

# Pattern of Substance Use: Study in a De-addiction Clinic

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## ARTICLE INFO

### Article history:

Received: 18 January 2016

Accepted: 15 May 2016

### Online:

DOI 10.5001/omj.2016.66

### Keywords:

Drug Addiction; Alcohol Addiction; Bangladesh; Substance Abuse.

## ABSTRACT

**Objectives:** Substance use disorders have become a major public health problem in Bangladesh. We sought to assess the pattern of substance use and related factors among hospitalized patients. **Methods:** This was a descriptive study that included 105 patients. All patients who were admitted to a private drug de-addiction clinic in Dhaka, Bangladesh, between 1 July and 31 December 2013 and diagnosed with substance use disorder were enrolled in the study. Data was collected via face-to-face interviews using a semi-structured questionnaire and the information was complemented by the case-notes. **Results:** Almost all (90.5%) respondents were male and were poly-substance users (91.4%). The mean age of respondents was  $28.8 \pm 8.0$  years. Most (27.6%) respondents used three types of substances. Smoking or inhalation was the route used by most (90.5%) respondents. More than three-fourths (81.0%) of respondents used nicotine. Among the other substances, the majority (79.0%) used opioids, followed by cannabinoids (55.2%), and alcohol (41.0%). Curiosity, peer pressure, and for fun were identified as the common reasons for initiating substance use. **Conclusions:** A high proportion of poly-substance use was found in the study population. Our findings could help in the management and development of prevention strategies for substance use in Bangladesh.

The term 'substance' according to the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR) refers to a drug of abuse, medication, or a toxin. Substances are classified into 11 classes: alcohol, amphetamine (or other sympathomimetics), caffeine, cannabis, cocaine, hallucinogens, inhalants, nicotine, opioids, phencyclidine (PCP) or similarly acting arylcyclohexylamines, and sedatives-hypnotics or anxiolytics. Substance-related disorders are of two types: substance use disorders and substance-induced disorders. Substance use disorders are further divided into substance dependence disorder and substance abuse disorder.<sup>1</sup>

Available information and experience indicate that substance use disorders have become a major public health problem in Bangladesh. Availability of drugs, peer pressure, curiosity, and frustration are among the causes of substance dependence.<sup>2</sup>

A study in Bangladesh showed that 2.88% of patients attending general practice were suffering from substance use disorders.<sup>3</sup> The study, conducted in the outpatient department of National Institute of Mental Health (NIMH) in Dhaka, revealed that

7.66% of respondents suffered from a substance-related disorder.<sup>4</sup> A national survey on mental health showed that 0.63% of the adult population (18 years and above) in Bangladesh suffered from substance abuse disorder.<sup>5</sup> Another study conducted in a private psychiatric clinic in Dhaka showed that 29.6% of admitted psychiatric patients were suffering from substance-related disorder.<sup>6</sup>

There is a need for regular research in de-addiction clinics to assess the pattern of abuse, any changes in the type of substances used, variation in the availability of these substances, and alteration in the profile of the substance abusers to enable the formulation of management strategies. With this view, our study was designed to assess the pattern of substance use in patients admitted to a de-addiction clinic situated in Dhaka. We also tried to determine the reasons for initiating substance abuse.

## METHODS

This descriptive study was conducted in a private drug de-addiction clinic that catered to patients with a higher socioeconomic status living in Baridhara in

the capital city (Dhaka) of Bangladesh. All patients admitted to the clinic and diagnosed with substance use disorder between 1 July 2013 and 31 December 2013 were enrolled in the study. The diagnosis was made by a consultant psychiatrist during admission and was confirmed by applying the Structured Clinical Interview for DSM-Clinician Version (SCID-CV).

The diagnosis was assigned according to DSM-IV-TR. The SCID-CV was translated and adapted into the local language (Bangla) and has been used by other researchers previously.<sup>5</sup> After taking informed consent from the authority of the clinic and the respondents and guardians, the respondents were interviewed using a semi-structured questionnaire to determine their sociodemographic characteristics and patterns of substance use. The guardians and case-notes complemented the information.

The questionnaire was prepared originally in English and translated to Bangla by an experienced translator and cross-checked by a local psychiatry professor. Regarding the question related to the type of substances, respondents were allowed to write the locally used name of the substance if they did not know the name of the chemical group or component of the substance. For example, one of the cannabinoid derivatives is known as 'Ganja' locally. Then two local senior psychiatrists specialized in addiction management were consulted for the confirmation of the chemical group of that substance. The total number of study subjects was 105.

The ethical clearance committee of National Institute of Mental Health approved the study. Data analysis was performed using SPSS Statistics (SPSS Statistics, Inc. Chicago, US), version 16.0.

## RESULTS

During the study period, 110 patients with substance use disorder were admitted to the clinic. The researchers approached all patients, but five did not give their consent giving a response rate of 95.5%. Most (90.5%) of the respondents were male, and the mean age was  $28.8 \pm 8.0$  years. The youngest respondent was 16 years old and the oldest was 65. Half of the respondents (50.5%) belonged to the 21–30 year age group, and a quarter (26.7%) to the 31–40 years' group. The sociodemographic characteristics of the respondents are presented in Table 1.

**Table 1:** Sociodemographic characteristics of the respondents (n=105).

Sociodemographic characteristics	n	Percentage
<b>Sex</b>		
Male	95	90.5
Female	10	9.5
<b>Age, years</b>		
≤ 20	17	16.2
21–30	53	50.5
31–40	28	26.7
41–50	5	4.8
> 50	2	1.9
<b>Residence</b>		
Urban	97	92.4
Semi-urban	8	7.6
<b>Religion</b>		
Islam	103	98.1
Hinduism	1	1.0
Christianity	1	1.0
<b>Marital status</b>		
Single	60	57.1
Married	36	34.3
Widow/Widower	1	1.0
Separated	1	1.0
Divorced	7	6.7
<b>Educational status</b>		
Primary	7	6.7
Secondary	18	17.1
Higher Secondary	30	28.6
Graduation	40	38.1
Postgraduate	10	9.5
<b>Occupation</b>		
Unemployed	33	31.4
Service-holder	8	7.6
Housewife	4	3.8
Businessman	33	31.4
Retired	1	1.0
Student	21	20.0
Others	5	4.8
<b>Monthly family income (in Taka) *</b>		
< 50000	36	34.3
50000–100000	50	47.6
> 100000	19	18.1

\* 1 USD = 78.44 Taka (conversion rate at time of writing).

The majority (91.4%) of patients were polysubstance users. Most (27.6%) used three types of substances [Table 2]. More than three-quarters (81.0%) of patients used nicotine, and 79% used opioids [Table 3].

Depending on the substances, most respondents used more than one route of administration.

**Table 2:** Number of substances used (n = 105).

Number of substances used	n	Percentage
1	9	8.6
2	25	23.8
3	29	27.6
4	24	22.9
5	13	12.4
6	4	3.8
7	1	1.0

**Table 3:** Type of substances used (n = 105).

Type of substance	n*	Percentage
Alcohol	43	41.0
Amphetamine (yaba)	42	40.0
Cannabinoids (ganja, marijuana, etc)	58	55.2
Cocaine	6	5.7
Nicotine	85	81.0
Opioids (heroin, morphine, phensedyl, pethidine, etc)	83	79.0
Sedative-hypnotics	15	14.3
Others	8	7.6

\*Multiple responses.

**Table 4:** Route of substance administration (n = 105).

Route of administration	n*	Percentage
Oral	86	81.9
Parenteral	15	14.3
Smoking or inhalation	95	90.5

\*Multiple responses.

**Table 5:** Age of starting nicotine and other substance use (n = 105).

Age of starting, years	n	Percentage
<b>Nicotine*</b>		
≤ 15	39	37.1
16–20	41	39.0
21–25	5	4.8
<b>Other substances</b>		
≤ 15	24	22.9
16–20	43	41.0
21–25	31	29.5
26–30	6	5.7
> 30	1	1.0

\*non-users: n = 20, 19.0%.

**Table 6:** Reason of initiating substances (n = 105).

Reason	n*	Percentage
For enjoyment/ fun	41	39.0
Curiosity	45	42.9
Peer pressure	44	41.9
Availability of drugs	17	16.2
Others	17	16.2

\*Multiple responses.

The majority (90.5%) smoked or inhaled the substances [Table 4].

More than three-fourths (76.1%) of respondents started to consume nicotine before the age of 20. For other substances, the majority of respondents (41.0%) started between the ages of 16 and 20 [Table 5].

Curiosity, peer pressure, and for enjoyment or fun were the common reasons for initiating substance use. Most of the respondents indicated more than one reason for their substance use [Table 6].

## DISCUSSION

Most respondents were male (90.5%). Other studies with substance users in Dhaka city also found a male predominance, but the rate of female users was higher in our study. A comparative study of substance dependence among the South Asian Association for Regional Cooperation (SAARC) member countries showed that 99.9% of abusers in Dhaka were male.<sup>7</sup> A study by Ahsan et al,<sup>8</sup> found only one female user among their 144 participants. In our study, 9.5% of substance users were female. This may indicate a growing trend of substance use in females.

The mean age of the respondents was 28.8±8.0 years. About half (50.5%) of respondents belonged to the 21–30 year age group, and over a quarter (26.7%) to the 31–40 years' group. Previous studies conducted in Bangladesh and India found similar findings.<sup>7-9</sup>

Among the respondents, 31.4% were unemployed, and another 31.4% were businessmen. The unemployment rate is consistent with the findings of a previous local study.<sup>7</sup>

The majority of respondents (91.4%) used more than one substance. Only nine respondents (8.6%) were dependent on a single substance. These findings are consistent with another study conducted in Dhaka.<sup>7</sup> However, in that study, most substance

users (51.39%) used three types of substances and 2.7% of users used four types of substances. In our study, although most (27.6%) respondents used three substance types, 22.9% used four types of substances, 12.4% used five substance types, and one patient took seven types of substances. This may indicate that substance users were more interested in experimenting with more categories of substances or that there was easy availability of different substances.

The rate of nicotine users (81.0%) found in the present study was almost double the findings of Alam et al.<sup>7</sup> The majority of respondents used opioids (79.0%), cannabinoids (55.2%), and alcohol (41.0%). Opioids included heroin, pethidine, phensedyl, morphine, methadone, and buprenorphine. Derivatives of the cannabinoids used were known locally as 'ganja', 'marijuana', 'vang', and 'hashish'. Alcohol included both foreign and local brands.

The Client Monitoring System (CMS) in Central Registration of Narcotic Control Department, Bangladesh, contains information from drug treatment centers in four old divisions and some private drug addiction clinics. A study using the CMS found that opioids were the most abused substances.<sup>8</sup> Another study recorded heroin.<sup>7</sup>

The available studies did not find much amphetamine use. In our study, 40% of substance users used methamphetamine. Though it was not listed in the top three, this data indicates that methamphetamine use has become a public health challenge. This finding is consistent with the reports by print and electronic media describing the recent trend of substance use, drug trafficking, and seizure of substances by law enforcement agencies in Bangladesh. There has been an increase in methamphetamine seizures since 2008; more than 1.9 million pills were seized in 2012 and 2.8 million in 2013.<sup>10</sup>

As most of the respondents were poly-substance users, they used multiple routes to take substances. Smoking or inhalation was the route used by most (90.5%) respondents, 81.9% also used oral and 14.3% parenteral routes. In a local study, 10.31% of the drug addicts were found to be parenteral drug abusers.<sup>11</sup>

In agreement with our findings, in another study from Bangladesh, 38.4% of smokers started smoking at between 15 and 19 years old.<sup>12</sup> The alarming finding in our study was that more than one-third

(37.1%) of the respondents started before or at 15 years of age. Nicotine is regarded as the gateway drug to other substances as it is typically the first drug tried.<sup>13</sup> So, the earlier a person starts using nicotine, he/she might have more chance to be dependent on other substances earlier, which is more detrimental to their health and society. Just under a quarter (22.9%) of respondents started to use other substances before or at 15 years old. The Bangladesh Bureau of Statistics (2013) found that 20–34 years was the age of initiation for most (47.3%) intoxicating substance abusers and 33% of abusers started between 15–19 years old.<sup>12</sup>

The aetiology of substance use is a complex one. We did not look for the aetiology, and simply sought to determine the reasons for initiation of substance use. The most common reason given by 42.9% respondents was curiosity about substances. Other common reasons were peer pressure (41.9%) and for enjoyment or fun (39.0%). Most of the respondents indicated more than one reason for their substance use. The study by CMS found peer pressure (67%) and curiosity (15%) as the most common reasons.<sup>8</sup> However, a study in Panjab found that enhancement of sexual performance was the most common reason for initiating substance use.<sup>14</sup>

Limitations of our study include the selection bias of the study place, lack of sampling, and recall bias. The study was conducted in a selected urban private de-addiction clinic and, therefore, the study population might not represent the whole community. All admitted patients of substance use disorders were approached, and no sampling was done. As most of the information was collected through a semi-structured questionnaire based on the memory of the respondents, there is the possibility of recall bias. Both the respondent and his/her attendants were interviewed and relevant case notes and documents were reviewed to minimize this.

## CONCLUSIONS

Despite some limitations, this study provides information about recent patterns substance use in Bangladesh. A high proportion of poly-substance use was found among the respondents, and a number of respondents used methamphetamine. An alarming proportion of respondents started to use substance before or at the age of 15. Our findings highlight the need for management and prevention strategies for

substance use in Bangladesh. Policy-makers should promptly take initiatives to save our youth and future generations.

#### *Disclosure*

The authors reported no conflicts of interest. No funding was received for this study. An abstract of this research was published in International Science Index Vol:2, No:3, 2015 as part of the International Conference on Psychology and Psychiatry, Dubai, UAE, (Mar 11-12, 2015).

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