Original Research Article

Retrospective Study Evaluating Sexual Dysfunction in Male Patients with Alcohol Dependence Syndrome

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Abstract

Aim: The aim was to estimate the prevalence and correlates of sexual dysfunction in alcohol-dependent patients and to explore the association between sexual dysfunction and various alcohol-related variables.

Methods: This retrospective study was conducted in the de-addiction center of the department of psychiatry in Netaji Subhas Medical College and Hospital, Bihta, Patna, Bihar, India for 7 months. The study sample consisted of two groups, recruited through convenience sampling: 100 in-patients with an ICD-10 (International Statistical Classification of Diseases and Related Health Problems, Tenth Revision) diagnosis of alcohol dependence and 50 controls enrolled from medical wards admitted for management of transient febrile illness.

Results: Men with alcohol dependence were different from controls with regard to socio-demographic data of age, domicile, religion, and family type. They were older than controls. The majority of the controls were from rural, joint, Islamic families compared to cases. There were no differences between them in education, occupation, and socio-economic status (SES). 77% of the patients in the case group initiated drinking alcohol before 25 years of age, with 32% of them started before 18 years of age. However, only 10% developed dependence before 25 years of age. 70% of patients were having nicotine use compared to 26% in controls with significant difference. 3/4th of the patients in the case group had a family history of alcohol use, with half of them amounting to dependence. The prominent SD among men with alcohol dependence was low desire followed by premature ejaculation. Low sexual desire was reported by 16% and premature ejaculation by 10%. Every aspect of sexual functioning was disturbed in men with alcohol dependence. 12% reported more than one sexual dysfunction. Premature ejaculation was a prominent type of dysfunction among controls.

Conclusion: The study highlights the global nature of sexual dysfunction in men with alcohol dependence. It emphasizes the need for clinicians to routinely assess the sexual problems in their alcohol drinking patients, especially those with liver disease.

Keywords: sexual experiences scale, severity of alcohol dependence questionnaire, sexual dysfunction in alcohol dependence syndrome

Introduction

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, [1] persistent and chronic use of alcohol is known to induce sexual dysfunction. [2] A review of clinical and experimental studies concluded that in male alcoholics, greater quantity, frequency and duration of drinking were associated with erectile dysfunction, inhibited libido and retarded ejaculation. [3] However, a major limitation of these data has been the lack of usage of standard instruments to assess sexual dysfunction. Some investigators [4-6] have used standard scales such as International Index of Erectile Function (IIEF), of which two used the full form of IIEF to assess sexual dysfunction.

Some of the studies have refuted the link between sexual dysfunction and alcohol. [7-9] A meta-analysis of population-based cross-sectional studies to assess the association of alcohol consumption and erectile dysfunction yielded a protective association of alcohol on ED. [10] Other studies have reported a variable percentage of alcohol use in patients presenting with sexual dysfunction. [11,12] Advancing age, education level, unemployment, and cigarette use may be the other correlates of SD in men with alcohol dependence. [13]

There was limited number of studies that have evaluated the SD in patients with alcohol

dependence. There are only a few studies reported from India. A cross-sectional study by Bihta Bihar, India using sexual dysfunction checklist found that 72% of men with alcohol dependence had one or more sexual dysfunctions, most common being premature ejaculation, low sexual desire and erectile dysfunction. [14] SD was present in 37% of the study population in a similar study using Arizona Sexual Experience Scale (ASEX) in Kerala, another state in South India. [15] These studies are limited by lack of controls, and having a non-drinking control sample, would lend a greater depth of the above findings. A case-control study from north India reported the presence of ASEX defined overall sexual dysfunction in 59% of men with alcohol dependence. The dysfunction varied among different domains, with prevalence rates between 35-58%, which were significantly higher than those seen in the control group except for the domain of ejaculation/ability to reach orgasm. [16]

The aim was to estimate the prevalence and correlates of sexual dysfunction in alcohol-dependent patients and to explore the association between sexual dysfunction and various alcohol-related variables.

Materials and Methods

The retrospective study was conducted in the de-addiction center of the department of psychiatry in Netaji Subhas Medical College and Hospital, Bihta, Patna, Bihar, India for 7 months. The study sample consisted of two groups, recruited through convenience sampling: 100 in-patients with an ICD-10 (International Statistical Classification of Diseases and Related Health Problems, Tenth Revision) diagnosis of alcohol dependence and 50 controls enrolled from medical wards admitted for management of transient febrile illness.

Inclusion Criteria

1. Married men (currently having a stable heterosexual sexual partner.)

2. Age: 25 - 60 years.

Exclusion Criteria

1. A history of primary sexual dysfunction.

2. Co-morbid physical or psychiatric disorder/s or on medications that can potentially cause SD.

3. Dependence on substance/s other than alcohol except for tobacco.

Tools Used in the Study

1. ICD 10 for the diagnosis of ADS[17]

2. ICD 10 AM Symptom Checklist and Modules[18]

3. Intake Proforma: A specific proforma designed for the study to evaluate socio-demographic, and alcohol-related variables (age of initiation, onset and duration of dependence, amount and preferred drink, complications, nicotine use and family history of alcohol use)

4. Sexual Dysfunction Checklist: The checklist is used to find out the presence and the type of sexual dysfunction. It contains items corresponding to 12 areas of sexual dysfunction described in the Diagnostic Criteria for Research, ICD-10 Classification of Mental and Behavioural Disorders. [14,17]

Procedure

After explaining the purpose and design of the study, written informed consent was obtained for participation from all the patients and controls recruited for the study. The socio-demographic and clinical variables were recorded in a specific form prepared for the clinical study. All the patients and controls were asked for a complete treatment history. They underwent a thorough clinical examination and blood investigations to rule out any medical disorders that can impair sexual functioning. They were further administered the ICD-10-AM (International Statistical Classification of Diseases and Related Health Problems, Tenth Revision, Australian Modification (ICD-10-AM) Symptom Checklist for mental disorders screener by a trained clinician. Those who required further examination was administered the appropriate modules of the ICD-10-AM to rule out psychiatric disorders that can impair sexual functioning. If any control found to have alcohol dependence while assessment, he was enrolled as a case to avoid selection bias. Sexual dysfunction checklist was administered on the patients, during the 3rd week of admission when their withdrawal symptoms got completely subsided. The controls were assessed for the same during their discharge.

Statistics

The results were analysed using SPSS version 25. Data were analysed in the form of mean and standard deviation for the continuous variables and frequency and percentage for the categorical variables. Pearson's chi-square test or Fisher's exact test were used to comparing categorical variables between cases and controls. Cochran-Mantel-Haenszel test was used for controlling confounding (unmatched) variables. Unconditional logistic regression analysis was done to assess the predictors of sexual dysfunction among socio-demographic and alcohol-related variables. Statistical significance was assumed at a p-value <0.05.

Results

Table 1: Comparison of Socio-demographic data between cases and controls

Socio-demographic variables		Cases (N=100)	Controls (N=100)	Chi-Square test
Age	25 - 30 years	12	22	P<0.02
	31 – 40	33	45	
	41 – 50	36	20	
	50 - 60 years	19	13	
Religion	Hindu	76	55	P<0.00
	Muslim	4	25	
	Christian	20	20	
Education	Illiterate	5	6	0.969
	Up to 10th grade	83	90	
	Above 10th grade	12	4	
Occupation	Unemployed	2	0	0.869
	Unskilled	48	56	
	Skilled	22	30	
	Farm owners	26	14	
	Professional	2	0	
Domicile	Urban	30	10	<0.005
	Rural	70	90	
Family	Nuclear	64	40	<0.05
	Joint	36	60	
Socioeconomic Status (SES)	Upper	20	16	0.712
	Middle	38	20	
	Lower	42	64	

Men with alcohol dependence were different from controls with regard to socio-demographic data of age, domicile, religion, and family type. They were older than controls. The majority of the controls were from rural, joint, Islamic families compared to cases. There were no differences between them in education, occupation, and socio-economic status (SES).

Table 2: Clinical variables of men with alcohol dependence

Cases with Alcohol Dependence (N=100)				
Clinical variables		**With Sexual Dysfunction (N= 30)**	**Without Sexual Dysfunction (N=70)**	**Total**
Age of initiation of alcohol use	< 18 years	8	24	32
	18 - 24 years	14	31	45
	≥25 years	8	15	23
Age of onset of regular use	< 18 years	3	4	7
	18 - 24 years	3	12	16
	25 - 34 years	16	41	57
	≥ 35 years	4	16	20
Age of onset of dependence	< 25 years	4	6	10
	> 25 years	26	64	90
Duration of dependence	≤ 1 year	4	6	10
	1 - 5 years	10	37	47
	6 - 10 years	6	20	26
	>10years	10	7	17
Quantity (SD)	6 - 10	9	23	32
	11 - 15	4	18	22
	16 – 20	5	15	20
	>20	12	14	26
Drink type	Hard drinks (Brandy, Whisky, Rum,Vodka)	25	74	99
	Beer	0	1	01
Nicotine use	Use	12	58	70
	Absent	12	18	30

Complications of alcohol	Liver Disease	20	35	55
	Cirrhosis	7	1	8
	Others	5	15	20
	None	3	22	25
	Dependence	12	28	40
	Use	7	28	35
	Absent	8	17	25
Family history of Psychiatric disorders		2	4	06
Family history of Medical illness		16	42	58

77% of the patients in the case group initiated drinking alcohol before 25 years of age, with 32% of them started before 18 years of age. However, only 10% developed dependence before 25 years of age. 70% of patients were having nicotine use compared to 26% in controls with significant difference. 3/4th of the patients in the case group had a family history of alcohol use, with half of them amounting to dependence.

Table 3: Comparison of sexual dysfunction between cases and controls

Sexual Dysfunction		Chi Square test	Odds Ratio	95% Confidence Interval	
Cases (N=100)	Controls (N=100)			Lower	Upper
25	5	5.20, p=0.023	3.16	1.13	8.83
CMH test adjusted for age		3.54, p=0.06	3.09	1.062	9.003
CMH test adjusted for nicotine use		9.56, p=0.002	5.37	1.784	16.163

The difference was statistically significant, with an odds ratio of 3.16 (95% CI of 1.13 – 8.83). Common odds ratio estimates using the Cochran-Mantel-Haenszel (CMH) test adjusted for age and nicotine use were estimated. The OR adjusted for age was 3.54 (95% CI of 1.06-9.00; Cochran's statistic = 0.033; Mantel-Haenszel statistic = 0.06) and that adjusted for nicotine use was 5.37 (95% CI of 1.78 – 16.16; Mantel- Haenszel statistic = 0.002).

Table 4: Comparison of domains of sexual dysfunction checklist between cases and controls

Sexual Dysfunction Checklist	Global		Significance Chi-Square/ Fisher's Exact test (p value)	Odds Ratio	95% Confidence Interval	
	Cases (N= 100)	Controls (N=100)			Lower	Upper
Aversion of sex	0	0	-	-	-	-
Low sexual desire	16	1	0.02	7.98	1.02	62.52
Difficulty achieving erection	3	1	1	1.52	0.15	14.95
Difficulty maintaining	5	1	0.66	2.58	0.29	22.69
Premature ejaculation	10	3	0.39	1.94	0.52	7.28
Delayed/ Inhibited ejaculation	5	0	0.16	-	-	-
Orgasm with flaccid penis	0	0	-	-	-	-
Anorgasmia	1	1	1	0.50	0.03	8.08
Pain coitus	0	0	-	-	-	-
Dissatisfaction with	7	0	0.096	-	-	-
Dissatisfaction of sexual	2	0	0.55	-	-	-
Dissatisfaction with own	5	0	0.17	-	-	-

The prominent SD among men with alcohol dependence was low desire followed by premature ejaculation. Low sexual desire was reported by 16% and premature ejaculation by 10%. Every aspect of sexual functioning was disturbed in men with alcohol dependence. 12% reported more than one

sexual dysfunction. Premature ejaculation was a prominent type of dysfunction among controls. On the comparison between the patient and control groups, there was a significant difference with regards to low desire (p=0.02; OR- 7.98; 95% CI:1. 02-62.52) Frequency of intercourse dissatisfaction approached marginally outside the level of significance.

Table 5: Predictors of sexual dysfunction among socio-demographic and clinical variables

Socio-demographic and Clinical variables	Logistic regression analysis	
	Exp (B) value	P-value
Age in years	1.016	0.606
Duration of dependence	1.030	0.464
Amount of drinks	0.999	0.977
Alcoholic liver disease	1.783	0.229

Unconditional logistic regression analysis was done to assess the predictors of sexual dysfunction among socio- demographic and clinical variables. None of the variables added significantly to the prediction.

Discussion

Sex is perhaps the most unique aspect of life on planet earth which makes it heavenly and is a beautiful process of expressing desire, affection, trust and mutual warmth, and experiencing the ultimate bliss of "Tanmayam." Alcohol increases sexual urge by decreasing the inhibitions; at the same time, it is found to cause impairment in sexual functioning through various mechanisms. Alcohol abuse/dependence is known to lead to sexual dysfunction. [13] In clinical populations, the relationship between alcohol and sexual dysfunction has been studied from the following points of view: prevalence and correlates of sexual dysfunction in patients seeking treatment for alcohol problems, prevalence of alcohol use/abuse/dependence in patients seeking treatment for sexual dysfunction and effect of alcohol on various mechanisms involved in sexual functioning.

In this study, the exclusive focus on males with alcoholism is entailed by the fact that the frequency of alcohol use by females in India, and concurrent alcohol dependence is exceedingly low.[16] Co-morbid nicotine use is not excluded in the present study as it is widely prevalent in most of the patients with alcohol dependence.[19] Men with alcohol dependence were different from controls with regard to socio-demographic data of age, domicile, religion, and family type. They were older than controls. The majority of the controls were from rural, joint, Islamic families compared to cases. There were no differences between them in education, occupation, and socio-economic status (SES). The socio-demographic profile of the sample is similar to previous studies done in the same region. [20,21] Controls are drawn from the hospital population; however, they are not matched with regard to the number or characteristics of the cases. There is a significant difference between the two groups with regards to age, domicile, religion, and family type. The majority of the men in the case group belong to the 4th and 5th decades (mean 42.44 ±8.82), while most of the controls are in their 4th decade. Therefore drug abuse in India as an exclusively urban phenomenon is a myth as told by a National survey on the extent, pattern, and trends of drug abuse in India. [22] Muslims are predominant in the control group rather than the case group, maybe because of religious restrictions in substance use. [23]

77% of the patients in the case group initiated drinking alcohol before 25 years of age, with 32% of them started before 18 years of age. However, only 10% developed dependence before 25 years of age. 70% of patients were having nicotine use compared to 26% in controls with significant difference. 3/4th of the patients in the case group had a family history of alcohol use, with half of them amounting to dependence. Thus, the majority (more than 90%) has Clolinger type 1 (milieu limited) alcohol dependence, which means the addiction is less hereditary and more influenced by the environment. [24] These findings are similar to study in Bangalore, which showed the mean age of onset of initiation was 21.39±5.34 years, and the mean age of onset of dependence was 27.8±5.7 years.12 The mean quantity of alcohol consumption per day was 14.74 (±7.22) standard units of drinks per day and preferred drink being whisky. The amount is smaller compared to other studies from the same region (20.6 ± 9.07 units in Bangalore's study and 21.23 ± 10.10 units in Kerala's study). [14,15]

A significant difference exists between men with and without alcohol dependence concerning nicotine use and family history of alcohol use. This difference signifies nicotine use and family history of alcohol are widely prevalent in most of the men with alcohol dependence. [15,16] The difference was statistically significant, with an odds ratio of 3.16 (95% CI of 1.13 – 8.83). Common odds ratio estimates using the Cochran-Mantel-Haenszel (CMH) test adjusted for age and nicotine use were estimated. The OR adjusted for age was 3.54 (95% CI of 1.06-9.00; Cochran's statistic = 0.033; Mantel-Haenszel statistic = 0.06) and that adjusted for nicotine use was 5.37 (95% CI of 1.78 – 16.16;

Mantel- Haenszel statistic = 0.002). This finding is similar to results reported in earlier studies. The rates of SD in these studies have ranged 8-95.2%.[9]

The prominent SD among men with alcohol dependence was low desire followed by premature ejaculation. Low sexual desire was reported by 16% and premature ejaculation by 10%. Every aspect of sexual functioning was disturbed in men with alcohol dependence. 12% reported more than one sexual dysfunction. Premature ejaculation was a prominent type of dysfunction among controls. On the comparison between the patient and control groups, there was a significant difference with regards to low desire (p=0.02; OR- 7.98; 95% CI:1. 02-62.52) Frequency of intercourse dissatisfaction approached marginally outside the level of significance. Studies each by Akhtar, Jensen, and Vijayasenan reported low sexual desire as the most frequent problem similar to our study.[25-27] The finding is further confirmed in our research when men with alcohol dependence having SD compared with healthy controls on each domain of sexual dysfunction. Low sexual desire is significantly prominent in men with alcohol dependence. Various co-existing dysfunctions are seen in the case sample. Therefore the number of SD complaints on the sexual dysfunction checklist is counted. The number of complaints is significantly higher than controls, indicating alcohol induces dysfunctions in multiple sexual domains. These findings are similar to previous studies.[26-28] Unconditional logistic regression analysis was done to assess the predictors of sexual dysfunction among socio- demographic and clinical variables. None of the variables added significantly to the prediction.

Conclusion

The study emphasized the need for clinicians to routinely assess the risk of sexual problems, which is often missed, unexplored, however, very important for the management of addiction to alcohol.

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