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Original Article

Prevalence of Sexual Dysfunction in Male Patients with Alcohol Dependence at Tertiary Care Hospital

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Abstract

Introduction: The connection between alcohol consumption and sexuality is intricate. Among men, the prevalent sexual dysfunction includes erectile dysfunction, followed by premature ejaculation, delayed ejaculation, and reduced sexual desire. Adequate sexual functioning contributes significantly to psychological, physical, and social well-being, representing a vital aspect of life.

Materials and Methods: This study was cross-sectional study, conducted in P.D.U Rajkot in Psychiatry department. 100 consecutive patients who met ICD-10 criteria for Alcohol Dependence syndrome were taken into the study from October 2022 to July 2023. Patients were then assessed by severity of alcohol dependence questionnaire and Arizona sexual experiences scale. The relationship between the severity of alcohol dependence and presence of sexual disorder is analyzed using Chi-square test and Spearman's correlation.

Results: The prevalence of sexual dysfunction reported by the subjects was 53%. The mean duration of alcohol abuse/dependence was significantly different ($P = 0.0029$) among individuals with sexual dysfunction in comparison to individuals with no sexual dysfunction (9.11 years vs. 7.4 years). The mean duration of tobacco dependency in patients with sexual dysfunction was higher (9.8 ± 5.8 years). In the present study, tobacco dependency in any form is significantly associated with sexual dysfunction ($P = 0.0416$).

Conclusion: The degree of alcohol dependency, duration of alcohol intake, and daily amount of alcohol intake all display positive correlation with the presence of sexual dysfunction. This information can be utilized in motivational interviewing of alcohol patients.

Key words: Alcohol dependence, Sexual dysfunction, Tobacco use disorder

INTRODUCTION

Alcohol use has been recorded worldwide. Origin of alcohol word is from Arabic word "akull" meaning essence. They consider it as food of god, priest, and warrior.[1,2] People use it in celebration and even in failure to relieve sorrow. In India, 16–50% prevalence of alcohol dependence syndrome has been recorded during epidemiological studies.[3] Chronic alcoholism leads to many illnesses such as cirrhosis of liver, peptic ulcer, peripheral neuropathies, and vitamin deficiency. Besides physical health, it also affects mental health and leads to depression, anxiety, sleep disorder, sexual disorder even psychosis.[1,4] The connection between alcohol consumption and sexuality is intricate. Among men, the prevalent sexual dysfunction includes erectile dysfunction, followed by premature ejaculation, delayed ejaculation, and reduced sexual desire.[5] a cross-cultural study by the World Health Organization revealed that 12% of males in the general population used alcohol before their initial sexual encounter to achieve positive effects and enhance sexual pleasure. However, continual usage leads to sexual dysfunction.[6,7] Adequate sexual functioning contributes significantly to psychological, physical, and social well-being, representing a vital aspect of life. Dissatisfaction with one's sexual life is linked to emotions such as anger, diminished warmth, marital conflict, and even breakups, which could potentially exacerbate alcohol use.[8] Various mechanisms

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elucidate the connection between alcohol use and sexual dysfunction. Alcohol inhibits hypothalamic gonadotropin-releasing hormone and pituitary luteinizing hormone, subsequently altering the hypothalamus–pituitary–adrenal and hypothalamus–pituitary–gonadal axes. This leads to a decrease in plasma testosterone level.[9] Another aspect is the high inhibitory activity of gamma-aminobutyric acid receptors and reduction in excitatory glutamate receptors in the brain.[10] Reports of sexual dysfunction associated with alcohol use vary widely, ranging from 8% to 95.2% in different studies.[11-13] Certain factors that have been identified as predictors of sexual dysfunction include advancing age, early initiation of alcohol use, heavy alcohol consumption, and liver disease. Interestingly, some studies have even indicated no or a negative correlation between alcohol and sexual dysfunction.[14] Our study was conducted with the primary objective of evaluating the prevalence of sexual dysfunction among male patients diagnosed with alcohol dependency syndrome. We also aimed to investigate the potential relationship between various parameters of alcohol consumption and sexual dysfunction.

MATERIALS AND METHODS

This study was conducted in Government Hospital Rajkot in Psychiatry department. It is a cross-sectional study. 100 consecutive patients who met ICD-10 criteria for Alcohol Dependence syndrome were taken into the study from October 2022 to July 2023. Institutional ethical committee approval was taken for the study and informed consent was taken from the patients. Patients were then assessed by the severity of alcohol dependence questionnaire. Then, they were assessed for the presence of Sexual Dysfunction using Arizona Sexual Experiences Scale (ASEX). Relationship between the severity of alcohol dependence and presence of sexual disorder is analyzed using Chi-square test Spearman's correlation using SPSS software.

RESULTS

In the present study, the study participants were almost equal in all age groups. Majority of the participants 41% were from urban area, majority of participants educated 29% and 23% were up to secondary and primary school level, majority of participants 28% were semiskilled worker, 17% were unemployed, majority participant 71% were married [Table 1].

In this study, 12% of patients had alcohol dependency for 1–5 years, 43% for 6–10 years, 45% for >10 years, only 2 patients consumed <100 mL of alcohol per day, 15 consumed 100–500 mL, 24 consumed 501–1000 mL, 31 consumed 1001–1500 mL of alcohol per day, and 28 consumed >1500 mL alcohol per day. The results of the present study affirmed that 18% of patients had mild dependence, 45% had moderate dependence, and 37% had high dependence. In the present study, 76% were tobacco dependent. Out of 76% patients 33% were using smoking form of tobacco, 25% used smokeless form, and 18% used combined form of tobacco, out of which 13% used tobacco for 1–5 years, 27% were used for 6–10 years, and 36% were used for more than 10 years [Table 2].

Table 1: Sociodemographic details

Age	20–25	16
	26–30	22
	31–35	21
	36–40	19
	41–45	22
Area of domicile	Urban	41
	Rural	30
	Semiurban	28
Education	Illiterate	16
	Primary	23
	Secondary	29
	Graduate	22
	Post-graduate	10
Occupation	Professors	12
	Clerical	25
	Self employed	28
	Unskilled work	18
	Unemployed	17
Marital status	Married	79
	Single/divorced	21
Social class	>8480	15
	4240–8479	19
	2544–4239	31
	1272–2543	21
	<1272	14

According to ASEX, a person is considered to have sexual dysfunction if he has a total score of ≥19 or, has a score >5 on any one item or, has a score of >4 on any three items of ASEX. In addition, a score of 4 or more can be used to define sexual dysfunction in a particular domain. Accordingly, 53% of the patients had sexual dysfunction. 47% patients not had any complaints among ASEX domain [Table 3].

The mean duration of alcohol abuse/dependence was significantly different ($P = 0.0029$) among individuals with sexual dysfunction in comparison to individuals with no sexual dysfunction (9.11 years vs. 7.4 years). Similarly average alcohol consumption among the sexual dysfunction-affected subjects and differed significantly ($P = 0.00129$). The mean duration of tobacco dependency in patients with sexual dysfunction was higher (9.8 ± 5.8 years) compared to those with no sexual dysfunction (7.5 ± 5.0 years). This difference was statistically significant ($P = 0.0374$). In the present study, tobacco dependency in any form is significantly associated with sexual dysfunction ($P = 0.0416$) [Table 4].

Table 2: Clinical variable

Duration of alcohol use	1–5	12
	6–10	43
	>10	45
Daily intake of alcohol	<100 mL	2
	100–500 mL	15
	501–1000 mL	24
	1001–1500 mL	31
	>1500 mL	28
Tobacco use	No use	24
	Smoking	33
	Smokeless	25
	Combined	18
Duration of tobacco use	0	24
	1–5	13
	6–10	27
	>10	36
SAD-Q	Mild	18
	Moderate	45
	Severe	37

SAD-Q: Severity of alcohol dependence questionnaire

Table 3: Sexual dysfunction as per ASEX

Variable	*n*
ASEX-global scores (≥19)	28
ASEX score 4 on 3 domains but global score of <19	13
ASEX score 5 on 1 domain but global score of <19	12
Total number of patients with sexual dysfunction	53

ASEX: Arizona sexual experiences scale

Table 4: Relationship between clinical variable and sexual dysfunction

Alcohol related variables	Sexual dysfunction present	Sexual dysfunction absent	*P*-value
Mean duration of alcohol consumption	9.11±3	7.4±2.5	0.0029
Mean amount of alcohol consumption	1091±454	863±444	0.0129
Mean use of tobacco form	10	14	0.0416
	20	9	
	16	10	
	7	14	
Mean duration of tobacco use	9.8±5.8	7.5±5.0	0.0374
Severity of alcohol dependency	4 (19)	17 (81)	0.0004
	22 (52)	20 (47)	
	27 (73)	10 (27)	

DISCUSSION

The main aim of the present study was to estimate the prevalence of sexual dysfunction in alcohol-dependent subjects. In the present study, we also explored the association between sexual dysfunction and alcohol and tobacco-related variable.

In the present study, the study participants were almost equal in all age groups in contrast. Prabhakaran *et al.*[10] found that majority of their study participants 47.6% were in the age group between 41 and 50 years. In the present study, majority of the participants 41% were from urban area. In contrast study by Bhainsora *et al.*, majority of participants 61% were from rural area. In the present study, majority of participants educated 29% and 23% were up to secondary and primary school level. Prabhakaran *et al* conducted their study in Kerala state and observed that 86.9% were educated up to higher secondary school; in the present study, majority of participants 28% were semiskilled worker, 17% were unemployed; in contrast, Prabhakaran *et al.* observed that all participants were employed. In our study, majority of participants 71% were married.

In this study, 12% of patients had alcohol dependency for 1–5 years, 43% for 6–10 years, and 45% for >10 years; similarly, Fahrner[5] demonstrated that 40% and 80% of the subjects with sexual dysfunction had alcohol dependence for 10 and 5 years, respectively, indicating that the sexual dysfunction sets early among patients with alcohol dependence.

Only 2 patients consumed <100 mL of alcohol per day, 15 consumed 100–500 mL, 24 consumed 501–1000 mL, 31 consumed 1001–1500 mL of alcohol per day, and 28 consumed >1500 mL alcohol per day. Wetterling *et al.*[16] reported heavy drinking with frequent inebriation in 44.4% of subjects whereas continuous heavy alcohol consumption without intoxication (33.6%) and an episodic drinking style (22.0%) were less frequent.

The results of the present study affirmed that 18% of patients had mild dependence, 45% had moderate dependence, and 37% had high dependence. The results were similar to those reported by Wetterling *et al.*, which demonstrated high dependence among 40% of subjects.

In the present study, 76% were tobacco dependent which was similar with study conducted by Prabhakaran *et al.* where 73% were history of tobacco dependency. In our study, out of 76% patients 33% were using smoking form of tobacco, 25% used smokeless form, and 18% used combined form of tobacco, out of which 13% used tobacco for 1–5 years, 27% were used for 6–10 years, and 36% were used for more than 10 years.

In our study, sexual dysfunction was present in 53%, Bhainosara *et al.*[15] study sexual dysfunction was present in 48% which was almost similar to our study where other studies show high sexual prevalence, and a study conducted by Arackal and Benegal[13] showed 72% prevalence of sexual dysfunction, while Fahrner study demonstrated that

75% of the patients with alcohol dependence had sexual dysfunction, however, some of the studies demonstrated low prevalence, Jensen found 26% prevalence of sexual dysfunction.

In the present study, the mean duration of alcohol consumption in patients with sexual dysfunction was higher (9.11 ± 3 years) compared to those with no sexual dysfunction (7.4 ± 2.5 years). This difference was statistically significant ($P = 0.0029$). Thus, the duration of alcohol dependence was positively associated with sexual dysfunction. Similarly, in the study by Dişsiz and Oskay,[12] predictors of erectile dysfunction in chronic alcohol-dependent males were determined as the age of the subject, age of onset of alcohol use, duration of alcoholism, and in the study by Arackal and Benegal, no significant correlation was found between duration of alcohol dependence and sexual dysfunction.

In the present study, the mean amount of alcohol consumption in patients with sexual dysfunction (1091 ± 454 mL/) was higher compared to that in patients with no sexual dysfunction (863 ± 444 mL/day). This difference was statistically significant. Thus, the amount of alcohol consumed was positively associated with sexual dysfunction. Similarly, Mandell and Miller[17] found that with heavy drinking, 59% of the patients experienced erectile dysfunction, 48% reported an inability to ejaculate, and 84.4% experienced at least one type of the sexual dysfunction disorder. According to the study by Arachal and Benegal, the amount of alcohol consumed appeared to be the most significant predictor of developing sexual dysfunction. Few studies have reported no association between amount of alcohol intake and development of sexual dysfunction.

In the present study, among patients with mild severity of alcohol dependence, only 4 out of 36 patients had sexual dysfunction, among patients with moderate severity of alcohol dependence, 22 out of 42 patients had sexual dysfunction while among patients with high severity of alcohol dependence, 27 out of 37 had sexual dysfunction. These differences were statistically significant. Thus, the greater the severity of alcohol dependence, the more the prevalence of sexual dysfunction will be. Similarly, Wetterling *et al.* reported that heavy drinkers suffered more often from erectile dysfunction than episodic drinkers. However, Schiavi *et al.*[14] demonstrated that prolonged and severe alcohol abuse in men is compatible with normal sexual function.

In the present study, mean duration of tobacco dependency in patients with sexual dysfunction was higher (9.8 ± 5.8 years) compared to those with no sexual dysfunction (7.5 ± 5.0 years). This difference was statistically significant ($P = 0.0374$). In the present study, tobacco dependency in any form is significantly associated with sexual dysfunction ($P = 0.0416$) where study by Prabhakaran *et al.* no significant association was found with any tobacco-related variable.

CONCLUSION

The finding of this investigation validates the observation that those with alcohol dependency exhibit a notable occurrence of sexual dysfunction. The degree of alcohol dependency, duration of alcohol intake, and daily amount of alcohol intake all display positive correlation with the presence of sexual dysfunction. This information can be utilized in motivational interviewing of alcohol patients. Increasing awareness in both the treating physician and users of alcohol on the high prevalence of sexual dysfunction would provide better detection and treatment.

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