Original Research Article

https://doi.org/10.53339/aimdr.2025.11.3.3
E-ISSN: 2395-2822 | P-ISSN: 2395-2814

Patterns of substance abuse and their sociodemographic correlates: A study from rehabilitation centers in Bangladesh

Md Sajid Salman Hamid[1], Dipak Mitra[2], Shimonti Shithi Sharmin[3]

[1]Department of Community Medicine and Public Health, Ashiyan Medical College Hospital, Dhaka, Bangladesh, [2]Department of Public Health, School of Health and Life Sciences at North South University, Dhaka, Bangladesh, [3]Department of Sociology, University of Dhaka, Dhaka, Bangladesh

Address for correspondence: Md Sajid Salman Hamid, Department of Community Medicine and Public Health, Ashiyan Medical College Hospital, Dhaka, Bangladesh. E-mail: sshamid.ssh@gmail.com

Abstract

Background: Substance abuse is a significant public health challenge affecting millions globally, with approximately 284 million people affected. In Bangladesh, despite various governmental and non-governmental efforts to combat this issue, substance abuse remains a growing concern. Understanding the sociodemographic factors that contribute to substance abuse is crucial for developing effective prevention and treatment strategies.

Objectives: This study aimed to explore the patterns of substance abuse and identify the sociodemographic correlates among individuals seeking treatment at rehabilitation centers in Dhaka, Bangladesh.

Methods: A descriptive cross-sectional design was employed for this study. Data were collected from 146 individuals attending two rehabilitation centers in Dhaka from December 2019 to March 2020. Participants were selected using a convenient sampling technique. A structured questionnaire was administered to collect data on sociodemographic characteristics, substance use patterns, and drug administration methods.

Results: The study found that substance abuse was most common among younger individuals, with 41.8% of participants aged 26–30 years. Educationally, a significant proportion of respondents had only primary (37.0%) or secondary (34.9%) education. Unemployment (48.6%) was strongly linked to substance abuse, and most participants (67.2%) had a family income between 1,000 and 10,000 BDT/month. Cannabis was the most frequently abused substance (84.9%), and smoking was the predominant method of administration (56.2%). A substantial proportion of respondents (58.9%) reported using more than one drug.

Conclusion: This study highlights the importance of sociodemographic factors such as age, education, employment status, and family income in shaping substance use patterns in Bangladesh. The findings suggest that targeted interventions addressing these sociodemographic factors are essential for the development of more effective prevention and treatment strategies in the Bangladeshi context.

Keywords: Bangladesh, rehabilitation centers, sociodemographic factors, substance abuse

Introduction

Substance abuse represents a major public health issue that affects millions of individuals and their communities globally. It is estimated that approximately 284 million people suffer from substance abuse worldwide, and this number continues to grow every year, further complicating efforts to address the problem effectively.[1] In Asia, and particularly in Bangladesh, substance

abuse has become an increasingly urgent concern. Despite significant efforts by both governmental and non-governmental organizations aimed at combating this issue, the prevalence of substance abuse in Bangladesh remains alarmingly high, making it a critical public health challenge.[2,3] This increase in substance use is not only a public health concern but is also accompanied by a high rate of relapse, suggesting that the existing treatment and prevention methods may be insufficient.[4,5] Given the persistent nature of substance abuse in the country, it is crucial to understand the sociodemographic factors that contribute to its prevalence and how these factors may influence both the onset of abuse and the success of treatment interventions.

Substance abuse is defined as the harmful or hazardous use of psychoactive substances such as drugs and alcohol, often leading to dependence, addiction, and other long-term health consequences.[6-8] The substances most commonly abused vary significantly across regions and cultures, influenced by factors such as the availability of substances, socioeconomic conditions, and local cultural attitudes toward drug use.[9,10] In developed countries, alcohol, cannabis, and prescription drugs are among the most commonly abused substances. In contrast, in developing countries like Bangladesh, the abuse of heroin, marijuana, and pharmaceutical drugs is more prevalent, highlighting the stark differences in drug use patterns between high-income and low-income regions.[1] These variations in substance abuse underscore the need for targeted prevention and treatment strategies that are tailored to the specific socioeconomic and cultural contexts of each country. The importance of region-specific approaches cannot be overstated, as a one-size-fits-all model is unlikely to address the underlying issues effectively.

The consequences of substance abuse are wide-ranging and multifaceted, with serious health, social, and economic impacts. On the health front, substance abuse is closely linked to chronic conditions such as liver disease, heart disease, human immunodeficiency virus (HIV)/acquired immunodeficiency syndrome, and various mental health disorders, which significantly contribute to the global burden of disease.[11,12] In addition to these health consequences, substance abuse also leads to severe social repercussions, including increased crime rates, family breakdowns, and homelessness.[13,14] The social fabric of affected communities is often disrupted, leading to long-term challenges for both individuals and the wider society. Moreover, the economic impact of substance abuse is profound, with direct costs related to healthcare and treatment services, as well as indirect costs related to lost productivity and the burden on social services.[14,15] These economic burdens are often felt most acutely in developing countries, where resources for treatment and prevention are limited.

Rehabilitation centers play a pivotal role in addressing the issue of substance abuse. They provide a supportive environment for individuals to recover from addiction and offer a wide range of services, including counseling, therapy, and medical treatment.[16,17] These centers are not only essential for the treatment of individuals suffering from substance use disorders but also serve as valuable research hubs where the causes, consequences, and effectiveness of different treatment strategies can be studied.[18] Understanding the effectiveness of rehabilitation programs, as well as identifying the specific needs of different populations, is key to improving the success of treatment and reducing the recurrence of substance abuse.

To develop more effective prevention and treatment programs, it is essential to understand the sociodemographic factors that contribute to substance abuse. Age, education level, income, occupation, and family structure are all critical factors that influence an individual's likelihood of using substances, as well as their ability to recover from addiction.[4,8] For instance, younger individuals may be more susceptible to experimenting with substances, while individuals from lower socioeconomic backgrounds may face greater barriers to accessing treatment

and rehabilitation services. This study aims to explore the sociodemographic characteristics of individuals seeking treatment for substance abuse at rehabilitation centers in Bangladesh. By analyzing these factors, the study seeks to provide insights that can inform the development of more targeted, culturally appropriate, and effective interventions that address the unique challenges faced by the Bangladeshi population. Ultimately, the goal is to reduce the burden of substance abuse in Bangladesh and similar contexts by improving treatment outcomes and reducing the prevalence of substance use disorders.

Methods

Study design

The study employed a descriptive cross-sectional design to investigate the patterns of substance abuse and their sociodemographic correlates among individuals seeking treatment at rehabilitation centers in Dhaka, Bangladesh. Data collection for the study was conducted from December 2019 to March 2020.

Study population and study area

The study population consisted of all patients attending rehabilitation centers in Dhaka who were identified as drug abusers. The study targeted participants from two prominent rehabilitation centers in Dhaka: Prottoy Medical Clinic, Baridhara, Dhaka, and Promises Medical Limited, Baridhara, Dhaka, Bangladesh. The total sample size for the study was 146 individuals.

Inclusion criteria

The inclusion criteria for this study were as follows:

- All patients attending the rehabilitation centers within the study period were included.
- After consultation with the physicians, a list of respondents available for the study was compiled.
- Individuals willing to participate in the study were included, while those unwilling to participate were excluded.

Exclusion criteria

The exclusion criteria included:

- Patients who required emergency treatment or conditions that did not permit their participation in the study were excluded
- Clinic staff members were also excluded from the study.

Study procedure

A convenient sampling technique was used to select the study participants, which allowed for the collection of data from available and willing individuals during the study period. Data were gathered using a structured questionnaire that was developed in both Bangla and English languages. The study subjects were invited to participate voluntarily, with the purpose of the study clearly explained to them. Informed written consent was obtained from each participant before data collection. Data collection was carried out through face-to-face interviews and the distribution of questionnaires.

Data management and analysis plan

The collected data were managed and analyzed using the Statistical Packages for the Social Sciences (SPSS) 21. The data were first assessed for consistency to exclude any missing or inconsistent entries. The data were then checked, verified, and summarized in SPSS for proper analysis. The analysis focused on the variables of the study, with results presented in tables, graphs, charts, and bars. Descriptive statistics were used for interpreting the findings, including the presentation of percentages and relationships between various sociodemographic factors and substance abuse.

Quality control and quality assurance

The standard guidelines for report writing provided by North South University were followed. A pre-test of the questionnaire was conducted to ensure clarity and appropriateness. A double-entry data system was employed to ensure the quality and accuracy of the data. Each participant was assigned

a unique code for anonymity, and data were entered and analyzed systematically.

Ethical considerations

Ethical approval for the study was obtained through an introduction letter from the Chairman of the Public Health Department, School of Health and Life Sciences, North South University. Written informed consent was obtained from each participant, clearly stating the purpose of the study and ensuring that their participation was voluntary. Participants were informed of their right to refuse or withdraw from the study at any time without any negative consequences. The privacy of all participants was maintained, ensuring that their responses would not affect their healthcare services.

Results

Table 1 provides an overview of the sociodemographic characteristics of the 146 respondents in the substance abuse study. The majority of participants were between the ages of 26 and 30 (41.8%) and 18–25 (21.2%), suggesting that substance abuse is most common among younger individuals. In terms of education, a significant portion had only primary (37.0%) or secondary (34.9%) education, with fewer individuals having higher educational qualifications, indicating a potential link between lower educational levels and substance abuse. Religiously, most respondents were Muslim (95.2%). Marital status data showed that nearly half of the respondents were married (47.3%), followed by unmarried individuals (37.7%). The data also highlighted that urban resident represented a larger proportion (69.9%) compared to rural dwellers (30.1%), suggesting that urban areas might have higher levels of substance use. Regarding occupation, nearly half of the respondents were unemployed (48.6%), with smaller groups engaged in business (25.3%) or labor (11.6%), pointing to a possible connection between unemployment and substance abuse [Table 1].

Table 1: Sociodemographic characteristics of substance abuse study (n=146)

Variables	Number (n)	Percentage
Age in years		
18–25	31	21.2
26–30	61	41.8
31–35	25	17.1
36–40	14	9.6
41 and above	15	10.3
Educational status		
Illiterate	15	10.3
Primary	54	37.0
Secondary	51	34.9
Higher secondary	19	13.0
Graduate	7	4.8
Master degree	1	0.7
Religion		
Islam	139	95.2
Hindu	7	4.8
Marital status		
Married	69	47.3
Unmarried	55	37.7
Divorced	8	5.5
Others	14	9.6
Residence		
Urban	102	69.9
Rural	44	30.1
Occupation		
Service	13	8.9
Business	37	25.3
Student	3	2.1
Laborer	17	11.6
Unemployed	71	48.6
Others	7	4.8

Table 2 outlines the family characteristics of the respondents. Most respondents (90.4%) reported that no other family members were using drugs, and 62.3% lived in joint families. Regarding monthly family income, the majority (67.2%) earned between 1,000 and 10,000 BDT, with smaller proportions in higher income brackets. Only 35.6% of families had a single main earner, while 64.4% did not [Table 2].

Table 3 provides a summary of the substance use characteristics of the respondents. The average age at the first use was 18.56 years, with a standard deviation of 4.72 years, indicating that the age of initiation varied between 10 and 40 years. The daily expenditure on substances had a mean of 377.35 BDT, with a standard deviation of 257.53 BDT, reflecting a wide range of spending from 100 to 2000 BDT. The average duration of substance use was 6.15 years, with a standard deviation of 4.88 years, suggesting that respondents had been using substances for periods ranging from 6 months to 22 years [Table 3].

Table 4 presents the drug use characteristics of the respondents. The majority of participants reported cannabis (84.9%) as the initiating drug, followed by phensedyl (8.9%), yaba (4.1%), heroin (1.4%), and alcohol (0.7%). Regarding the route of administration, most respondents used smoking (56.2%), while 37.7% reported injection use, and 6.2% used oral methods. In addition, more than half of the respondents (58.9%) were currently using more than one drug, while 41.1% were using a single substance [Table 4].

Table 2: Family characteristics of the respondents (*n*=146)

Variables	Grouping	*n*	(%)
Other family members taking drugs	Yes	14	9.6
	No	132	90.4
Type of family	Joint family	91	62.3
	Nuclear family	55	37.7
Monthly family income (in BDT)	1–10000	98	67.2
	10001–20000	46	31.5
	20001–30000	2	1.4
Main earning person of the family	Yes	52	35.6
	No	94	64.4

Table 3: Summary of substance use characteristics (*n*=146)

Variables	Mean±SD	Range
Age at first use (years)	18.56±4.72	10–40 years
Daily expenditure (BDT)	377.35±257.53	100–2000
Duration of use substance use	6.15±4.88	06 months-22 years

Table 4: Drug use characteristics of the respondents (n=146)

Name of the initiating drug	Frequency	Percentages
Phensedyl	13	8.9
Cannabis	124	84.9
Yaba (Amphetamine)	6	4.1
Heroin	2	1.4
Alcohol	1	0.7
Route of Drug Administration		
Injection	55	37.7
Smoking	82	56.2
Oral	9	6.2
Currently taking more than one drug		
Yes	86	58.9
No	60	41.1

Discussion

This study aimed to explore the sociodemographic characteristics and patterns of substance abuse among individuals seeking treatment in rehabilitation centers in Dhaka, Bangladesh. The findings from this study contribute valuable insights into the profile of substance users in Bangladesh, highlighting the significance of various sociodemographic factors in shaping substance use behaviors.

Age and substance abuse

The majority of participants in this study were aged between 26 and 30 years (41.8%) and 18 and 25 years (21.2%). These findings suggest that substance abuse is most prevalent among younger individuals, which is consistent with other studies in both developed and developing countries, where younger populations are more likely to experiment with and use substances.[19,20] Early initiation of substance use, typically in adolescence or young adulthood, increases the likelihood of long-term abuse and addiction.[21] This underscores the

importance of targeting prevention efforts at younger age groups, particularly in school settings and community programs.

Educational status and substance use

The results also reveal a significant relationship between lower educational attainment and substance abuse. A large proportion of respondents had only primary (37.0%) or secondary (34.9%) education, with fewer individuals having higher educational qualifications. This pattern mirrors findings from previous studies, which suggest that lower educational levels are a major risk factor for substance abuse. People with less education often face greater socioeconomic challenges, leading to higher rates of substance use as a coping mechanism.[20,22] Interventions that aim to improve educational opportunities and access to vocational training may play a crucial role in reducing substance abuse in these vulnerable populations.[23]

Marital status and substance abuse

Marital status was also found to have an association with substance use behaviors. Nearly half of the respondents (47.3%) were married, while a significant proportion (37.7%) were unmarried. Studies have shown that marital status can influence substance use, with unmarried or divorced individuals being at higher risk of substance abuse due to factors such as social isolation, lack of support, and emotional distress.[23,24] In contrast, married individuals often have greater social support and responsibilities, which may serve as protective factors against substance use.[8] However, it is important to note that the quality of the marital relationship can also affect substance use patterns, with conflict or abuse within the marriage potentially contributing to drug use.

Occupation and substance abuse

In terms of occupation, a large proportion of participants was unemployed (48.6%), with smaller groups engaged in business (25.3%) or labor (11.6%). This finding aligns with other studies that have shown a strong correlation between unemployment and substance abuse.[19] Unemployment contributes to financial instability, social exclusion, and a lack of daily structure, all of which may lead individuals to use substances as a means of coping. The role of employment in reducing substance use is well-documented, as stable work can provide a sense of purpose, financial stability, and social engagement, which can act as protective factors against substance abuse.[8,20]

Family income and substance use

The majority of respondents (67.2%) reported a family income of between 1,000 and 10,000 BDT/month, which suggests a connection between lower income levels and substance abuse. Previous research has shown that individuals from low-income households are more likely to engage in substance abuse due to economic stress, limited access to healthcare, and fewer opportunities for recreation and social engagement.[20,25] The lack of a single main earner in 64.4% of the families further indicates the financial instability that may contribute to the substance abuse problem. Addressing socioeconomic disparities and improving access to resources could be important strategies for reducing substance abuse in such populations.[19]

Substance use patterns and administration methods

In terms of drug use patterns, the most commonly abused substance was cannabis (84.9%), followed by phensedyl (8.9%), yaba (4.1%), heroin (1.4%), and alcohol (0.7%). This is consistent with other studies in Bangladesh, where cannabis and heroin are among the most abused substances.[23] Cannabis is more readily available and less stigmatized than other illicit drugs, which may explain its higher prevalence among substance users. In addition, the route of administration revealed that most respondents smoked substances (56.2%), while 37.7% reported injection use and 6.2% used oral methods. Injection drug use is particularly

concerning, as it carries significant health risks, including the transmission of infectious diseases such as HIV and hepatitis.[8] The use of multiple substances (poly-drug use) was reported by 58.9% of respondents, which highlights the complexity of substance abuse and its association with more severe health outcomes and higher risks of dependency.[19]

Family dynamics and substance abuse

Regarding family characteristics, 90.4% of respondents reported that no other family members were using drugs, and 62.3% lived in joint families. This suggests that substance abuse is often an individual issue within households and not necessarily a family-wide problem. However, the presence of other drug users in the family may exacerbate the problem, as substance use can become normalized within the household environment.[2,21] In addition, living in a joint family may provide more social support but also greater exposure to family stressors, which could influence substance use behaviors.[22]

Limitations and future research

While this study provides valuable insights into the sociodemographic correlates of substance abuse in Bangladesh, it is important to note that the cross-sectional design limits the ability to establish causality. Furthermore, self-reported data may be subject to recall bias or social desirability bias. Future research should focus on longitudinal studies to examine the long-term effects of sociodemographic factors on substance abuse as well as explore the effectiveness of different rehabilitation programs. Studies incorporating psychological and social support factors could also offer a more comprehensive understanding of substance abuse in Bangladesh.

Conclusion

The findings of this study suggest that sociodemographic factors, including age, education, marital status, occupation, and family income, play a significant role in shaping substance use patterns in Bangladesh. These factors highlight the need for targeted interventions that address the specific needs of different socioeconomic groups. Public health initiatives should aim to reduce substance abuse by promoting education, improving employment opportunities, and providing better access to rehabilitation services. By understanding the sociodemographic correlates of substance abuse, we can develop more effective prevention and treatment strategies tailored to the Bangladeshi context.

Acknowledgments

I would like to sincerely acknowledge all contributors who played a vital role in the completion of this study.

Informed Consent Statement

All patients provided written informed consent.

Conflict of Interest

There are no conflicts of interest among authors.

Source of Funding

None.

References

1. Nessa A, Latif SA, Siddiqui NI, Hussain MA, Hossain MA. Drug abuse and addiction. Mymensingh Med J 2008;17:227-35.
2. Rahman MM, Rahaman MM, Hamadani JD, Mustafa K, Shariful Islam SM. Psycho-social factors associated with relapse to drug addiction in Bangladesh. J Subst Use 2016;21:627-30.
3. Islam A, Hossain MF. Drug abuse and its impact on Bangladesh. IJSA 2017;9:143-56.
4. Kabisa E, Biracyaza E, Habagusenga JD, Umubyeyi A. Determinants and prevalence of relapse among patients with substance use disorders: Case of icyizere psychotherapeutic centre. Subst Abuse Treat Prev Policy 2021;16:13.
5. Betancourt CA, Kitsantas P, Goldberg DG, Hawks BA.

Substance use relapse among veterans at termination of treatment for substance use disorders. Mil Med 2022;187:e1422-31.

6. World Health Organization. Substance Use and Addiction. Switzerland: World Health Organization; 2018.
7. Michels II, Fang YX, Zhao D, Zhao LY, Lu L. Comparison of drug abuse in Germany and China. Acta Pharmacol Sin 2007;28:1505-18.
8. Sinha R. Chronic stress, drug use, and vulnerability to addiction. Ann N Y Acad Sci 2008;1141:105-30.
9. Sinha R, O'Malley SS. Craving for alcohol: Findings from the clinic and the laboratory. Alcohol Alcohol 1999;34:223-30.
10. Smith DE, Buxton ME, Bilal R, Seymour RB. Cultural points of resistance to the 12-Step recovery process. J Psychoactive Drugs 1993;25:97-108.
11. Burke TR. The economic impact of alcohol abuse and alcoholism. Public Health Rep 1988;103:564-8.
12. Amaro H, Sanchez M, Bautista T, Cox R. Social vulnerabilities for substance use: Stressors, socially toxic environments, and discrimination and racism. Neuropharmacology 2021;188:108518.
13. Daley DC. Family and social aspects of substance use disorders and treatment. J Food Drug Anal 2013;21:S73-6.
14. Wickizer TM. State-level estimates of the economic costs of alcohol and drug abuse. J Health Care Finance 2013;39:71-84.
15. Lievens D, Vander Laenen F, Verhaeghe N, Putman K, Pauwels L, Hardyns W, *et al*. Economic consequences of legal and illegal drugs: The case of social costs in Belgium. Int J Drug Policy 2017;44:50-7.
16. Melemis SM. Relapse prevention and the five rules of recovery. Yale J Biol Med 2015;88:325-32.
17. Niraula SR, Chhetry DB, Singh GK, Nagesh S, Shyangwa PM. Role of rehabilitation centres in reducing drug abuse problem in a town of Eastern Nepal. Kathmandu Univ Med J (KUMJ) 2006;4:448-54.
18. Cooper E, Lound A, Atchison CJ, Whitaker M, Eccles C, Cooke GS, *et al*. Awareness and perceptions of long COVID among people in the REACT programme: Early insights from a pilot interview study. PLoS One 2023;18:e0280943.
19. Kamal M, Huq N, Mali B, Akter H, Arafat SM. Epidemiology of substance abuse in Bangladesh: A narrative review. J Ment Disord Treat 2018;4:1000165.
20. Rahman M, Zaman MS, Sakamoto J, Fuikui T. How much do drug abusers pay for drugs in Bangladesh? J Health Popul Nutr 2004;22:98-9.
21. Firoz AH, Karim ME, Alam MF, Rahman AH, Zaman MM. Prevalence, medical care, awareness and attitude towards mental illness in Bangladesh. Bangladesh J Psychiatry 2006;20:9-36.
22. Fahmida A, Wahab MA, Rahman MM. Pattern of psychiatric morbidity among the patients admitted in a private psychiatric clinic. Bangladesh J Med Sci 2009;8:23-8.
23. Riya S, Rahman M, Sadeque MZ, Kabir AS, Umar BU. Pattern of drug abuse among patients in some selected addiction rehabilitation centers in Dhaka city. Faridpur Med Coll J 2013;8:63-6.
24. Mohit MA. Diagnosis of patients attending outpatient department (OPD) of NIMH. Bangladesh J Psychiatry 2001;15:5-12.
25. Patrick ME, Wightman P, Schoeni RF, Schulenberg JE. Socioeconomic status and substance use among young adults: A comparison across constructs and drugs. J Stud Alcohol Drugs 2012;73:772-82.