



Erectile dysfunction and severity of alcohol dependence

SEENIVASAN M MANIKAM

Department of Psychiatry, STANLEY MEDICAL COLLEGE AND HOSPITAL

Abstract : It was reported that long-term and high amount of alcohol consumption cause sexual dysfunction in men. Men with alcohol dependence (AD) commonly suffer from alcohol-induced sexual (erectile) dysfunction (ED). We aimed to assess the prevalence of erectile dysfunction in male subjects with alcohol dependence and severity of alcohol dependence. We also aimed to assess association between severity of alcohol dependence and erectile dysfunction. In our study Forty four male subjects who came for treatment in psychiatric department with a diagnosis of alcohol dependence syndrome with simple withdrawal symptoms (F10.30, ICD-10 criteria) were assessed for erectile dysfunction by using International Index of Erectile Function (IIEF) and alcohol dependence by using severity of alcohol dependence questionnaire (SADQ). In our study the mean total IIEF score of 44 patients was 54.36.

The mean erectile function score of 44 patients was 23.36. Twenty nine patients (65.9) had erectile dysfunction. The patients were divided into three groups by SADQ scores as mild (n2, 4.5), moderate (n24, 54.5), severe (n18, 41) alcohol dependents. Severe alcohol dependent groups had low IIEF scores and erectile function scores than moderate and mild groups. Onset of alcohol drinking, quantity of daily alcohol consumption and severity of alcohol dependence were positively correlated with erectile function domain scores. We concluded that erectile dysfunction may be much more common than is being reported in alcohol dependent males. Heavy alcohol drinking, chronic and persistent and early onset of alcohol drinking in males have more chances of developing erectile dysfunction.

Keyword : alcohol dependence severity, erectile dysfunction

INTRODUCTION

Erectile dysfunction is a condition in which a man is unable to achieve an erection sufficient for sexual intercourse. In some cases the man is able to achieve an erection but unable to maintain it long enough to complete the sexual act. Alcohol is a nervous system depressant and can actually block nerve impulses and messages between the brain and body. During an erection, the penis fills with blood then the vessels close, preventing backflow, so that the penis remains erect. In the short term, overconsumption of alcohol causes the blood vessels in the penis to expand, allowing for more blood flow, but prevents those vessels from closing. As a result, the penis may become erect but not remain so, as there is nothing to prevent backflow. In the long term, overconsumption of

alcohol actually damages the blood vessels and contributes to hypertension and even heart disease, both contributing factors to erectile dysfunction. Chronic and persistent alcohol use is known to induce sexual dysfunction, which leads to marked distress and interpersonal difficulty. This, in turn, is known to worsen the alcohol abuse. Sexual dysfunction in the alcoholic may be due to the depressant effect of alcohol itself, alcohol-related disease or due to a multitude of psychological forces related to the alcohol use. Krupnov AN1 et al says that Endocrine and vasculogenic forms of erectile dysfunction were more frequent in men with alcohol dependence as compared to men without alcohol dependence. As alcohol dependence progresses, the part of organic forms of erectile dysfunction and the number of syndromes which accompany erectile dysfunction increase. Disiz M2, et al reported that 70.3% of participants had a mild (17-25), and 4.4% had a moderate (11- 16) erectile dysfunction. Predictors of erectile dysfunction in chronic alcohol dependent male were determined as age of subject, age of onset for alcohol, duration of alcoholism, and cigarette use.

Lee AC3 et al reported that a total of 816 male subjects aged 31-60 years currently active in sexual activity were examined for erectile dysfunction. Compared with never drinkers, alcohol drinkers who consumed three or more standard drinks (one standard drink equals 12 g of alcohol) a week was more likely to report EDs as defined by having both sexual dissatisfaction and erectile difficulty. Fahrner EM 4 et al says that they examined the prevalence of sexual dysfunction in 101 male alcohol addicts. Three-quarters had erectile dysfunction, loss of libido, and premature or delayed ejaculation. Van Thiel DH5 et al reported that Sixty chronically alcoholic men who were impotent and known to have abstained from alcohol were followed prospectively for spontaneous recovery. Twenty-five percent of the men studied experienced a spontaneous recovery. Indicators of a spontaneous recovery were absence of testicular atrophy and normal gonadotropin responses to luteinizing hormone releasing factor or clomiphene, or both. Bijil Simon Arackal 6, et al reported that One hundred male subjects with a diagnosis of alcohol dependence syndrome were assessed for sexual dysfunction using a sexual dysfunction checklist. Seventy-two per cent had one or more sexual dysfunction, the most common being premature ejaculation, low sexual desire and erectile dysfunction. The amount of alcohol consumed appeared to be the most significant predictor of developing sexual dysfunction. Okulate G 7, et al studied the prevalence of erectile dysfunction in

a sample of 829 Nigerian men, using the International Index of Erectile Function question naire. The prevalence of erectile dysfunction (ED) was 36% in men 30 years and below, 31% in those 31 to 40, 46% in those 41 to 50, and 58% in those 51 to 60. Jensen SB 8 et al reported that Sexual dysfunction in male alcoholic addicts was evaluated in a comparative study of 60 married alcoholics and an age-matched control group from a general practitioner's clinic. 63% of the alcoholic men reported sexual dysfunction - mainly erectile and libido disorders - compared with 10% in the control group. Vijayasanen ME 9 et al found that of 97 male inpatients admitted for the treatment of alcoholism, 71% suffered from sexual dysfunction for a period of more than 12 months prior to admission to a hospital.

The disturbances noted were diminished sexual desire (58%), ejaculatory incompetence (22%), erectile impotence (16%) and premature ejaculation (4%). Mandell W 10 et al says that 44 male volunteers admitted to treatment in alcoholism program were assessed for sexual dysfunction.

Quantity, frequency, and duration of drinking, from onset of regular drinking to present, were related to sexual dysfunctions. During heavy drinking 59% of patients experienced erection dysfunction, 48% reported ejaculation incompetence, and 84.4% had experienced at least one kind of sexual dysfunction. This study has aim to assess the prevalence of erectile dysfunction in male subjects with alcohol dependence and severity of alcohol dependence. This study also has aim to assess association between severity of alcohol dependence and erectile dysfunction.

MATERIALS AND METHODS

Forty four male patients, who came for treatment in psychiatric department of Govt. Stanley medical college hospital, Chennai, with a diagnosis of Alcohol Dependence Syndrome with Simple Withdrawal Symptoms (F10.30, ICD-10 criteria), were recruited for the study. All patients gave informed consent for taking part in the study.

Inclusion criteria:

- A. males between 20-50 years of age
- B. married or had a regular sexual partner
- C. consenting patients

Exclusion criteria;

- A. those having history of primary sexual dysfunction.
- B. Co-morbid physical disorders: diabetes mellitus, hypertension, alcoholic cirrhosis, history of genitourinary surgery and neurological or spinal cord lesions.
- C. Co-morbid psychiatric disorders: schizophrenia, delusional disorder, anxiety disorders and mood disorders.
- D. Substance use other than alcohol and tobacco.
- E. history of drug intake that affecting sexual function (antipsychotics, antidepressants, antihypertensives, steroids, disulfiram etc.)

All the patients were administered with International Index of Erectile Function (IIEF) 11 scale for erectile dysfunction. It consists of 15 questions that ask about erection problems on sexual life over past 4 weeks. All items are scored in 5 domains as follows (1) Erectile Function (2) Orgasmic Function (3) Sexual Desire (4) Intercourse Satisfaction (5) Overall Satisfaction. Each item has score of 1-5 or 0-5. Maximum score is 75. Erectile function domain has normal score of 25-30, abnormal if less than 25. Orgasmic Function, Sexual Desire and Overall Satisfaction domains have normal score of 9-10, abnormal if less than 9. Intercourse Satisfaction domain has normal score of 13-15, abnormal if less than 13. All the patients were also administered with severity of alcohol dependence questionnaire(SADQ) 12 for severity of alcohol dependence. The Severity of Alcohol Dependence Questionnaire was developed by the Addiction Research Unit at the Maudsley Hospital. It is a measure of the severity of dependence. It consists of 20 questions. The SADQ questions cover the following aspects of dependency syndrome:

Physical withdrawal symptoms, Affective withdrawal symptoms, Relief drinking, Frequency of alcohol consumption, Speed of onset of withdrawal symptoms. *Scoring*

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Answers to each question are rated on a four-point scale:

- Almost never - 0
- Sometimes - 1
- Often - 2
- Nearly always- 3

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. Clinical and socio demographic variables of all patients were collected. The collected data was statistically analyzed by using SPSS 20.0.

RESULTS

The 44 male patients had mean age of 36.22 (minimum-28, maximum-45). Only 6 patients (13.6%) were illiterate. The mean age of onset of alcohol drinking was 20.14 (minimum-17, maximum-30). The mean duration of alcohol dependence was 14.20 years (minimum-8, maximum- 23). The mean quantity of alcohol consumed per day was 17.35 (minimum-10.80, maximum-28.80) units [1 unit=10g of alcohol]. 88.6% of the patients also used tobacco [chewing and / or smoking]. 29

patients (65.9%) had family history of alcohol dependence. The mean total IIEF score of 44 patients was 54.36 (minimum-28, maximum-66). The mean erectile function score of 44 patients was 23.36. Twenty nine patients (65.9%) had erectile dysfunction. The patients were divided into three groups by SADQ scores as mild, moderate, severe alcohol dependents.

alcohol dependent groups	number	percentage
mild	2	4.5
moderate	24	54.5
severe	18	41
total	44	100.0

Chi square=17.636 df=2 p=0.000

Comparison of alcohol dependent groups with total IIEF scores

With using ANOVA test, any significant association between alcohol dependent groups and total IIEF scores was studied.

alcohol dependent groups	number	IIEF mean	standard deviation
mild	2	66.0000	0.00000
moderate	24	59.9167	1.79169

severe	18	45.6667	3.25195
total	44	54.3636	4.36738

F=31.218 p=0.000

Severe alcohol dependent groups had low IIEF scores than moderate and mild groups. **Comparison of alcohol dependent groups with erectile function domain scores**
With using ANOVA test, any significant association between alcohol dependent groups and erectile dysfunction domain scores was studied.

alcohol dependent groups	number	ED domain mean	standard deviation
mild	2	29.0000	0.00000
moderate	24	26.0833	1.79169
severe	18	19.1111	3.25195
total	44	23.3636	4.36738

F=45.797 p=0.000

F=45.797 p=0.000

Severe alcohol dependent groups had low erectile function domain scores than moderate and mild groups.

Correlation of total IIEF scores with various variables

spearman	age	onset	duration	quantity	SADQ	smoking
correlation	0.057	0.423**	0.241	0.906**	0.996**	0.090
p value	0.714	0.004	0.115	0.000	0.000	0.559
number	44	44	44	44	44	44

Onset of alcohol drinking, quantity of daily alcohol consumption and severity of alcohol dependence were positively correlated with total IIEF scores. But age of patients, duration of alcohol drinking and smoking were not correlated with total IIEF scores.

Correlation of erectile function domain scores with various variables

spearman	age	onset	duration	quantity	SADQ	smoking
correlation	0.039	0.338*	0.222	0.920**	0.954**	0.063
p value	0.803	0.025	0.148	0.000	0.000	0.683
number	44	44	44	44	44	44

Onset of alcohol drinking, quantity of daily alcohol consumption and severity of alcohol dependence were positively correlated with erectile function domain scores. But age of patients, duration of alcohol drinking and smoking were not correlated with erectile function domain scores.

DISCUSSION

Chronic alcoholism affects sexual functions in men. In this study, The 44 male patients had mean age of 36.22. The mean total IIEF score of 44 patients was 54.36 (minimum-28, maximum- 66). The mean erectile function score of 44 patients was 23.36. This finding is correlated with previous study (Disiz M,et al) 2. Twenty nine patients (65.9%) had erectile dysfunction. This is similar to what has been reported in earlier studies (Disiz M,et al, Fahrner EM, Bijil Simon Arackal, Jensen SB, Vijayasanen ME) 2,4,6,8,9. The patients were divided into three groups by SADQ scores as mild (n=2,4.5%), moderate(n=24,54.5%), severe(n=18,41%) alcohol dependents. Severe alcohol dependent groups had low IIEF scores and erectile function scores than moderate and mild groups. This finding is correlated with previous studies (Krupnov AN, Mandell W) 1, 10. The increased quantity of daily alcohol consumption was associated with low IIEF scores and erectile function scores.

This finding is similar to previous reports (Lee AC et al, Bijil Simon Arackal, Mandell W) 3,6,10. The early onset of alcohol drinking was associated with low IIEF scores and erectile function scores. It is similar to previous studies (Disiz M,et al, Mandell W) 2,10. The duration of alcohol dependence was not associated with erectile dysfunction. It is contrast to previous studies (Disiz M,et al, Mandell W) 2,10. One reason for these findings may be the narrow range of ages at presentation and durations of dependence across the groups. Tobacco use was also not associated with erectile dysfunction. This is contrary to reported evidence.[Disiz M,et al]2 This finding is most likely to be due to around 90% of the sample was using tobacco.

CONCLUSION

We suggest that erectile dysfunction may be much more common than is being reported in alcohol dependent males. Heavy alcohol drinking, chronic and persistent and early onset of alcohol drinking in males have more chances of developing erectile dysfunction. Alcohol-induced erectile dysfunction, for the most part, is reversible with cessation of alcohol use (Van Thiel DH et al) 5 .

This information may be used in motivation to treat alcohol dependence . Thus clinicians have necessity to routinely assess sexual functioning in patients with alcohol dependence.

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