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Original Research Article

Sexual Dysfunction in Male Patients with Alcohol Dependence Syndrome - A Clinical Study

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Abstract

Introduction: Sexual dysfunctions are defined as disorders which are heterogenous in nature and are mostly characterised in the form of clinical disturbance in the ability of an individual to respond to sexual experiences and pleasures (DSM5). Alcohol dependence syndrome is characterized by strong desire to take alcohol, impaired control over drinking behaviour, tolerance's evidence, harmful use of alcohol, physiological withdrawal state, preoccupation with substance use. This association between sexual dysfunction and consumption of alcohol is complicated in nature. In this regard, it can be said that almost all aspects of sexual response by a human being are significantly influenced due to alcohol consumption.

Methods: Our study included 60 participants (30 Cases and 30 Controls). Cases were patients from De-addiction ward, and controls from relatives of patients. All 60 participants were subjected to Socio-demographic profile matching and assessed for the prevalence and pattern of sexual dysfunction among patients with alcohol dependence syndrome, in comparison with non-alcoholics by administering different questionnaires and inventories.

Result: There is no statistical difference among the case and control group was found with domain of IIEF. But, on the other hand, researcher found a statistically significant difference in the domains of Intercourse satisfaction (IS), Sexual Desire (SD), Orgasmic Function (OF), and Overall Satisfaction (OS) among the case and control groups. From the analysis, it can be said that intercourse satisfaction, sexual desire, overall satisfaction, and orgasmic function are significantly lower among the patients with alcohol dependence syndrome, as compared with the people who do not drink alcohol.

Conclusion: As sexual functioning is significantly affected by alcohol, proper screening for sexual functioning of all patients with alcohol dependence syndrome can result in better prognosis and quality of life of those patients.

Keywords: Sexual Dysfunction, Alcohol Dependence Syndrome.

Introduction

Sexual dysfunctions are heterogeneous group of problems that are regularly portrayed by a clinically critical aggravation in an individual's capacity to react sexually or to experience sexual pleasures (DSM 5). ICD 10 characterizes sexual dysfunction as when the subject cannot participate in a sexual relationship as the person in question ought to wish[1]. Sexual capacity includes a complicated interactions among biological, socio-social and mental variables. A sexual dysfunction finding requires precluding issues that are better clarified by a nonsexual mental problem, by the impact of a substance, by an ailment, by extreme relationship trouble, accomplice viciousness or different stressors. Almost all the substances affect in one way, or another sexual functioning of a person and alcohol has been frequently associated with it.

One of the widely studied and researched as well as a common illness among all the psychiatric disorders is that of alcohol dependence. Strong desire to consume alcohol is one of the characteristics of this illness, along with impaired control with regards to drinking. Other commonly known characteristics are substance use, harmful use of alcohol and physiological withdrawal state[1].

There is a complicated relationship between sexual dysfunction and alcohol consumption. It can have a negative impact on all aspects of human sexual response. For instance, there is a decline in the desire for sex, further, sexual performance is characterised as premature ejaculation and lack of erection, along with overall dissatisfaction [2]. Due to consumption of alcohol, alteration of HPG axis function, neuro-toxic effects and many more[3].

One of the key factors that lead to sexual dysfunction is chronic alcohol abuse. Interpersonal issues between the partners and significant distress are some of the commonly found problems and issues among such individuals. It is because of this very reason; such individuals end up being stuck in an endless loop of sexual dysfunction and alcohol abuse. In addition to this, changes in sexual capacity are also one of the outcomes of chronic alcohol abuse. These issues tend to persist even when alcohol has been totally taken out from the framework. It has been observed that reversible vagal neuropathy could be one of the reasons for sexual dysfunction, and restraint can be helpful in reversing the issue of sexual dysfunction.

Many of the past studies have focused on identifying the various physical and mental issues because of alcohol consumption. However, very few investigations have focused on evaluating the impact of alcohol on sexual functioning. The current study aimed to fill this gap. Furthermore, the studies that have assessed the impacts of alcohol consumption mainly focused on aspects like erectile dysfunction but did not focus on assessing other aspects of sexual dysfunction. Therefore, the current study focused on evaluating different aspects of sexual dysfunction in alcoholic patients and compared the results with that of non-alcoholics. By using these results, doctors and medical experts can determine ways to reduce such issues and increase the personal satisfaction.

Hypothesis

Prevalence of sexual dysfunction is higher among the persons with alcohol dependence compared to non alcoholics

Aim and Objective

- To assess the prevalence and pattern of sexual dysfunction among patients with

alcohol dependence syndrome, in comparison with non alcoholics.
- To assess the pattern of sexual dysfunction in relation to duration of alcohol consumption.

Material and Methods

Study Design: It was a mono-centric, cross sectional case control study.

Study Approval: The study was approved by the Institutional Ethical Committee of the Mental Health Institute, MHI, S.C.B Medical College and Hospital, Cuttack, Odisha. Informed written consent was mandatorily obtained from the participants before participating in the study.

Study Place: The study was conducted in only one center i.e., Department of Psychiatry, Mental Health Institute, MHI, S.C.B Medical College and Hospital, Cuttack, Odisha.

Study Duration: September 2018 to August 2019.

Sample Size: A total of 60 participants were included in this study. Study Group or Case Group consisted of 30 cases from patients admitted for De-addiction treatment Department of Psychiatry, Mental Health Institute, MHI, S.C.B Medical College and Hospital, Cuttack and Control Group consisted of 30 participants from relatives of patients admitted in both Psychiatry and De-addiction ward.

Inclusion Criteria

- Patients between age group of 18-50 years (Male)
- Patient meeting the criteria for Alcohol Dependence Syndrome as per ICD-10
- People who are not taking alcohol from last one year and not having evidence of alcohol dependence before chosen as control for control group.

Exclusion Criteria

- Patients with previous history of clinical ailment and mental sickness or history of mental impediment and dementia.
- Substance use other than alcohol for cases and any substance use for controls.
- Chronic drug history and consumption. Some of these issue cause sexual disorder like antipsychotics, antidepressants, anti-hypertensive, steroids, and others.

Study Procedure:

Informed written consent was obtained from all the 60 participants (30 Cases and 30 Controls). All 30 Cases were needed to fulfill criteria for Alcohol Dependence Syndrome in ICD-10 Research Diagnostic Criteria (WHO). Socio-demographic profile of all 60 subjects was recorded in the semi-structured proforma. Alcohol use disorders and various domains of sexual dysfunctions were identified by administering different questionnaires and inventories. (Figure 1)

Instruments Used:

- Proforma for socio-demographic data

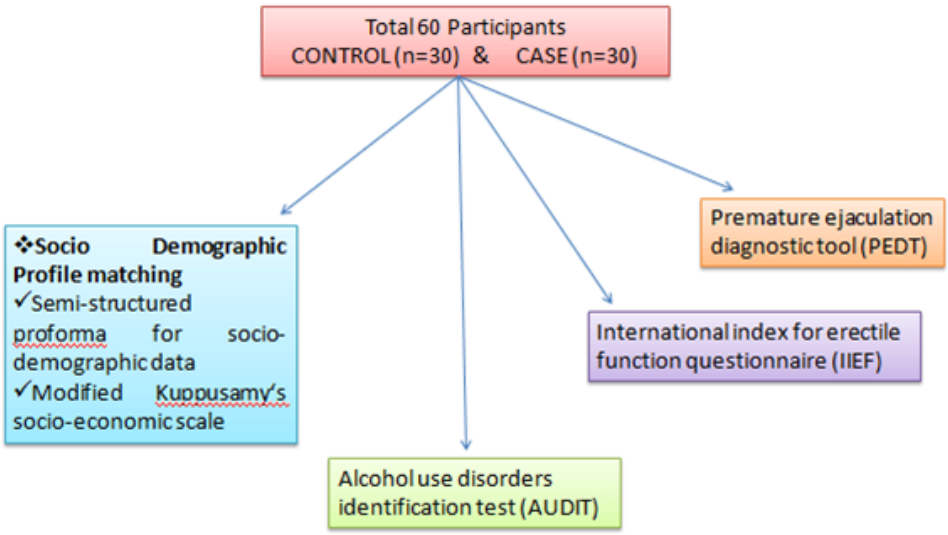

Figure 1: Schematic representation of Study Procedure

- **Socio-Economic Scale (S. E. Gupat and B.P. Sethi 1978, Kuppusamy 1961)**:- This scale was devised by Kuppuswamy and consists of composite score, which includes the education and occupation of head of the family along with income per month of the family, which yields a score of 3-29. This scale classifies the study population into 5 SES: upper, upper middle, lower middle, upper lower, lower.
- **Alcohol Use Disorders Identification Test (AUDIT)**: - The AUDIT (Babor et al. 2001) [4] focused on evaluating three key domains included in the ICD-10 for disorders related to alcohol use. They are harmful drinking, alcohol dependence and hazardous drinking. Further the ten-item core self-report or clinician-administered covered three different areas of drinking, they are as follows:
  - Quality and frequency of alcohol use which indicates hazardous use of alcohol (item 1-3)
  - Indicators of dependence (items 4-6)
  - Adverse consequences suggesting harmful use (items 7-10). The items were scored on 004 scale (0 being 'never' and 4 being 'daily or almost daily) for most of the items added together; and the total score ranged from 0-40.
- **International Index of Eretile Functioning (IIEF)[5]**:- It is a 15 item self-report inventory which was designed with the purpose of providing brief, valid and reliable measure of erectile function and capacity[5]. Erectile function, Sexual desire, Orgasmic function, Overall satisfaction and Intercourse satisfaction are the five key domains for measuring IIEF. Different screening studies[5] focusing on erectile dysfunction by using Erectile Function domain determined a score of 25 as cut-off for erectile dysfunction. Here specificity came out to be 0.88 and sensitivity was 0.97.
- **Premature Ejaculation Diagnostic Tool (PEDT)[6]**:- It is a commonly used and accepted tool that was developed with the objective of standardizing the diagnosis of premature ejaculation in research studies. One of the main purposes of the tool was find out the main constituents of DSM IV-TR, including the likes of frequency, distress, control, interpersonal difficulties, and minimal sexual stimulation. Cut-off score for premature ejaculation was set to

be 11; and therefore, any score above the cut-off point was interpreted as definite PE, while scores of nine and ten were termed as borderline PE. Scores of eight and below showed low likelihood of PE [7] among the patients.

Statistical Analysis: Participants from the two groups were matched with regards to their socio-demographic profiles. This was done to identify the confusing variables by using the chi-square and t-tests. Results of the two groups were compared to identify the prevalence of sexual dysfunction among the participants with respect to their dependence on alcohol by using respective tests of significance. SPSS software (version 20) was used to perform the statistical analysis, while p-values less than 0.05 ($p<0.5$) was termed as being statistically significant.

Result & Analysis

Table 1: Table Showing Socio-Demographic Profile of Cases and Controls

S. No.	Variables	Case (=30)		Control (N=30)		Statistical results
		N	%	N	%	
1	**Age** Below 32 32-42 43 and above	 6 18 6	 20 60 20	 7 17 6	 23.3 56.7 20	X^2 - 0.0185 df – 2
2	**Education** Below primary High school and above	 17 13	 73.3 26.7	 18 12	 60 40	X^2 - 0.069
3	**Locality** Urban Rural	 22 8	 73.3 26.7	 15 15	 50 50	X^2 - 3.455
4	**Occupation** Semiskilled Skilled Business	 8 14 8	 26.7 46.7 26.7	 10 9 11	 33.3 30 36.7	X^2 – 01.783 df – 2
5	**Income** Below 5000 5000-10000 Above 10000	 5 18 7	 16.7 60 23.3	 5 17 8	 16.7 56.7 26.7	X^2 – 0.095 df – 2
6	**Religion** Hindu Non Hindu	 26 4	 86.7 13.3	 27 3	 90 10	X^2 – 0.162

***P < 0.05**

Socio-Demographic profiles of the Case and Control Groups were matched for age, education, locality, occupation, income and religion (Table-1). There was no statistically significant difference between the Case and Control Groups with regard to Socio-Demographic profile matching.

Table 2: Sexual dysfunction

S. No.	Prevalence	Case (%)	Control (%)
1.	At least one sexual dysfunction	76.6	36.6
2.	More than one sexual dysfunction	63.3	23.3

The current study determined occurrence of at least one sexual dysfunction among case (76.6%) which is higher than that of control (36.6%). Furthermore, occurrence of more than one sexual dysfunction in case (63.3%) came out to be higher than that of control (23.3%). [Table 2 and Figure 2].

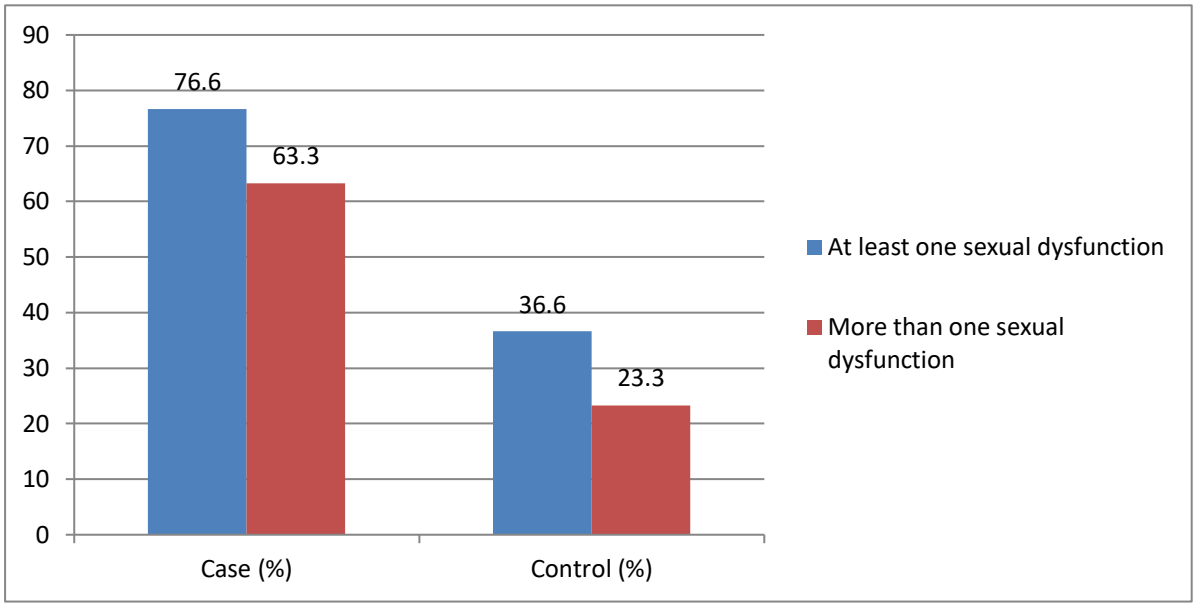

Figure 2: Sexual dysfunction case control

Table 3: Sexual Dysfunctions in different Domains

S. No.	Variables		Case (N=30)		Control (N=30)		Statistical results
			N	%	N	%	
1	IIEF: EF	Dysfunction	12	40	6	20	X^2 =2.857
		No dysfunction	18	60	24	80	df =1
2	IIEF: IS	Dysfunction	19	63.3	5	16.7	X^2=13.611*
		No Dysfunction	11	36.7	25	83.3	df = 1
3	IIEF: OF	Dysfunction	9	30	2	6.7	X^2 = 5.455*
		No Dysfunction	21	70	28	93.3	df =1
4	IIEF: SD	Dysfunction	13	43.3	2	6.7	X^2=10.756*
		No Dysfunction	17	56.7	28	93.3	df = 1
5	IIEF: OS	Dysfunction	15	50	5	16.7	X^2 = 7.500*
		No Dysfunction	15	50	25	833	df = 1
6	PEDT	Present	11	36.7	8	26.7	X^2 = 0.693
		Absent	19	63.3	22	73.3	df – 1

From table 3 it can be seen that a comparison of the five main domains for measuring IIEF was carried out among the case and control group. There is no statistical difference among the case and control group was found with domain of IIEF. But, on the other hand, researcher found a statistically significant difference in the domains of Intercourse satisfaction (IS), Sexual Desire (SD), Orgasmic Function (OF), and Overall Satisfaction (OS) among the case and control groups. As per table 3, no vast difference between case (63.3%) and control (73.5%) can be found with

regards to premature ejaculation. In addition, researcher did not find any significant difference.

Table 4: Comparison of Sexual Dysfunction in various Domains between Case and Control

S. No.	Variables	Case (N=30)		Control (N=30)		$-t^z$ Value
		Mean	SD	Mean	SD	
1	IIEF: EF	24.17	6.35	26.53	4.46	-1.644
2	IIEF: IS	10.40	3.11	13.13	2.04	-4.018*
3	IIEF: OF	8.40	2.19	9.83	0.53	-3.483*
4	IIEF: SD	8.33	1.62	9.43	1.04	-3.122*
5	IIEF : OS	7.70	2.27	9.17	1.39	-3.011*
6	Premature ejaculation	6.63	5.95	4.45	3.04	1.802

On the basis of findings of the Table-4, it can be said that intercourse satisfaction, sexual desire, overall satisfaction, and orgasmic function are significantly lower among the patients with alcohol dependence syndrome, as compared with the people who do not drink alcohol

Table 5: Audit score among cases

S. No.	VARIABLE			AUDIT SCORE
1.	ERECTILE FUNCTION	DYSFUNCTION (n=12)	Mean	30.92
			SD	4.11
		NON-DYSFUNCTION (n=18)	Mean	28.06
			SD	4.58
		_t' VALUE		-1.702
2.	INTERCOURSE SATISFACTION	DYSFUNCTION (n=19)	Mean	30.68
			SD	3.84
		NON-DYSFUNCTION (n=11)	Mean	26.64
			SD	4.98
		_t' VALUE		**2.492***
3.	ORGASMIC FUNCTION	DYSFUNCTION (n=9)	Mean	30.89
			SD	4.86
		NON-DYSFUNCTION (n=21)	Mean	28.48
			SD	4.49
		_t' VALUE		-0.310
4.	SEXUAL DESIRE	DYSFUNCTION (n=12)	Mean	32.23
			SD	3.37
		NON-DYSFUNCTION (n=18)	Mean	26.88
			SD	4.19
		_t' VALUE		**-3.757***
5.	OVERALL SATISFACTION	DYSFUNCTION (n=15)	Mean	29.67
			SD	4.68

		NON-DYSFUNCTION (n=15)	Mean	28.73
			SD	4.62
		_t' VALUE		-0.542
6.	**PREMATURE EJACULATION**	PRESENT (n=11)	Mean	30.91
			SD	4.68
		ABSENT (n=18)	Mean	28.21
			SD	4.47
		_t' VALUE		1.568

***P < 0.05**

Table 6: Table Showing Correlation Matrix for The Selected Subject Variable

VARIABLES	DURATION OF ALCOHOL CONSUMPTION
IIEF: EF	-0.011
IIEF: IS	-0.164
IIEF: OF	0.072
IIEF: SD	-0.287
IIEF: OS	-0.02
PEDT	0.052

A negative association between erectile function, sexual desire, overall satisfaction, and intercourse satisfaction domains of IIEF and duration of alcohol consumption was observed [r = -0.011, -0.287, -0.02, and -0.164, respectively]. This means an increase in the scores of sexual desire and intercourse satisfaction can be observed with the duration of alcohol consumption, while scores of overall satisfactions tend to decrease. On this basis, it can be said that if the duration of alcohol consumption is having no significant difference. (Tables 5 and 6).

The study further revealed a positive relationship between orgasmic function domains of IIEF, PEDT and duration of alcohol consumption [r = 0.052 and 0.072, respectively]. Therefore, the scores of premature ejaculation and orgasmic function also increases. (Table 6).

During the study, it was determined that there is a positive relationship between alcohol consumption duration and orgasmic function domains of IIEF and PEDT, with r = 0.072, r=0.052 respectively. This indicates that with an increase in the consumption of alcohol, orgasmic function and premature ejaculation also increases. Further, with an increase in the duration of alcohol consumption, the orgasmic dysfunction will increase along with premature ejaculation. As per Table 6, there was no significant relationship found.

Discussion

Even though there have been several international studies, but there is a significant dearth of Indian studies that have focused on linking sexual dysfunction and consumption of alcohol. Even more, there are very few Indian studies that have compared sexual dysfunction and alcohol consumption with that of non-alcoholics. In addition, those Indian studies that have focused on the said topic have only emphasised on erectile function only. Therefore, there has been a lack of Indian studies focusing on other aspects of sexual functioning such as sexual satisfaction, sexual desire, orgasmic function, and ejaculation function. In the current study, samples in the control and case groups were well-matched in all the aspects of their socio-demographic profiles.

During the current study, it was found that more than 75% of participants dependent on alcohol and have a kind of sexual disorder. It was considered higher in the results obtained in the control group, only 36%. Results of Jenson et al (1984) [8], were similar to that of the current study. They found control (10%) patients with dysfunction. Both Bijil Simon et al (2007) [9] and Vijayasenan (1981) [10]respectively found that 72% and 71% alcoholics had occurrence of one type of disorder due to high consumption of alcohol, which is also similar to that of the current results.

The current findings can be compared with the results of Fahrner (1987) [11] who also found that there is prevalence of sexual dysfunction in at least 75% of the alcoholics. Similarly, Mandel et al (1983) [12] found 83% occurrence of sexual discomfort, which is a little higher than results of the current findings. This indicates that alcohol abuse is a little more than that of the current study. On basis of these findings, it can be said that alcoholics have a higher chance of having at least one sexual dysfunction than compared to that of the non-alcoholics.

The current study further determined that occurrence of sexual discomfort in the same individual is 62% among alcoholics and 24% in non-alcoholics, indicating the alcohol addicted people have some type of sexual dysfunction than that of non-alcoholics. This result can be compared with the findings of Bijil Simon et al (2007)[9]. The authors found that 49% alcoholics have more than one sexual dysfunction, while Fahrner (1984)[11] found that 44% have two or more types of sexual disorder.

One of the common sexual dysfunctions found in the current study among the alcoholics is sexual dissatisfaction (62%). Orgasmic dysfunction was found to be among the least common sexual issue found in the study of Bijil Simon et al (2007)[9]. Premature ejaculation (27%) is a commonly found sexual dysfunction among non-alcoholics, as found in the current study while assessing the research work of Carson et al (2006) [13]. The authors found that premature ejaculation is one of the most common sexual dysfunctions in the world and is found among majority of the people. On the other hand, the least common sexual dysfunction in the world among non-alcoholics was found to be sexual desire and organismic dysfunction (7% each).

During the current study, while comparing the issue of erectile dysfunction among alcoholics and non-alcoholics, it was observed that occurrence of dysfunction is higher among alcoholics (40%) than the control group (20%). These findings are not significantly different than the results of Bijil Simon et al (2007) [9] and Fahrner (1984)[11]. Their results can be compared with findings of the current study. The authors respectively found that the prevalence of erectile dysfunction is 33% and 21%; however, each of their studies did not compare the same with that of the non-alcoholics. Other studies, such as Chen et al (2004) [14] and Verma et al (1998) [15] found variance from 12% to 26% respectively in prevalence of erectile dysfunction in the general population.

The occurrence of alcoholic dysfunction (63%) was higher than that of the control group (17%). It was further found in the study that this difference is statistically significant, indicating that alcohol consumption has an adverse impact on intercourse satisfaction. This result can be compared with the findings of Boer et al (2004) [16] has determine s significant relationship between sexual dissatisfaction and high consumption of alcohol.

According to analysis, the dysfunction was (30% and control group (6.7%). This finding can be compared with that of Boer et al (2004) [16] who determined significant association between orgasmic

function and higher alcohol consumption. As per the current study, there is 43.3% prevalence of reduced sexual desire in alcoholics and 6.7% in the control group.

During the current study, more prevalence of premature ejaculation (36.7%) was found with regards to alcohol dependents than that of the control (26.7%). However, no statistically significant difference was found during the study. These findings are different from the results of Fahrner (1984)[11] and Vijayasenan (1981) [10] as they both found premature ejaculation to be the least reported dysfunction among the patients.

The International Index of Erectile Function (IIEF) measures and analyses the functioning of different sexual dysfunction domains. Lower scores of IIEF indicates higher sexual dysfunction. In the current study, the average score of erectile function in alcohol dependents (24.17) was found to be lower than the control (26.53), however, this difference was not statistically significant. Therefore, it can be said that instances of erectile dysfunction are higher in alcoholics than control, but it is not statistically significant. From the analysis it is came out to be significantly lower than that of control (13.13, 9.83, 9.43, and 9.17 respectively).

In **Premature Ejaculation Diagnostic Tool (PEDT)**, indicates that premature ejaculation is higher among alcoholics than control, but this difference is not statistically significant.

Audit: Yet no significance is found in experiences. Our survey resembles the disclosures of Rosen et al (2003)[17] who saw that the more essential amount, recurrence and span of drinking were connected with erectile dysfunction.

During the study it was also found that out of all the sexual dysfunction in alcoholics, people had higher AUDIT scores as compared with alcoholics without such sexual dysfunctions. The study further revealed that alcoholics who have orgasmic dysfunction, premature ejaculation, and overall dissatisfaction tend to have higher AUDIT scores than those alcoholics with the relevant sexual dysfunctions. [18]

Limitation

- From the analysis the clinic setting, and the quantity of tests was low. So, the current results not comparable to general population.
- Estimation of endocrinological factors identified with sexual dysfunctions could give more important information in regard to this review which was impractical in our setting.

Conclusion

On basis of the above findings, it can be concluded that there is higher prevalence of sexual dysfunction in multiple domains among alcoholics than that of control. The most common sexual dysfunction among the alcoholics was found to be intercourse dissatisfaction, while the most common sexual dysfunction in non-alcoholics was premature ejaculation. The study further revealed that intercourse dissatisfaction, orgasmic dysfunction, overall dissatisfaction, and low sexual desire were significantly higher among alcoholics, while no difference in erectile dysfunction and premature ejaculation was observed in the current study. As sexual function is fundamentally influenced by alcohol, legitimate evaluating for sexual function of all the patients with alcohol dependence disorder can bring about better anticipation and personal satisfaction of those patients. Accentuation should be laid upon the historical backdrop of sexual working of a patient with liquor reliance condition, which many on occasion gets disregarded in a bustling OPD.

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