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**ORIGINAL RESEARCH**

# Substance Abuse Prevalence and Patterns Among Women in Bengaluru's Paying Guest Accommodations- A Cross-sectional Study

[1]Dr. Anamika Goswami, [2]Dr. H. R. Raveendra

[1]Assistant Professor, Department of Community Medicine, Tripura Medical College, Agartala Tripura, India
[2]Professor& Head, Department of Community Medicine, Vydehi Institute of Medical Sciences and Research Centre, Bengaluru, India

**Corresponding author**
Dr. Anamika Goswami
Assistant Professor, Department of Community Medicine, Tripura Medical College, Agartala Tripura, India
**Email:** dr.anamika4help@gmail.com

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## ABSTRACT

**Introduction:** Substance abuse among women is an emerging concern, particularly in urban settings where changing social dynamics and living arrangements influence lifestyle choices. This study assesses substance abuse among women residing in Paying Guest (PG) accommodations in Bengaluru, a rapidly urbanizing city in India. The research aims to explore the prevalence, patterns, and factors contributing to substance use in this unique residential setting. **Methodology:** A cross-sectional survey was conducted among 290 women, living in various PG accommodations across Bengaluru. Data were collected using a structured questionnaire focusing on demographic details and substance use behaviour. **Results:** Among 290 study subjects, 82 (28.27%) had a history of taking alcohol, 31 (10.68%) had history of use of tobacco products, 6 (2.06%) had a history of cannabis use and 3 (1.03%) had history of use of others psychoactive substances such as inhalants, hallucinogens, and opioids. **Conclusion:** The prevalence of substance use, particularly alcohol and tobacco, underscores the need for targeted interventions to address the underlying factors. Promoting mental health support, increasing awareness about the risks of substance abuse, and implementing stricter regulatory measures are crucial steps in mitigating this issue.



## INTRODUCTION

Psychoactive drugs are substances that, when ingested or administered, influence mental processes such as perception, consciousness, cognition, mood, and emotions. They are part of a larger group of psychoactive substances, which also includes alcohol and nicotine.[1,2]

Substance abuse is a growing public health concern, particularly in urban areas where changing lifestyles and increased social exposure influence behaviour.[3,4]Women, traditionally less associated with substance use due to societal norms, are increasingly engaging in such behaviours, driven by evolving cultural dynamics, work-related stress, and peer influence. Bengaluru, a fast-paced metropolitan city, attracts young women from diverse backgrounds who often reside in Paying Guest (PG) accommodations due to work or study commitments.[5]

PG accommodations provide a shared living environment, often characterized by minimal supervision and significant peer interactions, creating unique social dynamics. These settings can influence behaviours, including substance use, due to factors such as stress, loneliness, and exposure to urban nightlife.[6] While substance abuse among men has been widely studied, there is limited research focusing on women, particularly those in transient and shared living environments like PG accommodations. This study seeks to assess the prevalence, patterns, and contributing factors of substance abuse among women residing in PG accommodations in Bengaluru.

## MATERIALS & METHODS

**Study Area**: The study was conducted in the paying guest (PG) accommodations situated in the Whitefield area, Mahadevapura Zone, BBMP (Bruhat Bengaluru MahanagaraPalike), Bengaluru.

**Study Design:** This study was a cross-sectional descriptive study

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**Study Period:** Due to the COVID-19 pandemic, the study was carried out in two phases, August 2020 to March 2021 and June to December 2021.

**Study Population:** The study was conducted among the women staying in PG accommodations situated in the study area.

**Inclusion and Exclusion Criteria**

**Inclusion Criteria**

- Women aged 18 years and above and residing in paying guest accommodations for the last 6 months or more
- Women staying in PG accommodations located within a 5 km radius of the Whitefield area
- Women who voluntarily agreed to take part in the study and had given informed written consent

**Exclusion Criteria**

- Women staying in the PG accommodations for less than 4 days per week and/ or less than 15 days per month
- Women staying at PGs as co-occupant(s) within the owner's house

**Sample Size:** A total 290 women were selected for this study

**Sampling Method:**Simple random sampling method was used in the study

**Method of Collection of Data**

The eligible study participants were explained about the study in the language they understand. Among those who consented to participate in the study, informed written consent was obtained. All the study participants were assured that the data collected will be kept confidential and good rapport was established before collection of data from the study participants.

A pre-tested, semi-structured data collection tool was used to collect the data. The validated tool was pilot tested among 5 randomly selected women from the Paying Guest accommodations in Whitefield area, Bengaluru. The final tool, after incorporating the inputs received during the piloting was used in the study.

**The final data collection tool had the following sections**

**Section A:** Sociodemographic profile such as age, education, occupation, type of Institution working at, income, native place, type of family (in native place), mother tongue, marital status, duration of stay at PG-L, Reasons for staying in PG-L, facilities available at the PG-L, type of accommodation at PG-L and reasons.

**Section B:** History of substance abuse by using WHO ASSIST(Alcohol, Smoking, and Substance Involvement Screening Test) Questionnaire.[6]

**RESULTS**

**Section A. Socio-demographic profile of the study subjects**

The distribution of the study subjects based on the ***age-group*** is depicted in table 1. The mean (SD) age of women who participated in the study was 22.75 (12.4) years and the median (IQR) age was 22 (21-24) years. Majority, 246 (84.83%) were in the age-group 18-25 years, followed by 39 (13.45%) in the age-group of 26-30 years, and 5 (1.72%) were in the age-group 31-35years.

**Table 1: Distribution of study subjects based on the *age- group***

| Sl. No. | Age Group (In years) | Number | Percentage |
|---|---|---|---|
| 1 | 18-20 | 067 | 23.10% |
| 2 | 21-25 | 179 | 61.72% |
| 3 | 26-30 | 039 | 13.45% |
| 4 | 31-35 | 005 | 01.72% |
| ***Total*** | | ***290*** | ***100%*** |

Mean (SD) age = 22.75 (12.4) years
Median (IQR) Age= 22 (21-24) years

Distribution of study participants based on the ***religion*** is shown in figure 5. Of the 290 study participants staying in Paying Guest accommodations, majority 245(84.48%) were Hindus, 37 (12.76%) were Christian,7(2.41%) were Muslims and 1(0.34%) was a Buddhist.

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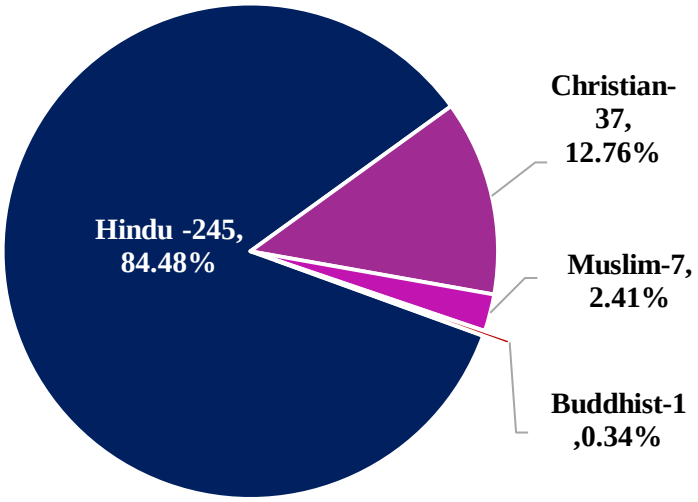
**Figure:1 Distribution of studu participants based on the *religion* (N=290)**



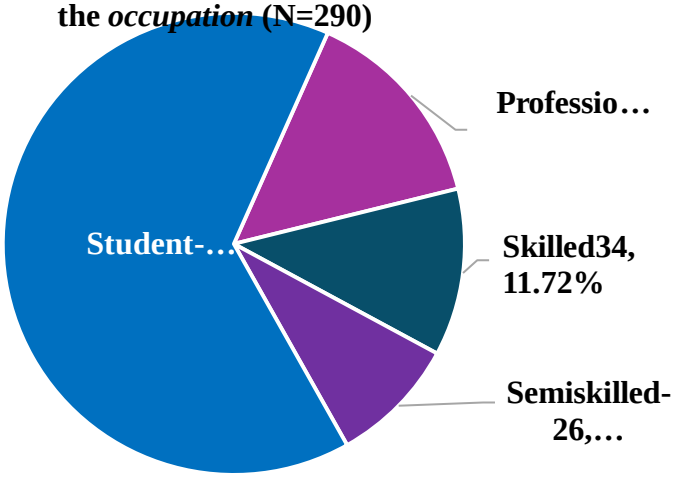

***The educational status*** of the study participantsis depicted in table 2.Out of 290 participants, majority 119 (41.03%) were Undergraduate Students, followed by 70(24.14%) were Graduates,12(4.14%) had completed Post Graduation, 51 (17.59%) had studied Technical Diploma, 10 (3.45%) had studied Non-Technical Diploma and 7(2.41%) had completed Pre-University College (PUC) education.

**Table 2: *Educational Status* of the study participants**

| Sl. No. | Education status | Number | Percentage |
|---|---|---|---|
| 1 | Doctorate/Ph.D. | 05 | 01.72% |
| 2 | Postgraduate | 12 | 04.14% |
| 3 | Graduate | 70 | 24.14% |
| 4 | Student- Post Graduate | 16 | 05.52% |
| 5 | Student-Undergraduate | 119 | 41.03% |
| 6 | Diploma | 61 | 21.04% |
| 7 | Pre-university College | 07 | 02.41% |
| ***Total*** | | ***290*** | ***100%*** |

Distribution of the study subjects based on their ***occupation*** is shown in figure 7. Out of 290 study participants, majority 188 (64.83%) were Students, followed by 42 (14.48%) were professionals, 34(11.72%) were skilled workers, and 26(8.97%) were semiskilled workers.

**Figure 2: Distribution of study participants based on the *occupation* (N=290)**



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**Section B: Results on the details of substance abuse among study participants**

Table 3 shows the distribution of study participants according to the *substance abuse*. Among 290 study subjects, 82 (28.27%) had a history of taking alcohol, 31 (10.68%) had history of use of tobacco products, 6 (2.06%) had a history of cannabis use and 3 (1.03%) had history of use of others psychoactive substances such as inhalants, hallucinogens, and opioids.

**Table 3: Distribution of study participants according to the *Substance abuse* (N=290)**

| Sl. No. | Type of substance use | Number | Percentage |
|---|---|---|---|
| 1 | Alcoholic Beverages | 82 | 28.27%% |
| 2 | Tobacco Products | 31 | 10.68% |
| 3 | Cannabis | 6 | 2.06% |
| 4 | Others (Inhalants, Hallucinogens, Opioids) | 3 | 1.03% |

*'Alcohol risk score'* among the study participants who had consumed alcohol is depicted in table 4. Among 82 participants having history of alcohol intake, majority 81(98.78%) had low risk (risk 0-10) and only 1 (1.22%) had moderate risk (risk 11-26) according to WHO ASSIST instrument.

**Table 4: *Alcohol risk score* among the study participants who had consumed alcohol n=82), according to WHO ASSIST instrument.**

| Sl. No. | Alcohol risk score | Number | Percentage |
|---|---|---|---|
| 1 | 00-10 (Low risk) | 81 | 98.78% |
| 2 | 11-26 (Moderate risk) | 1 | 1.22% |
| 3 | ≥ 27 (High risk) | 0 | 00% |
| ***Total*** | | *82* | *100%* |

Table 42 shows the *'tobacco risk score'* among the study participants. Among 31 participants those had history of tobacco use, majority 18(58.06%) had moderate risk (risk score 4-26), and 13 (41.94%) had low risk, according to WHO ASSIST instrument.

**Table 5: Tobacco risk score among the study participants (n=31), according to WHO ASSIST instrument**

| Sl. No. | Tobacco risk score | Number | Percentage |
|---|---|---|---|
| 1 | 0-3 (Low risk) | 13 | 41.94% |
| 2 | 4-26 (Moderate risk) | 18 | 58.06% |
| 3 | ≥ 27 (High risk) | 0 | 0% |
| ***Total*** | | *31* | *100%* |

Distribution of study participants who has history of cannabis usage based on the *'cannabis risk score'* is depicted in table 6. Among 6 participants having history of cannabis usage, majority 5(83.33%) had moderate risk (risk score 4-26), and only 1 (16.67%) had mild risk (risk score 11-26), according to WHO ASSIST instrument.

**Table 6: Distribution of study participants according to the 'Cannabis risk score" (n=6)**

| Sl. No. | Cannabis risk score | Number | Percentage |
|---|---|---|---|
| 1 | 0-3 (Low risk) | 1 | 16.67% |
| 2 | 4-26 (Moderate risk) | 5 | 83.33% |
| 3 | ≥ 27 (High risk) | 0 | 0.00% |
| ***Total*** | | *6* | *100%* |

**Table 7: Relationship between Tobacco risk score and type of accommodation of study participants (N=31)**

| Sl. No | Tobacco Risk Score | Accommodation | | | | | | | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | *Single room* | | *Double Sharing* | | *Triple Sharing* | | *Four Sharing* | | | |
| | | *No.* | *%* | *No.* | *%* | *No.* | *%* | *No* | *%* | *No* | *%* |
| 1 | Low risk (Score: 0 -3) (n=13) | 6 | 46.15% | 4 | 30.77% | 2 | 15.38% | 1 | 7.69% | 13 | 100% |
| 2 | Moderate Risk (Score 4 - 26) (n=18) | 8 | 44.44% | 4 | 22.22% | 2 | 11.11% | 4 | 22.22% | 18 | 100% |

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Table 7 shows the relationship between *tobacco risk score* and the *type of accommodation* among the study participants having history of tobacco consumption. Among the 13 study participants with low tobacco risk, majority 6(46.15%) were staying in single room, followed by 4 (30.77%) were staying in double sharing room, 2(15.38%) were staying in triple sharing room, and 1 (7.69%) was staying in four sharing room. Among the 18 study participants who had tobacco moderate risk, majority 8(44.44%) were staying in single room, followed by 4 (22.22%) were staying in double sharing room, 2(11.11%%) were staying in triple sharing room and 4 (22.22%) was staying in four sharing room.

## DISCUSSION

The socio-demographic profile of the study subjects reveals that the majority are young, unmarried women, predominantly students, with a significant proportion engaging in substance use. This pattern aligns with broader trends observed in India, where substance use among women, though traditionally lower than men, is on the rise.[8]

The mean age of participants was 22.75 years, with 84.83% falling within the 18-25 age group. This concentration of younger individuals is consistent with findings from other studies,[9]which indicate that substance use initiation often occurs in late adolescence or early adulthood. For instance, a study from Bengaluru reported a mean age of 42 years among women seeking treatment for substance use disorders, with the mean age of initiation at 27 years, suggesting that interventions targeting younger populations could be beneficial.

In terms of educational status, 41.03% of participants were undergraduate students, and 24.14% were graduates. The high representation of students underscores the need for targeted substance use prevention programs within educational institutions. Occupation-wise, 64.83% were students, followed by professionals and skilled workers. This demographic distribution suggests that academic pressures and professional stressors might contribute to substance use, highlighting the importance of mental health support in these settings.

Substance use patterns among the participants showed that 28.27% had a history of alcohol consumption, 10.68% used tobacco products, 2.06% used cannabis, and 1.03% used other psychoactive substances. These figures are concerning, especially considering that traditional substance use among Indian women has been relatively low. Recent reports indicate a marked increase in the number of women indulging in substance abuse over the past two decades.

In our study among the women staying in PG accommodations, 82(28.27%) had a history of taking alcohol; 31 (10.68%) had a history of use of tobacco products; 6 (2.06%) had a history of cannabis use; and 3 (1.03%) had a history of use of other psychoactive substances such as inhalants, hallucinogens, and opioids. Whereas, in the study conducted among female students in Chandigarh, by Kaur R et al,[10] 91.1% had a history of alcohol intake. In the study conducted by Masthi NRR and Ravi MA,[11] in professional degree colleges of Urban Bengaluru, 87.5% of study subjects had consumed alcohol, 46.1% had consumed tobacco products, 16.9% had used cannabis, 7.1% had used sedatives, 3.5% had used Hallucinogens, 1.8% had used Inhalants, 1.4% each had used Cocaine & Opioids and 0.8% had used Amphetamine type stimulants among the students

Risk assessments using the WHO ASSIST instrument revealed that among those who consumed alcohol, 98.78% were at low risk, and 1.22% at moderate risk. For tobacco users, 58.06% were at moderate risk, and 41.94% at low risk. Among cannabis users, 83.33% were at moderate risk, and 16.67% at low risk. These findings suggest that while the majority of users are currently at low to moderate risk, there is potential for escalation without appropriate interventions. In the study conducted among medical students by Masthi NRR and Ravi MA,[11] among those who had a history of alcohol consumption, majority 65.7% had mild risk, followed by 29.2% had moderate risk and 5.1% had high risk; and among tobacco users, the majority 68.6% had moderate risk followed by 17.7% had high risk and 13.7% had mild risk; among Cannabis users, majority, 50.6% had mild risk, 45.8% had moderate risk and 3.6% had high risk.

The relationship between tobacco risk scores and type of accommodation indicated that those in single rooms had a higher representation in both low and moderate risk categories. This observation suggests a potential link between living in single accommodations and substance use, though further research is necessary to determine causation.

## CONCLUSION

The study highlights a significant prevalence of substance use among women residing in PG accommodations in Bengaluru, with alcohol and tobacco being the most commonly used substances. The findings suggest that young, educated, and unmarried women, particularly students, are at a higher risk of substance use. The low to moderate risk levels identified for alcohol, tobacco, and cannabis use indicate a potential for increase without timely interventions. The unique social dynamics of PG accommodations, coupled with stress, loneliness, and peer influence, appear to play a critical role in substance use behaviours.

### Recommendation

Awareness campaigns in educational institutions and PGs can educate women on the risks of substance use. Mental health support, including counselling and stress management workshops, can help them cope with challenges. Peer support groups should be established to reduce isolation and foster community. Policy measures, such as stricter regulations on

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substance availability and enforcement of anti-substance use rules in PGs, are crucial.

**Limitation**

Firstly, the study was restricted to PG accommodations in the Whitefield area of Bengaluru, which may limit the generalizability of the findings to other regions or types of living arrangements. Secondly, the data on substance use behaviours were self-reported, which could introduce recall bias or underreporting due to social desirability concerns. Thirdly, although adequate for the study's scope, a larger sample size covering different zones in Bengaluru could provide more comprehensive insights.While this study focuses on Whitefield PG accommodations, its findings provide a foundation for similar research in other areas.

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