

Original Research Article

A STUDY OF PREVALENCE OF SEXUAL DYSFUNCTION AND QUALITY OF LIFE AMONG MALE PATIENTS OF ALCOHOL USE DISORDER

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ABSTRACT

Background: Alcohol Use Disorder is quite prevalent in general population. Sexual dysfunction in alcoholics is unrecognized and not reported by patients. Moreover, sexual dysfunction can lead to stress which can further increase the consumption of alcohol and it can lead to poor quality of life. **Objectives:** To study the prevalence of sexual dysfunction and quality of life among male patients of Alcohol Use Disorder.

Materials and Methods: This was an observational, cross sectional, single-centered, interview based study of total 100 consecutive male patients aged 20-50 years admitted in psychiatry ward & coming to psychiatry OPD of Sir. T. Hospital, Bhavnagar. Interview was taken for diagnosis of Alcohol Use Disorder using DSM- 5(Diagnostic and Statistical Manual of Mental Disorders-5) Criteria. Every patient was assessed by proforma containing demographic details, questionnaires of SAD-Q (Severity of Alcohol Dependence), CSFQ-M-C (Changes in Sexual Functioning Questionnaire – Male Clinical Version) & WHOQOL BREF (World Health Organization Quality of Life). Statistical analysis was done with graph pad in stat version 3.06(San Diego, California US). Proportion of participant was compared by using chi-square test, while scores of CSFQ-M-C, SAD-Q, WHOQOL BREF were compared by using Mann Whitney test. A p value of <0.05 was considered statistically significant.

Results: Frequency of sexual dysfunction among male patients of alcohol use disorder was 70%. Among the domains of sexual dysfunction; the highest frequency was seen for dysfunction in desire/frequency (84%), followed by premature ejaculation (82%), problems in pleasure (80%), difficulty in erection (68%) & least was decrease in libido (64%). Sexual dysfunction was not dependent on the amount (p value=0.1916), duration (p value=0.7038) & severity of alcohol dependence (p value=0.128). The quality of life was poor among patients with alcohol use disorder & it was dependent on severity of alcohol dependence (p value= 0.0009, 0.0014, 0.0014, 0.0007).

Conclusion: Sexual Dysfunction had no correlation with the amount, duration of alcohol intake & severity of alcohol dependence. Patients with alcohol dependence had poor quality of life & it was related with severity of alcohol dependence.

Keywords: Alcohol Use Disorder, Sexual Dysfunction, Quality of Life.

INTRODUCTION

Alcohol use disorder is a pattern of alcohol use that involves problems controlling drinking, being preoccupied with alcohol, continuing to use alcohol

even when it causes problems, having to drink more to get the same effect, or having withdrawal symptoms when you rapidly decrease or stop drinking. Alcohol use is quite common in India both in rural and urban areas. The life time prevalence of

alcohol use disorder according to National Mental Health Survey conducted in India in 2015-16 was found to be 4.7% & according to this survey the burden of SUDs (Substance Use Disorders) mainly alcohol & tobacco was more in middle aged (40-59) individuals (29%) , among males (35.67%) & in rural areas (24.12%).¹ The psychiatric diagnoses most commonly associated with the alcohol related disorders are other substance-related disorders, antisocial personality disorder, mood disorders, and anxiety disorders. Chronic alcohol use can affect various organs of body & have deteriorating effect like cirrhosis of liver, hepatic encephalopathy, nutritional deficiency, Wernicke encephalopathy, pancreatitis, seizures, peripheral neuropathy, electrolyte imbalance, cardiomyopathy, gastritis etc. Sexual dysfunction (or sexual malfunction or sexual disorder) is difficulty experienced by an individual or a couple during any stage of a normal sexual activity, including physical, pleasure, desire, preference, arousal or orgasm. According to the DSM-5, sexual dysfunction requires a person to feel extreme distress and interpersonal strain for a minimum of six months (excluding substance or medication-induced sexual dysfunction). Sexual dysfunctions can have a profound impact on an individual's perceived quality of sexual life.

Alcohol and sexuality have been paired throughout history, poetry, prose, and brief. Although alcohol may foster the initiation of sexual activity by relieving anxiety and inhibitions, persistent and chronic use of alcohol is known to induce sexual dysfunction.^{2,3} In spite of evidence to the contrary, people often continue to believe that alcohol improves their quality of sexual function. Proper sexual functioning provides a sense of psychological, physical, and social well-being and is one of the most important elements of quality of life.⁴ Dissatisfaction in sexual life is often associated with anger, increased rates of marital violence, less warmth, and unity in relationships, breakups – all of which may in turn worsen the alcohol consumption. Of the various mechanisms postulated to explain alcohol-induced sexual dysfunction, some of them are inhibition of hypothalamic gonadotropin-releasing hormone and/or pituitary luteinizing hormone, thereby altering the hypothalamo-pituitary-adrenal and the hypothalamo-pituitary-gonadal axis, reduction in plasma testosterone levels, increasing the inhibitory activity of gamma-amino butyric acid receptor and decreasing the excitatory activity of glutamate receptor in central nervous system (CNS), psychological factors such as lack of arousability and disinterest in sex in partners – due to aversion, rejection, retaliation for her husband's undesirable drinking behavior, and psychiatric comorbidities such as anxiety and depression as well as those induced by psychotropic medications

Chronic and persistent use of alcohol can cause sexual dysfunction, resulting in marked distress and interpersonal difficulty which in turn, can worsen the alcohol abuse.⁵⁻⁸ Small doses of alcohol can cause:

Release of inhibition increased aggression, increased desire, increased arousal and control of premature ejaculation. Moderate doses of alcohol can cause: longer foreplay, increased time to erection, difficulty in maintaining erection, uncertain orgasm and decreased penile tumescence. Large doses of alcohol can cause: Impotence both erectile and ejaculatory, thoughtlessness, unpleasant ejaculation, aggressiveness. Chronic alcoholism may lead to loss of libido, loss of sexual satisfaction, erectile impotence, decreased testosterone, infertility, breast development, decreased body hair, shriveled testicles.

MATERIALS AND METHODS

The present study was a hospital-based, observational, cross-sectional, single-centre study conducted in the Department of Psychiatry, Government Medical College and Sir T. Hospital, Bhavnagar, Gujarat, after obtaining approval from the Institutional Ethics Committee. The study was carried out over a period of one year. Written informed consent from every participant was taken after explaining the purpose of the study. Anonymity and confidentiality of participants were maintained. Interview was taken in participant's vernacular language (Gujarati) or Hindi or English. Those participants who gave consent & who were married or had regular sexual partner were included in the study. Those patients having history of primary sexual dysfunction [prior to initiation of alcohol use] , or having co-morbid physical disorders like diabetes mellitus, history of genito-urinary surgery and neurological or spinal cord lesions , having co-morbid psychiatric disorders: schizophrenia & other psychotic disorder , Substance use disorder other than alcohol and tobacco , or taking any drugs affecting sexual function (antipsychotics, antidepressants, antihypertensives, steroids, disulfiram etc) were excluded from the study. Every participant's responses were recorded in a proforma containing details of demographic variables such as participant's initials, age, religion, residence, occupation, gross family income, marital status, education, duration & quantity of alcohol & tobacco intake. Interview of every participant was taken for diagnosis of Alcohol Use Disorder using DSM 5(Diagnostic and Statistical Manual of Mental Disorders-5) Criteria.⁹ They were included in the study after the withdrawal is treated (after 3-4 days when patient is stable and has mild tremors and no delusion/hallucination)

Severity of Alcohol Dependence Questionnaire (SADQ) was used to assess severity of alcohol dependence. It consists of 20 questions. Each question is rated on a four-point likert scale ranging from 0 (Almost never) to 3 (Almost always).¹⁰ A score of 31 or higher indicates "severe alcohol dependence". A score of 16 -30 indicates "moderate dependence" A score of below 16 usually indicates only a mild physical dependency.

The Changes in Sexual Functioning Questionnaire (CSFQ-M-C) was used to assess sexual functioning in males.¹¹ It includes five aspects of sexual functioning like sexual desire, sexual frequency, sexual pleasure, sexual arousal and sexual completion. The sexual dysfunction was determined by cut-off point 47 on a scale of 14-70, where lower score is indicative of decreased sexual functioning. World Health Organization Quality of Life – BREF (WHOQOL-BREF) was used to assess quality of life.¹² WHOQOL-BREF is the short version of the WHOQOL 100. It contains 26 items and addresses 4 QOL domains: physical health (7 items), psychological health (6 items), social relationships (3 items) and environment (8 items). Two other items measure overall QOL and general health. Items are rated on a 5-point Likert scale (low score of 1 to high score of 5) to determine a raw item score. Subsequently, the mean score for each domain is calculated, resulting in a mean score per domain that is between 4 and 20. Finally, this mean domain score is then multiplied by 4 in order to transform the domain score into a scaled score, with a higher score indicating a higher QOL. When transformed by multiplying x4, each domain score is then comparable with the scores used in the original WHOQOL-100.

Qualitative data was expressed as percentages and quantitative data was expressed as mean $\pm$ standard deviation. The statistical analysis was done with Graph Pad. InStat version 3.06 (San Diego, California, USA). Proportions of participants were compared by using Chi-square test while scores of CSFQ-M-C, SAD-Q & WHOQOL-BREF was compared by using Mann-Whitney test. A p value of < 0.05 was considered statistically significant.

RESULTS

The study was carried out in total of 100 male alcoholic patients who had visited Sir.T.Hospital, Bhavnagar for treatment purpose.

Table 1 presents the demographic characteristics of the study participants. The mean age of the participants was 34.6 years. The majority belonged to the Hindu religion (79%), while 21% were Muslims. Regarding residence, 37% of the participants were from towns, 32% were from urban areas, and 31% resided in rural areas. Most participants were labourers (62%), followed by those engaged in semi-professional occupations (36%), whereas only 2% were professionals. According to the socioeconomic classification, 33% belonged to the lower middle class, 30% to the lower class, 25% to the middle class, 10% to the upper middle class, and 2% to the upper class. In terms of educational status, 44% had completed primary education, 32% were illiterate, 22% had secondary education, and 2% were

graduates. The vast majority of the participants were married (97%), while 3% were divorced.

Among the 100 male patients with alcohol use disorder, 70% were found to have sexual dysfunction according to the CSFQ-M score. Among the various domains of sexual dysfunction, the highest frequency was observed in sexual desire/frequency (84%), followed by ejaculation (82%), sexual pleasure (80%), erection (68%), and sexual interest (64%). [Table 2]

Table 3 shows association of severity of alcohol dependence with various demographic variables like age, religion, residence, employment status, marital status, educational status & socioeconomic status. There were no statistically significant differences in above variables between Moderate and Severe Alcohol Dependence groups.

Table 4 shows association of sexual dysfunction with various demographic variables like age, religion, residence, employment status, marital status, educational status, socioeconomic status & tobacco intake. There were no statistically significant differences in above variables between patients with sexual dysfunction & without sexual dysfunction.

Comparison of sexual function according to the severity of alcohol dependence revealed that participants with severe alcohol dependence had a lower mean CSFQ score (40.00 ± 12.09) compared to those with moderate alcohol dependence (45.13 ± 11.12). However, the difference was not statistically significant ($p=0.128$), suggesting that sexual function was not significantly associated with the severity of alcohol dependence. (Table 5)

The mean amount of alcohol consumed per day was 8.2 ± 2.9 pouches among participants with sexual dysfunction and 8.1 ± 4.09 pouches among those without sexual dysfunction. The difference was not statistically significant ($p=0.1916$), indicating that the quantity of alcohol consumed per day was not associated with sexual dysfunction. [Table 6]

The mean duration of alcohol consumption was 8.3 ± 4.3 years among participants with sexual dysfunction and 8.2 ± 4.42 years among those without sexual dysfunction. No statistically significant difference was observed between the two groups ($p=0.7038$), indicating that the duration of alcohol consumption was not significantly associated with sexual dysfunction. [Table 7]

Patients with Severe Alcohol Dependence scored significantly lower values in all four domains of WHOQOL score ($p=0.0009, 0.0014, 0.0014, 0.0007$) as compared with participants with Moderate Alcohol Dependence. There was statistically significant difference in the WHOQOL Score indicating poor quality of life in patients with Severe Alcohol Dependence as shown in Table 8.

There was no statistically significant difference in the WHOQOL Score among those patients who had sexual dysfunction & those without sexual dysfunction. [Table 9]

Table 1: Details of various demographic variable of participants

Demographic variable		Frequency (%)
Age	Mean Age	34.6
Religion	Hindu	79
	Muslim	21
Residence	Rural	31
	Town	37
	Urban	32
Occupation	Labour	62
	Semi Professional	36
	Professional	02
Socioeconomic class *	Lower Class	30
	Lower Middle Class	33
	Middle Class	25
	Upper Middle Class	10
	Upper Class	2
Education	Illiterate	32
	Primary	44
	Secondary	22
	Graduate	02
Marital Status	Married	97
	Divorced	03

Table 2: Frequency of Sexual Dysfunction & types of sexual dysfunction among male alcoholic patients (n=100) according to CSFQ-M score

Frequency	(%)
SEXUAL DYSFUNCTION	70
SEXUAL DESIRE/FREQUENCY	84
SEXUAL INTEREST	64
ERECTION	68
EJACULATION	82
SEXUAL PLEASURE	80

Table 3: Comparison of Demographic Variables and Other Factors Related to severity of alcohol dependance between moderate and severe dependant group determined by SAD-Q score

Demographic Variables		Alcohol Dependence		P Value
		Moderate (16-30) (n = 16)	Severe (>30) (n = 84)	
Age		33.68 ± 6.8	34.85 ± 6.1	P = 0.5073
Religion	Hindu	14	65	P = 0.5647
	Non-Hindu*	2	19	
Residence	Rural	4	27	P = 0.5452
	Town	5	32	
	Urban	7	25	
Occupation	Unemployed or Labour	6	56	P = 0.0546
	Semi-professionals or Professionals	10	28	
Education	Illiterate	3	29	P = 0.3435
	Educated ^s	13	55	
Socio-economic class	Lower/Lower Middle	7	57	P= 0.1195
	Middle/Upper Middle	9	27	
Marital Status	Married	15	82	0.9745
	Divorced	1	2	

Table 4: Comparison of Demographic Variables and Other Factors Related to Sexual Dysfunction determined by CSFQ score

Demographic Variables		Sexual Dysfunction		P Value
		Present (n = 70)	Absent (n = 30)	
Age		35.35 ± 6.2	33.06 ± 5.1	P = 0.0728
Religion	Hindu	56	23	P = 0.9147
	Non-Hindu*	14	7	
Residence	Rural	21	10	P = 0.2371
	Town	23	14	
	Urban	26	6	
Occupation	Unemployed or Labour	43	19	P = 0.8573
	Semi-professionals or Professionals	27	11	
Education	Illiterate	22	10	P = 0.8516

	Educated\$	48	20	
Socio-economic class	Lower/Lower Middle	41	22	P= 0.2399
	Middle/Upper Middle	29	8	
Marital Status	Married	68	29	0.9745
	Divorced	2	1	
Tobacco intake t t t	Yes	62	27	0.8343
	No	8	3	

Table 5: Comparison of Severity of Alcohol Dependence with Sexual Function (CSFQ Score)

Sexual Function	Moderate (SAD-Q Score 16–30)	Severe (SAD-Q Score >30)	P Value
CSFQ Score (Mean ± SD)	45.125 ± 11.117	40.000 ± 12.088	0.128

Table 6: Association of Sexual Dysfunction with Amount of Alcohol Consumed per Day

Amount of Alcohol Consumed	Sexual Dysfunction Present	Sexual Dysfunction Absent	P Value
Pouches of country liquor taken/day (Mean ± SD)	8.2 ± 2.9	8.1 ± 4.09	0.1916

Table 7: Association of Sexual Dysfunction with Duration of Alcohol Consumption

Duration of Alcohol Consumption	Sexual Dysfunction Present	Sexual Dysfunction Absent	P Value
Duration of alcohol intake in years (Mean ± SD)	8.3 ± 4.3	8.2 ± 4.42	0.7038

Table 8: Association of Severity of Alcohol Dependence with Quality of Life (WHOQOL BREF Scores)

WHOQOL - BREF SCORES	Alcohol Dependence		P Value
	Moderate (16-30)	Severe (>30)	
Physical (Mean ± SD)	45.98 ± 10.8	35.68 ± 10.1	0.0009
Psychological (Mean ± SD)	52.60 ± 12.5	39.28 ± 13.6	0.0014
Social (Mean ± SD)	67.70 ± 19.4	48.71 ± 19.3	0.0014
Environmental (Mean ± SD)	72.26 ± 10.6	59.63 ± 11.6	0.0007

Table 9: Association of Sexual Dysfunction with Quality of Life (WHOQOL BREF Scores)

WHOQOL - BREF SCORES	Sexual Dysfunction		P Value
	Present	Absent	
Physical (Mean ± SD)	37.04 ± 9.95	37.85 ± 12.84	0.8360
Psychological (Mean ± SD)	40.11 ± 14.22	44.44 ± 14.23	0.1220
Social (Mean ± SD)	49.40 ± 20.72	57.22 ± 19.29	0.1441
Environmental (Mean ± SD)	60.80 ± 12.48	63.75 ± 11.88	0.5200

DISCUSSION

The present hospital-based cross-sectional study was conducted to assess the prevalence of sexual dysfunction among male patients with Alcohol Use Disorder (AUD) attending the Department of Psychiatry, Sir T. Hospital, Bhavnagar. Our study showed that frequency of sexual dysfunction among male patients of alcohol use disorder was 70%.13-16 Among the different domains of sexual dysfunction, the highest frequency was observed for sexual desire/frequency (84%), followed by ejaculatory dysfunction (82%), sexual pleasure (80%), erectile dysfunction (68%), and reduced sexual interest (64%). This is consistent with the previous studies.13-14,17-20

In our study sexual dysfunction was not dependent on the amount, duration & severity of alcohol dependence, however contradictory findings have been seen in few studies where longer duration of alcohol consumption & dependence, high level of intake & severe dependence were important predictors of developing sexual dysfunction. One of the reasons for such findings in our study might be because all the patient in our study consumed country

liquor & the concentration & amount of alcohol varies in it & also due to narrow range of ages at presentation & duration of dependence across the group. 16, 21-23

Our study found that quality of life was poor among patients with alcohol use disorder & it was dependent on severity of alcohol dependence & not dependent on the sexual dysfunction which was consistent with the previous studies.24,25 The significant interpersonal, psychological, and medical problems that arise due to alcohol misuse have an impact on different quality of life (QoL) domains.26 QoL is also an important factor for establishing treatment outcomes of alcohol misuse). Some authors have reported that different therapeutic interventions may improve the QoL of patients suffering from alcohol misuse, which suggests that QoL may be an indicator of treatment efficacy.26,27

Our study has several limitations. First, as this was a cross-sectional study, a causal relationship between alcohol dependence syndrome and sexual dysfunction could not be established. Second, the relatively small sample size may limit the generalizability of the findings. Third, several important factors that could influence sexual

dysfunction, including personality traits, psychopathology, coping strategies adopted by spouses, family dynamics, marital functioning, and other environmental and psychosocial factors, were not evaluated in the present study. Fourth, the study included only male patients because the prevalence of alcohol use and alcohol dependence among females in India is comparatively low. The inclusion of a non-drinking or low-drinking control group would have provided a more comprehensive understanding of the observed associations. Finally, participants were recruited from a single tertiary care center, Sir T. Hospital, Bhavnagar, which may limit the external validity of the results.

Nevertheless, this study highlights the prevalence of sexual dysfunction in the heavy-drinking population. This stresses the need for addiction medicine specialists to note the possibility of sexual problems in their clients. In addition, it highlights the need for sexual medicine specialists to consider the effects of heavy alcohol use on sexual functioning. However, there is ample evidence that alcohol-induced sexual dysfunction, for the most part, is reversible with cessation of alcohol use. Thus, this information can be used in motivational counselling of heavy drinkers to provide impetus for change. Further work toward planning & implementing newer alcohol policies & regulations can be recommended based on findings from such studies. Sensitization programs at schools & colleges highlighting this aspect, as well as interventional programs & treatment effectiveness studies, comparing the various methods to correct alcohol-induced sexual dysfunction can be tried.

CONCLUSION

The present study demonstrated that 70% of male patients with Alcohol Use Disorder had sexual dysfunction, indicating a high prevalence of sexual problems in this population. Sexual Dysfunction had no correlation with the amount, duration of alcohol intake & severity of alcohol dependence. Patients with alcohol dependence had poor quality of life and it was related with the severity of alcohol dependence.

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