Journal of Young Pharmacists, 2024; 16(4):787-794.
https://www.jyoungpharm.org

Original Article

Prevalence of Sexual Side Effects in Female Psychiatric Patients Taking Psychotropic Medications: A Cross-Sectional Study

Rajesh Hadia[1,*], Vishal Singh[1], Nidhi Solanki[1], Nisheet Patel[2], Hemrajsingh Rajput[1]

[1]Department of Pharmacy, Sumandeep Vidyapeeth (Deemed to be University), Vadodara, Gujarat, INDIA.
[2]Department of Psychiatry, SBKS Medical Institute and Research Center, Sumandeep Vidyapeeth (Deemed to be University), Vadodara, Gujarat, INDIA.

ABSTRACT

Background: Many women experience sexual disorders or side effects due to factors such as age or medication use. The most common issues are lack of desire and inability to become aroused during sex. Women are more likely than men to suffer from sexual inefficiency, with a prevalence of 43% compared to 31% for men. This study aims to determine the prevalence and compare the types of sexual side effects of psychotropic medications in female psychiatric patients, while exploring the impact of socio-demographic factors and potential correlation with menstruation. **Materials and Methods:** An observational, prospective cross-sectional study was conducted on patients at the psychological medicine department of Dhiraj Hospital, SVDU. Patients with a history of psychiatric illness or those taking psychedelic medication for at least a month were included based on study criteria. The Female Sexual Function Index Scale was used, consisting of 19 questions divided into six domains representing sexual side effects in female patients: Desire, Arousal, Lubrication, Orgasm, Satisfaction, and Pain. Patient responses were collected and interpreted using the FSFI score to determine the final score. **Results:** According to the study, the prevalence of sexual problems varies among patients. Out of the population studied, 103 patients experienced desire problems, which accounts for 51.73% of the group. Arousal problems affected 110 patients, representing 55.23% of the population. Lubrication issues were reported by 138 patients, which represent a prevalence of 69.19%. The prevalence of orgasm problems was 62.25%, affecting 124 patients. A total of 164 patients suffered from satisfaction problems, resulting in a prevalence rate of 82.33%. In contrast, 120 patients reported pain, equating to a prevalence of 60.28%. Finally, the study found that 128 patients had a full score, which accounts for a prevalence rate of 64.26%. **Conclusion:** In summary, it is crucial to understand the sexual side effects that may arise due to psychotropic medication in women. This study highlights the prevalence of such side effects and the importance of addressing them to prevent additional stress on patients' mental health. Recognizing and discussing these potential side effects with healthcare providers can lead to better management of psychiatric conditions and improve the overall well-being of patients.

Keywords: Female Sexual Function Index Desire, Arousal, Lubrication, Orgasm, Satisfaction, Pain.

Correspondence:
Dr. Rajesh Hadia
Assistant professor, Pharmacy Practice, Department of Pharmacy, Sumandeep Vidyapeeth (Deemed to be University), Vadodara-391760, Gujarat, INDIA.
Email: docrajesh.hadia@gmail.com

Received: 03-04-2024;
Revised: 09-06-2024;
Accepted: 21-07-2024.

INTRODUCTION

Psychosexual disorders are a set of conditions that result in sexual distress or impairment. Among these, psychosexual dysfunction is the most prevalent, and it is defined by a psychological inability to attain or maintain sexual arousal in ordinarily stimulating situations. Other psychosexual disorders include sexual sadism/masochism, voyeurism, and fetishism.[1] Psychosexual disorder encompasses various issues, such as difficulties with gender identification and erectile dysfunction. Sexual dysfunction manifests as a range of problems, including premature ejaculation, erectile dysfunction, and addiction or aversion to sexual activities. Unusual or abnormal sexual behavior includes a variety of subtypes, such as fetishism, exhibitionism, sadism, and voyeurism, all of which fall under the umbrella of fetishism.[2] If an individual's biological sex conflicts with their own sense of sexual identity, they may encounter challenges related to gender identity, which can cause difficulties in adapting to everyday life and a wish to change their gender. Although sexual problems impact around 54% of women and 35% of men, discussing them can be challenging for many people.[3] Psychosexual dysfunction in men can manifest in various ways, such as the inability to achieve or sustain an erection, premature ejaculation, or difficulty

DOI: 10.5530/jyp.2024.16.99

Publishing Partner : Manuscript Technomedia. [www.mstechnomedia.com]

ejaculating. Similarly, psychosexual dysfunction in women may present as reduced libido, difficulty achieving orgasm, vaginal dryness, or vaginismus-a condition characterized by involuntary tightness of the vaginal muscles leading to pain during sexual intercourse.[4] A new meta-analysis shows that both oral and depot antipsychotic medications commonly cause Sexual Dysfunction (SD) in patients, affecting between 48% and 75% of them. The study found that individuals taking oral antipsychotics are more susceptible to SD than those who are not. The medications with the lowest rates of SD were quetiapine (16%), ziprasidone (18%), and aripiprazole (27%). In contrast, the prevalence of SD was higher in those taking olanzapine (40%), risperidone (43%), haloperidol (45%), and clozapine (52%).[5] When used as long-acting depots, first-generation antipsychotics have a greater association with sexual dysfunction (SD) compared to second-generation antipsychotics. The DSM defines sexual dysfunction as a cessation of the sexual response or Discomfort during Sexual activity (DSM-IV). In recent times, the medical conditions that affect women's health have expanded to include sexual aversion and hypoactive sexual drive conditions. These conditions comprise dyspareunia, vaginismus, and other forms of sexual dysfunction.[6] The World Health Organization (WHO) defines sexual dysfunction as the inability of an individual to engage in sexual activities in the manner they desire, as per the 10th Revision of the International Classification of Diseases for Disorders of Public Health (ICD-DPH). In addition to vaginal dryness, other symptoms such as delayed or absent orgasms (orgasmismus) and dyspareunia (lack of sexual pleasure not caused by physical difficulties) should also be considered. Human sexuality is a complex phenomenon that encompasses biological, psychological, social, and cultural factors.[7] Psychosexual dysfunction refers to sexual problems that originate in the mind and are not caused by an underlying physical ailment. Various physical, environmental, and psychological factors contribute to these issues, making it difficult to determine the root cause. For instance, diabetes-related Erectile Dysfunction (ED) can result in Low Sexual Desire (LSD), which may then lead to Depression (HSD).[8] There is no definitive list of symptoms for psychosexual disorders, although common categories found in literature include sexual dysfunctions, paraphilias, and gender identity issues. One area of interest is the role of dermatologists in treating these conditions, as well as the range of typical sexual problems that may arise.[9] Sexual dysfunctions can manifest in various forms such as a lack or loss of sexual desire, sexual arousal disorders like impotence in men and failure of genital response in women, orgasm problems such as inhibited male or female orgasm, and sexual pain disorders where pain occurs before, during, or after intercourse in either the man or the woman on a recurring or persistent basis.[10] Psychotropic medications can cause sexual side effects, which can be a concern for patients with psychiatric illnesses. These side effects can be linked to the medication's mechanism of action and may also be influenced by genetic, hormonal, and psychological factors. Effective strategies are available to manage medication-induced sexual dysfunction, such as switching to different medications or adding antidotes. However, it is important to note that certain pharmacologic agents, particularly antipsychotics and antidepressants, have been associated with sexual side effects. The prevalence of these side effects can be difficult to determine due to various factors, such as comorbid conditions and baseline sexual dysfunction. Additionally, antipsychotics with more D2 blockade can lead to an increase in prolactin levels and are more likely to cause sexual dysfunction. Antidotes such as bupropion, buspirone, and sildenafil can be used to treat antidepressant-induced sexual dysfunction. Overall, psychotropic medications causing sexual side effects is a significant medical concern that needs to be addressed.[1,11-13] The ability of a woman to have a fulfilling sex life is influenced by various factors, including the impact of hormones on the female genitalia. Certain dermatological conditions like lichen sclerosis, precancerous and premalignant lesions, dermatitis, and Cohn's disease may also contribute to female sexual dysfunction. Experts recognize four primary types of female sexual dysfunction, where HSDD is particularly important as a decline in sexual desire can lead to other sexual disorders. Among the most frequent female sexual problems are anorgasmia, dyspareunia, and virilismus.[14,15] In India, very little epidemiological study has been done on the prevalence of sexually transmitted diseases. Indian cultural beliefs and shame may prevent people from going to a doctor or exposing their sexual lives, making it hard to quantify the problem's size. As many as 10% to 52% of men suffer with ED, 3-15% have ED, 4-8% suffer from Pre-Ejaculation (PE) and 1-7% suffer from male Hypoactive Sexual Drive Disorder (HSDD). Research from southern India found that 14% of women had some sort of sexual dysfunction.[16] The incidence of female HSDD, female orgasmic disorder, and dyspareunia in women surveyed ranged from 5 to 46%, according to a few population studies, whereas the prevalence of dyspareunia was roughly 8% in the women analyzed. Misinformation, superstitions, media and film industry projections of sex, pornographic literature and the projected sex marathons achievable with sexual stimulants are just some of the factors that contribute to such disorders in our country.[8] Sex education is also lacking in our country, which includes gender mixing in schools. Having had a bad experience with one's sexuality or hearing about it from others, having performance anxiety, or having an unhealthy body image can all lead to or worsen any of these conditions.[17] Sexual dysfunction can occur as a result of problems as simple as back pain or obesity, depending on the severity. A single incident or encounter with a partner is usually the core cause of these issues in the majority of situations. There is a decreased frequency of mental health difficulties among those who have never been exposed to other people compared to those who have been exposed to others.[7] Researchers say that males in India and other Asian countries have had difficulty adjusting to

new gender standards, which has led to an increase in the number of relationship problems and sexual dysfunction. Because of the influence of the ailment being treated, co-occurring disorders, and baseline sexual dysfunction, it's extremely difficult "to assess the prevalence of sexual side effects". It's well-known that antidepressants and antipsychotics can cause sexual dysfunction as a side effect. A number of medications have been linked to sexual dysfunction, including MAOIs and TCAs as well as SSRIs, SNRIs, atypical antipsychotics, and novel antidepressants.[18,19] Need of the study Sexual dysfunction is a documented side effect of several psychiatric medicines. Despite the prevalence of sexual problems among persons receiving psychiatric treatment in India, very little study has been conducted on the subject. As a result of taking antipsychotic medication, patients are more prone to have sexual dysfunction. Clinicians should be aware of this when prescribing psychiatric medicines and should develop a treatment plan to address psychotropic- induced sexual dysfunction in order to enhance patient outcomes and compliance with therapy. A common adverse effect of antidepressants is sexual dysfunction. Sexual dysfunction has been observed with different frequency when antidepressants are used. The researchers at Clayton AH found that when SSRIs and Venlafaxine XR were compared to bupropion and nefazodone, the incidence of sexual dysfunction was higher. Numerous studies have revealed that antidepressant-treated married female patients experience sexual dysfunction in all areas of their sexual functioning. "The prevalence of sexual dysfunction" in people using mood stabilizers has not been studied extensively. Patients using lithium for bipolar disorder were more likely to fail to adhere to treatment if they suffered from sexual dysfunction, research shows. Patients have reported sexual dysfunction after using anticonvulsants such valproate and carbamazepine. As a result, sexual dysfunction induced by psychotropics is seldom evaluated or reported. However, for patients, this is a major problem since it affects their quality of life and their willingness to adhere to therapy. Psychotropics have been studied extensively in Western nations, but just a few of studies have focused on the Indian population. Because of this, the study's purpose was to determine how frequent sexual dysfunction was among psychiatric drug users.

MATERIALS AND METHODS

An observational, prospective cross-sectional study was administered on the patients who presented to the psychological medicine Department in Dhiraj Hospital, SVDU. The study included patients who had a past history of psychiatrically ill health or were on psychedelic medication throughout the study for a minimum of one month, and who met the study's selection criteria. The man of science explained the aims and objectives of the study to the patient in their vernacular language and answered any further questions. Before initiating the study, approval was obtained from the Sumandeep Vidyapeeth Institutional Ethics committee (SVICE/ON/Phar/BNPG20/D22035). If the patient understood and was willing to participate, the patient's written consent was obtained. Patient demographic data, menstruation history, whether the patients were hysterectomized, diagnosis of disease, duration of disease, class of medication, name of drug, dose of drug, frequency, duration since current medication initiation, and Female Sexual Function Index Scoring (FSFI scale) related information were taken. The study used the Female Sexual Function Index Scale, which included 19 questions. Each question was divided into six domains, which were considered as sexual side effects in female patients. These domains were Desire, Arousal, Lubrication, Orgasm, Satisfaction, and pain. Response from the patient was collected for each of these six domains according to the FSFI score. After that, using the interpretation method of FSFI, the final score was obtained. Statistical analysis was done.

RESULTS

Total numbers of patients included in our study are 200, who were administrating Psychotropic Medications from the Department of psychiatry. From which we concluded how many patients developed sexual Side Effects after administering Psychotropic Medications. The study examined patients aged 18-60, without comorbidities, and divided them into three age groups: 18-30, 31-45, and 46-60. Out of 200 patients, 57 were in the 18-30 group (28.5%), 87 were in the 31-45 group (43.5%), and 56 were in the 46-60 group (28%). Our study divided 200 patients into 5 classes based on their socio-economic status: class 1 (97 patients, 48.5%), class 2 (47 patients, 23.5%), class 3 (26 patients, 13%), class 4 (25 patients, 12.5%), and class 5 (5 patients, 2.5%). The population in our study is divided into 6 education categories: primary, primary schooling, secondary, higher secondary, graduate, and post-graduate. Out of 200 patients, 46 are in the primary category (23%), 34 are in the primary schooling category (17%), 19 are in the secondary category (9.5%), 51 are in the higher secondary category (25.5%), 45 are in the graduate category (22.5%), and 5 are in the post-graduate category (2.5%). This study categorized 200 patients based on their locality as rural or urban. Of these, 109 patients (54.5%) were from rural areas, and 91 patients were from urban areas. The study categorized 200 patients based on their menstrual experience: painful, not painful, regular, and irregular. 38 patients (19%) reported painful menstruation, while 137 patients (68.5%) did not report painful menstruation. 152 patients (76%) reported regular menstruation, and 22 patients (11%) reported irregular menstruation (Table 1). A study found that a significant percentage of patients in a certain population suffer from various sexual dysfunctions. Specifically, 51.73% suffer from desire problems, 55.23% from arousal problems, 69.19% from lubrication problems, 62.25% from orgasm problems, 82.33% from satisfaction problems, and 60.28% from pain. On the other hand, 64.26% of patients scored the full score (Table 2). Our study found that Satisfaction had the highest prevalence rate among the domains we examined, followed by Lubrication,

Table 1: Demographic details of Participants.

Age Group	No. of Patients	Percentage (%)
18-30 years	57	28.5
31-45 years	87	43.5
46-60 years	56	28.0
Class (Socio-Economic Status)	**No. of Patients**	**Percentage (%)**
Class-1	97	48.5
Class-2	47	23.5
Class-3	26	13
Class-4	25	12.5
Class-5	5	2.5
Education	**No. of Patients**	**Percentage (%)**
Primary	46	23
Primary Schooling	34	17
Secondary	19	9.5
Higher secondary	51	25.5
Graduate	45	22.5
Post graduate	5	2.5
Locality	**No. of Patients**	**Percentage (%)**
Rural	109	54.5
Urban	91	45.5
Menstruation	**No. of Patients**	**Percentage (%)**
Painful	38	19
Not Painful	137	68.5
Regular	152	76
Irregular	22	11

Table 2: Prevalence with number of the individual in each domain.

Prevalence (%)		
FSFI-Domain	**No. of Patients Suffering from Side Effect**	**Prevalence (%)**
Desire	103	51.73
Arousal	110	55.23
Lubrication	138	69.19
Orgasm	124	62.25
Satisfaction	164	82.33
Pain	120	60.28
Full-Score	128	64.26

Orgasm, Pain, Arousal, and finally, Pain. The prevalence rate for all domains combined was 64.26%. This is indicated by the red bar in the graph. The blue bar represents the number of individuals who experienced side effects in each domain (Table 3).

This data presents the prevalence of sexual problems among five different classes based on socio-economic status. Class 1 has the highest number of patients with the highest prevalence of all sexual problems except for orgasm problem, which is highest in Class 2. Class 5 has the lowest number of patients but the highest prevalence of satisfaction and lubrication problems. Overall, these findings suggest a relationship between socio-economic status and the prevalence of sexual problems, with higher prevalence among lower socio-economic classes. The FSFI Scale score is used to determine the prevalence of different socio-economic classes. The pie chart indicates that class-5 has the highest percentage of prevalence, followed by class-1, class-3, class-4, and class-2, in that order. Our study revealed that the highest occurrence rate belongs to the individual domain of Orgasm, followed by Satisfaction, Lubrication, Pain, Arousal, and Desire, in that order. The data for all these domains, represented by navy blue bars, are related to Orgasm (Table 3).

The population is divided into 3 age groups: 18-30, 31-45, and 46-60. The number of patients in each group is 57, 87, and 56, respectively. The prevalence of desire problem in the age group of 18-30 is 59.47%, while the prevalence of arousal problem is 60.84%, lubrication problem is 75.08%, orgasm problem is

Table 3: **Prevalence of individual domain of whole data.**

		Prevalence (%)						
Socio-Economic Status	No. of Patients	Desire	Arousal	Lubrication	Orgasm	Satisfaction	Pain	Full-Score
Class-1	97	53.81	58.36	71.45	98.96	84.32	61.85	66.6
Class-2	47	48.86	52.94	67.83	99.85	79.54	57.51	62.08
Class-3	26	50.76	52.17	66.34	100	85.64	61.28	65.42
Class-4	25	50.8	52	66.6	100	77.33	59.2	60.48
Class-5	5	60	60	80	100	95	70	75

Table 4: **Prevalence according to different age group.**

		Prevalence (%)						
Age Group	No. of Patients	Desire	Arousal	Lubrication	Orgasm	Satisfaction	Pain	Full-Score
18-30 years	57	59.47	60.84	75.08	96.66	86.66	64.32	70.22
31-45 years	87	45.94	52.08	66.44	93.84	78.26	57.78	63.99
46-60 years	56	48.75	49.76	61.51	98.21	79.26	54.88	59.30

Table 5: **Prevalence according to the locality.**

		Prevalence (%)						
Locality	No. of Patients	Desire	Arousal	Lubrication	Orgasm	Satisfaction	Pain	Full-Score
Rural	109	52.50	57.33	70.71	99.75	82.44	61.43	65.68
Urban	91	51.37	53.29	68.11	99.11	83.11	59.55	63.70

Table 6: **Prevalence according to issue arises during menstruation.**

		Prevalence (%)						
Menstruation	No. of Patients	Desire	Arousal	Lubrication	Orgasm	Satisfaction	Pain	Full-Score
Not Painful	137	79.42	56.49	69.33	98.74	83.57	61.77	65.48
Painful	38	49.38	52.85	71.57	98.42	81.57	59.47	65.10
Regular	152	53.63	56.28	69.82	98.64	83.92	61.67	65.61
Irregular	23	46.81	50.83	69.09	100	78.18	57.27	63.39

96.66%, satisfaction problem is 86.66%, pain is 64.32%, and full score is 70.22%. In the age group of 31-45, the prevalence of desire problem is 45.94%, arousal problem is 52.08%, lubrication problem is 66.44%, orgasm problem is 93.84%, satisfaction problem is 78.26%, pain is 57.78%, and full score is 63.99%. In the age group of 46-60, the prevalence of desire problem is 48.75%, arousal problem is 49.76%, lubrication problem is 61.51%, orgasm problem is 98.21%, satisfaction problem is 79.26%, pain is 54.88%, and full score is 59.30%. Prevalence of the individual age group according to the full-scale score of FSFI Scale. This shows that age group of 18-30 has the highest percentage of prevalence followed by the age group of 31-45, age group of 46-60 respectively. The study found that the most prevalent sexual domain varied by age group, with orgasm being the most prevalent across all groups. Satisfaction, lubrication, pain, arousal, and desire followed in that order (Table 4). The population is divided into two categories based on locality. The rural locality has 109 patients with prevalence rates of desire problem at 52.50%, arousal problem at 57.33%, lubrication problem at 70.71%, orgasm problem at 99.75%, satisfaction problem at 82.44%, pain at 61.43%, and full score at 65.68%. The urban locality has 91 patients with prevalence rates of desire problem at 51.37%, arousal problem at 53.29%, lubrication problem at 68.11%, orgasm problem at 99.11%, satisfaction problem at 83.11%, pain at 59.55%, and full score at 63.70%. Urban populations have a higher prevalence than rural populations in terms of FSFI Scale scores. Orgasm is the most prevalent factor, followed by satisfaction, lubrication, pain, arousal, and desire (Table 5).

The prevalence of various sexual problems among women based on their menstruation status was studied. Among the 137 patients

Table 7: **Prevalence according to the class of education.**

		Prevalence (%)						
Education	**No. of Patients**	**Desire**	**Arousal**	**Lubrication**	**Orgasm**	**Satisfaction**	**Pain**	**Full-Score**
Graduate	45	55.33	57.66	69	99.11	83.70	59.48	65.61
Higher Secondary	51	54.31	56.66	70.39	98.82	84.18	58.82	65.56
Primary	46	52.39	52.71	67.82	100	82.75	61.44	63.78
Post Graduate	5	65	78.75	88.75	100	91.66	88.66	55.09
Primary Schooling	34	45.78	55.53	72.30	98.80	79.60	59.41	64.78
Secondary	19	45.26	49.12	63.68	100	80.35	62.45	59.38

Table 8: **Prevalence according to the class of medication.**

		Prevalence (%)						
Class of Medication	**No. of Patients**	**Desire**	**Arousal**	**Lubrication**	**Orgasm**	**Satisfaction**	**Pain**	**Full-Score**
BDZ	94	51.87	55.69	70	100	83.97	59.32	64.96
SSRI	93	49.8	53.15	66.07	99.21	78.56	54.58	61.02
SNRI	34	47.35	53.13	64.85	98.82	78.82	58.03	61.56
TCA	53	55.34	60.12	73.58	99.37	84.27	61	66.39
AT	81	50.57	54.42	68.93	99.58	82.88	63.45	65.04
T	30	55.77	52.33	64.27	99.77	83.55	56.77	63.17

who did not experience painful menstruation, the highest prevalence of sexual problem was related to orgasm (98.74%), followed by satisfaction (83.57%). In the same group, the prevalence of desire problem was 79.42%, arousal problem was 56.49%, lubrication problem was 69.33%, and pain was 61.77%. Among the 38 patients experiencing painful menstruation, the prevalence of orgasm problem was still high (98.42%), while the prevalence of desire problem was lower (49.38%). The prevalence of arousal problem, lubrication problem, satisfaction problem, and pain were 52.85%, 71.57%, 81.57%, and 59.47%, respectively. Among the 152 patients having regular menstruation, the prevalence of orgasm problem was 98.64%, followed by satisfaction problem (83.92%). The prevalence of desire problem, arousal problem, lubrication problem, and pain were 53.63%, 56.28%, 69.82%, and 61.67%, respectively. Among the 23 patients having irregular menstruation, the prevalence of orgasm problem was 100%, while the prevalence of desire problem was the lowest (46.81%). The prevalence of arousal problem, lubrication problem, satisfaction problem, and pain were 50.83%, 69.09%, 78.18%, and 57.27%, respectively. The prevalence of full score in these populations ranged from 63.39% to 65.61%. Prevalence of individual issues during menstruation based on the FSFI Scale. The prevalence rate is around 65% for all conditions except irregular menstruation, which shows a 2% reduction. The highest prevalence is for the issue of orgasm, followed by satisfaction, lubrication, pain, arousal, and desire in that order, according to our study (Table 6). This information presents the prevalence of sexual problems among different educational categories of patients. The data shows the percentage prevalence of desire, arousal, lubrication, orgasm, satisfaction, pain, and full score problems in each category. For example, among the graduate category, the prevalence of desire problem is 55.33%, arousal problem is 57.66%, lubrication problem is 69%, orgasm problem is 99.11%, satisfaction problem is 83.70%, pain problem is 59.48%, and full score problem is 65.61%. The same information is provided for each of the six education categories. The FSFI Scale reveals that post-graduates have the highest prevalence of individual class education, followed by different education levels. The study found that the highest prevalence was for orgasm, followed by satisfaction, lubrication, pain, arousal, and desire (Table 7).

The prevalence of sexual problems among patients taking different classes of medication is as follows: BDZ: 94 patients, prevalence of desire problem 51.87%, arousal problem 55.69%, lubrication problem 70%, orgasm problem 100%, satisfaction problem 83.97%, pain 59.32%, full score 64.96%. SSRI: 93 patients, prevalence of desire problem 49.8%, arousal problem 53.15%, lubrication problem 66.07%, orgasm problem 99.21%, satisfaction problem 83.97%, pain 54.58%, full score 78.56%. SNRI: 34 patients, prevalence of desire problem 47.35%, arousal problem 53.13%, lubrication problem 64.85%, orgasm problem 98.82%, satisfaction problem 78.82%, pain 58.03%, full score 61.56%. TCA: 53 patients, prevalence of desire problem 55.34%, arousal problem 60.12%, lubrication problem 73.58%, orgasm problem 99.37%, satisfaction problem 84.27%, pain 61%, full

score 66.39%. AT: 81 patients, prevalence of desire problem 50.57%, arousal problem 54.42%, lubrication problem 68.93%, orgasm problem 99.58%, satisfaction problem 82.88%, pain 63.45%, full score 65.04%. T: 30 patients, prevalence of desire problem 55.77%, arousal problem 52.33%, lubrication problem 64.27%, orgasm problem 99.77%, satisfaction problem 83.55%, pain 56.77%, full score 63.17%. The prevalence of different medication classes according to FSFI Scale is around 17%, with a slight reduction in SNRI class. Orgasm has the highest prevalence, followed by Satisfaction, Lubrication, Pain, Arousal, and Desire (Table 8).

DISCUSSION

The systematic review of over 130 studies investigated the effects of psychiatric medications on the genitourinary and sexual systems. The book describes how to manage the side effects of these medications on sexual and genitourinary function, specifically for antidepressants, narcoleptics, lithium, and benzodiazepines. The review found that psychiatric medications can cause adverse effects on urinary and sexual function, such as incontinence of urine and flow, and sexual dysfunction, including the inability to achieve or maintain an erection or ejaculate. The neurophysiological impact of these medications is thought to be the underlying cause of many of these side effects.[20] This study investigated the sexual side effects of psychotropic medications on female patients. The Female Sexual Functioning Index Scoring scale was used to assess the levels at which these side effects were observed. The scale measures different aspects of sexual functioning, such as arousal, lubrication, orgasm, and pain. The study was conducted face-to-face, and 200 female patients were included. The study compared the reported sexual side effects of antidepressant medications in Europe. The side effects included decreases in libido, orgasmic dysfunction, and erectile and ejaculatory disturbances. The study found that antidepressant medications, including monoamine oxidase inhibitors and tricyclic antidepressants, may contribute to sexual dysfunctions experienced by some depressed patients. Overall, the study highlights the importance of considering the potential sexual side effects of psychotropic medications when treating female patients with depression.[21] The FSFI questionnaire is a tool used to assess sexual function in women. According to the questionnaire, the most common sexual side effect experienced by women is satisfaction. Researchers in Turkey conducted a study to investigate sexual dysfunction in people with schizophrenia who were taking antipsychotic medication. The study involved 827 outpatients, and researchers used the UKU Side Effects Rating Scale (SERS) and the Arizona Sexual Experience Scale (ASEX) to assess sexual function. The study found that more than half of the participants reported insufficient sexual desire and more than 40% reported difficulty having an orgasm. Overall, more than half of the participants experienced some form of sexual dysfunction. Men with schizophrenia were more likely to experience erectile dysfunction and ejaculatory problems than women. The severity of the disease and the ASEX score were found to be related. Patients who received combination therapy had more difficulty ejaculating than those who received atypical therapy, and low sexual desire was more common in women receiving conventional pharmaceuticals than in women taking alternative medications. Overall, the study suggests that sexual dysfunction is a common risk for people with schizophrenia who are taking antipsychotic medication.[22] The effects of SSRIs on female sexual function were studied retrospectively at the "Saint Louis University School of Medicine in Missouri, the" United States. In 110 SSRI-treated female outpatients, sexual dysfunction was found to be severe (anorgasmia or delayed orgasm). Female sexual inhibition was found in 21 fluoxetine, nine paroxetine, and five sertraline-treated women. It has been discovered that SSRI-related female sexual dysfunction is more common than previously considered.[23] Study that was conducted to investigate the prevalence of sexual side effects among patients taking psychotropic medications. The study looked at various factors such as socioeconomic status, age, locality, menstruation, education, and drugs prescribed, and how they affected the prevalence of side effects. According to the study, patients in Class 5 of the socioeconomic status showed the maximum prevalence of side effects, with a prevalence of 75%. In terms of age groups, the highest prevalence of side effects was found in the 18-30 age groups, with a prevalence of 70.22%. As the age increased, the prevalence of side effects decreased. Patients living in rural areas showed a higher prevalence of side effects (65.68%) as compared to those living in urban areas (63.70%). Women with regular menstruation had a higher prevalence of side effects (65.61%) as compared to women with irregular menstruation (63.39%). Graduated women (65.61%) showed the highest prevalence of side effects among different educational groups. In terms of drugs prescribed, the highest prevalence of side effects was observed with TCA (tricyclic antidepressants), with a prevalence of 66.39%. Antidepressants, anti-psychotics, and anxiolytics were also found to produce a higher rate of sexual side effects. Another study looked at the impact of conventional and atypical antipsychotics on sexual dysfunction in remitted bipolar 1 disorder. The study included 108 patients, and 66% of the participants reported having issues with at least one phase of the sexual response cycle (desire, arousal, orgasm). Overall, the studies suggest that psychotropic medications can lead to sexual side effects, and certain factors such as socioeconomic status, age, locality, menstruation, education, and drugs prescribed can influence the prevalence of these side effects. It is important for healthcare providers to be aware of these factors and monitor patients for potential side effects.[24]

CONCLUSION

In conclusion, this study sheds light on the prevalence of sexual side effects in women who take psychotropic medication for at least one month. By using the Female Sexual Function Index, the

study identifies six common sexual side effects including desire, arousal, lubrication, orgasm, satisfaction, and pain. It is essential to recognize these side effects as they can negatively impact the patient's psychiatric condition and overall well-being. This understanding will enable doctors and patients to work together to find alternative medications or treatments that do not induce sexual side effects, leading to better patient outcomes.

ACKNOWLEDGEMENT

We extend our sincere gratitude to the Department of Pharmacy, Pharmacy Practice at Sumandeep Vidyapeeth (Deemed to be University), Vadodara, Gujarat, for their invaluable support and guidance throughout this study. We are also deeply thankful to the Department of Psychiatry and the Psychological Medicine at SBKS Medical Institute and Research Center, Dhiraj General Hospital, for their collaboration and assistance with data collection. Most importantly, we offer our heartfelt appreciation to the patients who participated in this study, whose cooperation was crucial to the success of this research.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

ABBREVIATIONS

FSFI: Female Sexual Function Index; **ED:** Erectile Dysfunction; **HSD:** Hypoactive Sexual Desire; **SD:** Sexual Dysfunction; **DSM:** Diagnostic and Statistical Manual of Mental Disorders; **WHO:** World Health Organization; **ICD-DPH:** International Classification of Diseases for Disorders of Public Health; **HSDD:** Hypoactive Sexual Desire Disorder; **PE:** Premature Ejaculation; **MAOIs:** Monoamine Oxidase Inhibitors; **TCAs:** Tricyclic Antidepressants; **SSRIs:** Selective Serotonin Reuptake Inhibitors; **SNRIs:** Serotonin-Norepinephrine Reuptake Inhibitors; **BDZ:** Benzodiazepines; **SNRI:** Serotonin-Norepinephrine Reuptake Inhibitors; **AT:** Antipsychotics; **T:** Typical Antipsychotics; **UKU SERS:** Udvalg for Kliniske Undersøgelser Side Effects Rating Scale; **ASEX:** Arizona Sexual Experience Scale.

REFERENCES

1. Montejo AL, Majadas S, Rico-Villademoros F, Llorca G, De La Gándara J, Franco M, *et al.* Frequency of sexual dysfunction in patients with a psychotic disorder receiving antipsychotics. J Sex Med. 2010;7(10):3404-13. doi: 10.1111/j.1743-6109.2010.01709.x, PMID 20214720.
2. Allen K, Baban A, Munjiza J, Pappa S. Management of antipsychotic-related sexual dysfunction: systematic review. J Sex Med. 2019;16(12):1978-87. doi: 10.1016/j.jsxm.2019.08.022, PMID 31585803.
3. Serretti A, Chiesa A. Treatment-emergent sexual dysfunction related to antidepressants: a meta-analysis. J Clin Psychopharmacol. 2009;29(3):259-66. doi: 10.1097/JCP.0b013e3181a5233f, PMID 19440080.
4. Plevin D, Galletly C, Roughan P. Sexual dysfunction in men treated with depot antipsychotic drugs: a pilot study. Sex Health. 2007;4(4):269-71. doi: 10.1071/sh07012, PMID 18082071.
5. Park EJ, Amatya S, Kim MS, Park JH, Seol E, Lee H, *et al.* Long-acting injectable formulations of antipsychotic drugs for the treatment of schizophrenia. Arch Pharm Res. 2013;36(6):651-9. doi: 10.1007/s12272-013-0105-7, PMID 23543652.
6. Novick D, Haro JM, Perrin E, Suarez D, Texeira JM. Tolerability of outpatient antipsychotic treatment: 36-month results from the European Schizophrenia Outpatient Health Outcomes (SOHO) study. Eur Neuropsychopharmacol. 2009;19(8):542-50. doi: 10.1016/j.euroneuro.2009.03.003, PMID 19500949.
7. Bobes J, Garc A-Portilla MP, Rejas J, Hern Ndez G, Garcia-Garcia M, Rico-Villademoros F, *et al.* Frequency of sexual dysfunction and other reproductive side-effects in patients with schizophrenia treated with risperidone, olanzapine, quetiapine, or haloperidol: the results of the EIRE study. J Sex Marital Ther. 2003;29(2):125-47. doi: 10.1080/713847170, PMID 12623765.
8. Lorenz T, Rullo J, Faubion S. Antidepressant-induced female sexual dysfunction. Mayo Clin Proc. 2016;91(9):1280-6. doi: 10.1016/j.mayocp.2016.04.033, PMID 27594188.
9. Higgins A, Nash M, Lynch AM. Antidepressant-associated sexual dysfunction: impact, effects, and treatment. Drug Healthc Patient Saf. 2010;2:141-50. doi: 10.2147/DHPS.S7634, PMID 21701626.
10. Zajecka J. Strategies for the treatment of antidepressant-related sexual dysfunction. J Clin Psychiatry. 2001; 62; Suppl 3: 35-43. PMID 11229451.
11. Rothschild AJ. Selective serotonin reuptake inhibitor-induced sexual dysfunction: efficacy of a drug holiday. Am J Psychiatry. 1995;152(10):1514-6. doi: 10.1176/ajp.152.10.1514, PMID 7573593.
12. Rosen R, Brown C, Heiman J, Leiblum S, Meston C, Shabsigh R, *et al.* The Female Sexual Function Index (FSFI): a multidimensional self-report instrument for the assessment of female sexual function. J Sex Marital Ther. 2000;26(2):191-208. doi: 10.1080/009262300278597, PMID 10782451.
13. Roy P, Gupta B, Tripathi A, Nischal A, Dalal PK, Kar SK. Sexual functioning in females with depression in remission receiving escitalopram. Indian J Med Res. 2019;150(6):606-11. doi: 10.4103/ijmr.IJMR_1991_17, PMID 32048624.
14. Lin IJ, Tzeng NS, Chung CH, Chien WC. Psychiatric disorders in female psychosexual disorders-a nationwide, cohort study in Taiwan: psychiatric disorders and female psychosexual disorders. BMC Psychiatry. 2021;21(1):63. doi: 10.1186/s12888-021-03060-1, PMID 33509146.
15. Kumar PN, Radhika MK, Suresh R, Uvais NA. Comparative study of sexual side effects in female patients with schizophrenia receiving risperidone or olanzapine. Prim Care Companion CNS Disord. 2021;23(4). doi: 10.4088/PCC.20m02835, PMID 34297487.
16. Bobes J, Garc A-Portilla MP, Rejas J, Hern Ndez G, Garcia-Garcia M, Rico-Villademoros F, *et al.* Frequency of sexual dysfunction and other reproductive side-effects in patients with schizophrenia treated with risperidone, olanzapine, quetiapine, or haloperidol: the results of the EIRE study. J Sex Marital Ther [Online].
17. Uçok A, Incesu C, Aker T, Erkoç S. Sexual dysfunction in patients with schizophrenia on antipsychotic medication. Eur Psychiatry. 2007;22(5):328-33. doi: 10.1016/j.eurpsy.2007.01.001, PMID 17344032.
18. Souaiby L, Kazour F, Zoghbi M, Bou Khalil R, Richa S. Sexual dysfunction in patients with schizophrenia and schizoaffective disorder and its association with adherence to antipsychotic medication. J Ment Health. 2020;29(6):623-30. doi: 10.1080/09638237.2019.1581333, PMID 30862199.
19. Pollack MH, Reiter S, Hammerness P. Genitourinary and sexual adverse effects of psychotropic medication. Int J Psychiatry Med. 1992;22(4):305-27. doi: 10.2190/P60R-PLED-TL09-TUEN, PMID 1363418.
20. Grabowska-Grzyb A, Nagańska E, Wolańczyk T. Hypersexuality in two patients with epilepsy treated with lamotrigine. Epilepsy Behav. 2006;8(3):663-5. doi: 10.1016/j.yebeh.2006.01.005, PMID 16473556.
21. Segraves RT. Effects of psychotropic drugs on human erection and ejaculation. Arch Gen Psychiatry. 1989;46(3):275-84. doi: 10.1001/archpsyc.1989.01810030081011, PMID 2645849.
22. Hummer M, Kemmler G, Kurz M, Kurzthaler I, Oberbauer H, Fleischhacker WW. Sexual disturbances during clozapine and haloperidol treatment for schizophrenia. Am J Psychiatry. 1999;156(4):631-3. doi: 10.1176/ajp.156.4.631, PMID 10200746.
23. Montejo González AL, Rico-Villademoros F, Tafalla M, Majadas S, Spanish Working Group for the Study of Psychotropic-Related Sexual Dysfunction. A 6-month prospective observational study on the effects of quetiapine on sexual functioning. J Clin Psychopharmacol. 2005;25(6):533-8. doi: 10.1097/01.jcp.0000186872.04984.56, PMID 16282833.
24. Osasona SO, Ehimigbai M. Sexual dysfunction: prevalence and associated factors in patients with mental illness receiving psychotropic medication in Nigeria. Afr Health Sci. 2019;19(4):2973-84. doi: 10.4314/ahs.v19i4.18, PMID 32127872.

Cite this article: Hadia R, Singh V, Solanki N, Patel N, Rajput H. Prevalence of Sexual Side Effects in Female Psychiatric Patients Taking Psychotropic Medications-A Cross-Sectional Study. J Young Pharm. 2024;16(4):787-94.