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Investigation of Sexual Function in the Patients Consuming SSRI Drugs referring to the selected Psychiatric Clinics of Shiraz in 2013

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ABSTRACT

Background and Objectives: Depression leads to inhibition of instinctive forces, such as sexual desire, in humans. On the other hand, antidepressants, such as Selective Serotonin Reuptake Inhibitors (SSRIs), cause sexual dysfunction during the treatment. Hence, more accurate information regarding sexual function is required for designing interventions in this regard. The present study aimed to determine the level of sexual function in the patients referring to psychiatrists in Shiraz. **Methods:** In this cross-sectional study, 120 patients referring to psychiatric clinics were selected by simple random sampling. The study data were collected through clinical interview and psychotropic related sexual dysfunction questionnaire which was separately developed for the two sexes. Then, the data were entered into the SPSS statistical software and analyzed using t-test and correlation coefficient. Besides, $P<0.05$ was considered as statistically significant. **Results:** The mean age of the study participants was 42.9±5.68 years and most of the participants were female (64.2%). The mean duration of drug consumption was 12.74 months. Moreover, 80% of the patients experienced sexual dysfunction in desire, arousal, intercourse, or orgasm and 65% presented with average to severe sexual dysfunction. However, most of the subjects (91.7%) had not reported their problems to their physicians and had no complaints in this regard. In addition, 2.5% of the patients could weakly tolerate their sexual problems. The results revealed a significant direct relationship between sexual function and drug dose($r=0.245$, $P=0.007$). The mean score of sexual function was 4.93±4.12 in males and 5.59±4.41 in females, but the difference was not statistically significant ($P=0.418$). **Discussion and Conclusion:** The results showed that sexual dysfunction was highly prevalent among these patients. However, they did not normally complain about their sexual dysfunction, which caused the problem to remain unresolved.

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INTRODUCTION

Sexual desire is one of the strong instinctive forces in humans whose satisfaction plays an important role in improvement of quality of life and consolidation of family life which is the basis of social life [1]. A large number of physical diseases and psychiatric disorders, such as depression and obsession, lead to sexual dysfunction, eventually resulting in reluctance, lack of motivation, cold relationships, and family disruption [2]. Unfortunately, some medications which are used for treatment of these disorders also cause sexual dysfunction [3]. For instance, although Selective Serotonin Reuptake Inhibitors (SSRIs) are widely used around the world for treatment of the patients suffering from depression, they result in sexual dysfunction leading to discontinuation of the treatment [4, 5]. Moreover, in some communities, including some regions in Iran, patients avoid talking about their sexual problems due to cultural and religious issues. Sexual problems can lead to disruption of family relationships, divorce, and illicit relationships. Sexual dysfunction is more prevalent among the individuals suffering from mental illnesses. Although sexual dysfunction has been mentioned as one of the uncommon side effects of antidepressants, this is not the fact in reality. Most patients do not report their sexual

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problems unless they are asked. These problems are not reported in spite of the fact that they can highly affect the patients' drug tolerance [6, 7].

The techniques used for treatment of sexual disorders indicate scientific and cultural progresses through the recent years, expansion of scientific methods for treatment of these disorders, historical interest of psychiatrists in this issue, and importance of these problems in psychiatric treatments [7]. Overall, when asked about sexual activity, 40% of the males and 50% of the females with Major Depressive Disorder (MDD) reported reduction of sexual desire and problems in reaching orgasm. However, it has been shown that orgasmic disorders were less prevalent before consumption of antidepressants (15-20%) [8]. In general, antidepressants can disturb an individual's sexual function. Therefore, they can affect all the stages of sexual activity, including desire, arousal, orgasm, and ejaculation. In addition, the incidence rate of sexual dysfunction is varied depending on the type of antidepressants used by the patients, with the highest rate being related to consumption of SSRIs [9]. Sexual dysfunction is defined as disorder in the sexual response cycle; i.e., desire, arousal, orgasm, and refraction, or pain during intercourse [5]. According to DSM-IV-TR classification, sexual dysfunction is classified into seven categories, namely desire disorder, arousal disorder, orgasmic disorder, sexual pain disorder, sexual dysfunction resulting from general clinical diseases, sexual dysfunction due to drug abuse, and sexual dysfunction for unknown reasons [7]. Nevertheless, studies have reported different estimates of sexual dysfunction following consumption of SSRIs. Yet, the accurate measure has not been determined, which might be due to the fact that some studies have reported the prevalence rate, while others have shown the incidence rate of these disorders. Furthermore, limited data are available regarding the prevalence of sexual dysfunction in the general population making it hard to determine a normal basic value in this regard. The patients suffering from mental disorders are highly susceptible to sexual dysfunction. Human's sexual behavior is influenced by culture and society and can change depending on time, place, ethnicity, ethical issues, and social class. However, sexual issues are highly private and cannot thus be reported. Therefore, measures obtained from the patients' self-reports and those provided by the physicians might be quite different. Moreover, most of the studies conducted on sexual dysfunction have methodological problems, including utilization of invalid or unreliable scales, not having a basic evaluation, and lack of a control group [2]. Montejo-Gonzalez *et al*. investigated the incidence rate of sexual dysfunction due to consumption of SSRIs in 192 female and 152 male patients. The patients were interviewed using a researcher-made questionnaire including questions on reduction of sexual desire, delay in orgasm, anorgasmia, erectile dysfunction, and sexual satisfaction. The inclusion criteria of that study were normal sexual function before consumption of SSRIs, only using SSRIs, and having experienced sexual relationships. The results of that study showed that 58% of the patients suffered from sexual dysfunction, while only 14% reported this problem by themselves. In addition, only 24.5% of the patients had well tolerated their sexual problem. The results also indicated a direct relationship between the level of sexual dysfunction and drug dose and that sexual dysfunction was more prevalent among females compared to males [10].

Montejo conducted a study in Spain in 2001 in order to assess the incidence rate of sexual dysfunction following consumption of antidepressants. The study was conducted on 1022 outpatients who only used SSRIs. The data were collected using Psychotropic Related Sexual Dysfunction (PRSexD) questionnaire. The results showed that the mean age of the participants was 39.8 years, most of the participants were female, and most of them suffered from MDD. Additionally, sexual dysfunction had occurred due to consumption of SSRIs in 70% of the subjects and as the drug dose increased, the severity of sexual dysfunction increased, as well. Moreover, 40% of the study patients could weakly tolerate their sexual problems. Overall, these researchers concluded that the incidence rate of sexual dysfunction was quite high following consumption of SSRIs [6].

Safa, Sadr, and Broujerdi also conducted a study on 100 patients to investigate the effects of SSRIs on sexual dysfunction. The study patients had no history of depression, sexual dysfunction, and consumption of nervous system medications. According to the study findings, 75% of the patients (66.7% of males and 79.7% of females) experienced sexual dysfunction. Besides, sexual problems were detected in 74.1% of the patients taking fluvoxamine, 100% of those consuming fluoxetine, 75% of the patients using sertraline, 71.4%of those taking citalopram, and 100% of those using paroxetine. Moreover, the highest frequency of sexual problems was related to orgasmic disorder detected in 41.17% of females and 33.3% of males. Thus, they concluded that since sexual dysfunction might be one of the signs of depression, it must be differentiated from sexual dysfunction occurring due to consumption of medications and drugs must be prescribed with due attention [11].

Despite the considerable effect of sexual function on family life and intra-familial relationships, the side effects of the aforementioned drugs have been neglected by many physicians. Thus, more studies should be conducted on the issue focusing on the side effects of the medication, so that the patients can be provided with information about the treatment method, replacement therapy, and complications of the drugs. The present study aims to investigate the level of sexual dysfunction in the patients consuming SSRIs referring to the psychiatric clinics of Shiraz.

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MATERIALS AND METHODS

In this cross-sectional study, 120 outpatients referring to psychiatric clinics were selected through simple random sampling. The inclusion criteria of the study were being outpatient and consuming SSRIs. On the other hand, the exclusion criteria of the study were consumption of drugs other than SSRIs, being single, and not being willing to participate in the study.

Based on the previous studies conducted on the issue, considering SD=3.9, confidence interval=95%, and α=0.7, and using the following formula, a 120-subject sample size was determined for the study.

$$n = \frac{z^2_{1-\alpha/2} s^2}{d^2}$$

The study data were collected using PRSexD questionnaire which was separately developed for the two sexes. This questionnaire consisted of 7 items which were all associated with sexual dysfunction. The first item aimed at screening the patients regarding suffering from sexual dysfunction. The second item determined whether the patientstalked to their physicians about their sexual problems. Items 3-7 evaluated the frequency or intensity of five dimensions of sexual dysfunction. These 5 dimensions included reduction of sexual desire (0= no problems, 1= mild reduction, 2= average reduction, and 3= severe reduction), delay in orgasm or ejaculation (0= This never occurs,1= It sometimes occurs, 2= This usually occurs, and 3= This always occurs), erectile dysfunction in males/ lubrication problems in females (0= This never occurs, 1= It sometimes occurs, 2= This usually occurs, and 3= This always occurs), and patients' tolerance towards sexual dysfunction (1= good, 2= average, and 3= weak). Good tolerance refers to the condition in which the patient experiences some sexual disorders, but has no worries in this regard. In average tolerance, sexual disorders cause some concerns for the patient or his/her sexual partner, but s/he does not intend to discontinue the treatment. Finally, weak tolerance is defined as the condition in whichthe patient is very worried about the problem and strongly intends to discontinue the treatment.

In PRSexD questionnaire, a score was assigned to each item as well as to the whole questionnaire. The total score of the questionnaire was computed by summing up the scores of items 3-7. Thus, the minimum and maximum scores of the questionnaire were 0 and 15, respectively. In case the total score of the questionnaire was 0-5 and none of the items had >1 scores, the patient was diagnosed with mild sexual dysfunction. However, average sexual dysfunction was diagnosed when the total score of the questionnaire was 6-10 or a >2 score was assigned to at least one of the items. Finally, in case the total score of the questionnaire was 11-15 or a >3 score was assigned to at least one of the items, the patient was considered with severe dysfunction.

The reliability and validity of PRSexD questionnaire have been confirmed in various studies. In one study, for instance, the feasibility of the questionnaire was evaluated by considering the number of unanswered questions. Accordingly, only 1 out of the 7 questions was not answered, indicating the acceptable feasibility of the questionnaire. Besides, the reliability of the questionnaire was approved by matching the total score of the questionnaire with the main criteria for clinical diagnosis of sexual dysfunction [12].

After all, the collected data were entered into the SPSS statistical software (v. 16) and analyzed using descriptive statistics, t-test, Pearson or Spearman correlation coefficient, and one-way ANOVA. Besides, $P<0.05$ was considered as statistically significant.

Results:

The present study was conducted on 120 patients only consuming SSRIs referring to neurologists in outpatient psychiatric clinics. The patients' age ranged from 30 to 55 years and their mean age was 42.90±5.68 years. In addition, most of the study participants were female (64.2%) and most of them consumed citalopram. Besides, the participants had been consuming the medications for 2-48 months and the mean duration of drug consumption was 12.74±9.67 months.According to the clinical interview based on DSM-IV, most of the study patients suffered from MDD (Table 1). Considering the patients' medical records, only 4 patients (3.3%) had sexual dysfunction or obvious reduction of sexual desire before consumption of these medications. Additionally, 91.7% of the participants did not complain about their problems.

According to the results, reduction of sexual desire and delay in orgasm were the most prevalent disorders among the two sexes (65%). Besides, the highest intensity was related to delay in ejaculation (10%). Based on the total score of the questionnaire considering average and severe intensities, the prevalence of average and severe sexual dysfunction was 50% and 15%, respectively (Table 2). However, considering the total score of the questionnaire out of 15, the score of sexual dysfunction ranged from 0 to 13 with the mean score of 5.35±4.3 and median score of 6. Moreover, only 3 patients (2.5%) had weak tolerance towards their problem (Table 2).

In this study, t-test was used in order to compare the mean score of sexual dysfunction in male and female patients. Although the females' sexual dysfunction score was higher in comparison to males, the difference was not statistically significant (P=0.418).

Sexual function scores were also compared in the patients consuming 4 different medications using one-way ANOVA. In spite of the fact that the mean score of sexual function was higher among the patients using sertraline, the difference was not statistically significant (P=0.614).Furthermore, the relationship between sexual function and type of diagnosis was compared using t-test and the results revealed a statistically significant relationship (P=0.016) (Table 3).However, the results of Pearson or Spearman correlation coefficient revealed no significant relationships between sexual function score and age and duration of drug consumption (P>0.05). Nonetheless, a significant association was observed between sexual function score and drug dose (r=0.245, P=0.007); such a way that as the drug dose increased, the sexual function score increased, as well (Table 4).

Discusion:

The present study aimed to investigate the level of sexual function in the patients consuming SSRI referring to the selected psychiatric clinics of Shiraz. Considering the impact of sexual dysfunction on the individuals' personal and family life, this study was designed, so that the results could be used to provide guidance regarding the complications of using these medications which are usually neglected by physicians. Of course, considering the local and cultural issues in Iran, more studies are required to be conducted on sexual dysfunction in this country.

In the present study, the mean score of sexual function was lower than the median of changes; i.e., 7.5. In addition, sexual dysfunction was experienced by 80% of the cases.

Montejo *et al*. conducted a study in Spain in 2001 in order to investigate the incidence rate of sexual disorders following consumption of antidepressants. According to the results, 70% of the participants experienced sexual dysfunction after consumption of SSRIs. Additionally, as the drug dose increased, the intensity of sexual dysfunction increased, as well. Moreover, 40% of the study patients had weak tolerance towards sexual dysfunction. The researchers concluded that the incidence rate of sexual dysfunction was quite high following consumption of SSRIs. In that study, most of the patients were female, the mean age of the participants was 39.8 years, and most of them suffered from MDD [6]. In line with Montejo's study, the present study results showed that 80% of the patients experienced sexual dysfunction and that as the drug dose increased, the intensity of sexual dysfunction increased, as well. Also, most of the present study patients had MDD, their mean age was 42.9 years, and most of them were female. However, in contrast to the above-mentioned study, the participants of the current one showed more tolerance (weak tolerance in 2.5% of the present study participants vs. 40% of the patients in Montejo's study).

Montejo-Gonzalez *et al*. assessed the incidence rate of sexual dysfunction following consumption of SSRIs in 344 outpatients for 3 years. They recorded the qualitative and quantitative changes which occurred in the patients' sexual function. The data were collected through interviewing the patients using a researcher-made questionnaire. According to the results, the patients' mean age was 39.6 years and they only consumed SSRIs. In addition, most of the participants were female and only 14% of the patients had voluntarily reported their problems. Moreover, 58% of the patients had experienced sexual disorders after using SSRIs and 60% had weak tolerance toward this problem [10]. Although the present study was similar to the one conducted byMontejo-Gonzalez regarding age and sex distribution of the participants, the percentage of sexual disorders in this study was higher than that reported in the aforementioned study. Also, the patients' tolerance in the study by Montejo-Gonzalez was quite higher compared to the current study (weak tolerance: 2.5% in this study vs. 60% in the study by Montejo-Gonzalez).

Safa, Sadr, and Broujerdi performed a study in Iran to investigate the effects of SSRIs on sexual function. That descriptive-analytical study was conducted on 100 outpatients who only consumed SSRIs and had referred to private psychiatric clinics or the psychiatric clinic of ShahidBeheshti University. According to the study findings, 75% of the patients experienced sexual dysfunction (66.7% of males and 79.7% of females). Besides, the highest frequency of sexual dysfunction was related to orgasmic disordersand paroxetine mostly resulted in sexual dysfunction [11]. The percentage of sexual dysfunction in that study was similar to the present cross-sectional one which was conducted on 120 outpatients who only consumed SSRIs. In agreement with Safa's study, the present one showed that the highest frequency of sexual dysfunction was related to orgasmic disorder. However, the findings of the current study indicated no significant difference among different drugs regarding the incidence of sexual dysfunction, which is in contrast to the study by Safa, Sadr, and Broujerdi. In this study also, no significant relationship was observed between sexual function and the participants' age and sex. However, a significant association was found between sexual function and type of diagnosis; such a way that the mean score of sexual function was higher in the GAD group compared to the MDD group.

Conclusion:

This study which lasted for 6 months revealed that although most of the participants were within the age range of sexual activity, most of them (91.7%) did not report their sexual disorders by themselves. According to the results, 80% of the patients had sexual dysfunction in sexual desire, arousal, or orgasm. Out of these patients, 2.5% had a weak tolerance toward their problem. These results indicate that sexual dysfunction

prevalently occurs after consumption of SSRIs; however, individuals tend to stand the problem rather than talking to their physicians. Therefore, physicians should be aware of this issue and ask their patients about these disorders. In this way, they can solve the problems and prevent the patients from discontinuation of the treatment.

Table 1: Descriptive statistics of the participants' demographic characteristics.

Variables		Mean or number	SD or percent
Age		42.90	5.68
Sex	Male	43	35.8
	Female	77	64.2
Medication	Citalopram	57	47.5
	Fluvoxamine	40	33.3
	Fluoxetine	13	10.8
	Sertraline	10	8.3
Diagnosis	MDD	101	84.2
	GAD	19	15.8

Table 2: Frequency distribution of the intensity of sexual disorders and the participants' tolerance level.

Dimensions	No problem Frequency (%)	Mild Frequency (%)	Average Frequency (%)	Severe Frequency (%)
Reduction of sexual desire	42 (35)	13 (10.8)	60 (50)	5 (4.2)
Delayed ejaculation	48 (40)	5 (4.2)	55 (45.8)	12 (10)
Orgasm	42 (35)	39 (32.5)	34 (28.3)	5 (4.2)
Erectile dysfunction/lubrication problem	62 (51.7)	32 (26.7)	20 (16.7)	6 (5)
Total	0 (0)	46 (35)	60 (50)	18 (15)
Tolerance	No problem Frequency (%)	Good Frequency (%)	Average Frequency (%)	Weak Frequency (%)
	42 (35)	27 (22.5)	48 (40)	3 (2.5)

Table 3: Mean score of sexual function in the study subgroups.

Variable		Mean	SD	P-value
Sex	Male	4.93	4.12	0.418
	Female	5.59	4.41	
Type of medication	Citalopram	5.40	4.37	0.614
	Fluvoxamine	4.97	5.04	
	Fluoxetine	5.07	2.98	
	Sertraline	7.00	0.94	
Diagnosis	MDD	4.93	4.15	0.016
	GAD	7.52	4.64	

Table 4: Correlation coefficients between sexual function score and the participants' age, duration of drug consumption, and drug dose.

Variable	Correlation coefficient (r)	P-value
Age	0.162	0.077
Duration of drug consumption	-0.157	0.087
Drug dose	0.245	0.007

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