

Original Article

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Prevalence and Awareness of BDZ misuse among adult people in Sylhet city

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Abstract:

Background: Benzodiazepines (BZDs) are commonly prescribed for anxiety, insomnia, and other psychiatric conditions. However, misuse of BZDs has become a public health concern worldwide, including Bangladesh.

Objectives: This study aimed to assess the prevalence of BZD misuse and the level of awareness about its risks among adults in Sylhet city.

Methods: A cross-sectional survey was conducted among 320 adult participants in Sylhet city. Data were collected using structured questionnaires covering socio-demographic characteristics, sources of BZD acquisition, reasons and patterns of use, side effects, withdrawal symptoms, and awareness regarding BZD misuse. Descriptive statistics and chi-square tests were used to analyse the data.

Results: The study found that 39.06% of participants were male and 60.93% female, with the highest BZD use observed in the 39–48-year age group (33.12%). A significant proportion obtained BZDs from friends or family (35%), while 30.62% used prescription drugs. The most common reasons for use were insomnia (41.25%) and anxiety (32.81%). Clonazepam (54.68%) and diazepam (37.5%) were the predominant drugs used. Side effects such as sleepiness/fatigue (30%) and dizziness (27.5%) were commonly reported. Withdrawal symptoms, including anxiety, insomnia, and irritability, were also observed. Only 55.62% of participants were aware of BZD misuse, with addiction being the most recognized risk. Awareness varied significantly by sex and education level ($p < 0.05$).

Conclusion: Benzodiazepine misuse is prevalent among adults in Sylhet city, with limited awareness regarding its risks. Targeted public health interventions, including awareness programs, stringent regulation of BZD distribution, and improved access to mental health services, are essential to reduce misuse and associated health consequences.

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Introduction:

Today, benzodiazepines are among the most widely used groups of drugs worldwide.^{1,2}

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Benzodiazepines are widely prescribed medications used to treat anxiety, insomnia, and seizures. However, their misuse has become a growing public health concern due to their potential for dependence, addiction, and adverse health effects.^{1,3} In cities like Sylhet, where access to pharmaceuticals is relatively easy, benzodiazepine misuse among adults is a significant but often overlooked issue.

BDZs may be categorized into three major types—short-, intermediate-, and long-acting. The short-acting type is preferred for insomnia, while the long-acting type is used for anxiety-related disorders.^{3,4} In Australia, non-medical use of benzodiazepines as sleeping pills is also prevalent. Among males, BDZ misuse is common, but the majority of BDZ-related ambulance attendances in 2019 were reported among females.^{5,6}

In Bangladesh, the misuse of benzodiazepines is a growing concern. A study by Monjur and Rizwan in the *Universal Journal of Pharmaceutical Research* investigated benzodiazepine (BZD) abusers in Dhaka and found that most users began using the drugs to relieve stress or insomnia, with diazepam being the most commonly used type. The study, which included 468 BZD users, revealed a high prevalence of male users, and a large proportion reported being influenced by friends to start using the drug. The most frequently reported adverse effects were amnesia and confusion, while common withdrawal symptoms included rebound insomnia, anxiety, and restlessness.⁷

The most common adverse effects associated with benzodiazepines include residual sedation, anterograde amnesia, and rebound insomnia.⁸ These effects are dose-related and can be minimized through dose reduction.⁹ Factors contributing to misuse include easy availability, lack of awareness regarding the risks, and inadequate regulation.¹⁰ Easy over-the-counter (OTC) availability and the popularity of benzodiazepines as “sleeping pills” have made these drugs a preferred choice for self-poisoning in Pakistan.¹¹ In Bangladesh, benzodiazepines are also often available without a prescription, and a study in the Chittagong division found that around 44% of medicine shops offered these drugs irrationally.¹² The healthcare delivery system faces many challenges, as the majority of people rely on out-of-pocket payments for medical care, and public hospitals primarily serve the poorest populations, while private healthcare remains largely unregulated.¹³ Consequently, benzodiazepines are frequently dispensed indiscriminately, sometimes with questionable motives,

contributing to widespread addiction and dependence, yet systematic research on this issue remains limited.

The aim of this study is to assess the prevalence of benzodiazepine misuse and evaluate awareness of its associated risks among adults in Sylhet city, Bangladesh. Further research of this kind is needed to enhance public awareness and support the development of policies for the safe and rational use of benzodiazepines.

Methodology

A cross-sectional descriptive study was conducted among 320 current benzodiazepine (BDZ) users in Sylhet city, Bangladesh. The research was carried out by the Department of Pharmacology, Sylhet Women's Medical College, from 1st March to 30th August 2025. Participants were selected using a convenience sampling method. The inclusion criteria comprised adult (18-68 years), BDZ users(>1month) residing in Sylhet city during the study period. Individuals younger than 18 years, those with chronic medical illnesses, and healthcare workers were excluded from the study. Data were collected using a pre-tested structured questionnaire. The questionnaire was prepared in English, and interviews were conducted in the local language to ensure better understanding and accuracy of responses. Data were entered and analysed using SPSS version 21. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were calculated to summarize participants' characteristics and BDZ use patterns. The Chi-square (χ^2) test was applied to examine associations between categorical variables, such as the association between sex and awareness about BDZ misuse, and the association between education level and source of obtaining benzodiazepines. A p -value<0.05 was considered statistically significant. Ethical approval for the study was obtained from the Institutional Review Board (IRB) of Sylhet Women's Medical College. Prior to participation, verbal informed consent was obtained from all respondents. Confidentiality and anonymity were strictly maintained throughout the study, and no personal identifiers were recorded.

Results:

Table 1: Socio-demographic profile

Variables	Frequency (n=320)	Percentage (%)
Age		
18 -28 years	48	15
29–38 years	70	21.87
39–48 years	106	33.12
49–58 years	60	18.75
59–68 years	36	11.25
Sex		
Male	125	39.06
Female	195	60.93
Marital Status		
Unmarried	56	17.5
Married	195	60.93
Divorced	24	7.5
Widowed	45	14.06
Education		
Illiterate	54	16.87
Primary	48	15
Secondary	110	34.37
Higher Secondary	43	13.43
University	65	20.31
Occupation		
Student	37	11.56
Unemployed	58	18.12
Service Holder	99	30.93
Housewife	60	18.75
Businessman	66	20.62
Socio-economic Condition (BDT/month)		
≤ 5000	36	11.25
5000 – 15000	90	28.12
15000 – 30000	104	32.5
30000 – 45000	54	16.87
>45000	36	11.25

Most participants were 39–48 years old (33%) and female (61%). Majority were married (61%) with secondary education (34.37%). Common occupations were service holders (31%) and businessmen (21%). Most belonged to middle-income households earning 15,000–30,000 BDT/month (33%).

Table – 2: Information abouts use of BZD (n=320)

Variables	Frequency	Percentage (%)
1. How did you obtain it?		
Prescription Doctor	98	30.62
OTC	76	23.75
Friend/Family	112	35
Unauthorized seller	34	10.62
2. Reason for Use (multiple response)		
Anxiety	105	32.81
Insomnia	132	41.25
Stress	43	13.43
Muscle spasms	26	8.12
Other	14	4.37
3. How often taking drugs?		
Daily	40	12.5
Several times a week	46	14.37
Once a week	26	8.12
Only when needed (insomnia)	112	35
I don't take them regularly	96	30
4. Mostly using drugs -		
Diazepam	120	37.5
clonazepam	175	54.68
Alprazolam	20	6.25
Others	5	1.56
5. Reported Side Effects (multiple response)		
Dizziness	88	27.5
Confusion	46	14.37
Balance problems	22	6.87
Sleepiness / Fatigue	96	30
Increased falls / Injuries	8	2.5
No effect reported	60	18.75
6. Experienced withdrawal effects (multiple responses)		
Anxiety and Insomnia	80	25
Irritability	55	17.18
Depression	35	10.93
Difficulty in concentration	43	13.43
Dizziness	56	17.5
Palpitations	38	11.87
Tremors	1	0.31
7. Aware about misuse of BDZ		
Yes	178	55.62
No	142	44.37
8. Knowledge of effects of BDZ misuse (multiple responses)		
Addiction	127	39.68
Memory impairment	94	29.37
Risk of accidents	30	9.37
Mental disorders	37	11.56
Other (e.g., social issues, dependency)	32	10

Most participants obtained BDZs from friends/family (35%) or doctors' prescriptions (31%), mainly for insomnia (41%) and anxiety (33%). Clonazepam (55%) and diazepam (38%) were the most commonly used drugs, often taken as needed (35%) or irregularly (30%). Common side effects included sleepiness/fatigue (30%) and dizziness (28%), while frequent withdrawal symptoms were anxiety, insomnia, and irritability. About 56% were aware of BDZ misuse, with addiction (40%) and memory impairment (29%) being the most recognized risks.

Table – 3: Association between Sex and Awareness about Misuse of BDZ (n = 320)

Variables	Aware about misuse	Not aware	χ^2	df	p-value
Sex					
Male	105	20	4.72	1	0.03*
Female	73	122			

The Chi-square test showed a statistically significant association between sex and awareness about benzodiazepine misuse ($\chi^2 = 4.72$, $df = 1$, $p = 0.03$). Male respondents were found to be more aware of BDZ misuse compared to female respondents.

Table – 4: Association between Education Level and Source of Obtaining BDZ (n = 320)

Variables	Doctor (Prescription)	OTC	Friends/Family or Unauthorized Sellers	χ^2	df	p-value
Education Level						
Illiterate / Primary	18	25	59	9.84	2	0.007*
Secondary	27	30	53			
Higher Secondary / University	53	21	34			

The Chi-square test showed a statistically significant association between education level and the source of obtaining benzodiazepines ($\chi^2 = 9.84$, $df = 2$, $p = 0.007$). Participants with secondary or below education were more likely to obtain BDZ from friends, family members, unauthorized sellers, or over-the-counter, whereas participants with higher secondary or university education mostly obtained BDZ through doctors' prescriptions.

Discussion

Demographics

In this study, a majority of participants were female (60.93%) and most were aged 39–48 years (33.12%). Married individuals accounted for 60.93%, and secondary education was the most common level (34.37%). This finding is similar to Monjur and Rizwan (2018), who reported higher prevalence among middle-aged adults in Dhaka city.⁷ The age and marital status distribution also aligns with Raoof et al. (2008), indicating that BZD misuse often occurs in adults with family responsibilities.¹⁴ In contrast, some global studies reported higher male prevalence (Votaw et al., 2019), which differs slightly from our population in Sylhet.¹⁵ Most participants were service holders (30.93%) or businessmen (20.62%), suggesting occupational stress may contribute to misuse. Socio-economic data revealed that 32.5% earned between BDT 15,000–30,000/month, which is consistent with previous findings in urban Bangladesh (Afrin et al., 2023).¹⁶

Sources of Acquisition

Our study found that 35% of participants obtained BZDs from friends or family, 30.62% via prescription, 23.75% over-the-counter, and 10.62% from unauthorized sellers. These results are similar to Khan and Reza (1998) and Raoof et al. (2008), who reported informal acquisition as a common source of misuse.^{11,14} Compared to Ojha et al. (2014) in Nepal, where peer networks were also the main source, the pattern is consistent, showing the regional trend of informal drug sharing.¹⁰ This highlights a need for stringent regulations and monitoring of drug distribution in Bangladesh.

Reasons for Use

Insomnia (41.25%) and anxiety (32.81%) were the main reasons for BZD use, followed by stress (13.43%) and muscle spasms (8.12%). This pattern is similar to Edinoff et al. (2021), who reported insomnia and anxiety as the most common clinical indications globally.³ Our study also found that 4.37% used BZDs for other reasons such as social or dependency issues, which aligns with Monjur and Rizwan (2018).⁷ Compared to studies in South Asia (Ojha et al., 2014), the proportion using BZDs for self-

medication is slightly higher in our population, reflecting gaps in mental health service accessibility in Sylhet.¹⁰

Patterns of Use

In our study, 35% of participants took BZDs only when needed (mostly for insomnia), 30% did not use them regularly, 14.37% used them several times a week, 12.5% daily, and 8.12% once a week. Clonazepam (54.68%) and diazepam (37.5%) were the most commonly used drugs. These results are similar to Monjur and Rizwan (2018), who also reported clonazepam as the predominant BZD.⁷ In contrast, Roth and Roehrs (1992) reported more daily users in clinical populations, indicating that community-based usage in Sylhet is more episodic.⁸

Adverse Effects and Withdrawal Symptoms

Sleepiness/fatigue (30%), dizziness (27.5%), and confusion (14.37%) were the most common side effects. Withdrawal symptoms included anxiety and insomnia (25%), irritability (17.18%), dizziness (17.5%), difficulty in concentration (13.43%), palpitations (11.87%), depression (10.93%), and tremors (0.31%). These results are similar to Edinoff et al. (2021), who reported fatigue and dizziness as common side effects, but the prevalence of irritability and anxiety as withdrawal symptoms is higher in our study, highlighting potential risk in the Sylhet population.³

Awareness and Knowledge

In our study, 55.62% of participants were aware of BZD misuse. Among them, 39.68% recognized addiction, 29.37% memory impairment, 11.56% mental disorders, 9.37% risk of accidents, and 10% other issues. This finding is similar to Raoof et al. (2008), which also reported moderate awareness.¹⁴ However, compared to Tucker et al. (2016), overall awareness in our study is slightly higher, possibly due to recent public health campaigns.¹⁷

Sex and Educational Influences

Male participants were more aware of BZD misuse (105 males aware vs. 73 females), with a significant association ($p=0.03$). Education also influenced the source of acquisition, as higher education participants were more likely to obtain

BZDs via prescription. These findings are similar to Monjur and Rizwan (2018), highlighting that demographic factors affect awareness and access.⁷ In contrast to some international studies (Chan et al., 2021), females in our population were less aware, indicating a need for gender-sensitive awareness interventions in Sylhet.¹⁸

Conclusion:

The study highlights a concerning level of misuse of BDZ in Sylhet city. Lack of adequate knowledge about risks and long-term effects of BDZ, easily availability of drugs, self-medication or rely on non-professional advice is a significant cause. It's a high time to raise awareness about the safe use of these drugs.

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