

When Alcohol Affects Intimacy: The Link between Dependence and Erectile Dysfunction

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Cite this paper as: Dr Sourabh ojha, Dr Nikhil Nayar, Dr Abhinit Kumar, Dr Kunal Kumar, Dr Pankaj Shah, Dr Abhinav Dhankar, Dr Parika Kochhar, (2025) When Alcohol Affects Intimacy: The Link between Dependence and Erectile Dysfunction. *Journal of Neonatal Surgery*, 14 (10s), 61-68.

ABSTRACT

Alcohol dependence is a major health concern, affecting physical, psychological, and social well-being. One often-overlooked issue is sexual dysfunction, which can impact relationships and quality of life. This study examines the prevalence of sexual dysfunction in men with alcohol dependence and its correlation with severity. A cross-sectional study was conducted at the School of Medical Sciences and Research, Greater Noida, from May 2023 to November 2024, involving 116 men aged 18-50 years diagnosed with alcohol dependence. The Severity of Alcohol Dependence Questionnaire (SADQ) and the Changes in Sexual Functioning Male Questionnaire (CSF-MQ) were used for assessment, with data analyzed using SPSS version 22 and significance set at $p \leq 0.05$. Sexual dysfunction was observed in 89.7% of participants, with erectile dysfunction (76.7%). A significant positive correlation was found between higher SADQ scores and increased severity of sexual dysfunction ($p < 0.05$). These findings emphasize the need for routine sexual health assessments in alcohol-dependent patients to enhance overall well-being and treatment outcomes.

Keywords: Alcohol Dependence, Sexual Dysfunction, Erectile Dysfunction, Premature Ejaculation, Hypoactive Sexual Desire, SADQ, CSF-MQ.

1. INTRODUCTION

Sexual dysfunction is a common but often overlooked consequence of alcohol dependence, affecting various aspects of an individual's physical and psychological well-being. It encompasses a range of conditions, including diminished libido, erectile dysfunction, delayed ejaculation, and difficulties in achieving orgasm. Alcohol, despite being perceived as an initial stimulant that lowers inhibitions and enhances confidence, has long-term detrimental effects on sexual performance. Chronic alcohol dependence disrupts the normal physiological mechanisms that govern sexual function, leading to impaired hormonal balance, vascular dysfunction, and neurological damage.

Studies indicate that men with alcohol dependence are significantly more likely to experience sexual dysfunction compared to the general population. The extent of dysfunction is often proportional to the severity of alcohol dependence, with individuals exhibiting greater impairment in sexual health as alcohol consumption increases. Physiologically, alcohol affects testosterone production, impairs gonadal function, and damages peripheral nerves, all of which contribute to sexual dysfunction. Additionally, psychological factors such as depression, anxiety, and reduced self-esteem further exacerbate these conditions, creating a cycle where alcohol is used as a coping mechanism for distress, ultimately worsening both dependence and sexual health.

The relationship between alcohol dependence and sexual dysfunction is bidirectional. While alcohol dependence contributes to sexual dysfunction, the presence of sexual health issues can also lead to increased alcohol consumption as individuals attempt to self-medicate. This cyclical pattern complicates treatment and underscores the importance of addressing both conditions simultaneously. Despite the high prevalence of sexual dysfunction among alcohol-dependent men, it remains underreported due to stigma, embarrassment, or lack of awareness.

This study aims to assess the prevalence and nature of sexual dysfunction in men with alcohol dependence and its correlation with the severity of alcohol use. By analyzing the clinical and demographic characteristics of affected individuals, the study seeks to highlight the impact of alcohol dependence on sexual health and the need for integrated treatment approaches. Understanding these associations will enable clinicians to incorporate sexual health evaluations into routine care for alcohol-dependent individuals, improving both addiction treatment outcomes and overall quality of life.

2. REVIEW OF LITERATURE

- **Acharya et al.** study by the National Institute on Alcohol Abuse and Alcoholism (NIAAA) found that approximately 60% of men with alcohol dependence experienced some form of sexual dysfunction. This dysfunction often includes erectile dysfunction (ED), decreased libido, and premature ejaculation. The high prevalence of sexual dysfunction in this group underscores the extent to which alcohol dependence can disrupt normal sexual functioning.¹
- **Arackal et al.** study published in the Journal of Sexual Medicine reported that up to 72% of men with alcohol use disorders experienced erectile dysfunction. Arackal et al. study emphasized that the severity of alcohol dependence was directly correlated with the severity of erectile dysfunction, suggesting a dose-dependent relationship. The chronic use of alcohol can impair the physiological mechanisms involved in achieving and maintaining an erection, including its effects on the nervous system and vascular health.²
- **Salari et al.** study emphasized the need for clinicians to address sexual health issues as part of the comprehensive treatment of alcohol dependence.³
- **Acharya et al.** study, comparing sexual dysfunction rates between alcohol-dependent men and the general population consistently reveal significant differences in the prevalence and severity of sexual dysfunction. Research has shown that alcohol dependence is associated with a higher incidence of sexual dysfunction compared to non-dependent men.¹
- One key study by **Mandal et al.** investigated sexual dysfunction among men with alcohol dependence, finding that these individuals experienced higher rates of erectile dysfunction, reduced libido, and ejaculatory problems compared to a control group of non-dependent men. The study highlighted that the prevalence of erectile dysfunction in alcohol-dependent men was approximately 50% higher than in the general population, underscoring the substantial impact of alcohol dependence on sexual health.⁴
- Overall, these studies illustrate a clear disparity in sexual dysfunction rates between alcohol-dependent men and the general population. The higher prevalence of sexual dysfunction in alcohol-dependent individuals underscores the need for targeted interventions and treatment strategies to address sexual health issues in this population.
- **UK et al.** study underscores the importance of considering both the intensity and duration of alcohol consumption when evaluating sexual health issues in individuals with alcohol dependence.⁵
- Chronic alcohol use can significantly impact the nervous system, leading to various forms of neurological damage that directly affect sexual function. The neurological damage induced by excessive alcohol consumption primarily involves both the central and autonomic nervous systems.⁶
- **Castillo et al.** study, suggest that up to 50% of individuals with alcohol dependence experience depressive symptoms, and a similar proportion report anxiety disorders. The co-occurrence of these conditions can complicate the treatment of alcohol dependence, as each condition can influence and intensify the other.⁷
- The presence of depression and anxiety in alcohol-dependent individuals often contributes to increased substance use, creating a vicious cycle where alcohol is used as a coping mechanism for emotional distress. This self-medication, while initially providing temporary relief, can ultimately worsen depressive and anxiety symptoms, leading to a more severe dependence on alcohol. The interplay between alcohol dependence and these psychiatric comorbidities can hinder recovery efforts and exacerbate the overall burden of mental health issues in this population.⁸
- Moreover, depression and anxiety also have significant implications for sexual health. Sexual dysfunction is a common concern among individuals with alcohol dependence, and it is often compounded by the presence of psychiatric comorbidities. Depression can lead to decreased libido, erectile dysfunction, and difficulties with sexual arousal and satisfaction. Anxiety, on the other hand, can contribute to performance anxiety and exacerbate sexual dysfunction. The psychological impact of these conditions can be profound, affecting intimate relationships and overall quality of life. The dual challenge of managing both alcohol dependence and associated psychiatric comorbidities requires a comprehensive treatment approach that addresses both the substance use and the underlying mental health issues to improve overall well-being and sexual health.⁹
- **Singh et al. (2023)** conducted a study on seventy male subjects hospitalized in a tertiary care hospital for the treatment of alcohol dependence syndrome with simple withdrawal symptoms, all of whom provided informed consent. Their sexual function was assessed using a 14-item Changes in Sexual Functioning Questionnaire. The study findings revealed a high prevalence of sexual dysfunction (75.7%) among alcohol-dependent individuals, with erectile dysfunction being the most common issue, followed by diminished sexual desire and premature ejaculation.¹⁰

- **Rohilla et al. (2020)** conducted a cross-sectional descriptive study on 70 alcohol- dependent (AD) men and an equal number of matched controls and their spouses at the Department of Psychiatry, Jawahar Lal Nehru Medical College, Ajmer. The study assessed withdrawal state and severity of alcohol dependence in the AD group using the Clinical Institute Withdrawal Assessment of Alcohol Scale, Revised, and the Severity of Alcohol Dependence Questionnaire (SADQ). Marital satisfaction and various aspects of sexual functioning were evaluated in both groups using the Marital Adjustment Test (MAT) and the Arizona Sexual Experience Scale (ASEX). Findings revealed that 58.6% of AD men experienced sexual dysfunction, significantly higher than the 18.5% in the control group, with erectile dysfunction (70%) and impaired arousal (62.8%) being the most common issues. A strong negative correlation was observed between MAT scores and SADQ ($p = -0.68$), as well as between MAT scores and ASEX ($p = -0.57$), indicating that greater alcohol dependence severity was associated with poorer marital satisfaction and higher sexual dysfunction. However, no significant association was found between the duration of alcohol use and marital satisfaction.¹¹
- **Soni et al. (2024)** conducted a cross-sectional study at the outpatient Department of Psychiatry of a tertiary teaching hospital to assess the prevalence and types of sexual dysfunction in male patients with alcohol dependence. Socio-demographic details and alcohol-related clinical variables were collected using a structured proforma, while the severity of alcohol dependence was measured using the Alcohol Dependence Scale (ADS). The presence of sexual dysfunction was evaluated with the Arizona Sexual Experience Scale (ASEX), and specific dysfunction types were identified using the Sexual Dysfunction Checklist (SDC) based on ICD-10 criteria. Among 170 male participants with a mean age of 35.84 years, the prevalence of sexual dysfunction was 67.06%, with loss of sexual desire being the most common issue, followed by erectile dysfunction, frequency dissatisfaction, and premature ejaculation. Most participants experienced one or more forms of sexual dysfunction. A statistically significant positive correlation was found between ADS and ASEX scores, indicating that higher alcohol dependence severity was associated with greater sexual dysfunction.¹²

AIM & OBJECTIVES:

AIM: To assess the incidents of sexual dysfunction in male patients with alcohol dependence syndrome and to explore the relationship between severity of alcohol dependence and sexual dysfunction.

PRIMARY OBJECTIVE: To evaluate the clinical profile of sexual dysfunction in patients with alcohol dependence.

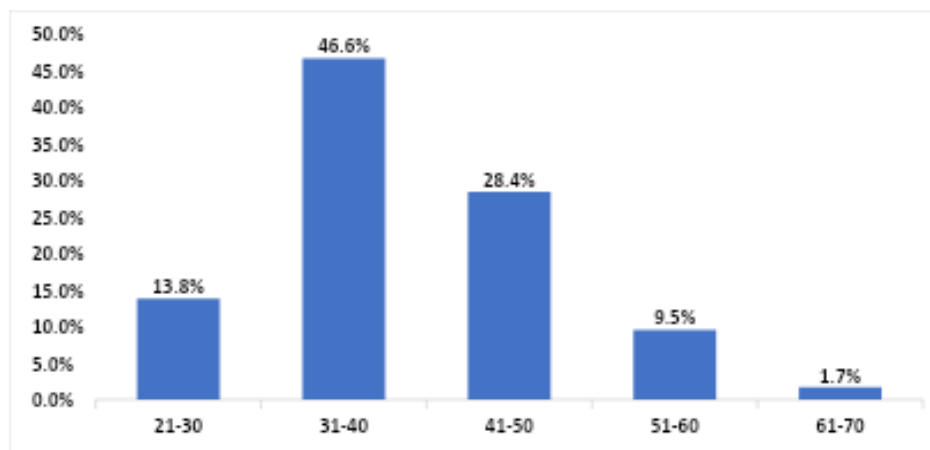
SECONDARY OBJECTIVES: To explore the relationship between severity of alcohol dependence and sexual dysfunction and also to know the prevalence of ED (erectile dysfunction).

3. MATERIALS AND METHODS

This cross-sectional observational study was conducted at the School of Medical Sciences and Research, Greater Noida (May 2023–November 2024). Using the Cochran formula, 116 men (18–50 years) with alcohol dependence and heterosexual partners were included. Exclusion criteria comprised prior sexual dysfunction, pelvic trauma, psychiatric disorders, chronic illnesses, or medications affecting sexual function. Diagnosis followed ICD-11 criteria. Sexual dysfunction severity was assessed using SADQ and CSF-MQ questionnaires. Socio-demographic data were recorded. Data were analyzed using SPSS v22, with qualitative data assessed via the chi-square test. A p-value of ≤ 0.05 was considered statistically significant. Written informed consent was obtained.

4. RESULT

The study included 116 male alcohol-dependent participants, mostly aged 31–40 years.

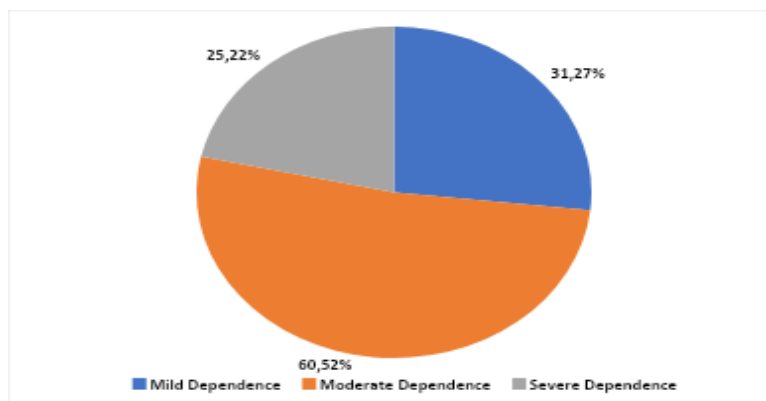


Sexual Dysfunction among Study Participants

Sexual Dysfunction	Present n (%)	Absent n (%)
Dysfunction in Sexual Desire/Frequency	76 (65.5)	40 (34.5)
Dysfunction in Sexual Arousal/Excitement	86 (74.1)	30 (25.9)
Overall Sexual Dysfunction	104 (89.7)	12 (10.3)

Sexual dysfunction was highly prevalent, with 89.7% affected. Issues included desire (65.5%), interest (55.2%), pleasure (63.8%), arousal (74.1%), and orgasm (75.0%).

Alcohol Dependence among Study Participants



Alcohol Dependence Based on SADQ-C	n (%)
Mild Dependence	31 (26.7)
Moderate Dependence	60 (51.7)
Severe Dependence	25 (21.6)

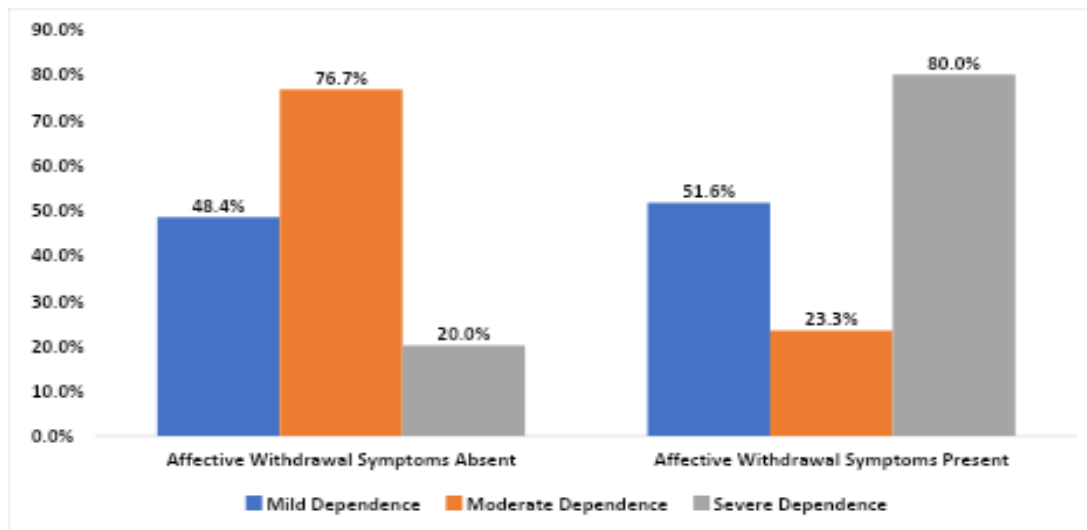
Alcohol dependence severity was assessed using SADQ-C; 51.7% had moderate dependence, 26.7% mild, and 21.6% severe, indicating significant prevalence.

Association between Affective Withdrawal Symptoms and Alcohol Dependence Based on SADQ-C

Affective Withdrawal Symptoms	Mild Dependence n (%)	Moderate Dependence n (%)	Severe Dependence n (%)	Total n (%)
Absent	15 (48.4)	46 (76.7)	5 (20.0)	66 (56.9)
Present	16 (51.6)	14 (23.3)	20 (80.0)	50 (43.1)
Total	31 (100.0)	60 (100.0)	25 (100.0)	116 (100.0)
P value	<0.001*			

Affective withdrawal symptoms increased with alcohol dependence severity. Overall, 43.1% experienced symptoms, with the highest prevalence (80.0%) in severe dependence cases ($p = 0.000$).

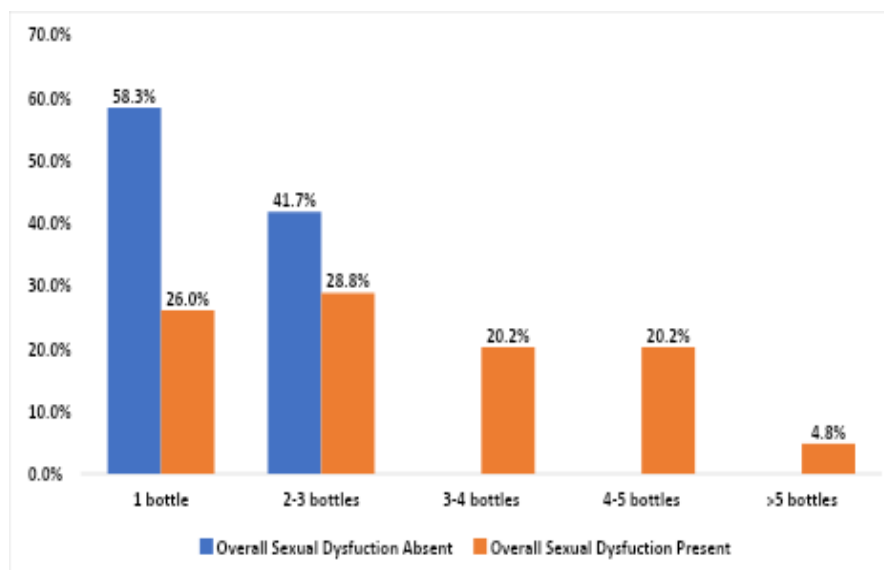
Affective Withdrawal Symptoms and Alcohol Dependence Based on SADQ-C



Association between Daily Alcohol Consumption and Overall Sexual Dysfunction

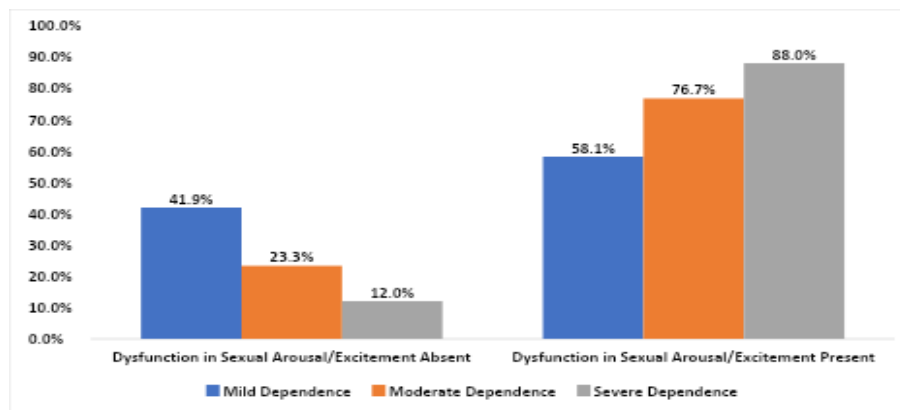
Daily Alcohol Consumption	Overall Sexual Dysfunction Absent n (%)	Overall Sexual Dysfunction Present n (%)	Total n (%)
1 bottle	7 (58.3)	27 (26.0)	34 (29.3)
2-3 bottles	5 (41.7)	30 (28.8)	35 (30.2)
3-4 bottles	0 (0.0)	21 (20.2)	21 (18.1)
4-5 bottles	0 (0.0)	21 (20.2)	21 (18.1)
>5 bottles	0 (0.0)	5 (4.8)	5 (4.3)
Total	12 (100.0)	104 (100.0)	116 (100.0)
P value	0.043		

Higher alcohol consumption was significantly associated ($p = 0.043$) with sexual dysfunction, with increased prevalence among those consuming over three bottles daily.



Daily Alcohol Consumption and Overall Sexual Dysfunction Association between Dysfunction in Sexual Arousal/Excitement and Alcohol Dependence (SADQ-C)

Dysfunction in Sexual Arousal/Excitement	Mild Dependence n (%)	Moderate Dependence n (%)	Severe Dependence n (%)	Total n (%)
Absent	13 (41.9)	14 (23.3)	3 (12.0)	30 (25.9)
Present	18 (58.1)	46 (76.7)	22 (88.0)	86 (74.1)
Total	31 (100.0)	60 (100.0)	25 (100.0)	116 (100.0)
P value	0.032			



Sexual arousal dysfunction increased with alcohol dependence severity ($p = 0.032$), affecting 58.1% with mild, 76.7% with moderate, and 88.0% with severe dependence.

Dysfunction in Sexual Arousal/Excitement and Alcohol Dependence Based on SADQ-C

Comparison of CSFQ-M-C with Overall Sexual Dysfunction

Overall Sexual Dysfunction	CSFQ-M-C Score
Absent	48.8 ± 1.8
Present	36.0 ± 6.0
Total	37.3 ± 6.9
P value	$<0.001^*$

CSFQ-M-C scores differed significantly ($F = 54.36$, $p < 0.001$); higher in individuals without sexual dysfunction (48.8 ± 1.8) than those affected (36.0 ± 6.0).

Comparison of SADQ-C Scores with Overall Sexual Dysfunction

Overall Sexual Dysfunction	SADQ-C Score
Absent	11.9 ± 1.4
Present	23.4 ± 7.3
Total	22.2 ± 7.8
P value	$<0.001^*$

Similarly, SADQ-C scores were significantly higher in individuals with overall sexual dysfunction (23.4 ± 7.3) compared to those without sexual dysfunction (11.9 ± 1.4) (F

$= 29.20$, $p < 0.001$).

Comparison of Sexual Function Scores and Alcohol Dependence Severity (SADQ-C)

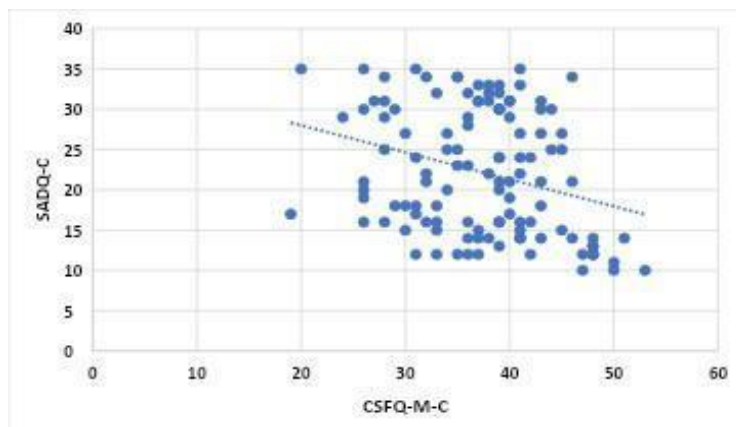
Variable	Mild (Mean \pm SD)	Moderate (Mean \pm SD)	Severe (Mean \pm SD)	Total (Mean \pm SD)	P-value
Sexual Desire/Frequency Score	6.4 \pm 2.5	5.6 \pm 2.6	6.4 \pm 2.6	6.0 \pm 2.6	0.252
Sexual Desire/Interest Score	10.9 \pm 3.3	8.9 \pm 3.7	8.4 \pm 4.1	9.3 \pm 3.8	0.019*
Sexual Pleasure Score	3.2 \pm 1.3	2.9 \pm 1.4	2.4 \pm 1.4	2.9 \pm 1.4	0.152
Sexual Arousal/Excitement Score	11.4 \pm 3.3	9.0 \pm 4.0	8.8 \pm 3.9	9.6 \pm 4.0	0.012*
Sexual Orgasm/Completion Score	10.3 \pm 3.7	9.2 \pm 3.8	9.3 \pm 3.5	9.5 \pm 3.7	0.422
CSFQ-M-C Score	42.2 \pm 6.5	35.7 \pm 6.3	35.4 \pm 6.0	37.3 \pm 6.9	<0.001*
SADQ-C Score	12.9 \pm 1.5	22.6 \pm 4.8	32.7 \pm 1.5	22.2 \pm 7.8	<0.001*

Sexual desire ($p = 0.019$) and arousal ($p = 0.012$) scores declined with alcohol dependence severity. Severe dependence correlated with worse sexual function ($p < 0.001$).

Correlation between CSFQ-M-C and SADQ-C Scores

Variable	Pearson Correlation (r)	P value	N
SADQ-C Score	-0.298	0.001	116

Pearson correlation showed a significant negative relationship ($r = -0.298$, $p = 0.001$) between alcohol dependence severity and sexual function, indicating greater dysfunction with increased dependence.



Correlation between CSFQ-M-C and SADQ-C Scores

Strengths of the Study:

This study provides valuable insights into the often-overlooked relationship between alcohol dependence and sexual dysfunction, addressing an important but underreported health issue. By utilizing validated tools such as the SADQ and CSF-MQ, the study ensures objective and reliable data collection. The inclusion of a relatively large sample size enhances the generalizability of the findings. Furthermore, the study highlights specific types of sexual dysfunction, providing a detailed understanding of how alcohol dependence affects different aspects of sexual health. The correlation analysis strengthens the evidence linking the severity of alcohol dependence to worsening sexual dysfunction, reinforcing the importance of integrating sexual health assessments into the routine care of individuals with alcohol dependence.

Limitations of the Study:

This study has limitations, including its cross-sectional design, self-reported data, and regional focus. Unexamined factors like comorbidities and lifestyle habits may impact findings. A larger, diverse sample and longitudinal research could strengthen future studies on alcohol dependence and sexual dysfunction, providing a more comprehensive understanding of influencing variables.

Conclusion:

This study highlights a strong correlation between sexual dysfunction and alcohol dependence severity in men. Most participants (89.7%) reported sexual dysfunction, with 74.1% experiencing arousal issues and 76.7% facing erectile dysfunction (ED). Alcohol dependence negatively affects blood flow, hormones, and nerve function, worsening ED. Psychological factors like stress and depression further contribute. Healthcare providers should integrate sexual health assessments into alcohol dependence treatment. Addressing ED through counseling, medical interventions, and alcohol reduction can enhance well-being. Future research should examine whether prolonged abstinence improves ED and explore targeted treatments for affected individuals.

Summary:

This study investigates the link between alcohol dependence and sexual dysfunction in men, highlighting a significant correlation between the two. A majority of participants (89.7%) experienced some form of sexual dysfunction, with erectile dysfunction being the most common. The severity of alcohol dependence, measured using the SADQ, was found to be directly associated with the extent of sexual dysfunction. Factors such as rural domicile and employment status were also found to influence both conditions. While this study offers valuable insights, its limitations include reliance on self-reported data and the inability to establish causation due to its cross-sectional design. These findings stress the importance of integrating sexual health assessments into routine care for individuals with alcohol dependence and call for further research with larger sample sizes and longitudinal methodologies.

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