



Original Article

Investigation of the difference between the expression and presence of sexual symptoms and dysfunction in depressed women treated with fluoxetine

Ali Fakhari¹, Mostafa Farahbakhsh², Narges Aboulghasemi-Fakhri³, Abdolkhalegh Minashiri⁴

¹ Associate Professor, Research Center of Psychiatry and Behavioral Sciences, Tabriz University of Medical Sciences, Tabriz, Iran

² Psychiatrist, Research Center of Psychiatry and Behavioral Sciences, Razi Hospital, Tabriz University of Medical Sciences, Tabriz, Iran

³ General Practitioner, Tabriz University of Medical Sciences, Tabriz, Iran

⁴ Department of Psychology, School of Education and Psychology, University of Tabriz, Tabriz, Iran

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Abstract

Introduction: The present study aimed at investigating the difference between the expression and presence of sexual symptoms and dysfunction in depressed women treated with fluoxetine, and the possibility of sexual dysfunction following consumption of fluoxetine.

Methods: This cross-sectional analytic study was conducted on 44 women candidates for receiving fluoxetine after the diagnosis of depression. Patients' complaints of sexual dysfunction were collected and compared using Arizona Sexual Experiences Scale (ASEX) questionnaire during their first visit and 2 months after receiving fluoxetine. Two-way data were analyzed using chi-square test, and Wilcoxon Signed Ranks test was used to study ordinal variables in SPSS software.

Results: This study indicates that there is a significant difference between the final score of the ASEX questionnaire and that of each question before and after the consumption of fluoxetine. Using ASEX scale, it was indicated that 11 (25.0%) and 27 (61.4%) of participants suffered from sexual dysfunction at their first and second visit, respectively, and that there is a correlation between the expression of sexual dysfunction symptoms and sexual dysfunction disorder.

Conclusion: Results indicate that consumption of fluoxetine causes sexual dysfunction, and there is a correlation between the expression of sexual dysfunction symptoms and sexual dysfunction disorder. Moreover the fewer participants complain about symptoms, the more the chance of sexual dysfunction.

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Introduction

Sexual function is affected by the interaction of multiple factors including personality factors, biological nature of the individual, and his/her overall sense of self. Proper sexual function is vital for many human relations and provides better physical, psychological, and social feelings.¹ Sexual dysfunction can reduce the quality of life,

self-esteem and mood impair relationship with spouse.^{2,3}

Depression is one of sexual disorders risk factors and in depressed individuals; sexual dysfunction is three times prevalent compared with general population.⁴ On the other hand, pharmacotherapy can aggravate sexual dysfunction or precipitate it.⁵ Almost any medication, especially psychotropics, affects

* Corresponding Author: Mostafa Farahbakhsh, Email: mfarahbakhsh@gmail.com



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sexuality; sexual function is negatively affected by serotonergic agents, dopamine antagonists, prolactin-elevating drugs, and drugs influencing the autonomic nervous system.⁶

Antidepressants cause sexual dysfunction more than antipsychotics and antihypertensives.⁷ According to studies, selective serotonin reuptake inhibitors (SSRIs) cause this complication more than other antidepressants (30-60%).⁸ Although SSRIs' exact mechanism of action in relation to sexual disorders is unknown, the probable role of increased serotonin has been pointed out, and studies have been conducted in this regard.⁹

Michelson et al.¹⁰ indicated that the deterioration of sexual performance has a direct correlation with the worsening of depression symptoms, and in general, the improvement of depression with fluoxetine treatment has a stronger impact on sexual function compared to fluoxetine impact on sexual dysfunction. In their study, Bailie et al.¹¹ concluded that the antidepressants both improve and worsen sexual function.

In their review of previous studies on 1022 patients without sexual dysfunction prior to the consumption of antidepressants; Montejo et al.¹² stated that 59.0% developed drug-induced sexual dysfunction; this value was 57.7% in the case of fluoxetine. On the other hand, with increased prevalence of depressive and anxiety disorders, the high effectiveness and extensive administration of SSRI drugs, and the expectation of patients to be informed of side effects; more accurate studies is warranted on the prevalence of these side effects. Otherwise, it may cause resistance to the continuation of treatment and underdosage.

The relationship between women's sexual dysfunction and pharmacologic agents has been investigated less often than these reactions in men. The present study investigates the prevalence, expression, and various fluoxetine induced sexual symptoms or dysfunction in depressed women.

Methods

The statistical population of the present cross-sectional study includes all female

patients referred to psychiatric specialty clinics with diagnosis of depression that were candidates for receiving fluoxetine. About 44 participants were selected using the convenience sampling method. The average age of women was 34.5 (24-46) years. The data were collected at 2013 in Tabriz, Iran. Depression was diagnosed by a psychiatrist according to semi-structured interviews based on Diagnostic and Statistical Manual of Mental Disorders 4th Edition-Text Revision (DSM-IV-TR) criteria. In all statistics the α was considered equal to 0.05.

Inclusion criteria:

1. Female
2. Married
3. Diagnosis of major depressive disorder.

Exclusion criteria:

1. Single participants
2. Over 50 years (postmenopausal)
3. Sexually inactive participants
4. Who had contraindications to use fluoxetine
5. Under previous treatment with SSRIs and other psychotropics.

Initially, patients' demographic information, including age, education, occupation, place of residence, and sexual complaints (if expressed), were recorded, and they were asked to fill out the Arizona Sexual Experiences Scale (ASEX) questionnaire during the first visits. 2 months after the consumption of fluoxetine, self-reported complaints and sexual dysfunction symptoms of patients were recorded. Afterwards, they were asked to fill out another ASEX questionnaire to compare their status on their first visit with their sexual function 2 months after consumption of fluoxetine.

ASEX questionnaire is a scale provided by the Department of Psychiatry and Psychology at the University of Arizona, and the Department of Psychiatry and Behavioral Sciences at Stanford University. This questionnaire has a high validity (sensitivity of 82% and specificity of 90%) and measures main aspects of sexual function. These aspects include sexual desire, vaginal lubrication in women, erection in men, the ability to achieve orgasm, and satisfactory orgasm in both sexes.

Each question scores 1-6 points for sexual function; the higher the score of each question, the more severe sexual dysfunction. According to this questionnaire, cases with the score of 19 or higher suffer from sexual dysfunction. Moreover, if a question receives 5 or 6 points or at least 3 questions receive 4 points; it can be said that the individual is suffering from sexual dysfunction.¹³ Bayrami et al.¹⁴ asked pregnant women to fill out the questionnaire and reported Cronbach's alpha coefficient at 73%, for the first trimester, and 86% for each of the second and the third trimesters of pregnancy.

Results

Comparison between the data of ASEX questionnaire before and after treatment indicated that: Sexual dysfunction was observed in 11 individuals (25.0%) on their first visit and 27 (61.4%) on their second visit (2 months later). The average overall score on the first and second visits were 13.14 ± 4.87 and 18.18 ± 5.81 , respectively. The average score of each question on the first visit was 2.75, 2.57, 2.45, 2.64, and 2.73. On the second visit, these values increased to 3.75, 3.66, 3.52, 3.61, and 3.64.

Table 1 shows the descriptive data of the mean and standard deviation of main sexual function aspects before and after the consumption of fluoxetine. As it can be observed, $P < 0.001$ for all cases, and there was a significant statistical difference

between the score in ASEX questionnaire and that of each of its specific questions before and after treatment. Therefore, the score in all cases increased, and as it was pointed out before, higher scores in ASEX questionnaire are indicative of sexual dysfunction. Table 2 shows that sexual desire disorder has increased from 9.1% to 38.6% with fluoxetine. Sexual arousal disorder has reached to 36.4%.

As figure 1 shows, 3 (33.0%) out of 9 individuals complaining of sexual dysfunction symptoms suffered the disorder. In addition, 24 (68.6%) out of 35 individuals not expressing sexual dysfunction suffered from this disorder. Therefore, there is a statistical reverse correlation between the symptoms of sexual dysfunction and the disorder ($P < 0.050$). The less patients complain about symptoms, the higher the risk of sexual dysfunction.

Discussion

Due to the extensive use of SSRIs during recent years, special attention is given to sexual dysfunction side effects induced by these medications and several studies have been conducted. The findings of the present study also showed that 61.4% depressed individuals under fluoxetine treatment suffered from sexual dysfunction. These findings are consistent with those of the research by Werneke et al.,¹⁵ Arias et al.,¹⁶ Clayton et al.,⁴ Kendurkar and Kaur,⁹ Pearlstein and Stone,¹⁷ and Williams et al.⁷

Table 1. Sexual function of women before and after fluoxetine prescription

Sexual function	Before fluoxetine	After fluoxetine	P
	Mean \pm SD	Mean \pm SD	
Sexual desire	2.75 \pm 1.08	3.75 \pm 1.31	< 0.001
Arousal	2.57 \pm 1.26	3.66 \pm 1.31	< 0.001
Vaginal lubrication	2.45 \pm 1.23	3.52 \pm 1.42	< 0.001
Orgasm	2.64 \pm 1.08	3.61 \pm 1.33	< 0.001
Satisfying orgasm	2.73 \pm 1.04	3.64 \pm 1.24	< 0.001
Overall score	13.14 \pm 4.88	18.18 \pm 5.82	< 0.001

SD: Standard deviation

Table 2. Sexual dysfunction of women before and after fluoxetine prescription

Sexual dysfunction	Before fluoxetine	After fluoxetine	P
	n (%)	n (%)	
Desire	4 (9.1)	17 (38.6)	< 0.050
Arousal	4 (9.1)	16 (36.4)	< 0.050
Vaginal lubrication	4 (9.1)	16 (36.4)	< 0.050
Ease of orgasm	3 (6.8)	13 (29.5)	< 0.050
Satisfying orgasm	3 (6.8)	14 (31.8)	< 0.050

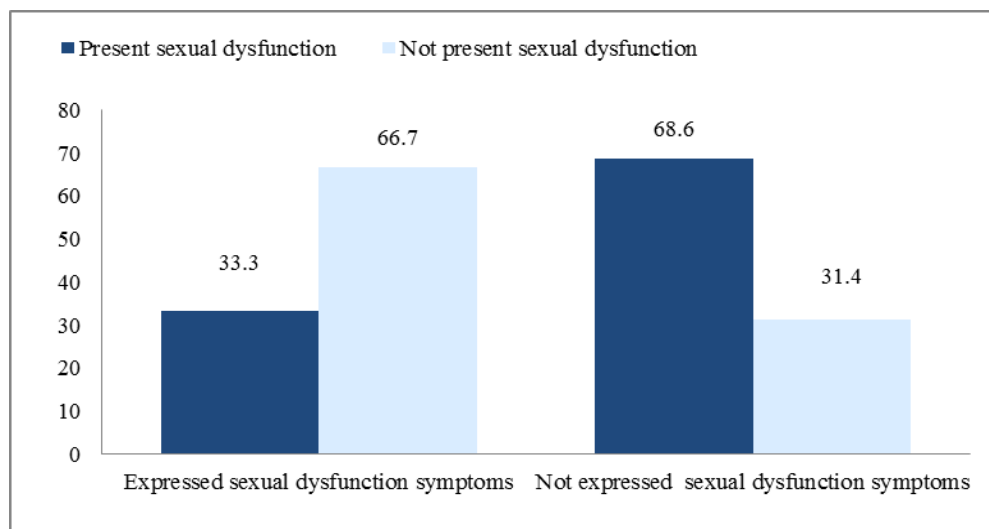


Figure 1. Expression of sexual dysfunction symptoms in two groups of patients

By reviewing previous studies, Werneke et al.¹⁵ concluded that 70.0% of depressed patients probably suffer from sexual dysfunction, which can be induced by antidepressants (tricyclic antidepressants, SSRIs). Patients must be asked about these side effects in order to be diagnosed early in the course. By studying 164 Spanish women and 71 Spanish men under SSRI treatment due to different psychiatric disorders, Arias et al.¹⁶ reported sexual function in 62.6% of the cases, which is similar to our study (61.4%).

In the study conducted by Clayton et al.⁴ on the 6297 patients under antidepressant treatment, 95.6% of women, and 97.9% of men experienced dysfunction in at least one phase of sexual function. The present study has also considered dysfunction in each phase. However, it is difficult to exactly determine if the side effects are due to drugs or underlying diseases.

Some studies have indicated the correlation between the severity of the disease and the incidence of sexual dysfunction, but Kendurkar and Kaur⁹ did not come to the same result. Many patients in this study suffered from mild depression, and the 61.4% prevalence of sexual dysfunction in our study compared to 76.0% can be due to different severity of the disease, as well as the definition of sexual dysfunction. The sensitivity of this scale is increased by lowering its threshold for the diagnosis of sexual dysfunction.

In the study by Pearlstein and Stone¹⁷ among 64 women under treatment of late luteal phase dysphonic disorder with fluoxetine, 17% suffered from sexual dysfunction.

In a study by Balon et al.¹⁸ on 38 women and 22 men with mood and anxiety disorder under antidepressant treatment, 43.3% were reported to suffer from sexual dysfunction and no difference was observed between various drug groups. This study used a questionnaire which merely investigated sexual and other side effects. It can be said that these results are consistent with those by the present study (48.5%).

The average final score of the ASEX questionnaire in our study also rose from 13.14 to 18.18.

By studying 14 women and 11 men with chronic depression who underwent SSRI treatment, using the ASEX questionnaire, Piazza et al.¹⁹ showed that sexual dysfunction improves in women but worsens in men, while several studies state the opposite, i.e., the prevalence and severity of sexual dysfunction in women was higher than men. In his study on 89 women and 57 men with major depression using the ASEX questionnaire; Lai²⁰ concluded that women suffer from sexual dysfunction and somatic pains more than men do, but these results may probably could not be extrapolated, due to small sample size.

In addition, the present study indicated that there is a reverse correlation between the

expression of sexual dysfunction symptoms and having the disorder. The fewer patients complain about symptoms, the higher the risk of sexual dysfunction. These findings are consistent with those of studies by Bonierbale et al.²¹ and Rizvi et al.²²

Bonierbale et al.²¹ showed that among 4557 patients with episodes of major depression without previous sexual dysfunction problems, merely 35.0% stated sexual dysfunction, while on being asked by the clinician and using the ASEX questionnaire, it reached 69.0%. This value was 71 and 65.0% in patients treated with antidepressants and those who were not treated, respectively.

On reviewing the studies conducted between 1970 and 2009, Rizvi et al.²² state that more than 40.0% of women and 30.0% of men in general population suffer from sexual dysfunction; the disorder was twice common in patients with major depressive disorder,

and with treatment of depression, sexual dysfunction reaches 30-50% while less than 20.0% of the patients state this problem.

Limitations

In this study, the sample size was small.

Conclusion

The consumption of fluoxetine causes sexual dysfunction and there is a correlation between sexual dysfunction and the disorder; moreover, the fewer participants complain about symptoms, due to cultural considerations, the more the chance of sexual dysfunction.

Conflict of Interests

Authors have no conflict of interest.

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