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Sexual problems in a sample of the Turkish psychiatric population

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Abstract

Introduction: Sexual functioning has received little attention as an important aspect of patient care for those who have severe mental disorders.
Aim: The aim of this study is to compare sexual difficulties seen in Turkish psychiatric patients and healthy control subjects.
Methods: Study group consisted of outpatients in remission with schizophrenia (n = 84), bipolar affective disorders (n = 90), heroin addiction (n = 88), and healthy control group (n = 98). A sociodemographical data form and the Golombok Rust Inventory of Sexual Satisfaction were applied to all groups (N = 360).
Results: Half of the patient groups and 72.8% of control subjects reported that they had regular sexual life. The patients with heroin addiction complained about more problems in their sexual life than in the other groups. Controls (86.2%) felt more satisfied with their sexual life. Female patients with heroin addiction had statistically significant higher scores in nonsensuality subscale of Golombok Rust Inventory of Sexual Satisfaction. Female patients with schizophrenia and bipolar disorder had statistically significant higher scores in vaginismus subscale than in control group. Between the groups, male patients with bipolar disorder had higher score in most of the items except noncommunication and erectile dysfunction and also had higher total score than in the controls. More men (especially with heroin addiction) thought that their illness and drugs were responsible for their sexual problems, knew the effect of the illness and drugs on their sexual life, and asked questions to their psychiatrists about the problems more than women.
Conclusion: Patients with bipolar disorders and schizophrenia were unaware of effects of their medication on their sexual life. Finally, it was also found that clinicians in our country do not pay sufficient attention to the sexual problems of psychiatric patients.

1. Introduction

Chronic mental illness and substance abuse can cause various sexual problems. Both the nature of mental illness and psychotropic medication or the negative effects of addictive substances can cause these problems. The comorbid states consequently are very important for the risk of sexual dysfunction among psychiatric patients.

Sexual dysfunctions, such as decreased libido or disturbances in ejaculation/orgasm or erectile/lubricative dysfunction, are frequent in both men and women among mentally ill and healthy populations [1,2]. Sexual dysfunctions in patients who have mental disorders represent an important factor both with regard to adherence to medication, which is highly influenced by side effects of antipsychotics and antidepressants [3] and other outcome variables such as quality of life [4-6]. Although sexual activities of patients with serious mental illness raise important clinical, social, and legal concerns, there is relatively little systematic information on the extent and pattern of sexual activity in this population. In addition, in contrast to the other medical areas, psychiatry has generally few data about the sexual activity of patients who have various mental disorders. In the last decade, and especially after the spread of HIV infection in the 1980s, a dramatic increase in the amount of attention given to various aspects of mentally unhealthy people's sexuality and high-risk sexual behaviors has been witnessed [4-10].

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The belief of some authors [9,11,12] is that people with mental illnesses have various sexual disturbances, and there may be the basis for problems in numerous relationships (such as marital problems) involving mentally healthy individuals. Major psychiatric disorders, mental handicap, and substance abuse have severe negative influences on sexual maturation and functioning. On the other hand, psychiatric disorders would interfere with sexual functioning that might have contributed to the psychiatric disorders or might delay recovery from the psychiatric illness [9,11]. In addition, sexual activity may be increased or decreased in various severe and chronic psychiatric disorders [2,4,6,7,10,13,14]. Furthermore, people with chronic mental disorders (such as schizophrenia or bipolar affective disorder), substance abuse, mental handicap, and personality disorders may experience difficulties in forming intimate relationships and responding sexually, and they talk unusually about their problems of sexual activity [8,9,11,15-18]. Moreover, there are many other external and social factors that affect the sexuality and capacity to love of mentally ill patients. In addition, mental illness is a social handicap that carries with it all of the stigma and discrimination associated with devaluated people.

A comprehensive study with control group comparisons that directly explores sexual function disorders in mentally ill patients and substance abusers has not been conducted in Turkey. The aims of this prospective study are to explore the sexual difficulties seen in patients with schizophrenia, bipolar affective disorder, and heroin addiction and to compare these patients with healthy control subjects.

2. Methods

The study group (N = 360, female = 203, male = 157) consisted of patients admitted to Bakirkoy Professor Mazhar Uzman Teaching and Research Hospital for Psychiatric and Neurological Diseases in Istanbul, which is one of the biggest hospitals with 650 acute psychiatric beds and accepts patients from all over Turkey. All patients except patients with heroin addiction were outpatients. The participants were divided into 4 groups. Group 1 included 84 patients with schizophrenia (53 females, 31 males); group 2, 90 patients with bipolar affective disorder (61 females, 29 males); group 3, 88 patients with heroin addiction (39 females, and 49 males); and group 4, 98 healthy and medication-free control subjects (50 females, 48 males) who were recruited to the study. All patients were matched according to their ages. All patients were diagnosed according to *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* [19] diagnosis criteria for bipolar disorder, schizophrenia, and drug dependence. Patients with schizophrenia and patients with bipolar disorder were in remission period at least for the last 2 months and were not taking other nonpsychotropic medication. The patients with heroin addiction filled the forms after detoxification period. All patients and control subjects had sexual partners.

Patients who were illiterate, who had an acute psychotic or mood episode, who were intoxicated and in psychotic episode for patients with heroin addiction, and who had any chronic medical illness causing them to take regular nonpsychotropic medication were excluded from the study. The study was approved by local ethic committee, and all subjects who participated signed informed consent.

2.1. Instruments

A semistructured form with 22 items that was designed for this study, concerning sociodemographic data and detailed history of illnesses and sexual life of the study group has been completed for each patient.

The Golombok Rust Inventory of Sexual Satisfaction (GRISS) [20], whose degree of reliability and validity in Turkish population has been reported in 1993 by Tugrul et al [21], was applied to all groups. The GRISS is a short 28-item questionnaire for assessing the existence and severity of sexual problems, sexual dysfunctions, and sexual satisfaction in heterosexual relationships and produces 12 subscales scores of erectile dysfunction, premature ejaculation, anorgasmia, vaginismus, noncommunication, infrequency, male and female avoidance, male and female nonsensuality, and male and female dissatisfaction as well as a total score. Subjects rate each item on a 0-to-4 scale. An overall transformed score higher than 5 on the GRISS was defined as indicative of overall sexual dysfunction (a global dysfunction score), and a score higher than 5 on any of the subscales as indicative of a specific sexual dysfunction [20].

2.2. Statistics

SPSS 10.0 version was used for statistics. The χ^2 test applied to categorical variables. One-way analysis of variance test (post hoc Bonferroni test) was also used for GRISS values and some sociodemographic data. For all statistical analyses, P values were 2-tailed, and level of significance was set at $P = .05$.

3. Results

3.1. Sociodemographic findings

The mean age of all subjects was 34.3 (SD = 8.2). There was no statistical significance in terms of age and duration of education between the groups. More subjects in the control group had a job. The difference between groups was significant ($P < .001$) (Table 1).

Although half of the patients reported that they had a regular sexual life, that is, at least once a week of partnered sexual activity. Those who had a stable sexual life (72.8%) with permanent sexual partner (84.7%) and those who

Table 1
Sociodemographic data of the groups

	Group 1 (n = 84)	Group 2 (n = 90)	Group 3 (n = 88)	Group 4 (n = 98)	ANOVA	*Df*	*P*
Age, mean (SD)	35.8 (7.6)	33.2 (9.1)	33.1 (9.0)	35.1 (7.0)	$F = 2.46$	355	NS
Education, , mean (SD), y	8.3 (3.6)	9.0 (4.2)	8.6 (3.8)	9.6 (4.1)	$F = 1.80$	354	NS
Gender, n (%)							
Female	53 (63.1)	61 (67.8)	39 (44.3)	50 (51.0)	$\chi^2 = 12.65$	3	.005
Male	31 (36.9)	29 (32.2)	49 (55.7)	48 (49.0)			
Work status							
Absent	47 (56.0)	51 (56.7)	39 (44.3)	16 (19.6)	$\chi^2 = 34.25$	3	<.001
Working	37 (44.0)	39 (43.3)	49 (55.7)	78 (80.4)			

ANOVA indicates analysis of variance; NS, nonsignificant.

found their sexual life satisfactory (86.2%) were significantly higher in the control group. In contrast, more subjects of all patients groups (especially 51.2% of patients with heroin addiction) expressed problems in their sexual life. More patients with heroin addiction reported that problems in their sexual life were related to the illness and drugs they used as compared with patients with schizophrenia and patients with bipolar disorder. Patients with bipolar disorder and schizophrenia were unaware of the effects of their medication on their sexual life. Only a few psychiatrists asked questions about sexual life of the patients, and a few patients mentioned about sexual problems to psychiatrists in their former contacts with mental health services (Table 2).

About more than half of the females and males reported that they had a regular sexual life, they had no problems and felt satisfied about their sexual life. More men thought that their illness and drugs were responsible for their sexual problems, knew the effect of the illness and drugs on their sexual life, and asked questions to their psychiatrists about the problems than women (Table 3).

All of the patients with schizophrenia (n = 84), 98.9% (n = 89) of patients with bipolar disorder, and approximately half of the patients with heroin addiction (54.5%, n = 48), and in total 61.4% of all patients (n = 221), were under medications such as antidepressants, anxiolytics, conventional or atypical antipsychotics, or mood stabilizers. A total of 61 (67.8%) of the patients with bipolar disorder and 30 (35.7%) of the

Table 2
Information of the subjects about their sexual life

	Group 1 (n = 84)		Group 2 (n = 90)		Group 3 (n = 88)		Group 4 (n = 98)		χ^2	*Df*	*P*
	n	%	n	%	n	%	n	%			
Do you have regular weekly basis sexual life?									16.30	3	.001
No	42	50.0	43	48,3	45	54.9	25	27.2			
Yes	42	50.0	46	51.7	37	45.1	67	72.8			
Do you have problems in your sexual life ?									18.76	3	<.001
No	55	65.5	55	61.8	40	48.8	75	79.8			
Yes	29	34.5	34	38.2	42	51.2	19	20.2			
Are you satisfied about your sexual life?									45.09	3	<.001
No	38	45.2	51	57.3	45	54.9	13	13.8			
Yes	46	54.8	38	42.7	37	45.1	81	86.2			
Is your sexual problem related to your illness?									17.93	2	<.001
No	45	53.6	59	74.7	32	41.6	–	–			
Yes	39	46.4	20	25.3	45	58.4					
Is your sexual problem related to your medicine?									21.22	2	<.001
No	53	63.1	69	86.3	40	52.6	–	–			
Yes	31	36.9	11	13.8	36	47.4					
Do you know the impact of your illness or drug you used?									17.87	2	.002
No	69	82.1	64	71.9	46	56.8	–	–			
Yes	15	17.9	25	28.1	35	43.2					
Is your psychiatrist interested in your sexual life?									2.28	2	NS
No	57	67.9	67	75.3	63	77.8	–	–			
Yes	27	32.1	22	24.7	18	22.2					
Do you ask anything about your sexual problems to your psychiatrist?									4.02	2	NS
No	57	67.9	66	74.2	66	81.5	–	–			
Yes	27	32.1	23	25.8	15	18.5					

NS indicates nonsignificant.

Table 3
Information about sexual life of the females and males

	Female (n = 203)		Male (n = 157)		χ^2	*Df*	*P*
	n	%	n	%			
Do you have regular weekly basis sexual life?					0.01	1	NS
No	87	44.8	68	44.4			
Yes	107	55.2	85	55.6			
Do you have problems in your sexual life?					2.75	1	NS
No	119	60.7	106	69.3			
Yes	77	39.3	47	30.7			
Are you satisfied about your sexual life?					2.65	1	NS
No	90	45.9	57	37.3			
Yes	106	54.1	96	62.7			
Is your sexual problem related to your illness?					7.14	1	.008
No	90	63.8	46	46.5			
Yes	51	36.2	53	53.5			
Is your sexual problem related to your medicine?					4.80	1	.028
No	103	73.0	59	59.6			
Yes	38	27.0	40	40.4			
Do you know the impact of your illness or drug you used?					8.29	1	.004
No	116	77.3	63	60.6			
Yes	34	22.7	41	39.4			
Do you ask anything about your sexual problems to your psychiatrist?					25.85	1	<.001
No	129	86.0	60	57.7			
Yes	21	14.0	44	42.3			

NS indicates nonsignificant.

patients with schizophrenia were taking combined medication (ie, mood stabilizer and typical or atypical antipsychotic and\or antidepressant). None of the patients with bipolar disorder or schizophrenia had alcohol or drug abuse.

3.2. The GRISS findings

3.2.1. Females

Although female patients with schizophrenia and heroin addiction scored slightly higher in total scores of the GRISS, the difference between groups was not significant. Nonsensuality scores of female patients with heroin addiction were higher than in control group. Patients with schizophrenia and bipolar disorder had statistically significant higher scores in vaginismus subscale than in control group (Table 4).

3.2.2. Males

Between the groups, male patients with bipolar disorder had higher score in most of the items except noncommunication and erectile dysfunction. Men with bipolar disorder had more complaints about premature ejaculation and infrequency than the patients with schizophrenic group; they were more nonsensual, avoidant, and dissatisfied and also had higher total score than the subjects in control group. Patients with schizophrenia and patients with heroin addiction were

Table 4
The scores of GRISS in females

	Group 1 (n = 53)		Group 2 (n = 61)		Group 3 (n = 39)		Group 4 (n = 50)		ANOVA[a] *F*		*P*
	Mean	SD	Mean	SD	Mean	SD	Mean	SD			
Infrequency	4.1	1.9	4.8	2.3	5.1	1.8	4.8	2.3	2.03		NS
Noncommunication	5.7	3.1	5.0	2.5	4.6	2.4	4.5	2.1	2.28		NS
Dissatisfaction	4.3	2.0	3.9	2.1	5.0	2.0	3.3	1.9	5.59	3>2 3>4	.001
Avoidance	4.8	2.4	4.4	2.1	4.7	2.0	4.0	2.0	1.43		NS
Nonsensuality	4.8	2.1	4.8	2.6	5.6	2.4	3.9	2.7	3.42	3>4	.018
Vaginismus	6.2	1.5	5.7	1.8	5.3	1.8	4.4	2.0	9.11	1>4 2>4	<.001
Anorgasmia	3.4	1.4	3.7	1.5	3.7	1.3	3.3	1.7	0.89		NS
Total	5.1	2.4	4.6	2.4	5.1	2.8	3.8	2.6	3.08		NS

ANOVA indicates analysis of variance; NS, nonsignificant.
[a] *Df* = 199.

Table 5
The scores of GRISS in males

	Group 1 (n = 31)		Group 2 (n = 29)		Group 3 (n = 49)		Group 4 (n = 48)		ANOVA[a] F		P
	Mean	SD	Mean	SD	Mean	SD	Mean	SD			
Erectile dysfunction	4.1	1.9	4.4	2.0	4.6	1.4	3.8	1.7	2.04		NS
Premature ejaculation	4.4	1.9	5.9	2.5	5.4	2.0	4.8	1.5	3.70	2>1	.013
Nonsensuality	3.4	2.7	3.8	2.9	3.1	2.2	2.4	1.5	2.74	2>4	.045
Avoidance	4.1	1.7	3.6	1.7	3.4	1.9	1.8	1.2	14.40	1>4 3>4 2>4	<.001
Dissatisfaction	3.7	1.9	3.7	2.0	3.3	1.5	2.5	1.3	4.54	1>4 2>4	.004
Infrequency	3.8	2.4	5.5	2.6	4.3	1.8	4.3	1.8	3.50	2>1	.017
Noncommunication	3.2	2.2	3.6	2.5	3.7	2.5	3.0	2.2	0.72		NS
Total	5.1	2.0	5.7	2.7	4.8	2.2	3.9	1.5	5.08	2>4	.002

ANOVA indicates analysis of variance. NS, nonsignificant.
[a] *Df* = 153.

more avoidant than control subjects. There was no difference between groups in the subscales of erectile dysfunction and noncommunication (Table 5).

4. Discussion

One of the important results of our study was that male patients with bipolar disorder had higher score in most of the subscales items of the GRISS except noncommunication and erectile dysfunction and had higher total score than that of the controls. Raboch [8] reported that patients with bipolar affective disorders showed a decrease in sexual activity. It has been reported that there has been a worsening in the sexual life of patients after the onset of bipolar disorder [22,23]. In addition, public stigma can cause social and sexual problems [24]. Self-esteem of patients with bipolar disorder can also decrease due to the public stigma, besides the patient's social isolation and the sense of powerlessness can increase. We can say that cultural pressure, public stigma, and the effects of medications together are able to explain why bipolar men have more sexual problems than women and other groups in our study.

The other important result was that there was no significant difference in the total scores of GRISS in female patients. It is quite understandable: According to Turkish and Islamic culture, the sexuality for women is usually a taboo and restrictive for premarital, free, and overt sexual relationships. Furthermore, because of Turkish women being passive in sexual activity, they carry out sexual activities less than men [25-27]. In contrast, because of the traditional social expectation from Turkish men "to continue their race and family," they must be active and lead the sexual activities.

In the sociodemographic findings of our study, the mean age and duration of education (years) of patients did not differ between all groups. Because heroin abuse in our country is more widespread among male population, the number of male subjects was higher in the addiction group, whereas the number of women in the other patient groups was higher. We also found that the number of those who had a stable job were higher in controls (80.4%), whereas the number of jobless people was especially higher in bipolar (56.0%) and schizophrenia groups (56.0%). Developmental crises and recurrent psychotic or affective episodes have an interfering effect. They may delay stages of personal and family development and may impair the quality of relationships [2,28]. In addition, public stigma can compromise self-esteem and add to a sense of powerlessness that can increase the patient's social isolation and can cause sexual problems and loss of social skills as well as loss of jobs [24,29].

Bhui and Puffet [10] mentioned in their study that 25% of females with schizophrenia, 100% of females with bipolar disorder, 62% of males with schizophrenia, and 75% of males with bipolar disorder talked about their sexual problems. In accordance to this view, in our study, those who had a regular sexual life (72.8%) with permanent sexual partner (84.7%) and those who found their sexual life satisfactory (86.2%) were significantly higher in the control group. In contrast, more participants from all patient groups (especially 51.2% of patients with heroin addiction) expressed problems in their sexual life. Although in some studies on sexual problems of mentally ill patients, a difference between patients and the general population was not found [28], as similar to our findings, Friedman and Harrison [11] reported that only 45% of the patients with schizophrenic, as compared to 86.7% of the healthy subjects, described themselves as either moderately or very satisfied about their sexual relations. Our findings supported these results.

The result that the patients with heroin addiction in our study complained about more problems in their sexual life than other patients and controls can be explained with heroin's adverse effects on sexuality. The contribution with biological and psychological factors of alcohol and substance abuse causes high rates of sexual dysfunction and

marital problems. For example, Nazrul-islam et al [30] observed some sexual problems in 57% of the patients with heroin addiction. Along with the side effects of medications, we know that heroin has a direct toxic effect on gonads and reduces or changes sexual hormone levels and so causes amenorrhea, infertility, delayed or premature ejaculation, and reduced desire [13,30-33]. Furthermore, some abusers believe that drugs, particularly heroin, increase their sexual performance, libido, and pleasure during intoxication [33]. From this point of view, it may be also understood why the patients with heroin addiction in our study found their sexual life problematic and unsatisfactory, it is because they filled the forms after the detoxification period. It has been also found that premature ejaculation is a common symptom that can provoke relapse in formerly opioid-dependent men after detoxification [33,34]. Furthermore, reduced sexual interest, emotional arousal, and orgasm satisfaction were reported more frequently by the methadone-substituted opiate-addicted patients [34]. Similar to these findings, we obtained also statistically significant high scores in female nonsensuality and dissatisfaction and in men premature ejaculation subscales, although there was no significant difference according to the GRISS scores of the controls.

We found that none of the patients with bipolar disorder or schizophrenia had alcohol or drug abuse. Prevalence of substance use in Turkey is considered lower than that in Western Europe and North America. However, most clinicians agree about a recent increase of alcohol and drug use among adolescents and young adults in particular. A 1998 study among high school students in Istanbul [35] yielded a prevalence of 17.3% of alcohol use for the last month. The lifetime use for cannabis was 3.6%, for solvents 8.2%, for sedative hypnotics 3.3%, for heroin 1.6%, and for cocaine 1.4% then. A replication study in 2001 [36] yielded not only an increase in lifetime alcohol use (45.0%), but also an increase in rate for heroin (2.5%) and for ecstasy (2.5%). Saylan et al [37] found that more than 95% of 692 patients with schizophrenia never had or had been diagnosed as having substance and alcohol dependency/abuse, and they concluded that it was understandable in terms of cultural and religious characteristics of the sample. Although there was no systematic study dealing with bipolar disorder and schizophrenia and alcohol and drug abuse in Turkey, according to these results, it was not a surprise that we did not find any patient with alcohol and drug abuse in our sample.

Sexual dysfunctions in the urological and psychological literature are highly prevalent among even nonpsychiatric individuals, affecting about 25% to 50% of women and 20% to 35% of men. The prevalence of sexual dysfunctions among psychiatric patients are 50% to 65% of men and 30% to 50% of women as opposed to the "nonpsychiatrics" [1,2,38-42]. Furthermore, many studies [2,11,17,18,43-45] reported that chronically mentally ill people had more sexual problems than healthy subjects, which is similar to our findings. We found especially dissatisfaction and nonsensuality scores of female patients with heroin addiction as well as vaginismus scores of both patients with schizophrenia and bipolar disorder were higher than that of controls. Anorgasmia scores were less than 5 transformed point, and there was no statistically significant difference between groups, although in many studies [8,11,17,38,39], it was found that, particularly, women with schizophrenia were anorgasmic as compared to healthy subjects. In 2 studies that investigated female sexuality in the Turkish general population [40,42], the orgasmic problems have been found to be 45.8% and 42.7%, especially among the 31-to-45 age group. From this point of view, not to find significant differences between the groups about the total score and infrequency, noncommunication, avoidance, and anorgasmia subscale scores in women can be explained by almost half of the healthy female population in Turkey have sexual problems.

Most patients (61.4%) in our study were under the treatment of psychotropic medications. They also took some antidepressants, anxiolytics such as benzodiazepines, conventional or novel antipsychotics, and mood stabilizers such as lithum or valproat as single or combined treatment. The side effects of prescribed medications are known as the cause of sexual activity disorders. Prevalence of sexual dysfunctions associated with atypical antipsychotic treatment is high, varying from 18% to 96% [4,5,15,22,23,25,46-51]. It has been reported that conventional antipsychotic medication causes most of the problems with libido, arousal, and orgasm in people with mental disorders, although it is also associated with restoration of their sexual desire [3-7,15,25,45-47,49,50,52].

However, patients with bipolar disorder and patients with schizophrenia in our study were unaware of the effects of their medication on their sexual life. Although patients with heroin addiction knew the negative effects of heroin on their sexual activities, in fact, a low proportion of patients had this kind of information and awareness. In a study, it was shown that there were only 20% of female patients who thought that their sexual activity was adversely influenced by their illness [11]. According to women, more men thought that their illness and medical treatments caused their sexual problems, and they asked more questions to their psychiatrists about this topic in our study. However, it is well known that psychiatric patients rarely speak of their sexual problems spontaneously [4,7,8,15,17,48]. For example, Grube and Weigand-Tomiuk [39] examined 41 mentally ill patients and determined that only 18% of men and 15% of women had talked to a doctor about their sexual problems. We also found the same result in our study.

On the other hand, Dossenbach et al [49] reported also that psychiatrists often overlook sexual dysfunction. Clinical trials that rely on spontaneous reporting show very low rates of sexual dysfunction, whereas very high rates are noted when patients are directly questioned. Montejo et al [51] determined that there was a significant increase in the incidence of sexual disorders when the physicians asked the patients direct questions (55.3%) vs

the report of spontaneous sexual problems (14.2%). In our study, it is found that only a few psychiatrists (22.2%-32.1%) have asked questions about the sexual life of patients, and a few patients (18.5-32.1%) have mentioned sexual problems to their psychiatrists. This finding showed us that clinicians in Turkey do not pay sufficient attention to this subject either. However, information about sexual life of patients is more important because of 2 reasons: (1) sexual activity may be a good manifestation for the qualities of relationships and social skills of mentally ill people; (2) regular and satisfactory sexual life can increase the general quality of life, and evaluating the quality of life is nearly related with the patient's adjustment to the medical or psychological therapy. It is important to keep in mind that sexual dysfunction has been implicated as one of the major factors contributing to noncompliance with antipsychotic medications.

Our study has some limitations that might restrict the extent the reasons of sexual problems might be explained comprehensively. First, it is not possible to differentiate the side effects of medication from the negative effects of the illness on the sexual maturation clearly. Second, it is not easy to clarify how important the secondary effects of the loss of social skills or how effective the cultural/religious pressure and public stigma on sexual activity are. Third, we have not questioned how the level of sexual activity and desire of patients were before their illness and their use of psychotropic medications.

5. Conclusion

Our study is a significant one in the aspect that this study on the sexual dysfunctions in patients with chronic mental illness such as bipolar disorder, schizophrenia, and substance dependency is the first one in Turkey. The effects underlying these conditions are often complex and cannot be easily differentiated.

In addition to their widespread prevalence, only sexual dysfunctions have been found to have a significant impact on interpersonal functioning and overall quality of life in both men and women. Therefore, "improving the quality of life" of psychiatric patients should be pursued by taking sexual difficulties in mental disorders more seriously, identifying the source of problems, and providing necessary treatments and interventions.

References

[1] Laumann EO, Paik A, Rosen RC. Sexual dysfunction in the United States: prevalence and predictors. JAMA 1999;281(6):537-44 [erratum in: JAMA 1999 Apr 7;281(13):1174].

[2] Macdonald S, Halliday J, MacEwan T, Sharkey V, Farrington S, Wall S, et al. Nithsdale Schizophrenia Surveys 24: sexual dysfunction. Case-control study. Br J Psychiatry 2003;182:50-6.

[3] Lambert M, Conus P, Eide P, Mass R, Karow A, Moritz S, et al. Impact of present and past antipsychotic side effects on attitude toward typical antipsychotic treatment and adherence. Eur Psychiatry 2004;19(7): 415-22.

[4] Malik P. Sexual dysfunction in schizophrenia. Curr Opin Psychiatry 2007;20(2):138-42.

[5] Palha AP, Esteves M. Drugs of abuse and sexual functioning. Adv Psychosom Med 2008;29:131-49.

[6] Zemishlany Z, Weizman A. The impact of mental illness on sexual dysfunction. Adv Psychosom Med 2008;29:89-106.

[7] Buckley PF, Robben T, Friedman L, Hyde J. Sexual behavior in persons with serious mental illness: patterns and clinical correlates. In: Buckley PF, editor. Sexuality and serious mental illness. Harwood Academic Publishers; 1999. p. 1-20.

[8] Raboch J. Sexual development and life of psychiatric female patients. Arch Sex Behav 1986;15(4):341-53.

[9] Pinderhuges CA, Barrabee GE, Reyna LJ. Psychiatric disorders and sexual functioning. Am J Psychiatry 1972;28:1276-83.

[10] Bhui K, Puffet A. Sexual problems in the psychiatric and mentally handicapped populations. Br J Hosp Med 1994;51:459-64.

[11] Friedman S, Harrison G. Sexual histories, attitudes, and behavior of schizophrenic and "normal" women. Arch Sex Behav 1984;13(6): 555-67.

[12] Swan M, Wilson LJ. Sexual and marital problems in a psychiatric out-patient population. Br J Psychiatry 1979;135:310-4.

[13] Coverdale JH, Turbott SH, Roberts H. Family planning needs and STD risk behaviours of female psychiatric out-patients. Br J Psychiatry 1997;171:69-72.

[14] Raja M, Azzoni A. Sexual behavior and sexual problems among patients with severe psychosis. Eur Psychiatry 2003;18:70-6.

[15] Milner K, Tandon R, Tomori O, Florence T. Psychotropic medications and sexual dysfunction. In: Buckley PF, editor. Sexuality and serious mental illness. Harwood Academic Publishers; 1999. p. 173-95.

[16] Kelly DL, Conley RR. Sexuality and schizophrenia: a review. Schizophr Bull Washington 2004;30(4):767-79.

[17] Basson R. Women's sexual dysfunction: revised and expanded definitions. CMAJ 2005;172(10):1327-33.

[18] Olfson M, Uttaro T, Carson WH, Tafesse E. Male sexual dysfunction and quality of life in schizophrenia. J Clin Psychiatry 2005;66:331-8.

[19] American Psychiatric Association. Diagnostic and statistical manual of mental disorders. 4th ed. Washington, DC: American Psychiatric Association Press; 1994.

[20] Rust J, Golombok S. The Golombok-Rust Inventory of Sexual Satisfaction (GRISS). Br J Clin Psychol 1985;24:63-4.

[21] Tugrul C, Oztan N, Kabakcı E. Standardization of Golombok-Rust Sexual Satisfaction Inventory (Golombok-Rust cinsel doyum ölçeğinin standardizasyon çalışması). Turk Psikiyatri Derg 1993;2:83-8.

[22] Kennedy SH, Dickens SE, Eisfeld BS, Bagby RM. Sexual dysfunction before antidepressant therapy in major depression. J Affect Disord 1999;56:201-8.

[23] Kristensen E, Jørgensen P. Sexual function in lithium-treated manic-depressive patients. Pharmacopsychiatry 1987;20(4):165-7.

[24] Buckley PF, Hogan M, Svendsen DP, Gintoli G. Dilemmas of managing sexual activity among psychiatric patients. In: Buckley PF, editor. Sexuality and serious mental illness. Harwood Academic Publishers; 1999. p. 53-74.

[25] Atmaca M, Kuloglu M, Tezcan E. A new atypical antipsychotic: quetiapine-induced sexual dysfunctions. Int J Impot Res 2005;17: 201-3.

[26] Erkmen H, Dilbaz N, Seber G, Kaptanoğlu C, Tekin D. Sexual attitudes of Turkish university students. J Sex Educ Ther 1990;16(4):251-61.

[27] Aksaray G, Yelken B, Kaptanoğlu C, Oflu S, Özaltın M. Sexuality in women with obsessive compulsive disorder. J Sex Marital Ther 2001; 27:273-7.

[28] Verhulst J, Schneidman B. Schizophrenia and sexual functioning. Hosp Community Psychiatry 1981;32(4):259-62.

[29] Aizenberg D, Zemishlany Z, Dorfman-Etrog P, Weizman A. Sexual dysfunction in male schizophrenic patients. J Clin Psychiatry 1995;56: 137-41.

[30] Nazrul-Islam SK, Hossain KJ, Ahsan M. Sexual life style, drug habit and socio-demographic status of drug addicts in Bangladesh. Public Health 2000;114(5):389-92.
[31] Cicero TJ, Bell RD, Wiest WG, Allison JH, Polakoski K, Robins E. Function of the male sex organs in heroin and methadone users. N Engl J Med 1975;292(17):882-7.
[32] Smith DE, Moser C, Wesson DR, Apter M, Buxton ME, Davison JV, et al. A clinical guide to the diagnosis and treatment of heroin-related sexual dysfunction. J Psychoactive Drugs 1982;14(12):91-9.
[33] Palha AP, Esteves M. A study of the sexuality of opiate addicts. J Sex Marital Ther 2002;28(5):427-37.
[34] Teusch L, Scherbaum N, Böhme H, Bender S, Eschmann-Mehl G, Gastpar M. Different patterns of sexual dysfunctions associated with psychiatric disorders and psychopharmacological treatment. Results of an investigation by semistructured interview of schizophrenic and neurotic patients and methadone-substituted opiate addicts. Pharmacopsychiatry 1995;28(3):84-92.
[35] Ogel K, Tamar D, Evren C, Cakmak D. Lise gencleri arasinda tutun, alkol ve madde kullanim yayginligi (Tobacco, alcohol and drug use among high school students). Turk Psikiyatri Derg 2001;12:47-52.
[36] Ogel K, Corapcioglu A, Sir A, Tamar M, Tot S, Dogan O, et al. Dokuz ilde ilk ve ortaogretim ogrencilerinde tutun, alkol ve madde kullanim yayginligi (Prevalence of tobacco, alcohol and substance use among elementary and secondary school students in nine cities of Turkey). Turk Psikiyatri Derg 2004;15(2):112-8.
[37] Saylan M, Alptekin K, Akdemir A, Tetik E, Korb FA. The Intercontinental Schizophrenia Outpatient Health Outcomes (IC-SOHO) study: baseline clinical and functional characteristics and antipsychotic use patterns in Turkey. Bull Clin Psychopharmacol 2004; 14:132-42 [in Turkish].
[38] Rosen RC. Prevalence and risk factors of sexual dysfunction in men and women. Curr Psychiatry Rep 2000;2(3):189-95.
[39] Grube M, Weigand-Tomiuk H. Sexual dysfunctions in a group of psychiatric in-patients. Psychiatr Prax 2002;29(4):194-200.
[40] Cayan S, Akbay E, Bozlu M, Canpolat B, Acar D, Ulusoy E. The prevalence of female sexual dysfunction and potential risk factors that may impair sexual function in Turkish women. Urol Int 2004;72(1): 52-7.
[41] Oksuz E, Malhan S. The prevalence of male sexual dysfunction and potential risk factors in Turkish men: a Web-based survey. Int J Impot Res 2005;17(6):539-45.
[42] Oksuz E, Malhan S. Prevalence and risk factors for female sexual dysfunction in Turkish women. J Urol 2006;175(2):654-8.
[43] Kockott G, Pfeiffer W. Sexual disorders in nonacute psychiatric outpatients. Compr Psychiatry 1996;37(1):56-61.
[44] Bhui K, Puffet A, Strathdee G. Sexual and relationship problems amongst patients with severe chronic psychoses. Soc Psychiatry Psychiatr Epidemiol 1997;32(8):459-67.
[45] Costa AM, Lima MS, Mari Jde J. A systematic review on clinical management of antipsychotic-induced sexual dysfunction in schizophrenia. Sao Paulo Med J 2006;124(5):291-7.
[46] Ghadirian AM, Annable L, Bélanger MC. Lithium, benzodiazepines, and sexual function in bipolar patients. Am J Psychiatry 1992;149(6): 801-5.
[47] Seagraves RT. Effects of psychotropic drugs on human erection and ejaculation. Arch Gen Psychiatry 1989;46:275-84.
[48] Montejo AL, Llorca G, Izquierdo JA, Rico-Villademoros F. Incidence of sexual dysfunctions associated with antidepressant agents: a prospective multicenter study of 1022 outpatients. Spanish Working Group for the Study of Psychotropic-Related Sexual Dysfunction. J Clin Psychiatry 2001;62(Suppl 3):10-21.
[49] Dossenbach M, Dyachkova Y, Pirildar S, Anders M, Khalil A, Araszkiewicz A, et al. Effects of atypical and typical antipsychotic treatments on sexual function in patients with schizophrenia: 12-month results from the Intercontinental Schizophrenia Outpatient Health Outcomes (IC-SOHO) study. Eur Psychiatry 2006;21:251-8.
[50] Ucok A, Incesu C, Aker T, Erkoc S. Sexual dysfunction in patients with schizophrenia on antipsychotic medication. Eur Psychiatry 2007; 22:328-33.
[51] Montejo AI, Llorca G, Izquierdo JA, Ledesma A, Bousono M, Calcedo A, et al. Sexual dysfunction secondary to SSRIs. A comparative analysis in 308 patients. Actas Luso Esp Neurol Psiquiatr Cienc Afines 1996;24(6):311-21.
[52] Bitter I, Basson BR, Dossenbach MR. Antipsychotic treatment and sexual functioning in first-time neuroleptic-treated schizophrenic patients. Int Clin Psychopharmacol 2005;20:19-21.