

Prevalence of sexual dysfunction among substance use disorder

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Background: The prevalence of substance use among the population is increasing day by day. After controlling for demographics, health status variables, and psychiatric co-morbidity, different types of sexual disorder is found to be related with substance use disorder.

Objectives: The objective of this study was to find out the prevalence of sexual dysfunction among substance use disorder attending outpatient department & indoor patient of Central Drug Addiction Treatment Centre, Tejgaon, Dhaka and Psychiatry Department of Combined Military Hospital, Dhaka.

Methods: In this descriptive type of observational study, 400 respondents were evaluated in a period of 6 months from 1st January to 30th June 2016. The respondents included in the study purposively were of ages above 18 years who fulfilled the criteria for substance use disorders according to the Diagnostic and Statistical Manual of Mental Disorders, 5th edition (DSM-5). Scale for the assessment of sexual dysfunction, International Index of Erectile Function Questionnaire (IIEF), Premature Ejaculation Diagnostic Tool (PEDT) were used to assess the sexual dysfunction among substance used disorder patients.

Results: The study showed the prevalence of sexual dysfunction is 94.2% in patients with substance use disorders. Of 400 respondents, 54.5% were having premature ejaculation, 34.2% having sexual arousal disorder, 5.5% having sexual desire disorder and only 5.8% denied having any sexual dysfunction.

Conclusions: Psychological, physiological, environmental, or cultural factors may be associated with use of a particular substance and may have independent or intervening effects on sexual dysfunction. So early detection of sexual dysfunction & effective treatment will reduce the poor outcome among substance used disorders.

Declaration of interest: None

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Keywords: Sexual dysfunction; drug abuse; substance use disorders.

Introduction

For much of the past century, scientists studying drug abuse labored in the shadows of powerful myths and misconceptions about the nature of addiction. When scientists began to study addictive behavior in the 1930s, people addicted to drugs were thought to be morally flawed and lacking in willpower. Those views shaped society's responses to drug abuse, treating it as a moral

failing rather than a health problem, which led to an emphasis on punishment rather than prevention and treatment. Today, thanks to science, our views and our responses to addiction and other substance use disorders have changed dramatically. Groundbreaking discoveries about the brain have revolutionized our understanding of compulsive drug use, enabling us to understand the

problem effectively.¹ Substance use disorder (SUD) occurs when a person's use of alcohol or another substance (drug) leads to health issues or problems at work, school or home.² SUDs are commonly associated with a variety of psychiatric disorders. Community-based studies have found a significant association between SUDs and sexual dysfunction in men, with a possible causal relation in the case of nicotine.³ In men, 'normal' stages of sexual function are arousal, erection, the sexual act, and ejaculation, followed by a latency period. In women, these stages are arousal, the sexual act and orgasm. Dysfunction can occur at any of these stages. In addition, both men and women can experience pain during the sexual act. Both ICD-10 and DSM IV-TR use these stages to classify sexual dysfunction. Sexual dysfunction (SD) is quite common in the community population. Large epidemiological community survey from the United States report >40% of women and 30% of men as suffering from some form of SD, with low sexual desire in women (22%) and premature ejaculation in men (21%) being the most common.⁴ These figures are not very different from those of 34% women and 15% men from eight European countries reporting low sexual desire.⁵ Substance abuse is widely prevalent in the community. World Health Report in 2002 reported that 8.9% of the total burden of disease worldwide in 2000 came from the use of psychoactive substances.⁶ The objective of this study was to find out the prevalence of sexual dysfunction among substance use disorder.

Methods

This was a descriptive cross-sectional study with purposive sampling. All available respondents aged above 18 years old were included who were willing to participate in the research on different working days and fulfilled the criteria for substance use disorders according to the Diagnostic and Statistical Manual of Mental Disorders, 5th edition (DSM-5) in Central Drug Addiction Treatment Centre, Tejgaon and Department of Psychiatry in Combined Military Hospital (CMH), Dhaka from 1st January 2016 to 30th June 2016. Patients aged 18 and above of both sexes were included and patients with severe cognitive impairment, those who were unwilling to give informed consent and those with no formal education were excluded. After a brief explanation about the study to the patients an informed consent was taken. Total sample size was 400. For demographic assessment, every patient was interviewed by a semi-structured questionnaire prepared by the interviewer after taking informed consent. Scale for the assessment of sexual dysfunction, International Index of Erectile Function Questionnaire (IIEF), Premature Ejaculation Diagnostic Tool (PEDT) were used to assess

the sexual dysfunction among substance used disorder patients. The 15-question International Index of Erectile Function (IIEF) Questionnaire is a multi-dimensional, self-administered, and validated investigation by Rosen RC et al (1997)⁷ that has been found useful in the clinical assessment of erectile dysfunction and treatment outcomes in clinical trials. Question no 1, 2, 3, 4, 5 & 15 indicate assessment of erectile dysfunction. For the assessment of PE status, the PEDT was used. This five-item questionnaire was developed according to the DSM-IV-TR criteria used to diagnose PE. The questionnaire covers the following five domains: ejaculation control, frequency of PE, ejaculation with minimal sexual stimulation, distress, and interpersonal difficulty. The psychometric properties of the PEDT were confirmed in the original validation study conducted by Symonds et al (2007)⁸. Bangla scale of IIEF which is adapted and pretested by Parvez MKH was used. Bangla validated scale of PEDT by Islam T (2017)⁹ was used. Ethical clearance was taken from the ethical clearance committee of all above mentioned institutes. Data analysis was performed by using computer Software Program Statistical Package for Social Science (SPSS) version 19.

Results

Out of 400 samples, the mean age was found to be 27.9 ± 6.7 years and all respondents were male. Here 350 (87.5%) of the respondents had no family history of psychiatric illness. 388 (97%) respondents were smokers and 12 (3%) were non-smokers because all respondents were diagnosed case of SUD. About 41.5% of the respondents have been suffering from cannabinoid use disorder, 8.5% suffering from opioid use disorder, 22% suffering from amphetamine use disorder, 3% suffering from alcohol use disorder, 3% suffering from benzodiazepines use disorder, 16% suffering from multi drugs use disorder and 6% have been suffering from other SUD. The prevalence of sexual dysfunction was 94.2% in patients with substance use disorders. Of 400 respondents, 54.5% were having premature ejaculation, 34.2% sexual arousal disorder, 5.5% sexual desire disorder and 5.8% denied having any sexual dysfunction. Premature ejaculation was more common in multi drugs and opioid use disorder (65.6% and 64.7%, respectively) whereas sexual arousal disorder was more prevalent among alcohol and benzodiazepine use disorder (41.7% and 41.7%, respectively).

Table 1: Distribution of the study patients by socio-demographic variable (N=400)

Socio-demographic variable	Number of patients	Percentage
Age (in years)		
≤20	56	14.0
21-30	242	60.5
31-40	94	23.5
>41	8	2.0
Sex		
Male	400	100.0
Female	0	0.0
Religion		
Muslim	360	90.0
Hindu	32	8.0
Christian	4	1.0
Buddhist	4	1.0
Educational status		
Primary	138	34.5
JSC	75	18.8
SSC	59	14.8
HSC	100	25.0
Graduate	24	6.0
Postgraduate	4	1.0
Occupational status		
Unemployed	163	40.8
Service	78	19.5
Businessman	51	12.8
Student	52	13.0
Others	56	14.0
Marital status		
Unmarried	208	52.0
Married	151	37.8
Separated	21	5.3
Divorce	16	4.0
Widower	4	1.0
Resident of respondents		
Urban	275	68.8
Rural	125	31.3
Socio-economic status		
Lower	186	46.5
Lower middle	154	38.5
Middle	54	13.5
Higher middle	2	0.5
Higher	4	1.0

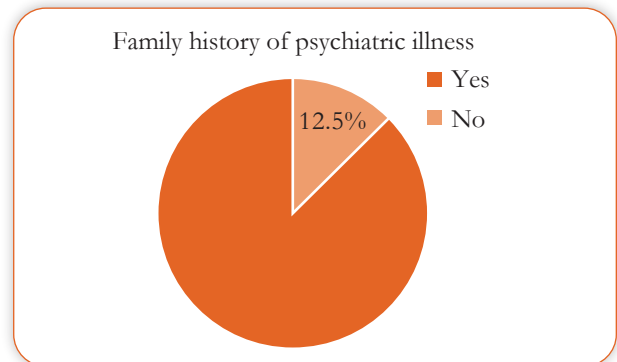
Figure 1: Distribution of respondents according to family history of psychiatric illness (n=400)

Figure 1 shows distribution of respondents according to family history of psychiatric illness. Here 350 (87.5%) of the respondents had no family history of psychiatric illness, 50 (12.5%) had family history of psychiatric illness.

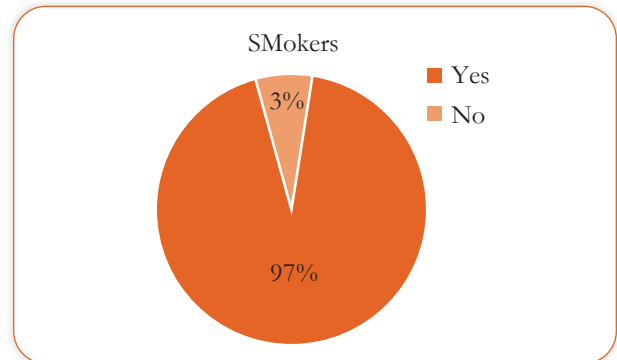
Figure 2: Distribution of respondents according to history of smoking (N=400)

Figure 2 shows 388 (97%) respondents were smokers and 12(3%) were non-smokers.

Table 2: Distribution of the study respondents according to types of substance use (N=400)

Types of substance use	Number of patients	Percentage
Cannabinoid	166	41.5
Opioid	34	8.5
Amphetamine	88	22.0
Alcohol	12	3.0
Benzodiazepine	12	3.0
Multi drugs	64	16.0
Others	24	6.0
Total	400	100.0

Table 2 illustrates that most of the respondents have been suffering from Cannabinoid and Amphetamine use disorder (41.5% and 22%, respectively). Rest of them have been suffering from multi drugs-16%, opioids-8.5%, others-6%, alcohol and benzodiazepines-3%.

Figure 3: Prevalence of sexual dysfunction among the respondents (N=400)

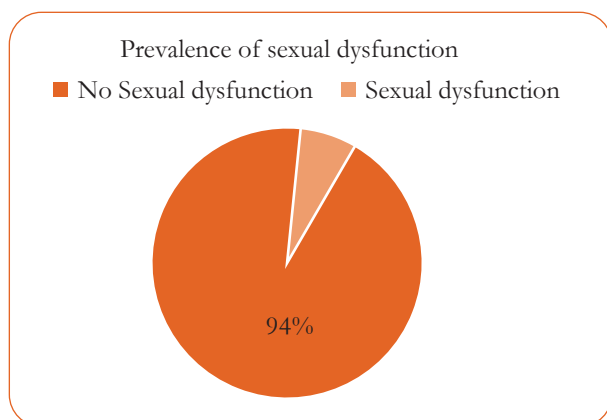


Figure 3 shows that the prevalence of sexual dysfunction is 94 % among the respondents.

Table 3: Distribution of the study respondents according to types of sexual dysfunction (N=400)

Types of sexual dysfunction	Number of patients	Percentage
Premature ejaculation	218	54.5
Sexual arousal disorder	137	34.2
Sexual desire disorder	22	5.5
Denied sexual dysfunction	23	5.8
Total	400	100.0

Table 3 illustrates distribution of the study respondents according to types of sexual dysfunction. Premature ejaculation and sexual arousal disorder are more common (54.5% and 34.2%, respectively) followed by 5.5% having sexual desire disorder and 5.8% denied having any sexual dysfunction.

Table 4: Association between the type of substance use disorder with the type of sexual dysfunction (N=400)

Types of substance use disorder	Denied sexual dysfunction (n=23)		Sexual desire disorder (n=22)		Sexual arousal disorder (n=137)		Premature ejaculation (n=218)		Total (N=400)	
	n	%	n	%	n	%	n	%	N	%
Cannabinoid	8	4.8	10	6.0	65	39.2	83	50.0	166	100.0
Opioid	1	2.9	2	5.9	9	26.5	22	64.7	34	100.0
Amphetamine	7	7.6	5	5.7	32	36.4	44	50.0	88	100.0
Alcohol	0	0.0	1	8.3	5	41.7	6	50.0	12	100.0
Benzodiazepines	0	0.0	0	0.0	5	41.7	7	58.3	12	100.0
Multi drug use	5	7.8	4	6.3	13	20.3	42	65.6	64	100.0
Others	2	8.3	0	0.0	8	33.3	14	58.3	24	100.0

$\chi^2 = 15.0, p > 0.05$

Discussion

In this study the age group of the patients were from 18 to 50 years with mean age of 27.9 years (SD $\pm$ 6.7). Age distribution of the patients showed that maximum patients were between 21-30 years because substance use disorder

is more common among unemployed, unmarried, frustrated people who mostly belong to this age group. Similar observation was found in Diehl et al.¹⁰ study which was conducted among 508 male drug users in an inpatient

addiction treatment unit in Sao Paulo, Brazil. They showed the mean age was 34.8 years (SD = 12.1), and age range of 18-65 years ($t = -1.41$, $p = 0.16$) and a median age of 31 years (second quartile). In the study of Rajkumar et al¹¹, the mean age was 29.08 ± 6.1 .

In the current study 100% respondents were male. This does not mean that there is no female substance user. From where data were collected there were no female respondents and there was no easy access to female respondents either. Moreover, psychoactive substance dependence is a predominantly male activity. Similar study was conducted by Rajkumar et al.¹¹ where all respondents were male. That study was conducted among 105 male respondents who attended the Marital and Psychosexual Disorders (MAPS) Clinic at the Jawaharlal Institute of Postgraduate Medical Education and Research (JIPMER).

The present study reveals the prevalence of sexual dysfunction is 94.2% in patients with substance use disorders. Most of them use cannabis and amphetamine; chronic use of them often causes sexual dysfunction like sexual arousal disorder and premature ejaculation. Moreover, almost all of them smoke which causes sexual dysfunction, especially erectile dysfunction.¹² In this study, premature ejaculation was more common in multi drug and opioid use disorder (65.6% and 64.7%, respectively) whereas sexual arousal disorder was more prevalent among alcohol and benzodiazepines use disorder (41.7% and 41.7%, respectively) though the difference was not statistically significant ($p > 0.05$).

Jakka and Ramesh¹³ showed prevalence of various types of sexual dysfunction among 42 males. It was found that erectile dysfunction was the most common (92.9%), followed by orgasmic dysfunction (38.1%) and premature ejaculation (52.4%). Though a meta-analytic review found that the association between alcohol use and erectile dysfunction was inconsistent¹⁴, an Indian study found a significant link between alcohol dependence and sexual disorders.¹⁵ Psycho stimulants (amphetamine) tend to increase sexual desire in the short term, but long-term use may result in reduced sex drive. Amphetamine use is also associated with ejaculatory disturbance in the long term.¹⁶ It alters libido and can increase sex drive at the expense of impaired sexual performance (delayed orgasm and erectile dysfunction), possibly due to increased prolactin secretion.^{17,18} Smith et al.¹⁹ studied the effects of cannabis on sexual dysfunction which showed that daily cannabis use compared with no use was associated with an increased likelihood of reporting two or more sexual partners in the previous year in both men and women. Heroin reduces

sexual feelings and may decrease desire and cause erectile and ejaculatory dysfunction. High-dose methadone is well known to be associated with sexual dysfunction. Buprenorphine is also associated with sexual dysfunction.²⁰ Opioids reduce testosterone level resulting in decreased libido and erectile dysfunction. Many men who are taking prescribed or illicit opioids suffer from several side effects including sexual dysfunction like erectile dysfunction and decreased libido. These unwanted side effects have been correlated to hypogonadism and likely hypogonadotropic hypogonadism.²¹⁻²³

Conclusions

The relationship between psychoactive substance & sexual behavior are complex. Caution should be taken when interpreting research on the effects of substance on sexual function. Psychological, physiological, environmental, or cultural factors may be associated with use of a particular substance and may have independent or intervening effects on sexual dysfunction. Given the negative impact of sexual dysfunction in substance used disorder patients, it is essential that a psychiatrist accurately determine which patients have sexual dysfunction and then effectively manage that dysfunction. So early detection of sexual dysfunction and effective treatment will reduce the poor outcome among patients with substance use disorder.

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