

Sexual dysfunction in alcohol-dependent men on disulfiram or baclofen prophylaxis: A preliminary report

Sir,

The alcohol use disorders and sexual functioning have a complex relationship.^[1] Alcohol use has been suggested to enhance desire of sexual activity and indulgence in riskier sex.^[2] Use of alcohol has also been linked with impaired sexual performance and impotence and may result in hypogonadism.^[3]

Effective pharmacoprophylactic agents available for treatment of alcohol use disorders include disulfiram, baclofen, naltrexone, acamprosate, and topiramate among others.^[4] As impaired sexual functioning may lead to restitution of alcohol use or dependence, there is a need to understand sexual functioning in those who are on pharmacoprophylaxis for alcohol use disorder. This study aimed to assess the sexual functioning of patients with alcohol dependence, currently abstaining and receiving disulfiram or baclofen.

This cross-sectional study was conducted at the Drug De-addiction and Treatment Centre at the Postgraduate Institute of Medical Education and Research, Chandigarh. The study was approved by the institute review board. The patients were recruited after obtaining written informed consent. Inclusion criteria for the study were men aged 18-60 years, a written informed consent, abstinent from alcohol for at least 1 month, currently receiving either disulfiram or baclofen for at least 1 month, and currently having a stable sexual partner. The exclusion criteria were as follows: significant psychiatric or sexual dysfunction prior to alcohol use or while using the alcohol continuously and refusal to give informed consent. Also excluded were those with comorbid opioid use/dependence, organic brain syndrome, and chronic comorbid medical illness that could cause sexual dysfunction. In addition, excluded were those patients who were taking other concurrent medications that can cause sexual dysfunction, those taking phosphodiesterase inhibitors or any other drugs including hormonal preparations that could enhance the sexual desire or improve the level of sexual functioning.

Sexual functioning was assessed on Arizona Sexual Experience Scale (ASEX).^[5] ASEX is an easy to administer

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5-item self-rated scale. It quantifies sexual functioning over the past week in the domains of sexual drive, arousal, penile erection, ability to reach orgasm, and satisfaction from orgasm. Each item is rated from 1 to 6, with higher scores reflecting greater sexual dysfunction. A total score of more than or equal to 19 or a score of 5 or more on any one item or a score of 4 or more on any three items of ASEX is associated with clinical sexual dysfunction. Reliability coefficients for internal consistency and test-retest reliability for ASEX are considered to be excellent.^[5]

Statistical analysis was done using Statistical Package for the Social Sciences (SPSS) version-14. Data were analyzed in the form of mean and standard deviation for the continuous variables and frequency and percentage for the categorical variables. Chi-square test and Fisher's exact test were used to compare the two treatment groups. Student's 't' test was used to compare the continuous variables of the two treatment groups.

The study sample comprised 48 patients, 30 of whom were receiving disulfiram and 18 were on baclofen. Many patients were married (93.7%), employed (89.6%), received 10 or more years of education (68.9%), Hindu (60.4%), and from urban locality (60.4%). Less than half (45.8%) were dependent on nicotine. The disulfiram and baclofen groups did not differ significantly on any of these variables. The results are shown in table 1.

The ASEX-assessed level of sexual dysfunction is shown in table 2. By standard ASEX definition of sexual dysfunction (total score more ≥ 19 or a score of 5 or more on any one item or a score of 4 or more on any three items), four (8.9%) patients had sexual dysfunction. When a cutoff score of ≥ 4 was used to assess sexual dysfunction, 10 patients had sexual dysfunction. Of these, five patients each had decreased sexual drive, difficulty in reaching orgasm, and problems with satisfaction with orgasm, and six patients each had decreased sexual arousal and erectile dysfunction. Of the 10 patients, four patients had dysfunction in one domain only, two had dysfunction in two domains, one patient had dysfunction in four domains, and three patients had dysfunction in all the five domains.

When both the treatment groups were compared, more than one-third of the patients (38.9%; seven out of 18) in the baclofen group had dysfunction in one or more domains compared with prevalence of sexual dysfunction of 10% (three out of 10) in the disulfiram group, and this group difference was statistically significant.

In terms of dysfunction in various domains, reduced sexual drive was found to be more common in the baclofen group [4 (22.2%) versus 1 (3.3%)] in the disulfiram group. Similarly, compared to disulfiram group, higher prevalence of dysfunction in the domain of arousal [4 (22.2%) versus 2 (6.7%)], erectile dysfunction [4 (22.2%) versus 3 (10%)],

Table 1: Demographic and clinical characteristics

	Study sample N=48	Disulfiram group (N=30) N (%) / mean (SD)	Baclofen group (N=18) N (%) / mean (SD)	Comparison statistics (P value)
Age in years	38.3 (7.3)	39.6 (± 7.9)	36.4 (± 6.1)	$t=1.499$ (0.141)
Married	45 (93.7%)	29 (96.7%)	16 (88.9%)	FE=0.136
Received 10 or more years of education	31 (68.9%)	20 (66.7%)	11 (61.2%)	$\chi^2=0.152$ (0.697)
Employed	43 (89.6%)	27 (90%)	16 (88.9%)	FE=1.000
Hindu religion	29 (60.4%)	17 (56.7%)	12 (66.7%)	$\chi^2=0.470$ (0.493)
Nuclear family	23 (47.9%)	16 (53.4%)	7 (38.9%)	$\chi^2=0.941$ (0.334)
Urban background	29 (60.4%)	20 (66.7%)	9 (50%)	$\chi^2=1.307$ (0.253)
Duration of alcohol dependence in years	11.5 (6.7)	12.5 (± 7.7)	9.8 (± 4.7)	$t=1.516$ (0.136)
Nicotine dependence present	22 (45.8%)	12 (40%)	10 (55.6%)	$\chi^2=1.097$ (0.295)

*Different significance between the groups at $P < 0.05$, FE=Fisher's exact test, SD=Standard deviation

Table 2: Prevalence of sexual dysfunction in the study group as per ASEX

	Study sample N=48	Disulfiram group (N=30)	Baclofen group (N=18)	Comparison statistics (P value)
ASEX score more ≥ 19	4 (8.9%)	2 (6.7%)	2 (11.2%)	FE=0.624
ASEX score more ≥ 19 or a score of 5 or more on any one item or a score of 4 or more on any three items of ASEX is associated with clinical sexual dysfunction	4 (8.9%)	2 (6.7%)	2 (11.2%)	FE=0.624
Scoring ≥ 4 on at least one domain of ASEX	10 (22.2%)	3 (10%)	7 (38.9%)	Chi-square test with Yate's correction=4.07 ($P=0.044$)
Scoring ≥ 5 on at least one domain of ASEX	3 (6.7%)	1 (3.4%)	2 (11.2%)	FE=0.547

FE=Fisher's exact test, ASEX=Arizona sexual experience scale

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difficulty in reaching orgasm [3 (16.7%) versus 2 (6.7%)], and satisfaction [3 (16.7%) versus 3 (10%)] was found in the baclofen group. However, none of these differences was statistically significant.

When those with and without sexual dysfunction were compared, sexual dysfunction was not found related to age, other sociodemographic variables, duration of alcohol dependence, and comorbid nicotine dependence.

The present research shows that about 8.9-22.2% of patients receiving various pharmacoprophylactic agents develop sexual dysfunction depending on the definition of sexual dysfunction. Overall, the frequency of sexual dysfunction was more in patients receiving baclofen compared with those receiving disulfiram.

Existing literature suggests association of baclofen with sexual dysfunction, mainly in the form of orgasmic dysfunction,^[6] but it does not focus on alcohol dependent patients. Other dysfunction in the form of impaired desire and poor erections has also been documented. Present study also supports the existing literature and suggests that baclofen leads to impairment in sexual desire, arousal, erectile dysfunction, difficulty in reaching orgasm, and satisfaction in about one-fifth of the patients. Findings of the present study also suggest that those who develop sexual dysfunction do so in more than one domain.

Findings of the present study suggest that only 6.7-10% of patients receiving disulfiram suffer from sexual dysfunction. The rate of sexual dysfunction as a side effect in patients on disulfiram observed in the present study was considerably lower as compared with previous literature.^[7] The lower prevalence could be due to possibly proper selection of cases. In the present study, those having sexual dysfunction prior to the starting of pharmacoprophylactic agents were excluded.

The limitations of this study include small sample size and cross-sectional design. It did not include the hormonal assays to study the relationship of pharmacoprophylactic agents, sexual dysfunction, and hormonal levels. Sexual functioning was assessed over a limited duration, i.e., 7 days prior to evaluation on ASEX. The assessment was based on self-report, and sexual functioning could not be corroborated by the partners of the subjects.

Despite these limitations, the findings of this preliminary study suggest that one-fifth of the patients receiving pharmacoprophylactic medications for alcohol dependence develop sexual dysfunction as a side effect of these

medications. Hence, it is important to enquire about sexual dysfunction while monitoring the treatment outcome of these patients. Pharmacoprophylactic agents leading to sexual dysfunction may be a reason for poor compliance and resultant relapse to alcohol use. Further, if one has to choose a pharmacotherapeutic agent in patients with preexisting sexual dysfunction, baclofen must be chosen with caution. In future, studies based on larger number of patients are warranted to understand sexual functioning in those receiving pharmacoprophylactic drugs.

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REFERENCES

1. Peugh J, Belenko S. Alcohol, drugs and sexual function: A review. *J Psychoactive Drugs* 2001;33:223-32.
2. Markos AR. Alcohol and sexual behaviour. *Int J STD AIDS* 2005;16:123-7.
3. Villalta J, Balleca JL, Nicolás JM, Martínez de Osaba MJ, Antúnez E, Pimentel C. Testicular function in asymptomatic chronic alcoholics: Relation to ethanol intake. *Alcohol Clin Exp Res* 1997;21:128-33.
4. Williams SH. Medications for treating alcohol dependence. *Am Fam Physician* 2005;72:1775-80.
5. McGahuey CA, Gelenberg AJ, Laukes CA, Moreno FA, Delgado PL, McKnight KM, *et al.* The Arizona Sexual Experience Scale: Reliability and validity. *J Sex Marital Ther* 2000;26:25-40.
6. Saval A, Chiodo AE. Sexual dysfunction associated with intrathecal baclofen use: A report of two cases. *J Spinal Cord Med* 2008;31:103-5.
7. Snyder S, Karacan I, Salis PJ. Disulfiram and nocturnal penile tumescence in the chronic alcoholic. *Biol Psychiatry* 1981;16:399-406.

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