Original Research Article

Substance Abuse among Male Adolescents inDhaka North City: A Comparative Study onCauses, Consequences, Knowledge, andAttitudes

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ABSTRACT

Aims: This study aimed to assess the causes, consequences, knowledge, attitudes, and perceptions of substance abuse among male adolescents in Dhaka North City and compare the knowledge between male adolescents attending schools and colleges who do not use drugs and substance abusers from rehabilitation centers.
Study design: This was a comparative cross-sectional study.
Place and Duration of Study: The study was conducted in Dhaka North City, Bangladesh, from January 2023 to December 2023.
Methodology:A structured questionnaire was developed based on the research objectives. Data were collected through face-to-face interviews after obtaining informed consent. Data were analyzed using descriptive and inferential statistics.
Results: The findings revealed the strong influence of peer relationships, family dynamics, parental education and occupation, and misconceptions and attitudes toward substance abuse among male adolescents. Drug addicts reported higher frequencies of parental conflict, secrecy, and hiding information from their parents, indicating a breakdown in communication and trust within the parent-child relationship. Drug addicts also had significantly higher monthly family income and higher education levels of their parents compared to non-addicts, suggesting that higher financial resources and education may play a role in the increased risk of substance abuse. Additionally, drug addicts had a higher proportion of deceased mothers compared to non-addicts, indicating a potential influence of maternal status on substance abuse. Preventive measures, such as counselling, treatment, religious education, and engagement in productive activities, were highly endorsed by both drug addicts and non-addicts.
Conclusion: This study contributes valuable insights into drug addiction among male adolescents in Dhaka North City. The findings underscore the importance of addressing peer influence, strengthening family dynamics, dispelling misconceptions, providing accurate knowledge, and implementing evidence-based preventive measures. By adopting a comprehensive approach, stakeholders can work towards reducing the prevalence and impact of drug addiction among adolescents.

Keywords: Substance Abuse, Adolescents, Dhaka North City, Comparative Study, Knowledge and Attitudes, Preventive Measures, Family Dynamics, Peer Influence.

1. INTRODUCTION

Substance abuse among adolescents is a major public health and social problem that affects not only the individuals involved but also their families and communities(1). According to the World Health Organization, substance abuse is defined as the harmful or hazardous use of psychoactive substances, including alcohol and illicit drugs(2). Substance abuse can lead to dependence syndrome, a cluster of behavioural, cognitive, and physiological phenomena that develop after repeated substance use. Dependence syndrome can have serious consequences for the physical and mental health of the user, as well as their social and economic well-being(3).

In Bangladesh, substance abuse among adolescents is a growing concern, with an estimated 6 million people spending more than 70 million BDT daily on illegal substances(4,5). The most abused substances among adolescents include heroin, phensedyl, tidigesic, pethidine, cannabis, Yabba, diazepam, alcohol, cigarettes, and glue(5–7). Adolescents are vulnerable to substance abuse due to various factors, such as peer pressure, curiosity, family problems, stress, poverty, unemployment, and lack of education and awareness(8,9).

Several studies have explored the prevalence, causes, consequences, and prevention of substance abuse among adolescents in Bangladesh(10,11). However, there is a lack of comprehensive and comparative research that assesses the knowledge, attitude, and perception of substance abuse among male adolescents from different backgrounds and settings, such as schools, colleges, and rehabilitation centers(11). Such research is essential to understand the factors that influence substance abuse behaviour and to design effective interventions that target the specific needs and challenges of different groups of adolescents.

Therefore, the aim of this study was to assess the causes, consequences, knowledge, attitude, and perception of substance abuse among male adolescents in Dhaka North City(12,13) and compare the knowledge between male adolescents attending schools and colleges who do not use drugs and substance abusers from rehabilitation centers. The study used a cross-sectional survey design and collected data from 214 male adolescents aged 13-19 years using a structured questionnaire. The study also explored the relationship between substance abuse and various family and social factors, such as parental education, occupation and attitude, sibling and peer influence, and parent-child communication(14–17). The study findings provide valuable insights into the substance abuse situation and the differences between exemplary and addicted male adolescents. The study also suggests practical recommendations for preventing and reducing substance abuse among adolescents in Bangladesh.

2. MATERIAL AND METHODS

2.1 Study design: This was a comparative cross-sectional study that aimed to assess the knowledge, attitudes, and perceptions of substance abuse among male adolescents in Dhaka North City and compare them between drug addicts and non-addicts.

2.2Study population: The study population consisted of male adolescents aged 13-19 years who attended schools, colleges, or drug rehabilitation centers within Dhaka North City Corporation. The participants were divided into two groups: Group A comprised of male adolescents identified as drug addicts, and Group B consisted of normal male adolescents with no history of substance abuse.

2.3Sampling and sample size calculation: A two-stage sampling method was used for this study. In the first stage, non-probability purposive sampling was used to select two drug addiction treatment and rehabilitation centers and two secondary and higher secondary level educational institutes. In the second stage, all eligible patients from the selected rehab centers and students from the selected educational institutions were included as sample participants. The sample size was calculated using an online sample size calculator with the following values: Confidence Level: 95%, Margin of Error: 5%, Population Proportion: 30%. The total sample size was 223, with 187 participants from Group A and 36 participants from Group B. However, the sample size was adjusted slightly during the final analysis due to incomplete data and participants not meeting the inclusion criteria. The final sample size was 214, with 181 participants from Group A and 33 participants from Group B.

2.4Data collection: Data were collected through face-to-face interviews using a structured questionnaire. The questionnaire was developed based on the research objectives and pretested in similar communities. The questionnaire included questions on socio-demographic characteristics, family characteristics, parental attitudes, parent-child relationship factors, peer relationships, sources of information, causes of drug addiction, misconceptions, attitudes, perceptions, and knowledge of substance abuse. The data collectors were trained on data collection methods, respondent selection, informed consent procedure, and questionnaire administration. The participants and their parents/legal guardians provided written informed consent before enrollment. The data collection was conducted under the supervision of study personnel.

2.5Data analysis: The data were entered and analyzed using Microsoft Excel 365 and IBM SPSS Statistics 27. Descriptive statistics were used to summarize the data, while inferential statistics were used to test the research hypotheses. The association between categorical variables was tested using the Pearson Chi-Square Test, Fisher-Freeman-Halton Exact Test, or Mann-Whitney U Test, depending on the method's assumptions. A p-value of less than 0.05 was considered statistically significant. Bar diagrams were generated to illustrate the descriptive statistics.

2.6Ethicalconsiderations: The study was approved by the Bangladesh Medical Research Council and conducted in accordance with the principles of the Declaration of Helsinki and the Belmont Report. The participants and their parents/legal guardians were informed about the purpose and methods of the study, the confidentiality and anonymity of the data, the voluntary nature of participation, the right to withdraw at any time, and the contact information for any queries. The data were securely stored on password-protected computers and accessed only by authorized personnel.

3. RESULTS AND DISCUSSION

This section presents and discusses the findings of the study, organized according to the specific objectives outlined in the methodology. The results are reported objectively, focusing on the key findings that address each specific objective. The discussion provides a detailed interpretation of the data, highlighting the significance of the findings and their implications for the field of substance abuse among male adolescents. Relevant citations are given to support and compare the findings with existing literature.

3.1 Comparison of Demographic and Family Characteristics between Drug Addicts and Non-Addicts

The comparison of demographic and family characteristics between drug addicts and non-addicts revealed important insights into the profile of male adolescents involved in substance abuse in Dhaka North City. The mean age of drug addicts (18.27 ± 0.91 years) was significantly higher compared to non-addicts (15.51 ± 1.698 years) ($p < .001$, Mann-Whitney U Test). The median age for drug addicts was 19 years, while for non-addicts, it was 15 years. This suggests that older adolescents are more susceptible to drug addiction, possibly due to increased exposure to peer pressure, stress, and the availability of drugs. This finding is consistent with previous studies that reported a positive association between age and substance abuse among adolescents.

Table 1: Comparison of Demographic Characteristics between Drug Addicts and Non-Addicts

	Drug addicts		Non-addicts		p-Value
	Mean ± SD	Median	Mean ± SD	Median	
Age (in years)	18.27 ± 0.91	19	15.51 ± 1.698	15	<.001*
Number of family members	4.73 ± 1.53	4	4.88 ± 1.55	5	.20*
Monthly family income (in taka)	41,212.12 ± 21,029.38	40,000	26,558.01 ± 15,258.27	20,000	<.001*

**Mann-Whitney U Test*

Additionally, drug addicts had a significantly higher monthly family income (mean ± SD = 41,212.12 ± 21,029.38 taka) compared to non-addicts (mean ± SD = 26,558.01 ± 15,258.27 taka) ($p < 0.001$, Mann-Whitney U Test). The median monthly family income for drug addicts was 40,000 taka, while for non-addicts, it was 20,000 taka. These findings indicate that higher financial resources may play a role in the increased risk of substance abuse among male adolescents, as they may have more access to drugs and less parental supervision. This finding contradicts the common assumption that drug addiction is more prevalent among low-income groups and suggests that socioeconomic status may not be a protective factor against substance abuse among adolescents. Previous studies have also reported mixed results regarding the relationship between income and substance abuse among adolescents, with some finding a positive correlation, some finding a negative correlation, and some finding no correlation.

Table 2: Comparison of Family Characteristics between Drug Addicts and Non-Addicts

		Drug addicts		Non-addicts		Total	p-Value
		Frequency (%)	Expected frequency	Frequency (%)	Expected frequency		
Type of family	Nuclear	26 (14.4%)		155 (85.6%)		181	.32*
	Joint	7 (21.2%)		26 (78.8%)		33	
Father	Dead	3 (25%)	1.9	9 (75%)	10.1	12	.40**
	Alive	30 (14.9%)	31.1	172 (85.1%)	170.9	202	
Mother	Dead	5 (71.4%)	1.1	2 (28.6%)	5.9	7	.001**
	Alive	28 (13.5%)	31.9	179 (86.5%)	175.1	207	
Do you have siblings?	No	2 (8.7%)	3.5	21 (91.3%)	19.5	23	.54**
	Yes	31 (16.2%)	29.5	160 (83.8%)	161.5	191	

Total	33 (15.4%)	181 (84.6%)	214

** Pearson Chi-Square for Test of two proportions*
***Fisher's Exact Test*

However, no significant difference was observed in the number of family members between drug addicts and non-addicts. This suggests that family size may not be directly associated with the likelihood of engaging in substance abuse among male adolescents. This finding is in line with some previous studies that found no significant association between family size and substance abuse among adolescents, while others reported a negative association. The influence of family size on substance abuse may depend on other factors, such as family cohesion, communication, and support, which were not measured in this study.

3.2 Comparison of Parental Education and Occupation between Drug Addicts and Non-Addicts

Significantly different patterns were observed between the education levels of fathers and the substance abuse group ($p < .001$, Mann-Whitney U Test). Among drug addicts, a substantial proportion had fathers with graduate education (42.4%), followed by post-graduate education (27.3%) and higher secondary or equivalent education (18.2%). In contrast, among non-addicts, the highest proportion of fathers had primary education (38.1%), followed by secondary or equivalent education (29.8%). These findings suggest a potential association between higher education levels of fathers and an increased risk of substance abuse among male adolescents. A possible explanation for this finding is that fathers with higher education may have higher expectations and pressure on their sons, leading to stress and frustration among adolescents. Alternatively, fathers with higher education may have less time and involvement in their sons' lives, resulting in a lack of guidance and supervision. Previous studies have also reported a positive association between parental education and substance abuse among adolescents, while others found a negative association or no association.

Similarly, significant associations were found between the education levels of mothers and the substance abuse group ($p < .001$, Mann-Whitney U Test). Among drug addicts, most mothers had higher secondary or equivalent education (48.5%), followed by primary education (18.2%) and graduate education (15.2%). Among non-addicts, the highest proportion of mothers had primary education (43.6%), followed by secondary or equivalent education (34.3%). These results indicate a potential link between maternal education and the likelihood of male adolescents engaging in substance abuse. A possible explanation for this finding is that mothers with higher education may have more career opportunities and responsibilities, which may reduce their availability and attention to their sons. Alternatively, mothers with higher education may have more liberal and permissive attitudes towards substance use, which may influence their sons' behaviours. Previous studies have also reported mixed results regarding the relationship between maternal education and substance abuse among adolescents, with some finding a positive correlation, some finding a negative correlation, and some finding no correlation.

Table 3: Distribution of Male Adolescents by Father's and Mother's Education and Substance Abuse Group

		Drug addicts		Non-addicts		p-Value
		Frequency (%)	Cumulative frequency	Frequency (%)	Cumulative frequency	
Father's	Illiterate	0 (0%)	0 (0%)	15 (8.3%)	15 (8.3%)	<

education	Primary	0 (0%)	0 (0%)	69 (38.1%)	84 (46.4%)	.001*
	Secondary or equivalent	4 (12.1%)	4 (12.1%)	54 (29.8%)	138 (76.2%)	
	Higher secondary or equivalent	6 (18.2%)	10 (30.3%)	26 (14.4%)	164 (90.6%)	
	Graduate	14 (42.4%)	24 (72.7%)	8 (4.4%)	172 (95%)	
	Post-graduate	9 (27.3%)	33 (100%)	2 (1.1%)	174 (96.1%)	
	Higher degree	0 (0%)	33 (100%)	7 (3.9%)	181 (100%)	
Mother's education	Illiterate	3 (9.1%)	3 (9.1%)	16 (8.8%)	16 (8.8%)	< .001*
	Primary	6 (18.2%)	9 (27.3%)	79 (43.6%)	95 (52.5%)	
	Secondary or equivalent	3 (9.1%)	12 (36.4%)	62 (34.3%)	157 (86.7%)	
	Higher secondary or equivalent	16 (48.5%)	28 (84.8%)	18 (9.9%)	175 (96.7%)	
	Graduate	5 (15.2%)	33 (100%)	3 (1.7%)	178 (98.3%)	
	Post-graduate	0 (0%)	33 (100%)	1 (0.6%)	179 (98.9%)	
	Higher degree	0 (0%)	33 (100%)	2 (1.1%)	181 100%)	
Total		33		181		

**Mann-Whitney U Test*

The findings highlight the importance of parental education, both fathers and mothers, in understanding the risk factors associated with substance abuse among male adolescents. Higher education levels of fathers and mothers appear to be associated with an increased risk of substance abuse among their sons. Further research is necessary to delve into the underlying mechanisms and develop targeted interventions to address this concerning issue.

4. CONCLUSION

The present study explored the causes, consequences, knowledge, attitudes, and perceptions of substance abuse among male adolescents in Dhaka North City and compared the knowledge between male adolescents attending schools and colleges who do not use drugs and substance abusers from rehabilitation centers. The findings revealed the significant influence of peer relationships, family dynamics, parental education and occupation, parental and sibling attitudes, and secrecy and hiding behaviours on substance abuse among male adolescents. The study also identified misconceptions, attitudes, barriers, and preventive measures related to substance abuse, highlighting the need for accurate and comprehensive education programs and interventions to address this issue. The study contributes valuable insights into the substance abuse situation among male adolescents in Dhaka North City and provides implications for policy and practice to prevent and reduce the prevalence and impact of this problem. The study also acknowledges the limitations of the sample size, the cross-sectional design, and the self-report measures and

suggests directions for future research further to investigate substance abuse and its prevention among male adolescents.

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