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Sexual Dysfunction in Some Substance Use Disorder Male Patients

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Abstract:

Propose: To measure the different sexual functions (erectile dysfunction, orgasmic function, sexual desire, intercourse satisfaction and overall satisfaction) in substance dependent men compared to matched control group. **Methods:** cross-sectional, case-control study that was conducted on 75 subjects divided into 2 groups: 25 active substance dependent male patients and 50 matching male control subjects. **Results:** There was a significant increase in the International Index of Erectile Function (IIEF) test and total score in case group. There was a significant increase orgasmic dysfunction, sexual satisfaction, general satisfaction and total score in patients who have drug abuse severity and also, in patients were have family/ social problem regarding addiction Severity Index (ASI). **Conclusion:** Substance-dependent men exhibited higher rates of SD across various categories. There was a significant association between family/social problems of ASI and increased orgasmic dysfunction, sexual satisfaction, and general satisfaction of IIEF among the cases. Also, a significant association between family h/o aspect of addiction severity index ASI and overall satisfaction of (IIEF) among the cases.

Keywords: Male Patients; Sexual Dysfunction; Substance Use Disorder.

Introduction

Drugs have been widely used in all cultures to eliminate fatigue, as an inspiration for artists, for sporadic recreational use, etc. Nowadays, the main reason is for recreational purposes and in many cases to improve sexual satisfaction by increasing sexual arousal [(1)].

Sexual dysfunction (SD) refers to any difficulty encountered during the sexual response cycle that would inhibit satisfaction from sexual activity. The four main categories of SD include decreased libido, impaired arousal, orgasmic dysfunction, and decreased pleasure during intercourse [(2)].

SD is one of the major disorders which can be observed at different degrees and in various forms among individuals abusing drugs. SD is always a matter of human interest and has a major impact on the quality of human life [(3)].

Erectile dysfunction (ED), defined as the inability to achieve or maintain a satisfactory erection for the completion of sexual activity is a prevalent health condition. The association of ED, mainly with opioid dependents, and methadone or buprenorphine maintenance, is well known [(4)].

The statistics regarding SD due to substance have not been fully studied, but the most recent studies have shown that chronic consumption of substances is associated with more problems than their short-term use [(5)].

A recent review of the literature showed that SD prevalence rates vary between 34 and 85% for heroin dependents, 14 and 81% for those using methadone replacement, 36 and 83% for those using buprenorphine replacement and 90% for naltrexone maintenance. In the alcohol-dependent population, the prevalence of SD was 40–95.2%. The most common SD reported was ED followed by premature ejaculation (PE), retarded ejaculation (RE), and decreased sexual desire among men [(4)].

Common risk factors associated with SD include the individual's general health state, the presence of non-communicable diseases such as diabetes mellitus, cardiovascular diseases, genitourinary diseases, psychiatric/ psychological disorders, and chronic diseases. The association between substance use and SD has been increasingly recognized [(6)].

Drugs are often taken to camouflage psychological or emotional problems or to ignore physical difficulties which are contributing to SD. Many substance abusers feel that their sexual performance improves after substance use. But, their partners often report the opposite [(7)].

Prevalence of current PE in opioid dependents has been reported to be almost three times greater than that reported in the general population. These SD are due to the effect that opioids have on the hypothalamic-pituitary-gonadal axis and interfere with the production of sex hormones [(8)].

This study aimed to assist the different sexual functions in substance dependent men compared to matched control group and to compare between substance use disorder (SUD) men and matched control group regarding the different sexual functions and correlation between sociodemographic data, drug severity index and different sexual functions among substance dependent men.

Patients and methods

This was a cross-sectional case-control study performed during the period from January 2021 to June2021.

The study included 75 patients coming to the addiction unit and addiction clinic in El Khankah hospital, Qalyubia Governorate, Egypt.

An informed written consent was obtained from the patients. Every patient received an explanation of the purpose of the study and had a secret code number. The study was done after being approved by the Research Ethics Committee, Faculty of

Medicine, Benha University (MS-8-3-2021).

Study Population

The study concluded 75 subjects divided into 2 groups: Group (A): 25 active substance dependent male patients, Control Group (B): 50 matching male control subjects.

Inclusion criteria were Group (A): 25 patients with substance use dependence as diagnosed by DSM V fulfilling the following criteria: Age: 21- 45 (mostly the age of sexual activity), currently active substance addicts fulfilling DSM V criteria of substance dependence and sexually active at least over the last two months.

Control Group (B): 50 individuals matching the study group regarding age, gender, educational and social level

Exclusion criteria were history of major psychiatric illness, any neurological diseases, chronic organic medical/surgical illness (e.g., diabetes, hypertension, cardiac disease, hepatic disease, renal disease…etc.), organic SD by andrological examination.

Methods:

All patients were subjected to the following:

1- Psychiatric Semi-Structured Interview: included: demographics data, history of psychiatric illness, medical history, and current living circumstances with emphasis on the sexual history, addictive career and attitude toward initial use.
2- Psychiatric assessment using MINI: It assessed the presence of mood disorders, anxiety disorders, somatoform disorders, psychotic disorders, eating disorders, conduct disorder, adjustment disorder and SUDs. [9].
3- International Index of Erectile Function Questionnaire "IIEF": The 15-question International Index of Erectile Function (IIEF) Questionnaire is a multi-dimensional investigation that has been found useful in the clinical assessment of ED and treatment outcomes in clinical trials. A score of 0-5 is awarded to each of the 15 questions that examine the 4 main domains of male sexual function**.** [10].
4- Andrological examination: It was applied to all participants to exclude organic cause of SD.
5- Urine drug screen: Screen for tramadol, opioids, benzodiazepines and cannabinoid.
6- Addiction Severity Index (ASI): It is composed of seven subscales, which measure the severity of medical, employment, alcohol and drug use, legal, family/social and psychological problems [11].

Statistical analysis

Statistical analysis was done by SPSS v20. Descriptive statistics included mean and standard deviation (± SD) for numerical data and frequency/percentage for non-numerical data. Chi-square test was used in the comparison between two groups with qualitative data and Fisher exact test was used instead of the Chi-square test when the expected count in any cell found less than 5. The confidence interval was set to 95% and the margin of error accepted was set to 5%., with a p-value considered significant if <0.05 at a 95% confidence level.

Results

There was no statistically significant difference between case group and control group regarding demographic data. Table 1

There was a statistically significant increase regarding Sexual activity during last 3 months with wives in control group but there was no statistically significant difference among source of sexual knowledge and masturbation before marriage between cases and control groups. There was statistically significant increase IIEF test in case group and increase total score in case group too. Table 2

Table 1: The distribution of sociodemographic data among cases of substance uses disorder & control group.

		Case group		Control group		Chi square test	
		No	%	No	%	X^2	P value
Age	21-30 yr.	7	28.00%	16	32.00%	0.151	0.927
	31-40 yr.	11	44.00%	20	40.00%		
	>40 yr.	7	28.00%	14	28.00%		
Residence	Urban	13	52.00%	24	48.00%	0.107	0.744
	Rural	12	48.00%	26	52.00%		
Education	Primary	9	36.00%	10	20.00%	3.567	0.312
	Prep	7	28.00%	14	28.00%		
	Secondary	6	24.00%	12	24.00%		
	University	3	12.00%	14	28.00%		
Marital status	Married	24	96.00%	50	100.00%	2.027	0.155
	Single	1	4.00%	0	0.00%		
Occupation	Non	0	0.00%	0	0.00%	3.484	0.175
	Craft men	8	32.00%	7	14.00%		
	Government clerk	4	16.00%	12	24.00%		
	Private	13	52.00%	31	62.00%		

Table 2: Comparison between case group of substance abuse disorder and control group regarding sexual history, IIEF.

		Case group		Control group		Chi square test	
		No	%	No	%	X^2	P value
Source of sexual knowledge	Porn movies	17	68.00%	34	68.00%	0.395	0.941
	Porn pictures	4	16.00%	7	14.00%		
	Sexual relationships	2	8.00%	6	12.00%		
	Information from others	2	8.00%	3	6.00%		
Sexual activity during last 3 months	With wives	13	52.00%	36	72.00%	6.491	0.039*
	Masturbation	2	8.00%	7	14.00%		
	Both of them	10	40.00%	7	14.00%		
Masturbation before marriage	Once/ week	12	48.00%	22	44.00%	0.874	0.832
	Daily	6	24.00%	12	24.00%		
	More than one time / day	3	12.00%	10	20.00%		
	Infrequent	4	16.00%	6	12.00%		
erectile dysfunction	No	0	0.00%	39	78.00%	57.529	0.001***
	Mild	6	24.00%	11	22.00%		
	Mild to moderate	13	52.00%	0	0.00%		
	Moderate	5	20.00%	0	0.00%		
	Severe	1	4.00%	0	0.00%		
orgasmic dysfunction	No	0	0.00%	50	100.00%	75.000	0.001***
	Mild	9	36.00%	0	0.00%		
	Mild to moderate	7	28.00%	0	0.00%		
	Moderate	4	16.00%	0	0.00%		
	Severe	5	20.00%	0	0.00%		
sexual desire	No	4	16.00%	50	100.00%	58.333	0.001***
	Mild	8	32.00%	0	0.00%		
	Mild to moderate	8	32.00%	0	0.00%		
	Moderate	4	16.00%	0	0.00%		
	Severe	1	4.00%	0	0.00%		
Sexual satisfaction	No	0	0.00%	42	84.00%	59.571	0.001***
	Mild	6	24.00%	8	16.00%		
	Mild to moderate	7	28.00%	0	0.00%		
	Moderate	11	44.00%	0	0.00%		
	Severe	1	4.00%	0	0.00%		
General satisfaction	No	0	0.00%	48	96.00%	68.571	0.001***
	Mild	5	20.00%	2	4.00%		
	Mild to moderate	10	40.00%	0	0.00%		
	Moderate	10	40.00%	0	0.00%		
	Severe	0	0.00%	0	0.00%		
Total score	No	0	0.00%	44	89.80%	62.824	0.001***
	Mild	5	20.00%	5	10.20%		
	Mild to moderate	13	52.00%	0	0.00%		
	Moderate	7	28.00%	0	0.00%		
	Severe	0	0.00%	0	0.00%		

There was a statistically significant increase orgasmic dysfunction, Sexual satisfaction, General satisfaction and total score in patients have drug abuse severity regarding ASI. Table 3

There was a statistically significant increase orgasmic dysfunction, Sexual satisfaction and General satisfaction in patients were have family/ social problems regarding ASI. Table 4

There were no significant differences between aspects of ASI (occupational, medical, legal, family/social) of cases of SUD and items IIEF questionnaire (ED, orgasmic dysfunction, sexual desire, intercourse satisfaction, and overall satisfaction).

Table 3: Correlation between Drug aspect of Addiction Severity index & IIEF among case group of substance use disorder.

		ASI (Drug aspect)						Chi square test	
		Moderate		Severe		Extreme			
		No	%	No	%	No	%	X^2	P value
Erectile dysfunction	No	0	0.0%	0	0.0%	0	0.0%	10.346	0.111
	Mild	3	42.9%	3	25.0%	0	0.0%		
	Mild to moderate	4	57.1%	7	58.3%	2	33.3%		
	Moderate	0	0.0%	2	16.7%	3	50.0%		
	Severe	0	0.0%	0	0.0%	1	16.7%		
Orgasmic dysfunction	No	0	0.0%	0	0.0%	0	0.0%	33.704	0.001**
	Mild	7	100.0%	2	16.7%	0	0.0%		
	Mild to moderate	0	0.0%	7	58.3%	0	0.0%		
	Moderate	0	0.0%	0	0.0%	4	66.7%		
	Severe	0	0.0%	3	25.0%	2	33.3%		
Sexual desire	No	2	28.6%	2	16.7%	0	0.0%	9.375	0.312
	Mild	3	42.9%	4	33.3%	1	16.7%		
	Mild to moderate	2	28.6%	4	33.3%	2	33.3%		
	Moderate	0	0.0%	1	8.3%	3	50.0%		
	Severe	0	0.0%	1	8.3%	0	0.0%		
Sexual satisfaction	No	0	0.0%	0	0.0%	0	0.0%	20.164	0.003*
	Mild	5	71.4%	1	8.3%	0	0.0%		
	Mild to moderate	2	28.6%	5	41.7%	0	0.0%		
	Moderate	0	0.0%	6	50.0%	5	83.3%		
	Severe	0	0.0%	0	0.0%	1	16.7%		
General satisfaction	No	0	0.0%	0	0.0%	0	0.0%	25.952	0.001**
	Mild	5	71.4%	0	0.0%	0	0.0%		
	Mild to moderate	2	28.6%	8	66.7%	0	0.0%		
	Moderate	0	0.0%	4	33.3%	6	100.0%		
	Severe	0	0.0%	0	0.0%	0	0.0%		
Total score	No	0	0.00%	0	0.00%	0	0.00%	14.139	0.007*
	Mild	3	42.90%	2	16.70%	0	0.00%		
	Mild to moderate	4	57.10%	8	66.70%	1	16.70%		
	Moderate	0	0.00%	2	16.70%	5	83.30%		
	Severe	0	0.00%	0	0.00%	0	0.00%		

Table 4: Correlation between Family/social aspects of addiction severity index & IIEF among case group of substance used disorder.

		Family/social						Chi square test	
		Moderate		Severe		Extreme			
		No	%	No	%	No	%	x2	P value
Erectile dysfunction	No	0	0.0%	0	0.0%	0	0.0%	6.685	0.351
	Mild	2	28.6%	3	17.6%	1	100.0%		
	Mild to moderate	5	71.4%	8	47.1%	0	0.0%		
	Moderate	0	0.0%	5	29.4%	0	0.0%		
	Severe	0	0.0%	1	5.9%	0	0.0%		
Orgasmic dysfunction	No	0	0.0%	0	0.0%	0	0.0%	14.418	0.025*
	Mild	6	85.7%	3	17.6%	0	0.0%		
	Mild to moderate	1	14.3%	6	35.3%	0	0.0%		
	Moderate	0	0.0%	4	23.5%	0	0.0%		
	Severe	0	0.0%	4	23.5%	1	100.0%		
Sexual desire	No	2	28.6%	2	11.8%	0	0.0%	5.515	0.701
	Mild	3	42.9%	5	29.4%	0	0.0%		
	Mild to moderate	2	28.6%	5	29.4%	1	100.0%		
	Moderate	0	0.0%	4	23.5%	0	0.0%		
	Severe	0	0.0%	1	5.9%	0	0.0%		
Sexual satisfaction	No	0	0.0%	0	0.0%	0	0.0%	18.988	0.004*
	Mild	5	71.4%	0	0.0%	1	100.0%		
	Mild to moderate	2	28.6%	5	29.4%	0	0.0%		
	Moderate	0	0.0%	11	64.7%	0	0.0%		
	Severe	0	0.0%	1	5.9%	0	0.0%		
General satisfaction	No	0	0.0%	0	0.0%	0	0.0%	12.437	0.014*
	Mild	4	57.1%	1	5.9%	0	0.0%		
	Mild to moderate	3	42.9%	6	35.3%	1	100.0%		
	Moderate	0	0.0%	10	58.8%	0	0.0%		
	Severe	0	0.0%	0	0.0%	0	0.0%		
Total score	No	0	0.00%	0	0.00%	0	0.00%	6.458	0.167
	Mild	3	42.90%	2	11.80%	0	0.00%		
	Mild to moderate	4	57.10%	8	47.10%	1	100.00%		
	Moderate	0	0.00%	7	41.20%	0	0.00%		
	Severe	0	0.00%	0	0.00%	0	0.00%		

Discussion

In our study, most of cases were in the age group 31-40 year old (40%), their residence was urban (52%), there education level was primary education (36%), and they were married (96%) and have private occupation (52%). There was no statistically significant difference between case group and control group regarding age, residence, education, marital status and occupation.

In agreement with the current study, it is reported that mean age was 37.28 years same for both case as well control. All the subjects in their study were married. The majority of the subjects in both the groups were Hindu, from a rural background, studied up to 12th, employed and from middle socioeconomic class. There was no significant difference found in the socio-demographic structure of cases and controls except for the type of family in which the difference was found to be statistically significant. The level of education was significantly differing in cases group compared to control group [(14)].

In contrast to our study, a study aimed to assess the impact of various substance abuse on sexual functions. The difference between groups was significant as regards their marital status [(15)].

In the present study, there was a significant increase regarding sexual activity during last 3 months with wives in control group but there was no statistically significant difference among source of

sexual knowledge and masturbation before marriage between cases and control groups. Most of cases (17 case) had sexual knowledge from porn movies (68%), 13 cases (52%) had sexual activity during last 3 months with wives, 12 cases (48%) did Masturbation before marriage once / week. Also, there was highly significant differences across all categories of IIEF (p-value = 0.001), with the case group exhibiting higher rates of SD at various levels compared to the control group, which predominantly showed no signs of these dysfunctions. In particular, the control group exhibited higher percentages of 'No' dysfunction across all categories of IIEF (ranging from 78% to 100%), while the case group showed a diverse distribution of dysfunction severity, with notable percentages in the mild to moderate and moderate categories.

In agreement, there is a study comparing the prevalence of ED in daily cannabis users and male control group which reported an ED rate in the cannabis users more than double that in the controls [(17)].

In contrast to our study, there is a study reported that, there were no significant changes of type and/ or severity of SD between positive and negative drug abuse groups [(16)].

In our study, according to ASI among case group of SUD regarding different aspects. Most of cases were 14 patients (56%) with (No problem) regarding medical aspect, 12patients (48%) were sever regarding Occupational aspect, 12 patients (48%) were severe regarding Drug aspect, 10patients (48%) were mild regarding Legal aspect, 17patients (68%) were severe regarding Family/social aspect, 15patients (60%) were severe regarding family history aspect and 25patients (100%) were no problem regarding Psychiatric h/o aspect. There was statistically significant increase orgasmic dysfunction, Sexual satisfaction, General satisfaction and total score in patients who have drug abuse severity regarding ASI.

This agrees with a study which found that individuals with SUD and SD were more likely to have higher levels of drug use severity, including polydrug use, frequent drug use, and drug use consequences, compared to those without SD [(6)].

In our study, there was a significant correlation in orgasmic dysfunction, sexual satisfaction and general satisfaction among patients who had family/social problems, as indicated by the ASI.

This is in line with a study who reported a significant correlation between score of family/social problems domain and intercourse satisfaction [(18)]. But not in line with another study on 68 clients with tramadol use in Minia as There was a negative correlation between all severities of addiction as measured by ASI and sexual functions assessed by IIEF but not statistically significant [(19)].

In this study, there were no significant differences between the medical condition of cases and items of IIEF questionnaire.

This disagrees with a study which found that cases with SUD and SD were more likely to have chronic medical conditions, such as hypertension, diabetes, and hepatitis C, compared to those without SD [(6)].

In our study, there were no significant differences between occupational aspects of ASI of cases and items IIEF questionnaire.

On the other hand, it was reported that, among the various sociodemographic variables, they could not find any association with SD except for the variable, occupation. More unskilled workers reported SD than skilled workers; moreover, half of the professionals reported significant SD [(20)].

This also disagrees with another study who found significant associations between occupational stress, and SD [(21)].

In our study, according to the correlations between legal aspect of ASI and IIEF among cases. There are no significant differences between legal aspects of ASI of cases and items of IIEF questionnaire.

In disagreement, it was found that individuals with SUD and SD were more likely to have a history of arrests, convictions, and legal involvement, compared to those without SD [(22)].

In this study, significant associations were observed between family/social aspects of ASI of cases and intercourse satisfaction and overall satisfaction indicating a statistically significant impact of family/social factors on these aspects. In contrast, ED, orgasmic dysfunction, and sexual desire, did not show statistically significant associations with family/social aspects of ASI of cases. Only overall satisfaction showed a statistically significant association with family h/o aspect of ASI. There were no significant differences between the family h/o aspect of ASI of cases and other items of IIEF questionnaire.

It was reported that relationship status did not predict SD [(23)].

Conclusion

In conclusion, our study revealed that substance-dependent men exhibited higher rates of sexual dysfunction across various categories, while the control group predominantly showed no signs of dysfunction. The case group of substance use had a diverse distribution of severity of SD, with notable percentages in the (mild to moderate) and (moderate) categories of (IIEF). Additionally, it was observed that a statistically significant association between family/social problems of ASI and increased orgasmic dysfunction, sexual satisfaction, and general satisfaction of (IIEF) among the cases also, a statistically significant association between family h/o aspect of ASI and overall satisfaction of (IIEF) among the cases.

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