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ORIGINAL ARTICLE

Types of Substance Use Disorder among Adolescents- A Descriptive and Observational Study

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Abstract

Background: Substance-related disorders are psychiatric disturbances developing during or following substance use, and attributable to it. Substance Use Disorder (SUD) in adolescents, is a condition in which the use of one or more substances leads to distress. It is a significant public health problem globally with a higher burden in low and middle-income countries.

Objective: To determine the types of substance use disorder among adolescents.

Methods and Materials: This descriptive and observational study was conducted in the Department of Psychiatry, Bangabandhu Sheikh Mujib Medical University (BSMMU), Dhaka, Bangladesh from March 2016 to September 2018. Participants 75 (seventy five) Psychiatric Comorbidity among Adolescents with Substance Use Disorder patients included in the study. Data collection of Central Drug Addiction Treat-ment Centre (CDC), Tejgaon, Dhaka and Ashokti Punorbashon Nibash (APON), Singair, Manikganj, Bangladesh. Adolescents with Substance Use Disorder aged between 11 to 17 years. Only male patients were taken as the sample because the above-mentioned treatment facilities do not provide service for the female adolescents. There are two groups of substance-related disorders: substance use disorders and substance-induced disorders.

Results: The present study aimed at assessing the presence of comorbid psychiatric disorders among adolescents with Substance Use Disorder (SUD) included a total of 70 adolescents. Over half (60%) of the respondents were <15 years old, and 40% of the respondents were >15 years age. The mean age of the respondents was 13.2 ± 2.1 years, and the range was 11-17 years. More than three-quarters (81.4%) of the respondents were Muslim and 14.2% Hindus. Very few were Christian and Buddhist. Around 66% of the respondents had in the primary level of education and 80% were from a joint family with 20% having 5 – 6 family members. About 50% of the adolescents interviewed had Tobacco Use Disorder (51.4%), followed by Cannabis Use Disorder (47.1%). Among the respondents, 22.8% had no psychiatric illness. The overall psychiatric disorders among adolescents were 77.1% (54 out of 70). Conclusion: Based on the findings of the study, it can be concluded that adolescents with SUD. Understanding the relationship in etiological perspective and variables which influences the problem will help to provide intervention services for adolescents affected by SUD.

Keywords: Comorbidity, Adolescence, Substance Use Disorder.

1 | INTRODUCTION

Substance-related disorders are psychiatric disturbances developing during or following substance use, and attributable to it. Substance Use Disorder (SUD) in adolescents, is a condition in which the use of one or more substances leads to distress. It is a significant public health problem globally with a higher burden in low and middle-income countries. A drug is a natural or synthetic chemical substance that affects living processes. Substance-related disorders are psychiatric disturbances developing during or following substance use, and attributable to it. The drugs that most often produce substance-related disorders include tobacco, alcohol, cannabis, stimulants (cocaine, amphetamine, methamphetamine, mephedrone, and others), opioids, sedative-hypnotic and anxiolytic agents, inhalants (volatile hydrocarbons), phencyclidine or other arylcyclohexylamines, and other hallucinogens. Numerous other substances, including nitrous oxide, amyl- or butyl-nitrite, or anabolic steroids also may produce these disorders (1). Early initiation of substance use is usually associated with a poor prognosis and a lifelong pattern of deceit and irresponsible behavior (2). The hope that simple information given through educational programs will be sufficient to prevent drug dependence is frequently expressed, however, there is no evidence to support it and there are many reasons to doubt it (3). There are substantial geographic variations in drug use prevalence among the adolescents, with higher rates in higher-income countries (although data from lower-income countries often are lacking). A survey done in the United States investigated the prevalence of SUD among 203 adolescent psychiatric inpatients and found 41% met the criteria for a SUD (4). A study was done in West Bengal, India, out of 416 students, 52 (12.5%) used or abused any one of the substances irrespective of time and frequency in the lifetime; 26 (15.1%) were among the urban students and 26 (10.7%) were among their rural counterparts. More than two-thirds (73.07%) of the respondents expressed a desire to quit substance use and 57.69% had tried to stop. 'Easy availability' and 'relief from tension' were the most frequent reasons for the continuation of substance use (5). Comorbid mental disorder among adolescents with substance abuse include depression, anxiety, conduct disorder, and attention-deficit/hyperactivity disorder (ADHD) (6). A study conducted by Shantna. K. *et al*., (7) show that the most prevalent comorbid disorders in substance dependence patients and substance abusers were depressive disorders. They also conclude that the majority of substance dependence patients suffered from comorbid mental disorders. Rates of internalizing co-occurrence are even higher in clinical samples (8). A recent study of health records, for example, found that 29% of male and 49% of female adolescent patients with SUDs had co-occurring mood disorders, whereas 9% and 19% of male and female patients, respectively, had co-occurring anxiety disorders (9). The community-based prevalence study of psychiatric disorder among children of Bangladesh has not yet been studied. According to the analytical predictions, prevalence would be roughly 10-20% among children and adolescents as like as the prevalence findings of the reports of the developing countries. Primary or independent major depression is defined as either predicting substance use entirely or occurring during periods of sustained abstinence (10) . Another investigated adolescent admissions to residential substance abuse programme and reported the prevalence of psychiatric disorders comorbidity in 64% of the 91 adolescents; depression (24%), conduct disorder (CD) (24%) and attention deficit hyperactivity disorder (ADHD–11%) were the most common conditions (11). In one study, alcoholics with independent major depression were found to be more likely to attempt suicide than those with substance-induced depression [10]. Further, literature review estimate rates of psychiatric comorbidity among adolescents receiving treatments for substance abuse at 50–90% (12). Adolescents with SUD have higher rates of both mood disorders and CD (12). ADHD, CD and substance use often co-exist and are associated with poorer treatment outcomes (11). Those with CD are more likely to have an earlier onset of substance use (13) . Timely intervention of co-occurring psychiatric and SUDs is associated with better engagement with treatment (14). Substance Use Disorders (SUD) got their own section and were no longer listed under personality disorders. The

idea of a public health model was introduced to explain addiction. The dependence category required either tolerance or withdrawal (or both) to be present. Abuse was the presence of drug-related problems in the absence of physiological symptoms. The study was intended to find out the different type of SUD our adolescents are suffering from in two different treatment centers and their magnitude and pattern of comorbid SUD.

2 | MATERIALS & METHODS

This descriptive and observational study was conducted in the Department of Psychiatry, Bangabandhu Sheikh Mujib Medical University (BSMMU), Dhaka, Bangladesh from March 2016 to September 2018. Participants 75 (seventy five) Psychiatric Comorbidity among Adolescents with Substance Use Disorder patients included in the study. Data collection of Central Drug Addiction Treatment Centre (CDC), Tejgaon, Dhaka and Ashokti Punorbashon Nibash (APON), Singair, Manikganj, Bangladesh. Adolescents with Substance Use Disorder aged between 11 to 17 years. Only male patients were taken as the sample because the above-mentioned treatment facilities do not provide service for the female adolescents. There are two groups of substance-related disorders: substance use disorders and substance-induced disorders. In Inclusion criteria Children aged between 11 to 17 years who fulfill the diagnostic criteria of different Substance Use Disorder, namely alcohol, cannabis, hallucinogens, inhalants, opioids, sedatives- hypnotics- or anxiolytics, stimulants, and tobacco and Exclusion criteria Adolescents in intoxication or withdrawal state/Patients having acute medical or another condition communication was not possible.

Permission was taken from the authority of the two institutions, namely Central Drug Addiction Treatment Hospital and Ashokti Punorbashon Nibash (APON). The study subjects were given ideas about the purpose, method, and outcome of the study in brief. Data was collected by face to face interview. After getting the informed written consent from the patient and one of their parents, the diagnostic criteria for SUD, according to Diagnostic and Statistical Manual of Mental Disorder, 5th edition (DSM-5), was applied to confirm the diagnosis of SUD and type of SUD the patient suffering from. The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, commonly referred to as the DSM-5, is the latest version of the American Psychiatric Association's gold standard text on the names, symptoms, and diagnostic features of every recognized psychiatric disorder. The DSM 5 criteria for substance use disorders are based on decades of research and clinical knowledge. Substance-induced disorders, including intoxication, withdrawal, other substance/medication-induced mental disorders, are detailed alongside substance use disorders. The diagnostic criteria are given in Appendix III. Collected data was processed, cleaned and entered into a windows PC. Data were analyzed using statistical software SPSS version 22.0.

3 | RESULTS

The present study aimed at assessing the presence of comorbid psychiatric disorders among adolescents with Substance Use Disorder (SUD) included a total of 70 adolescents. The tools of assessment were DSM-5 criteria for SUD and Development and Well-Being Assessment (DAWBA) self and parent version. The findings obtained from data analyses are presented. Over half (60%) of the respondents were <15 years old, and 40% of the respondents were >15 years age. The mean age of the respondents was 13.2 ± 2.1 years, and the range was 11-17 years. More than three-quarters (81.4%) of the respondents were Muslim and 14.2% Hindus. Very few were Christian

Supplementary information The online version of this article (https://doi.org/10.15520/jcmro.v4i07.436) contains supplementary material, which is available to authorized users.

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and Buddhist. Nearly 40% had a monthly family income of Taka> 30000, 27.1% Taka 20-30 thousand and 21.4% Taka 10-20 thousand. Around 66% of the respondents had in the primary level of education, and 15.7% had secondary, and 12.8% were illiterate, and 5.7% had a non-formal education. Regarding the type of family, 80% were from a joint family with 20% having 5–6 family members Table 1

Pertinent information about respondents: Over one-quarter (26.4%) of the respondents had a family history of mental illness. 6.2% of respondents had to care for other patients. Table 2

Substance Use Disorders among the respondents: About 50% of the adolescents interviewed had Tobacco Use Disorder (51.4%), followed by Cannabis Use Disorder (47.1%) Figure 1

4 | DISCUSSION

Substance use and addictive disorders are topics of considerable importance both because of their significance for adolescent development and because of their public health impact. The impact and management of adolescent SUD are further complicated by other comorbid psychiatric disorders. Many studies have systematically documented that there are adolescents with SUD suffers from more burden of other psychiatric disorder than that of the general adolescents. Adolescence is often described as a time of experimentation with "risky" or "problem" behaviors (15), and substance use is one such behavior that is initiated during this age period. The present study aimed to determine the pattern of comorbid psychiatric disorders among the admitted adolescents of two institutions namely Central Drug Addiction Treatment Center (CDC), Tejgaon, Dhaka, and the Ashokti Punorbashon Nibash (APON) in Singair, Manikganj, Bangladesh. The authority of the two institutions was helpful regarding the data collection. The researcher wanted to collect multisource data namely from parents and the adolescents to confirm the diagnosis of comorbid psychiatric disorders. So the parents were approached by the researcher at that specific date. Thus the multisource data collection was ensured. Over half (60%) of the respondents were <15 years old, and 40% of the respondents were >15 years age. The mean age of the respondents was 13.2 ± 2.1 years with a range of 11-17 years. Only male patients were taken as the sample because the above-mentioned treatment facilities do not provide service for the female adolescents. More than three-quarters (81.4%) of the respondents were Muslim, and nearly 60% had a monthly family income of less than taka 30000, Around 66% of the respondents had in the primary level of education, and 15.7% had secondary, and 12.8% were illiterate, and 5.7% had non-formal education. Regarding the type of family, 80% were from a joint family with 20% having 5 – 6 family members. Regarding the pattern of SUD among the adolescents most common was the Tobacco Use Disorder (51.4%), followed by Cannabis Use Disorder (47.1%), Sedative, Hypnotic, or Anxiolytic Use Disorder (22.8%), Amphetamine-type substance (20.0%), Inhalant Use Disorder (17.1%), Opioid Use Disorder (15.7%), Alcohol Use Disorder (12.8%), >1 Substance Use Disorder (87.1%). The use of different drugs is highly interrelated in both epidemiological and clinical samples of adolescents (16). For example, in the 1985 National Household Survey on Drug Abuse (NHSDA) data, 24% of illicit drug users used multiple drugs simultaneously within the past year, and 43% had used alcohol along with an illicit drug (17). Found that males, older youth, and the U.S. - born participants were more likely to report using multiple substances than females, younger youth, and foreign-born participants (18) Another community based study done among the adolescents in the US in 2007 using DSM-IV shows that Any substance use disorder 5.3% where Alcohol abuse or dependence was 2.9%, Marijuana abuse or dependence 3.4%, other substances abuse or dependence 0.9%, any substance abuse 3.9%, any substance dependence 2.2%, one or more diagnoses 17.1% (19) . A study was done among the street children in Mumbai, India shows the prevalence of Substance Use Disorder is around 90%. Nicotine was the most frequent substance of abuse, used by 104 (63.8%) adolescent street children. Seventy-eight (48%) adolescents were using inhalants. Sixty (37%) were using alcohol, and 42 (26%) were using sedatives and stimulants. Thirty-one (19%) were found to be using cannabis and opioids (20) . A study of psychi-

TABLE 1: Distributionof respondents by their socio-demographic condition (n=70)

Socio-demographic characteristics	Frequency (%)	Mean ± SD
Age (yrs)	---	13.2 ± 2.1
	Frequency	Percentage
Religion		
Islam	57	81.4
Hindu	10	14.2
Christian	3	4.0
Buddhist	0	00
Monthly income (Tk.)		
<10000	9	12.8
10000 – 20000	15	21.4
20000 – 30000	19	27.1
>30000	27	38.5
Education		
Illiterate	9	12.8
Primary	46	65.7
Secondary	11	15.7
Non-formal education	4	5.7
Family type		
Nuclear	56	80.0
Joint	14	20.0
Family members		
<4	24	34.2
5 – 6	38	54.2
7 or more	8	11.4

TABLE 2: Some pertinentinformation about respondents (n= 70)

Pertinent information about respondents	Frequency (%)	Mean ± SD
The family history of mental illness	21 (30.0)	---
The family history of substance use	19 (27.1)	
Previous treatment history	7(10.0)	---
Forensic history of any of the parents	4(1.8)	---
Duration of taking illicit substances (yrs)	---	2.3 ± 1.4
Any history of trouble with police /conflict with law enforcing agency	34 (48.5)	

atric outpatient attendance at the Institute of Mental Health and Research in Dhaka, revealed that 8.6% of cases were children or adolescents (21). In a different analysis of psychiatric morbidity among the Institute outpatients, emotional disorder was found to be the largest group with 32.5%, followed by conduct disorder 18.8%; mental retardation comprised 16.2%, psychoses and allied conditions 11.2%, epilepsy with behavioral problems 12.5% and the rest 8.5% comprised of other groups of disorders, according to ICD-9 criteria (10). A multicentric exploratory study to assess the prevalence of psychiatric disorders among 5-10-year-olds in rural, urban and slum areas in Bangladesh by Mullick and Goodman found the overall prevalence is 15.2% (10). Rabbani et al., (22) shows the prevalence of mental disorders among children adolescents aged 5-17 years is 18.4%. So it is evident that the burden of the comorbid psychiatric disorder is found very high among adolescents with SUD. The study also showed that among adolescents

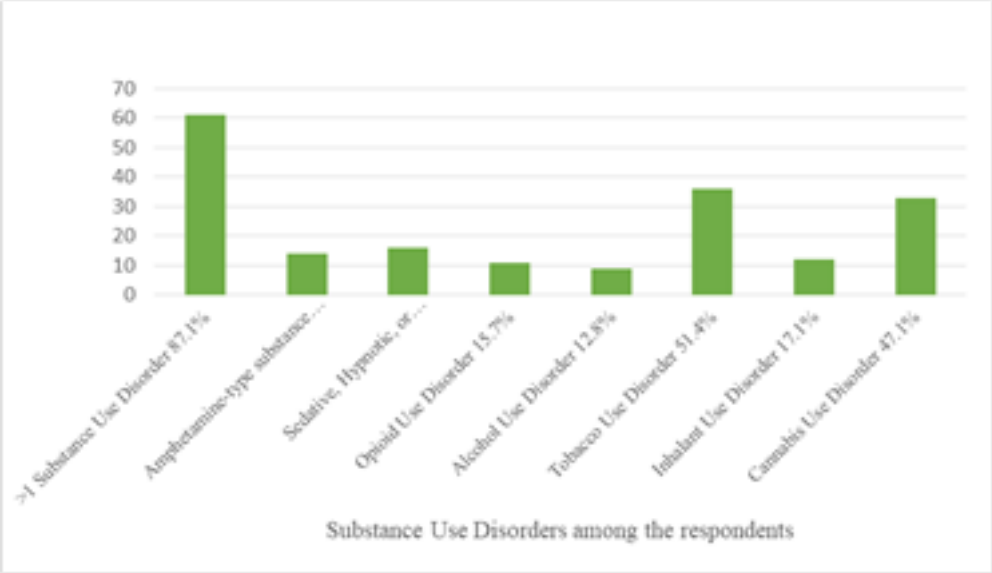

FIGURE 1: Substance UseDisorders among the respondents (n=70)

with current SUD, 76.0% (70.0% of females, 80.0 % of males) also had anxiety, mood, or disruptive behavior disorder compared with 24.5% of adolescents without current SUD, (23) described several possible relationships between adolescent substance abuse and affective disorders, conduct disorder and antisocial personality, anxiety disorders, attention-deficit hyperactivity disorder, schizophrenia and psychotic symptoms, and eating disorders. Among alcohol-abusing and alcohol-dependent patients, prevalence rates for psychiatric comorbidity of between 57% and 84% have been reported which is quite similar to the present study (24). There is a growing body of research on COD among adolescents.

5 | CONCLUSION

Based on the findings of the study, it can be concluded that adolescents with SUD. Understanding the relationship in etiological perspective and variables which influences the problem will help to provide intervention services for adolescents affected by SUD. The adolescent is high time for developing SUD and if the proper intervention can be started at this stage.

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