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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

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 Dependance), 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 dependance had poor qualityof life & it was related with severity of alcohol depandance.
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 prevalance 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,[(2)] persistent and chronic use of alcohol is known to induce sexual dysfunction.[(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,[(5,6)] thereby altering the hypothalamo–pituitary–adrenal and the hypothalamo–pituitary–gonadal axis, reduction in plasma testosterone levels,[(7)] increasing the inhibitory activity of gamma-amino butyric acid receptor and decreasing the excitatory activity of glutamate receptor in central nervous system (CNS),[(8)] 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.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.

MATERIALS AND METHODS

We carried out a cross sectional, observational, single centre, 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 . Prior approval from local ethics committee (Institutional Review Board) was taken. 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· 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 Dependance Questionaire (SADQ)(45) was used to asses 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) .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)(43) was used to assess Sexual functioning in males. 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) (42) was used to assess quality of life. 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.

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

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

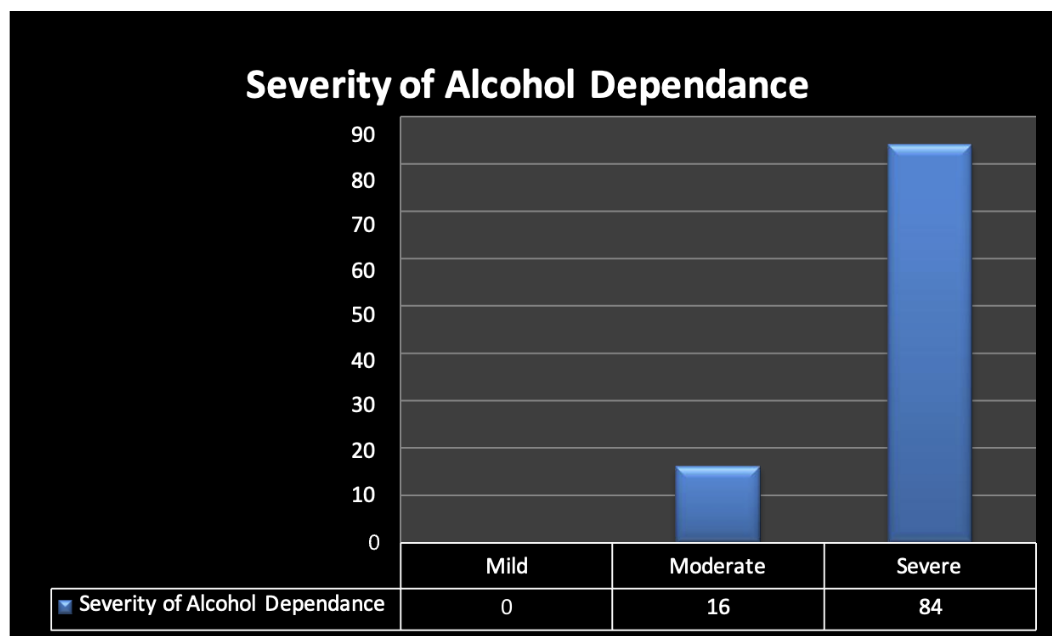
Table 1: Details of various demographic variable of participants.

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	20
Education	Illiterate	32
	Primary	44
	Secondary	22
	Graduate	02
Marital Status	Married	97
	Divorced	03

*Socioeconomic class was determined according to Modified BG Prasad Socio-economic classification

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



Graph 1: Frequency of severity of alcohol dependence among participants according to SAD-Q score.

Table: 3. Comparison of Demographic Variables and Other Factors Related to Severity of alcohol dependence between Moderate and Severe dependance group determined by SAD-Q score

<table>
<tr><th colspan="2" rowspan="2">Demographic Variables</th><th colspan="2">Alcohol Dependance</th><th rowspan="2">P Value</th></tr>
<tr><th>Moderate (16-30) (n = 16)</th><th>Severe (>30) (n = 84)</th></tr>
<tr><td colspan="2">Age</td><td>33.68 ± 6.8</td><td>34.85 ± 6.1</td><td>P = 0.5073</td></tr>
<tr><td rowspan="2">Religion</td><td>Hindu</td><td>14</td><td>65</td><td rowspan="2">P = 0.5647</td></tr>
<tr><td>Non-Hindu*</td><td>2</td><td>19</td></tr>
<tr><td rowspan="3">Residence</td><td>Rural</td><td>4</td><td>27</td><td rowspan="3">P = 0.5452</td></tr>
<tr><td>Town</td><td>5</td><td>32</td></tr>
<tr><td>Urban</td><td>7</td><td>25</td></tr>
<tr><td rowspan="2">Occupation</td><td>Unemployed orLabour</td><td>6</td><td>56</td><td rowspan="2">P = 0.0546</td></tr>
<tr><td>Semi- professionals or Professionals</td><td>10</td><td>28</td></tr>
</table>

Education	Illiterate	3	29	P = 0.3435
	Educated$	13	55	
Socio-economic class	Lower/Lower Middle	7	57	P= 0.1195
	Middle/UpperMiddle	9	27	
Marital Status	Married	15	82	
	Divorced	1	2	0.9745

Data is represented in numbers and mean ± S.D, groups were compared by Chi-square test & Mann Whitney test, p<0.05 is considered to be statistically significant.
* represent non-Hindu (Muslim and others).
$ represent educated participants (primary, secondary, graduate and post graduate).

Table 3 shows association of severity of alcohol dependance 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 Dependance groups.

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	
	Non-Hindu*	14	7	P = 0.9147
Residence	Rural	21	10	
	Town	23	14	
	Urban	26	6	P = 0.2371
Occupation	Unemployed or Labour	43	19	P = 0.8573
	Semi- professionals or Professionals	27	11	
Education	Illiterate	22	20	
	Educated$	48	20	P = 0.8516
Socio-economic class	Lower/Lower Middle	41	22	P= 0.2399
	Middle/Upper Middle	29	8	
Marital Status	Married	68	29	
	Divorced	2	1	0.9745
Tobacco intake	Yes	62	27	0.8343
	No	8	3	

Data is represented in numbers and mean ± S.D, groups were compared by Chi-square test & Mann Whitney test, p<0.05 is considered to be statistically significant.
* represent non-Hindu (Muslim and others).
$ represent educated participants (primary, secondary, graduate and post graduate).
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.

Table: 5. Comparison of severity of alcohol dependence with sexual function(CSFQ score)

SEXUAL FUNCTION	SAD-Q score		P Value
	Moderate(16-30)	Severe(>30)	
CSFQ Score (Mean ± SD)	45.125 ±11.117	40 ± 12.088	0.128

Data is represented in Mean ± S.D, groups were compared by Mann Whitney test, $p<0.05$ is considered to be statistically significant. As per above table there is no statistically significant difference (p=0.128) between severity of alcohol dependence & sexual function.

Table 6: Association of sexual dysfunction with amount of alcohol consumed/day

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

Data is represented in Mean ± S.D, groups were compared by Mann Whitney test, $p<0.05$ is considered to be statistically significant. As per above table there is no statistically significant difference (p=0.1916) between sexual dysfunction & amount of alcohol consumption.

DISCUSSION

The mean age of patients in our study was 34.6 years.The mean duration of alcohol consumption in our study was 8.3 years & the mean alcohol intake was 8.2 pouches of country liquor/day. In our study 84% of patient had severe alcohol dependence & 16% had moderate alcohol dependence. Our study showed that frequency of sexual dysfunction among male patients of alcohol use disorder was 70%. It is consistent with previous studies where frequency of sexual dysfunction was found between 58 to 76%.[9,10,11,12,14,15,17,18,19]. 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%). This is consistent with the previous studies[9,11,12,13,14,15,16,17,18,19]. In our study sexual dysfunction was not dependent on the amount, duration & severity of alcohol dependence , however contradictory findings has 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[9,12,13,]. One of the reason 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. 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[20,21].

The significant interpersonal, psychological, and medical problems that arise due to alcohol misuse have an impact on different quality of life (QoL) domains. QoL is also an important factor for establishing treatment outcomes of alcohol misuse[22]. 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 [23,24]. 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[25]. 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 variousmethods to correct alcohol-induced sexual dysfunction can be tried.

CONCLUSION

- Frequency of sexual dysfunction among patients with alcohol use disorder was 70%
- 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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