

**PREVALENCE OF SEXUAL DYSFUNCTION AND ITS ASSOCIATIONS IN MALE PATIENTS OF ALCOHOL DEPENDENCE SYNDROME: A CROSS-SECTIONAL STUDY**

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ABSTRACT **Background:** The spectrum of sexual dysfunction (SD) encountered among male patients with alcohol dependence (AD) is wide. There is a dearth of Indian studies using validated measures on this subject. **Objectives:** To assess the prevalence of various types of SD and its socio-demographic and clinical associations among male patients of alcohol dependence syndrome seeking treatment on an in-patient basis in a tertiary care hospital. **Methods:** One hundred male subjects admitted to a psychiatric ward in a tertiary care hospital, with a diagnosis of alcohol dependence syndrome in an uncomplicated withdrawal state (F10.30, ICD-10 criteria), were assessed for sexual dysfunction once out of the withdrawal state. This cross-sectional observational study used a semi-structured questionnaire for demographic details. The Severity of Alcohol Dependence Questionnaire (SADQ), International Index of Erectile Function (IIEF), Hamilton Depression Rating Scale (HDRS/HAM-D), and the Hamilton Anxiety Rating Scale (HAM-A) were used to assess the severity of alcohol dependence, sexual dysfunction, and psychological symptoms, respectively. A Chi-square test was used to find associations between the domains of the IIEF scale and various qualitative and quantitative data variables. **Results:** Eighty-six percent of the study population had dysfunction in at least one domain of the IIEF. The most commonly encountered sexual dysfunction was decreased sexual desire, followed by decreased sexual satisfaction. **Conclusions:** AD has a deleterious effect on male sexual functioning. A decline in sexual interest and sexual dissatisfaction may be covertly present in patients of AD who have had AD since an early age, for a long duration, or with heavy daily alcohol consumption, before they present with overt sexual dysfunction complaints like erectile or orgasmic dysfunction.

KEYWORDS : Alcohol Dependence Syndrome, Sexual Dysfunction, Erectile Dysfunction, International Index of Erectile Function (IIEF).

INTRODUCTION

"It provokes the desire but it takes away the performance. Therefore much drink may be said to be an equivocator with lechery: it makes him and it mars him; it sets him on and it takes him off." — Shakespeare

Alcohol is an important product of global addictive demand and has seen a rapid increase in per capita consumption in India. From a time when most major world religions would have sects that preach abstinence from alcoholic beverages, alcohol is now no longer viewed as a threat to all, but only to a small section of people who are 'alcohol dependent'. The pattern of drinking in the Indian set-up has changed from occasional and ritualistic use to a more regular social use. Alcohol is a causal factor in many illnesses. Overall, a significant portion of the global burden of disease and cirrhosis mortality is directly attributable to alcohol consumption [1]. Health consequences of heavy alcohol use are on rising trends in India as well.

Alcohol use is closely related to sexuality and sexual dysfunction. People have used alcohol to deal with sexual performance anxiety, enhance sexual performance, or overcome sexual dysfunction (SD). The World Health Organization (WHO) had reported that a significant percentage of males in the general population consumed alcohol before their first sexual intercourse due to the perceived positive effect of alcohol in enhancing sexual pleasure. However, in the long run, substance abuse negatively impacts sexual functioning and may lead to a variety of sexual disorders.

The spectrum of sexual dysfunction encountered among male patients of alcohol dependence (AD) is wide. It includes decreased sexual desire, difficulty in achieving orgasm, premature ejaculation, sexual aversion disorder, and difficulty in getting or maintaining an erection [2]. There is, thus, a need to study the multiple dimensions of the association between alcohol dependence and SD. This study was conducted to evaluate the sexual dysfunctions encountered in alcohol-dependent males—specifically its types, prevalence, and socio-demographic and clinical associations.

SUBJECTS AND METHODS**Study Methodology:**

This is a cross-sectional observational study. One hundred patients

with Alcohol Dependence Syndrome in an Uncomplicated Withdrawal state (F10.30, ICD-10), admitted consecutively to the de-addiction inpatient facility of a tertiary care hospital, were recruited after providing informed written consent.

Inclusion Criteria:

- Male patients who were either married or had a stable heterosexual partner.
- Age ranging from 18 to 50 years.

Exclusion Criteria:

- Patients who were acutely intoxicated or in an acute withdrawal state.
- Patients with known co-morbid chronic medical illnesses, conditions, or trauma that can cause sexual dysfunction (e.g., hypertension, diabetes mellitus, thyroid dysfunction, cardiovascular disorders, renal dysfunctions, alcoholic cirrhosis, neurological disorders, pelvic trauma/surgery).
- Patients previously diagnosed with psychiatric co-morbidities who were on antidepressants and/or antipsychotics.
- Patients with a history of sexual dysfunction prior to the onset of alcohol use, or those on medications known to alter sexual functioning (e.g., phosphodiesterase inhibitors).

During the hospital stay, the revised Clinical Institute Withdrawal Assessment for Alcohol Scale (CIWA-Ar) was applied to confirm that patients were out of the acute withdrawal state. Once withdrawal symptoms completely subsided, a semi-structured proforma obtained socio-demographic details and alcohol consumption patterns. Modified Kuppuswamy's socio-economic scale was used to assess socio-economic status.

Tools Used in the Study:

- Severity of Alcohol Dependence Questionnaire (SADQ): Consists of 20 questions measuring AD severity across 5 subscales. Scores greater than 30 correlate with severe AD [3].
- International Index of Erectile Function (IIEF): A 15-item self-report instrument evaluating 5 domains: erectile function, orgasmic function, sexual desire, intercourse satisfaction, and overall satisfaction [4].

- Hamilton Depression Rating Scale (HDRS/HAM-D): A 17-21 item clinician-rated scale to assess the severity of depressive states [5].
- Hamilton Anxiety Rating Scale (HAM-A): A 14-item questionnaire used to rate the severity of anxiety symptoms [6].

Statistical analysis:

Results were tabulated and analyzed using the Statistical Package for Social Sciences (SPSS) version 23.0. Qualitative variables were expressed using frequency and percentage, while quantitative variables were expressed using mean and standard deviation. A Chi-square test was used to find associations between the domains of the IIEF scale and qualitative variables. Significance levels were set at a p -value < 0.05 .

RESULTS

Demographic Characteristics:

Out of 100 patients, the majority were 26-35 years of age (mean: 33.05 years; SD: 4.55 years). Ninety-two percent had education up to a secondary level. A large proportion was unemployed (82%) and belonged to the lower-middle socio-economic class (76%).

Table 1: Socio-demographic variables of the study population

Demographic Variable	Category	Number of Patients (N=100)
Age group (years)	≤ 25	4
	26 - 30	28
	31- 35	35
	> 35	33
Religion	Hindu	80
	Muslim	7
	Buddhist	12
	Christian	1
Marital Status	Married	96
	Separated	4
Residence	Rural	74
	Urban	26
Socioeconomic Status	Class I (upper)	Nil
	Class II (upper middle)	5
	Class III (middle)	15
	Class IV (lower middle)	76
	Class V (lower)	4
Education	Illiterate	4
	Primary	43
	Secondary	49
	Senior secondary and above	4
Employment	Employed	18
	Unemployed	82
Family type	Joint	53
	Nuclear	47

Clinical Profile:

Most patients had an early start to consuming alcohol, with 57% under 20 years of age. Fifty-three subjects (53%) had early-onset AD (prior to 25 years). Fifty-seven subjects (57%) had a consumption history exceeding 5 years, and 53 subjects had severe alcohol dependence. Daily consumption exceeded 360ml for 89% of patients, primarily involving illicit and country-made liquor (93%). Eight subjects (8%) had co-existing mild anxiety and/or depressive symptoms.

Table 2: Clinical variables of the study population

Clinical Category	Variable	Number of Patients (N=100)
Age at first alcohol consumption	≤ 20 years	57
	21 - 25 years	36
	> 25 years	7
Age at AD onset	≤ 25 years	53
	26 - 30 years	40
	> 30 years	7
Duration of AD	≤ 5 years	43
	6-10 years	36
	11-15 years	18
	> 15 years	3
Severity of Alcohol dependence	Mild	11
	Moderate	36
	Severe	53

Amount of alcohol consumption	180-360ml	11
	360-540ml	45
	540-720ml	31
	> 720 ml	13
Type of alcohol consumed	Country-made liquor	37
	Illicit liquor	56
	Indian-made foreign liquor	7
Motivation to quit alcohol	Pre-contemplation	63
	Contemplation	34
	Determination	3
Previous attempts to quit	≤ 2 attempts	24
	> 2 attempts	76
Longest duration of abstinence	≤ 6 months	80
	> 6 months	20
Anxiety / Depressive disorder	Present (Mild)	8
	Absent	92

Sexual Dysfunction:

In the study sample, 53% of patients had erectile dysfunction (ED) on the IIEF scale. Among them, 12% had mild ED, 29% mild-moderate ED, 10% moderate ED, and 2% severe ED.

Table 3: Distribution of subjects across IIEF sexual dysfunction domains

Domains of IIEF	Mean score (SD)	Patients with dysfunction (n)	Patients without dysfunction (n)
Erectile function	22.60 (5.31)	53	47
Orgasmic function	7.39 (1.95)	60	40
Sexual desire	7.11 (1.53)	78	22
Intercourse satisfaction	10.33 (2.75)	68	32
Overall satisfaction	6.97 (1.70)	76	24

Associations (Socio-demographic and Clinical):

Significant associations were found between all 5 domains of the IIEF scale and unemployment. Age was significantly associated with ED ($p=0.003$), orgasmic dysfunction ($p=0.004$), and decreased intercourse satisfaction ($p=0.047$). Early age of starting alcohol consumption, along with the duration and severity of AD, were significantly associated with all 5 domains of the IIEF.

Table 4: Associations between key clinical/demographic variables and Erectile Dysfunction (ED)

Variable	Category	Mild ED	Mild-Mod ED	Mod ED	Severe ED	No ED	p-value
Age (yrs)	≤ 25	0	0	0	0	4	0.003*
	26 - 30	4	3	0	0	21	
	31 - 35	7	11	4	0	13	
	> 35	1	15	6	2	9	
Employment	Employed	1	0	0	0	17	0.001*
	Unemployed	11	29	10	2	30	
Duration of AD	≤ 5 yrs	5	1	0	0	37	< 0.001 *
	6 - 10 yrs	6	17	3	0	10	
	11 - 15 yrs	1	11	6	0	0	
	> 15 yrs	0	0	1	2	0	
Severity of AD	Mild	0	0	0	0	11	0.018*
	Moderate	7	12	2	0	15	
	Severe	5	17	8	2	21	
Amount consumed	180-360ml	1	0	0	0	10	< 0.001 *
	360-540ml	6	14	1	0	24	
	540-720ml	5	13	3	0	10	
	> 720 ml	0	2	6	2	3	

*Statistically significant (p -value < 0.05); Chi-square test used.

DISCUSSION

Prevalence of Sexual Dysfunction: Sexual dysfunction was found to be fairly prevalent among male patients with alcohol dependence. As many as 86% of subjects had at least one form of sexual dysfunction, assessed by the IIEF scale. The most common sexual dysfunction found in the study population was decreased sexual desire (78%), followed by decreased overall sexual satisfaction (76%). While most previous studies have evaluated primarily erectile dysfunction in relation to AD, our study showed that other domains of sexual function are more frequently affected than ED (53%). This finding was heavily comparable to other contemporary Indian studies within tertiary care settings [7,8,9]. In a comprehensive review of the literature, it was

found that the prevalence of ED in the general population is broadly estimated between 2-15% depending on the age cohort [10]. Our finding of 53% is markedly higher, implying that ED prevalence in patients with AD is much more severe than in the general population.

Socio-demographic Associations: Age at presentation was significantly associated with dysfunctions of erection, orgasm, and intercourse satisfaction, which could be attributed to the cumulative toxicity of alcohol along with aging and medical factors. Unemployment had significant associations with all domains of sexual dysfunction. As the illness progresses, AD patients face impairment in social and occupational functioning, losing livelihood alongside medical and sexual comorbidities.

Clinical Associations: Early age of beginning alcohol consumption (<20 years), increasing years since AD diagnosis, and AD severity were significantly associated with all 5 IIEF domains. Early onset AD and higher daily alcohol consumption were also significantly associated with various SD domains. Concurrent tobacco use was observed in 84% of subjects; however, because of its overwhelming prevalence, it was excluded from being treated as an independent associative variable to limit confounding effects. Furthermore, 76% of subjects made more than 2 attempts to abstain from alcohol and failed, while 80% could abstain no more than 6 months before relapsing. Previously undiagnosed mild anxiety and/or depressive disorders were present in 8% of subjects and were significantly associated with ED and orgasmic dysfunction.

LIMITATIONS:

The study subjects were admitted patients of a de-addiction facility. Hence, findings reflect severe morbidities and may fall short of representing alcohol-dependent patients at large. Female AD patients were not recruited due to differences in the SD spectrum and low patient volume limiting statistical power. Selecting only patients with a stable heterosexual partner may have omitted divorced patients. These gaps remain for future research.

CONCLUSION

This study affirms that alcohol dependence has a deleterious effect on male sexual functioning. A decline in sexual interest and dissatisfaction from sexual performance may be present in patients of AD who do not actively complain of erectile or orgasmic problems. It would be beneficial for de-addiction specialists to proactively screen for covert sexual complaints in patients with early-onset AD, AD lasting more than 5 years, or heavy daily consumption, before they present with obvious dysfunction.

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- **Conflict of Interest:** None declared.
- **Ethical Approval:** The study was approved by the institutional ethics committee.

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