
Separated/Widowed	8 (1.6)	7	1 (14.3)	
Student	80 (16.0)	78	6 (7.7)	0.224
Not a student	420 (84.0)	402	54 (13.4)	
New visit	437 (87.4)	422	51 (12.1)	0.597
Follow-up visit	63 (12.6)	58	9 (15.5)	

*Male versus female comparison used Fisher exact test; the transgender/other category was not included in this 2×2 test. Other P values are from Pearson chi-square tests. Percentages in the user column use the assessed subgroup within each category as denominator.

Table 2: Substance classes and primary substance among documented users (n=60)

Substance class	Any documented use, n (%)	Recorded primary substance, n (%)
Any tobacco (smoked and/or smokeless)	42 (70.0)	—
Tobacco—smoked	26 (43.3)	15 (25.0)
Tobacco—smokeless	23 (38.3)	11 (18.3)
Alcohol	23 (38.3)	11 (18.3)
Opioids	18 (30.0)	10 (16.7)
Cannabis	8 (13.3)	6 (10.0)
Sedatives/Hypnotics	3 (5.0)	2 (3.3)
Stimulants	3 (5.0)	2 (3.3)
Inhalants	2 (3.3)	1 (1.7)
Other substance	2 (3.3)	1 (1.7)
Hallucinogens	1 (1.7)	1 (1.7)

Any-use categories are not mutually exclusive. Smoked and smokeless tobacco overlap; “any tobacco” is their patient-level union.

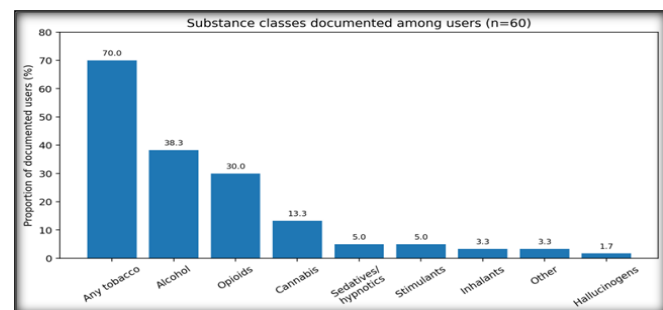


Figure 1: Substance classes documented among users (n=60). Categories are not mutually exclusive.

Clinical and service profile: Regarding clinical state, 28 users (46.7%) were documented as use without disorder, 16

(26.7%) as harmful use, 11 (18.3%) as dependence, and five (8.3%) as remission. Intoxication and/or withdrawal was documented in 16 patients (26.7%). Psychiatric comorbidity was recorded in 18 (30.0%), including psychotic, anxiety, depressive, and sleep disorders. Medical comorbidity was recorded in 27 (45.0%); gastritis, liver dysfunction, injury, respiratory illness, and oral lesions were the leading conditions. A family history of substance use was present in 22 (36.7%), and 12 (20.0%) had previous treatment. Treatments included psychoeducation, nicotine-replacement advice, brief intervention and counselling, motivational enhancement therapy, withdrawal management, medication, and de-addiction counselling. Twenty-two patients were referred to a dedicated de-addiction or tobacco-cessation service, while 21 continued in psychiatry OPD care.

Table 3: Use characteristics and clinical profile among documented users (n=60)

Characteristic	n (%)
Current use	52 (86.7)
Past use	6 (10.0)
Ever use—timing unclear	2 (3.3)

Single substance group	18 (30.0)
Two substance groups	42 (70.0)
Daily frequency	24 (40.0)
Weekly frequency	13 (21.7)
Monthly/Occasional	11 (18.3)
Past use frequency category	12 (20.0)
Oral route	26 (43.3)
Smoking route	20 (33.3)
Chewing/Buccal route	11 (18.3)
Inhalation/Other route	3 (5.0)
Use without disorder	28 (46.7)
Harmful use	16 (26.7)
Dependence	11 (18.3)
Remission	5 (8.3)
Any intoxication/withdrawal state	16 (26.7)
Any psychiatric comorbidity	18 (30.0)
Any medical comorbidity	27 (45.0)
Family history present	22 (36.7)
Previous treatment present	12 (20.0)

Age at first use: mean 18.7 ± 2.2 years, median 18.5 (range 15–23). Duration of use: mean 8.8 ± 4.7 years, median 9 (range 1–20).

Table 4: Exploratory multivariable logistic regression for documented substance use (n=479)

Predictor	Adjusted OR	95% CI	P value
Male sex	8.17	3.76–17.74	<0.001
Age 25–29 years	1.01	0.45–2.28	0.978
Age 30–35 years	0.96	0.42–2.21	0.932
Urban residence	1.43	0.78–2.66	0.250
Married	1.04	0.56–1.92	0.907
Not a student	1.59	0.54–4.68	0.396

Reference categories: female sex, age 18–24 years, rural residence, unmarried/separated/widowed, and student. The single assessed transgender/other record was excluded because of sparse data. OR, odds ratio; CI, confidence interval.

DISCUSSION

Principal findings: In this one-year review dataset, documented current, past, or ever substance use was present in 12.5% of assessed young adult psychiatry outpatients. Four findings are particularly relevant: a pronounced male excess, tobacco as the dominant substance class, frequent involvement of alcohol and opioids, and a high proportion of two-substance use. Initiation clustered around late adolescence, with a mean age of 18.7 years. Nearly half of users were documented with harmful use or dependence, and approximately one quarter had intoxication and/or withdrawal, underscoring the clinical importance of detection even when substance use was not necessarily the chief presenting complaint.

Comparison with other studies: The 12.5% estimate is close to the 13.02% prevalence reported among adolescents and youth in Doiwala, Uttarakhand, and higher than the 8.14% estimate from Sahaspur.^[4] However, those were community/suburban survey estimates among persons aged 10–24 years, whereas the present analysis was restricted to young adults attending a psychiatry outpatient department and relied on routine documentation. Direct comparison must therefore be cautious. The estimate was substantially lower than the 32.8% reported in a multicentric primary-care study using structured assessment across 15 states.^[3] The absence of a uniform screening tool in routine records, differences in age range, and under-documentation of socially stigmatized use are plausible explanations.

Male sex was associated with approximately eightfold higher odds of documented use. A substantial sex differential has

been reported in national and regional Indian studies.^[2,4,9] Nevertheless, the very low documented prevalence among females should not be interpreted as absence of need. Stigma, family surveillance, lower disclosure, and differences in help-seeking may contribute to under-recognition. Gender-sensitive and confidential screening is therefore important.

Tobacco was documented in 70.0% of users, followed by alcohol and opioids. Treatment-seeking populations often show a different profile from community samples. In de-addiction and rehabilitation facilities in Dehradun, alcohol, tobacco, opioids, and cannabis were prominent,^[7] while long-term data from a north Indian de-addiction centre documented increasing tobacco, opioid, sedative, and polysubstance dependence over successive decades.^[6] The present pattern is consistent with the need to assess tobacco alongside alcohol and illicit/prescription drugs rather than treating it as a separate or less clinically relevant behaviour.

Two-substance use was documented in 70.0% of users, which is higher than the 42.6% polysubstance prevalence reported among young emerging adult substance users in a high-risk oral-cancer cohort in Varanasi.^[8] Differences in definitions, population selection, and documentation likely explain part of this contrast. In the present dataset, tobacco was counted as one group and all polysubstance cases involved exactly two groups. The common tobacco–alcohol and tobacco–opioid combinations are clinically important because combined use may complicate withdrawal management, treatment adherence, relapse prevention, and physical-health risk.

The mean initiation age of 18.7 years was closely aligned with the median age of 18 years reported in the multicentric young-

person primary-care study.^[3] This reinforces the need for prevention and early identification before or during the transition to adulthood. Uttarakhand has already reported implementation of a screening, brief intervention, and referral framework at the primary-healthcare level,^[10] indicating that structured screening and stepped care are feasible within the state. Psychiatry OPDs can reinforce this pathway by systematically recording the substance, frequency, timing, severity, and referral outcome.

We are taking only pts attending opd not dependent patients as patients will attend opd when they have dependence. before that they don't even come to opd Married and unmarried data shall be reverse There's nothing called deaddiction counselling Motivational enhancement therapy

Implications for practice: A brief standardized substance-use screen should be incorporated into the first assessment of all young adults and repeated when clinical status changes. Positive screens should be followed by assessment of current use, last use, withdrawal risk, substance-use disorder severity, suicidality, psychiatric comorbidity, injection risk, and medical complications. Tobacco-cessation intervention, brief motivational counselling, pharmacotherapy when indicated, and referral to de-addiction services should be documented using structured fields. The 4.0% unassessed/unknown proportion in the dataset is modest but demonstrates that even a small documentation gap can influence prevalence estimates.

Strengths and Limitations: The study design used a full one-year census of eligible unique index records, a clearly defined assessed denominator, patient-level substance indicators, and a sensitivity prevalence estimate. Combining smoked and smokeless tobacco at patient level avoided double counting when estimating any tobacco use. The analysis also described clinical state, comorbidity, treatment, referral, and follow-up, providing a service-oriented view beyond substance frequency alone. The retrospective design depended on the completeness of OPD records and may have resulted in under-reporting or misclassification. Substance use was not categorized by a clearly defined time period. As this was a single-centre clinical study, the findings may not be generalizable to the wider population. Subgroup and regression analyses were also limited by the small number of substance-use cases.

CONCLUSION

Substance use was documented in 12.5% of young adults attending the Psychiatry OPD, with tobacco being the most commonly used substance and polysubstance use frequently observed. Substance use was more common among males. These findings highlight the need for routine screening, early counselling, and appropriate referral for substance-use problems among young adults attending psychiatric services.

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Conflicts of interest

There are no conflicts of interest.

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