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Original Article

Frequency and Characteristics of Sexual Dysfunctions among the Married Couples Suffering from Substance Use Disorder

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S M Zikrul Islam[1*], Bipasha Mosharof[2], Md.Rafiqul Islam[3], Ramendra Kumar Singh Royle[4], Shahriar Faruque[5], Jasim Uddin[6], Abdullah Sayed[7], Tania Sultana[8]

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*Corresponding Author

ABSTRACT

Introduction: *Substance use disorder is closely linked to psychiatric comorbidity and sexual dysfunction, with prolonged use impairing sexual health. This study aims to assess the prevalence and characteristics of sexual dysfunction in married couples with substance use disorder and its association with socio-demographic and related factors.* ***Methods & Materials:*** *This cross-sectional study, conducted from September 2020 to August 2022 at Sylhet MAG Osmani Medical College Hospital, included 49 married Substance Use Disorder patients diagnosed per DSM-5 criteria. Data on socio-demographics and related variables were collected using a structured questionnaire, and sexual dysfunctions were screened with the Arizona Sexual Experience Scale (ASEX). Informed consent was obtained, and SPSS 25 was used for analysis.* ***Result:*** *This study sexual dysfunction (SD) was found in 36.7%, with 63.3% showing no dysfunction. Among SD cases, 61.1% had an ASEX score ≥19. Male participants with SD commonly experienced low desire (60%) and erection difficulty (66.7%), while females reported low desire (66.7%) and orgasmic issues (100%). SD prevalence increased with longer substance use (p = 0.002). Cannabis (4.1%) and poly-substance use (24.5%) were more common in SD cases, while cannabis alone (30.6%) was higher in those without SD. Substance use type was significantly associated with SD (p = 0.01).* ***Conclusion:*** *This study revealed that married individuals with substance use disorders had a notably high frequency of sexual dysfunctions, affecting all areas. This study highlights the significance of asking patients with substance use disorders about their sexual dysfunction and the necessity for awareness of this issue.*

Keywords: *Sexual Dysfunction, Substance Use Disorder (SUD), Arizona Sexual Experience (ASEX) scale*

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1. *Assistant Registrar, Department of Psychiatry, Dhaka Medical College Hospital, Dhaka, Bangladesh*
2. *Resident, Department of Radiology and Imaging, Dhaka Medical College Hospital, Dhaka, Bangladesh*
3. *Assistant Registrar, Department of Psychiatry, Rangpur Medical College Hospital, Rangpur, Bangladesh*
4. *Associate Professor & Head, Department of Psychiatry, Sylhet M. A. G. Osmani Medical College, Sylhet, Bangladesh*
5. *Assistant Professor (Adult Psychiatry), Department of Psychiatry, Shaheed Ziaur Rahman Medical College, Bogura, Bangladesh*
6. *Assistant Professor, Department of Psychiatry, Rajshahi Medical College, Rajshahi, Bangladesh*
7. *Assistant Professor, Department of Psychiatry, North East Medical College, Sylhet, Bangladesh*
8. *Resident, Department of Radiology and Imaging, Dhaka Medical College Hospital, Dhaka, Bangladesh*

INTRODUCTION

According to the United Nations Office on Drugs and Crime, 2017, substance abuse is one of the most significant global public health concerns. Substances are defined as any chemical substance that has the potential to be misused and that may be damaging to an individual or society [1]. According to the American Psychiatric Association, 2013, substances can also impact mood, perception, or consciousness. A maladaptive pattern of substance use that results in clinically substantial impairment or suffering is known as substance use disorder. An individual's capacity to respond sexually or to feel sexually gratified is usually marked by clinically substantial impairment in a broad set of diseases known as sexual dysfunctions. Among these are female orgasmic disorder, male hypoactive sexual desire disorder, delayed ejaculation, erectile dysfunction, premature ejaculation, and other Specified Sexual Dysfunction and Unspecified Sexual Dysfunction. Multiple sexual dysfunctions can coexist in one individual. Substance abuse is frequently linked to sexual dysfunction in both genders. Since many substances, including alcohol, opiates, and cannabis, are used to improve sexual functioning, it is important to have a conversation regarding substance usage. This could be a result of some of these drugs' disinhibitory, antidepressant, and anti-anxiety properties, particularly when used sparingly and early in life [2]. Sexual dysfunctions can be caused by a variety of psychological and sociocultural issues, including stress, anxiety, depression, partner factors, relationship factors, religious factors, and unfavorable circumstances [3,4]. In addition to alcohol-induced damage to the liver and testicles, chronic alcohol consumption results in reduced spinal reflexes, decreased serum testosterone levels, and elevated estrogen levels. Chronic alcohol use in women is associated with reduced subjective feelings of vaginal vasocongestion and sexual desire. Small amounts of cocaine and amphetamines can prolong an erection and postpone an orgasm. Chronic heroin use also results in diminished orgasm and erection [5-7]. According to longitudinal research conducted in Switzerland, 31% of men

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and 43% of women, respectively, have sexual dysfunction [8,9]. According to Johnson et al., the most often reported dysfunction was painful sex (13%), which was followed by inhibited orgasm (11%), inhibited sexual desire (7%), and inhibited sexual excitement (5%) [10]. According to reports, 34.2% of women with substance-related disorders had sexual dysfunction [11]. According to a study conducted in Bangladesh, 67% of patients who visited the National Institute of Mental Health (NIMH) in Dhaka experienced sexual dysfunction. Of them, 63% of the female patients and 70.3% of the male patients suffered from some form of sexual dysfunction. Premature ejaculation (26%) and erectile dysfunction (35%) were reported to be the most common patterns of male sexual dysfunction among the responders. Female orgasmic problems (26%) and female sexual interest/arousal disorder (35%) were the most prevalent patterns among females [12]. Substance use is on the rise in our country, and the rate of Sexual Dysfunction is high among Substance Use Disorder patients. Therefore, significant efforts are needed to identify, treat, and lessen this disease. To implement the above plan, several issues must be evaluated and resolved.

METHODS & MATERIALS

This was a cross-sectional study conducted at the Department of Psychiatry, Sylhet MAG Osmani Medical College Hospital, Sylhet during the period from 1st September 2020 to 31st August 2022. The study period was divided into 2 phases. The first phase included problem identification, literature review, protocol writing, questionnaire preparation, and pre-testing. The second phase included data collection, analysis, and report writing. The study population was married Substance Use Disorder patients. The sample was taken purposively and a Substance Use Disorder diagnosis was made by the researcher and confirmed by a consultant psychiatrist according to DSM-5 criteria. The researcher interviewed 49 patients fulfilling the inclusion criteria in a predesigned structured questionnaire for socio-demographic and other related variables and then the Arizona Sexual Experience (ASEX) scale was applied for screening Sexual Dysfunctions. Among inclusion criteria, diagnosed cases of Substance Use Disorder of any duration, at least last six months married patients and 18 to 65 years age group were included. Sexual Dysfunction before Substance Use Disorder along with co-morbid severe mental illness. SUD with co-morbid medical and previous surgical conditions. e.g., endocrine disease (diabetes mellitus, thyroid disease), neurological disease (spinal cord lesion, pelvic autonomic neuropathy); urological disease (Peyronie's disease); sexually transmitted diseases, and history of previous pelvic surgery. Moreover, patients taking medication that causes Sexual Dysfunction were excluded from the study. Informed written consent was taken before data collection and confidentiality was maintained. The analysis between associations of the different variables was done by Chi-square (x^2) test. Data were processed and analyzed using SPSS (Statistical Package for Social Sciences), version 25.

RESULTS

Table – I: Frequency table of patients socio-demographic and relevant factors (*n*=49)

Demographic characteristics of patients	Number of patients	Percentage (%)
Age range of the patients		
<25	9	18.4
25 – 40	29	59.2
>40	11	22.4
Sex of the patients		
Male	46	93.9
Female	3	6.1
Religion of the patients		
Muslim	36	73.5
Hindu	13	26.5
Education of the patients		
Illiterate	4	8
Primary	18	36.8
Secondary	9	18.4
Higher secondary	9	18.4
Graduate and above	9	18.4
Occupation of the patients		
Farmer	8	16.3
Service	5	10.2
Business	14	28.6
Student	2	4.1
Unemployed	14	28.6
Others	6	12.2
Monthly income of the patients		
<3000	16	32.7
3000 - 20000	23	46.9
20000 - 40000	5	10.2
40000 - 60000	5	10.2
Habitat of the patients		
Urban	27	55.1
Rural	22	44.9
Family H/O psychiatric illness		
Present	5	10.2
Absent	44	89.8
Duration of substance use		
1 - 5 year	13	26.6
5 - 10 years	18	36.7
>10 years	18	36.7
Name of the substance use		
Cannabis	17	34.7
Heroin	2	4.1
Yaba	8	16.3
Alcohol	4	8.2
Poly substance	18	36.7
H/O treatment for substance use		
Yes	24	49
No	25	51

Table I shows the frequency of patients' socio-demographic and relevant factors, results were expressed as frequency and percentage.

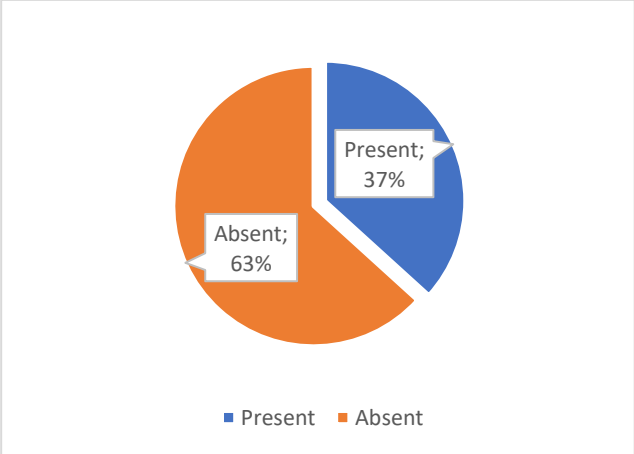

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Figure – 1: Presence of Sexual Dysfunction among the participants (*n*=49)

Figure 1 pie chart demonstrates among the participants 18 (36.7%) had Sexual Dysfunction and 31 (63.3%) had no Sexual Dysfunction.

Table – II: Cut of a score of Arizona Sexual Experiences Scale (ASEX) among patients (*n*=18)

Cut off scores of ASEX	Number of patients having Sexual dysfunction	Percentage (%)
ASEX total score ≥ 19	11	61.1
ASEX score of 4 on 3 domains but total score < 19	5	27.8
ASEX score of 5 on 1 domain but total score < 19	2	11.1
The total sum of patients with Sexual dysfunction	18	100

Table II shows out of the 18 patients who had Sexual Dysfunction according to ASEX, 11 (61.1%) had ASEX total score ≥ 19; 5 (27.8%) had ASEX score of 4 on 3 domains but total score < 19; 2 (11.1%) had ASEX score of 5 on 1 domain but total score < 19.

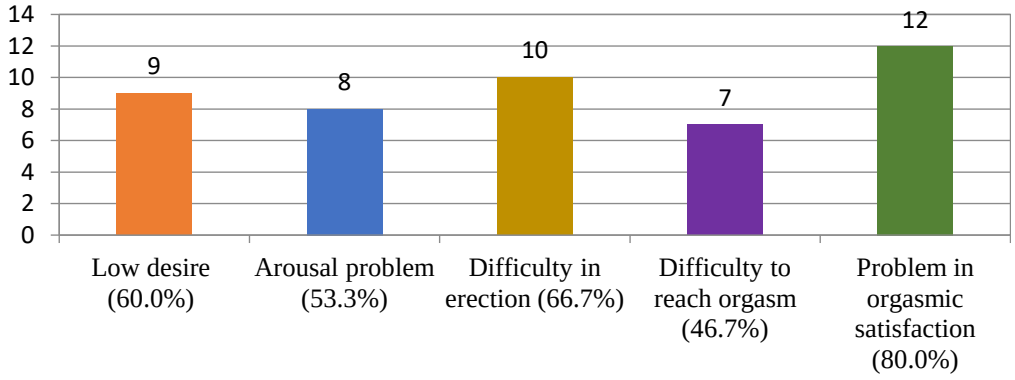

Figure – 2: Types of Sexual Dysfunction among male patients according to the Arizona Sexual Experiences Scale (ASEX) (*n*=15)

Figure 2 bar diagram illustrates out of the 15 male patients who had Sexual Dysfunction according to ASEX, 9 (60.0%) had low desire; 8 (53.3%) had arousal problems; 10 (66.7%) had erection difficulty; 7 (46.7%) had difficulty to reach orgasm and 12 (80.0%) had a problem in orgasmic satisfaction.

Table – III: Types of Sexual Dysfunction according to Arizona Sexual Experiences (ASEX) Scale among female patients (*n*=3)

Domain	Number of patients having dysfunction in this domain	Percentage (%)
Dom-1 / Low desire	2	66.7
Dom-2 / Arousal problem	1	33.3
Dom-3 / Difficulty in vaginal lubrication	2	66.7
Dom-4 / Difficulty to reach orgasm	3	100
Dom-5 / Problem in orgasmic satisfaction	3	100

Table III reveals out of the 3 female patients who had Sexual Dysfunction according to ASEX, 2 (66.7%) had low desire and difficulty in vaginal lubrication, 1 (33.3%) had arousal problems, 3 (100%) had difficulty reaching orgasm and problem in orgasmic satisfaction each.

Table – IV: Association between duration of substance used by the patients and Sexual Dysfunction (*n*=49)

Duration of substance used (years)	Presence of Sexual Dysfunction			P value
	Yes	No	Total	
1 – 5	1 (2.0%)	12 (24.6%)	13 (26.6%)	0.002*
5 – 10	5 (10.2%)	13 (26.5%)	18 (36.7%)	
>10	12 (24.5%)	6 (12.2%)	18 (36.7%)	

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Results were expressed as frequency and percentage. The chi-square test was done as a test of significance and p value < 0.05 is considered as significant.

Table IV displays that among the participants who had Sexual Dysfunction, 1 (2.0%) took substances for 1-5 years, 5 (10.2%) took substances for 5-10 years, and 12 (24.5%) took substances for more than 10 years. Among the participants who had no Sexual Dysfunction, 12 (24.5%) took substances for 1-5 years, 13 (26.5%) took substances for 5-10 years and 6 (12.2%) took substances for more than 10 years. There was a statistically significant association of duration of substance use between participants having Sexual Dysfunction and no Sexual Dysfunction (p-value 0.002).

Table – V: Association between substances used by the patients and Sexual Dysfunction (*n*=49)

Name of substance use	Presence of Sexual Dysfunction			P value
	Yes	No	Total	
Cannabis	2(4.1%)	15(30.6%)	17(34.7%)	0.01*
Heroin	0.0%	2(4.1%)	2(4.1%)	
Phensedyl	0.0%	0.0%	0.0%	
Yaba	3(6.1%)	5(10.2%)	8(16.3%)	
Pethedine	0.0%	0.0%	0.0%	
Alcohol	1(2.0%)	3(6.1%)	4(8.2%)	
Sedatives	0.0%	0.0%	0.0%	
Others	0.0%	0.0%	0.0%	
Poly substance	12(24.5%)	6(12.2%)	18(36.7%)	

Results were expressed as frequency and percentage. The chi-square test was done as a test of significance and p value < 0.05 is considered as significant.

Table 5 illustrates among the participants who had Sexual Dysfunction, 2 (4.1%) consumed cannabis, 3 (6.1%) yaba, 1 (2.0%) alcohol, and 12 (24.5%) multiple drugs or poly substances. Among the participants who had no Sexual Dysfunction, 15 (30.6%) took cannabis, 2 (4.1%) heroin, 5 (10.2%) yaba, 3 (6.1%) alcohol, and 6 (12.2%) multiple drugs or poly substances. There was a statistically significant association of substance use between participants having Sexual Dysfunction and no Sexual Dysfunction (p-value 0.01).

DISCUSSION

In the present study male-female participant ratio is 15:1, where 93.9% were male and 6.1% were female. A disproportionate male-female ratio was also found in a study done by Roy & Miah et al., where the ratio was 19:1 in the Sylhet region [13]. These findings indicate that males are the prime substance users. The age group in a current study showed 59.2% of patients with substance use disorders were between the ages of 25 and 40, 22.4% were over 40, and 18.4% were under 25. Numerous investigations conducted by Sai et al. revealed nearly identical results: 26% of the participants were between the ages of 41 and 50, 49% were between the ages of 31 and 40, and 25% were between the ages of 21 and 30 [14]. However, the education level of the present study's participants was in line with that of Bhainsora et al.'s study [15]. In both investigations, the majority of participants were examined up to the primary school level. In this study, the percentage was 36.8%. While considering occupation, businessmen and unemployed people comprised about 57.2% of the respondents. But Prabhakaran et al., in their study found that unskilled workers were the most vulnerable group for developed Sexual dysfunction (p=0.022). Correlating to Prabhakaran et al.'s study it was observed from the present study that the low-income group population consisting of 46.9% of respondents was the highest affected group for substance use disorder [16]. Similar result was found by Kadiyala et al., who observed that 39% of respondents were from low-income groups [17]. Though more than half of the study population hailed from urban areas displaying result 55.1% and from rural areas the result was 44.9%. Roy & Miah et al. found relatively similar findings in Bangladesh that are (71.6% vs 28.4%) and Kamal et al., (78.2% vs 21.8%) [13, 18]. Merely 10.2% of study participants experiencing sexual dysfunction reported a family history of psychiatric illness. In the present study, nearly half (51%) of the participants took treatment for substance use disorder previously. Among the participants who had sexual dysfunction only 49% had taken treatment for substance use disorder previously and 51% had no treatment history for SUD. Though the Arizona Sexual Experiences (ASEX) scale was used in both studies, a huge difference was found because of the number of the sample (105 vs 3); usually, female substance users do not attend the study place, but only 3 attended as because their symptoms are severe. Therefore, among 18 affected populations 61.1% had a total ASEX score ≥ 19; an ASEX score of 4 on 3 domains but a total score < 19 was found in 27.8% of patients and an ASEX score of 5 on 1 domain but a total score < 19 were found in 2 (11.1%) in participants. These findings were inconsistent with the findings of Bhainsora et al., where 18.8% of patients had a total ASEX score of≥ 19; 72.9% had an ASEX score of 4 on 3 domains but a total score < 19, and 8.3% had ASEX score 5 on 1 domain but total score < 19. This inconsistency may be due to the expression of sexual problems in a different way by the respondents in different studies. In the current study, low sexual desire was found in 60.0% of male patients with substance use disorders. This finding is comparable to those of Sai, K.P.et al., who found it to be 57.4%, and Bhainsora et al., who found it to be 87.5% [15, 19]. The almost same sociocultural environment indicates the similarity of the above results. In the current study, 53.3% of the male respondents reported having difficulty with arousal, compared to 22.5% and 79.2% in the studies conducted by Prabhakaran et al., and Bhainsora et al.[15,16] The differences between these trials showed that different substance kinds were used, which in turn led to different sexual dysfunction profiles. In the current study, it was found that 66.7% of male patients with substance use disorders had trouble getting an erection similar to those of studies conducted by Prabhakaran et al., and Pendharkar et

al., which reported 67.7% and 62.7% of patients, respectively, with similar results [16, 20]. In the present-day study, 46.7% of the male subjects had trouble reaching an orgasm. This result correlates to that of Pendharkar et al., who discovered that 22% of males with substance use disorders had trouble experiencing orgasms and Bhainsora et al., found that 54.2% of them did [15, 20].The results of Pendharkar et al., 59.6%, and Prabhakaran et al., 54.8%, do not align with the findings of the current study, which indicated that 80.0% of the male participants had problems with orgasmic satisfaction [16, 20].Out of the 3 female patients all had Sexual Dysfunction according to ASEX, 66.7% of patients had low desire and difficulty in vaginal lubrication, 33.3% of patients had arousal problems and 100% of patients had difficulty reaching orgasm and had problems in orgasmic satisfaction which were similar to findings of Arackal and Benegal et al [21].Additionally, the distribution of respondents by duration of substance use and presence of sexual dysfunction showed that 27.8% (n=5) had been using drugs for 5–10 years, 66.7% (n=12) had been using them for more than 10 years, and 5.5% (n=1) had been using them for 1–5 years. At p = 0.002, this result was statistically significant. Researchers Prabhakaran et al. (2018) (p=0.031) and Saha et al. (p<0.01) have discovered a strong correlation between the length of SUD and sexual dysfunctions[16, 22].This indicates that the likelihood of experiencing sexual dysfunctions seems to rise with the number of years spent using drugs. Extended substance abuse leads to abnormalities in the central nervous system, liver, endocrine system, and gonadal system, which exacerbate sexual dysfunctions. While observing usage of substances, a higher percentage of poly-substance users (24.5%) experienced sexual dysfunction compared to those who took amphetamine (yaba) 6.1%, cannabis 4.1%, and alcohol 2%. The majority of substance users (36.7%) and cannabis users (34.7%) took more than one substance, while amphetamine (yaba) was 16.3%, alcohol 8.2%, and heroin 4.1%. It was discovered to be statistically significant (p=0.01), and Saha's investigation yielded nearly the same result[22].It was thus shown that the use of various substances, particularly poly substances, amphetamine (yaba), and cannabis, was associated with a significant increase in sexual dysfunctions. Chronic substance use was linked to a reduction in testosterone levels, an inhibition of the hypothalamic-pituitary-adrenal axis, a reduction in gonadotropin release, and the development of hypogonadism. Upon evaluation of the literature search regarding the same topic, the majority of research was conducted by using screening and diagnostic tools other than the Arizona Sexual Experiences (ASEX) scale. There was a variation of scale application to screen or diagnosis of Sexual Dysfunction among Substance Use Disorder patients, so most of the results did not match with the present study.

Limitations of the Study

A purposive sampling method was applied in this study which may have a chance of bias. Besides, the validity of the result would have been better if the sample size had been larger. The additional contributory factors for Sexual Dysfunction in Substance Use Disorder were not explored in the current study.

CONCLUSION

According to this cross-sectional study, a considerable proportion of individuals with substance use disorders 36.7% among female patients and 32.6% among male patients have sexual dysfunctions. Substance Use Disorders impact sexual desire, arousal, penile erection, orgasmic capacity, and orgasmic satisfaction. Cannabis usage and multiple substance use are the most common diagnoses for substance use disorders. The fact that so many patients abuse various substances and that a sizable percentage of them experience sexual dysfunction is concerning. Significant correlations exist between sexual dysfunctions and gender, literacy level, quantity, and duration of substance usage.

RECOMMENDATION

Further large-scale multicenter studies are required to evaluate Sexual dysfunction in Substance Use Disorder patients to provide modified treatment associated with improved outcomes. Need to involve psychiatrists, psychologists, and social workers for this group of population and to formulate a holistic approach to combat the situation. To preserve a high quality of life, it is also essential to make sure those individuals receive expert support and follow-up.

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Ethical approval: The study was approved by the Institutional Ethics Committee

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