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A STUDY OF SEXUAL DYSFUNCTION AMONG PSYCHIATRIC PATIENTS RECEIVING PSYCHOTROPIC MEDICATION

Psychiatry

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ABSTRACT

Introduction: Sexual dysfunction (SD) is more common in patients with psychiatric disorders and also considered as a known adverse effect of psychotropic medications. Approximately 70% of patients with depression and 50% with schizophrenia may experience sexual dysfunction (Dossenbach et al., 2005) that reduces their self-esteem and quality of life. **Aim:** This study aimed to find out the sociodemographic and clinical correlates of various types of sexual dysfunction among psychiatric patients receiving psychotropic medications. **Material and Methods:** This study was a cross sectional hospital-based study conducted at Institute of Mental health and hospital, Agra. The following inclusion and exclusion criteria were followed Inclusion criteria:(1) Patients were diagnosed by ICD- 10 criteria by the psychiatrist posted on OPD. (2) Patients aged between 18 and 50 years on regular treatment with psychotropic medications for at least 3 months. (3) patients having sexual activity for the past one month and (4) Patients who gave informed consent. Exclusion criteria: (1) Patients with uncontrolled psychiatric illness, co morbid medical conditions, having sexual dysfunction before start of psychotropic medications were excluded from the study **Tools:** The following tools were used in this study. The International Index of Erectile Function questionnaire The Female Sexual Function Index. **Results:** Age, Duration of Illness, Duration of Treatment, Occupation, are significantly associated with Erectile Dysfunction, Intercourse Dissatisfaction, Orgasmic Dysfunction, Sexual Desire Dysfunction and Overall Dissatisfaction in male patients but Medicine Compliance is associated with Sexual Desire Dysfunction. Education Domicile Socio-economic Status are not associated with any of the sexual dysfunction domain. Age Duration of Illness, Duration of Treatment Occupation, are significantly associated with Desire, Arousal, Lubrication, Orgasm Satisfaction and Pain in female patients. Medicine Compliance is also associated with all Dysfunction except arousal dysfunction. Education Domicile Socio-economic Status are not associated with any of the sexual dysfunction domain.

KEYWORDS

INTRODUCTION

Sexuality is an integral aspect of human life that affects the quality of life and wellbeing of individuals both males and females. It is defined as the physiological capacity of deriving satisfaction in sexual desire, arousal and orgasm. But sexual dysfunction includes a wide range of problems where the individual fails to experience pleasure in response to sexual activity .[35] The person may experience disturbance of one or more of the three areas of the usual sexual–response such as sexual interest (libido), arousal (vaginal lubrication (in women) and erection (in men), and orgasm. [5, 20] An American study on prevalence of sexual dysfunction revealed that sexual dysfunction in some form is reported by 30% of men and 40% of women. Approximately 70% of patients with depression and 50% with schizophrenia may experience sexual dysfunction (Dossenbach et al., 2005) Low sexual desire in women (22%) and premature ejaculation in men (21%) was most prevalent [17]. Studies on sexual dysfunction from European countries revealed low sexual desire in 34% of women and 15% of men .[17,23] General medical illness, gynaecological problems, psychological and emotional factors, use of various medications,[26] are the known causes of sexual dysfunction. Many studies have shown that sexual functioning have different neurophysiological mechanisms.[13] and are connected with various neurotransmitters such as dopamine, acetylcholine and nitric oxide serotonin and norepinephrine.[28] Previous studies have shown that psychotropic medications used in treatment of mental disorders act as antagonists or agonists to various neuro transmitters reduce or interferes with sexual functioning. [6,29]

Many researchers viewed sexual dysfunction as the side effects of use of various psychotropic medications [4,19] and the prevalence of sexual dysfunction due to use of antipsychotic medication varies from 18 to 96% [32,15],. Mostly it is observed that the antidepressants and antipsychotics are associated with sexual dysfunction.

In a study it is reported that sexual dysfunction occurs by use of both typical and atypical antipsychotics.[16]About 30–60% of patients experience disturbances of sexual function with the use of older conventional antipsychotic as they are dopamine blockers [8] but more sexual dysfunction is noticed in patients who were on combination of typical and atypical antipsychotics than the patients who were on atypical antipsychotics alone.[1] among the atypical antipsychotics risperidone increases the prolactin levels produce menstrual disturbances, galactorrhoea, erectile dysfunction, and decreased libido.[14] . Research evidence has also shown that drugs such as Benzodiazepines, Carbamazepine and Phenytoin are also associated with various type of sexual dysfunctions [27,24]

In India very few prevalence studies on sexual dysfunction caused by psychotropic medication are available. One study reported that the prevalence of Female Sexual Dysfunction was 55.55% and the other study showed that 68.32% of female patients were having sexual dysfunction.[33] In our country sexual dysfunction is under reported and majority of people are reluctant to talk about this topic because of associated sociocultural taboos. However, it is very essential to discuss this problem as it affects the patient's quality of life.

AIM

This study aimed to find out the sociodemographic and clinical correlates of various types of sexual dysfunction among psychiatric patients receiving psychotropic medications.

MATERIAL AND METHODS

This study was a cross sectional hospital-based study conducted at Institute of Mental health and hospital, Agra. Convenience sample was drawn from the outpatient department of the institute. The study sample consisted of 210 married psychiatric patients of both the genders who presented at the OPD of the institute for consultation. The following inclusion and exclusion criteria were followed

Inclusion Criteria

(1) Patients were diagnosed by ICD- 10 criteria by the psychiatrist posted on OPD. (2) Patients aged between 18 and 50 years on regular

treatment with psychotropic medications for at least 3 months. (3) patients having sexual activity for the past one month and (4) Patients who gave informed consent.

Exclusion Criteria

(1) Patients with uncontrolled psychiatric illness, co morbid medical conditions, having sexual dysfunction before start of psychotropic medications were excluded from the study.

Tools

The following tools were used in this study to get information about the sexual functioning.

The International Index of Erectile Function Questionnaire. The IIEF was developed by an international panel of experts through an extensive review of the literature and existing questionnaires in addition to a detailed interview of men with sexual dysfunction and their partners.[28] The IIEF instrument consists of 15 questions (Q), rated on a scale of 1–5, with 0 indicating no sexual activity or no attempt. It has five domains: Erectile dysfunction (Q1–5, 15), orgasmic function (Q9, 10), sexual desire (Q11, 12), intercourse satisfaction (Q6–8), and overall satisfaction (Q13, 14), each addressing a unique dimension of sexual function. The higher scores indicating better sexual functioning. The reliability coefficient (Cronbach's alpha) is 0.921.

The Female Sexual Function Index. This scale The FSFI is a widely-used measure of Female Sexual Dysfunction (FSD). It assesses 6 domains: desire; arousal; lubrication; orgasm; satisfaction; and pain. Validation studies in women aged 21 to 70 have demonstrated excellent internal consistency and 2–4-week test-retest reliability for each subscale. Discriminant validity was significant for all subscales, as well as the summary score.

After getting the ethical clearance from the institute's ethics committee the purpose of the study was explained to each participant and written informed consent was taken from the participants in the consent form. Patients were selected as per the inclusion and exclusion criteria of the study protocol and were called to the consultation room for detail interview. The interviews were conducted by the consultant psychiatrist and research staff and assurance is given to maintain confidentiality. Patient's socio-demographic details, clinical diagnosis, psychotropic medications being received, duration of treatment etc. were recorded using a sociodemographic sheet specifically designed for the study. Then the above-mentioned tools were administered individually with all the participants. Assistance in completing the questionnaires was provided for the respondents where necessary. The data were processed through Statistical Package for Social Sciences version 16.0 for analysis.

RESULTS

Table 1: Sociodemographic and Clinical characteristics of participants

CHARACTERISTICS		MALE (N=94)	FEMALE= (N=116)
Age	20-29	36 (38.3%)	46 (39.7%)
	30-39	37 (39.4%)	46 (39.7%)
	40-49	13 (13.8%)	14 (12.1%)
	50-59	8 (8.5%)	10 (8.6%)
Age (in years) Mean (S.D.)	--	34.95±9.01	34.21±9.50
Education (in years) Mean (S.D.)	--	12.47±2.58	11.71±2.54
Duration of illness (in years) Mean (S.D.)	--	9.54±3.55	7.81±4.77
Duration of treatment (in years) Mean (S.D.)	--	8.32±3.17	6.68±4.13
Occupation	Non-Working	54 (57.4%)	75(64.7%)
	Working	40 (42.6%)	41 (35.3%)
Socio-economic Status	Low	35 (37.2%)	70 (60.3%)
	Middle	59 (62.8%)	46 (39.7%)
Medicine Compliance	Poor	52 (55.3%)	71 (61.2%)
	Good	40 (43.5%)	45 (38.8%)
Domicile	Rural	52 (55.3%)	66(56.8%)
	Urban	42(44.7%)	50 (43.2%)

Table- 1 shows the sociodemographic characteristics of participants. The mean and SD of age of the male participants was 34.95 ± 9.01 years and 34.21 ± 9.50 years in females. The mean and SD of education of the male participants was 12.47± 2.58 years and 11.71 ± 2.54 years in females. The mean and SD of duration illness of the male participants was 9.54 ± 3.55 years and 7.81 ± 4.77 years in females. The mean duration treatment of the male participants was 8.32 ± 3.70 years and 6.68 ± 4.13 years in females. Majority of cases belonged to 20 - 29 years old in both males (38.3%) and females (39.7%). The male respondents were predominantly employed (57.4%) and females were predominantly unemployed (64.7%). Almost equal number of participants hailed from rural community in both males and females. Most of the male patients (62.8%) belonged to middle socioeconomic background. Poor medication compliance is more (61.2%) in female participants.

Table 3: Sex distribution of the various forms of sexual dysfunction

Gender	Sexual dysfunction	Frequency (%)
Male	Sexual desire dysfunction	23 (29.1%)
	Erectile dysfunction	37 (47.0%)
	Orgasmic dysfunction	24 (25.5%)
	Intercourse dissatisfaction	11 (13.9%)
	Overall dissatisfaction	18 (22.8%)
Female	Female Sexual desire dysfunction	26 (28.8%)
	Arousal dysfunction	18 (18.5%)
	Lubrication dysfunction	34 (35.1%)
	Orgasmic dysfunction	12 (12.4%)
	Sexual satisfaction	11 (11.3%)
	Pain	12 (12.4%)

Table-2 describes the types of sexual dysfunction across gender. Erectile dysfunction is seen in majority of male patients (47.0%) followed by Orgasmic dysfunction (25.5%) and Sexual desire (29.1%) dysfunction. 22.8% patient showed overall dissatisfaction. Lubrication disorder is seen in majority of female patients followed by (35.1%) by Female Sexual desire disorder (28.8%) and arousal dysfunction (18.5%). 11.3% female patients showed overall satisfaction.

Table 3: Clinical and medication related characteristics of participants

		MALE	FEMALE
Diagnosis	Schizophrenia	45 (47.9%)	54 (46.6%)
	Bipolar	9 (9.6%)	13(11.2%)
	Depression	6 (6.4%)	7(6.0%)
	Substance Use	10 (10.6%)	---
	Atypical Psychosis	7 (7.4%)	9(7.8%)
	Seizure	9 (9.6%)	17(14.6%)
	GAD	5 (5.3%)	12(10.3%)
	Somatic	3(3.2%)	4(3.4%)
Medication	AD	7 (7.4%)	8(6.9%)
	TA+AC/MS+TRIHEXIPHENYDIL	8 (8.5%)	22(19.0%)
	AC/MS	9 (9.6%)	11(9.5%)
	TA+ TRIHEXIPHENYDIL	31 (33%)	30(25.9%)
	AA+AD	5 (5.3%)	7(6.0%)
	AA+ TRIHEXIPHENYDIL	5 (5.3%)	7(6.0%)
	TA+ TRIHE XIPHENYDIL +AD	13 (13.8%)	14(12.1%)
	TA+AC/MS	3 (3.2%)	7(6.0%)
	AA	5 (5.3%)	8(6.9%)
	TA	1(1.1%)	2(1.7%)
	AA+AC/MS	7 (7.4%)	--

TA=Typical Antipsychotic AA=Atypical Antipsychotic

Table-3: shows the clinical and medication related characteristics of the participants. The majority of the male participants had a diagnosis of schizophrenia ((47.9%) followed by substance use disorder (10.6%), bipolar disorder, (9.6%) and Seizure disorder (9.6%)). The majority of the female participants had a diagnosis of schizophrenia (46.6%) followed by Seizure disorder (14.6%), bipolar disorder (11.2%) and general anxiety disorder (10.3%). Majority of participants (male=59.6%) and (64.7%) received Typical Antipsychotics. 76.6% male and 75.9% female participants used more than two psychotropic medications.

Table-4 Association between specific sexual dysfunctions and socio-demographic, clinical and medication-related variables in male participants

Variables	Erectile Dys-function	Intercourse Dis-satisfaction	Orgasmic Dys-function,	Sexual Desire Dys-function	Overall Dissatis-faction
Age (in years)	.631**	.631**	.760**	.653**	.524**
Education (in years)	0.34	0.15	0.52	0.99	0.89
Duration of Illness (in years)	.674**	.674**	.567**	.488**	.489**
Domicile	.143	.143	.075	.050	.071
Socio-economic Status	.034	.034	.089	.153	.081
Duration of Treatment (in Years)	.643**	.643**	.578**	.528**	.518**
Medicine Compliance	.099	.099	.052	.397**	.003
Occupation	.598**	.598**	.621**	.702**	.572**
**Significant at .01 level, *Significant at .05 level					

Table- 4: shows that age, Duration of Illness, Duration of Treatment, Occupation, are significantly associated with Erectile Dysfunction, Intercourse Dissatisfaction, Orgasmic Dysfunction, Sexual Desire Dysfunction and Overall Dissatisfaction in male patients but Medicine Compliance is associated with Sexual Desire Dysfunction. Education Domicile Socio-economic Status are not associated with any of the sexual dysfunction domain.

Table-5 Association between specific sexual dysfunctions and socio-demographic, clinical and medication-related variables in female participants

Variables	Desire	Arousal	Lubri-cation	Or-gasm	Satis-faction	Pain	Total
Age (in years)	.684**	.407**	.798**	.841**	.384**	.234**	.846**
Education (in years)	.074	.020	.043	.095	.118	-.025	.082
Duration of Illness (in years)	.674**	.407**	.731**	.768**	.315**	.240**	.792**
Domicile	.112	.123	.075	.050	.071	.051	.143
Socio-economic Status	.018	.069	.062	.032	.079	.074	.068
Duration of Treatment (in Years)	.668**	.394**	.695**	.739**	.276**	.204*	.756**
Medicine Compliance	.372**	.113	.681**	.686**	.676**	.300**	.685**
Occupation	.417**	.276**	.700**	.730**	.503**	.305**	.720**
**Significant at .01 level, *Significant at .05 level							

Table -5: shows that age, Duration of Illness, Duration of Treatment, Occupation is significantly associated with Desire, Arousal, Lubrication, Orgasm Satisfaction, Pain in female patients. Medicine Compliance is also associated with all Dysfunction except arousal dysfunction. Education Domicile Socio-economic Status are not associated with any of the sexual dysfunction domain.

DISCUSSION

The current study examined the correlates of sexual dysfunction among male and female psychiatric outpatients receiving psychotropic medications at institute of mental health and hospital, Agra. The study sample consisted of 94 of male and 116 female patients. Majority of both male (57.4%) and female (64.7%). participants were unemployed and diagnosed as schizophrenia. Schizophrenia is a chronic and debilitating disorder that impairs occupational and social functioning in most of the patients. The high unemployment ratio may be attributed to impaired occupational functioning.

About 76.6% male and 75.9% female participants used more than two psychotropic medications. These findings are similar to the findings of other study (34.) The highest combination used in male was typical antipsychotics and Trihexyphenidyl (Male33%) . an In female patients 25.9% also used typical antipsychotics and Trihexyphenidyl followed by typical antipsychotics, Trihexyphenidyl , and antidepressant combination(Male13.8%) and (Female12.1%). Many studies have already reported the adverse effects of these medications via their mechanisms of action; [22,31,3,10] . The use of these combinations might be a factor in precipitating sexual dysfunction in patients. The mean age of the male participants was 34.95 years and female participants was 34.21 years. Similar findings have also been reported by Vo Olisha etal.[34] where the mean age was 34.7 years which is considered as reproductive age group and patients are more concerned with sexual functioning.

Erectile dysfunction was found to be the most common sexual dysfunction in men (47.0%) receiving psychotropic medication. This was followed by sexual desire dysfunction (29.1%) and then orgasmic dysfunction (25.5%). This finding is similar to the results of some other studies.[25,7] . Lubrication disorder is seen in majority of female patients (35.1%)d followed by Female Sexual desire dysfunction (28.8%) and arousal dysfunction (18.5%). This study also found that men were more dissatisfied with their sexual functioning (22.8%) compared to women (11.3%) and all most similar to some other studies which stated that sexual dysfunction is more disturbing in men than in women taking psychotropic medications.[30,7]

Majority of participants (male=59.6%) and (female=64.7%) received Typical Antipsychotics and 76.6% male and 75.9% female participants used more than two psychotropic medication especially conventional antipsychotic (antidopaminergic), trihexyphenidyl (anticholinergic), and antidepressant (serotonergic/noradrenergic) combinations. Studies have found that libido is primarily regulated by dopamine, arousal by acetylcholine and nitric oxide, and orgasm by serotonin and noradrenaline.[29] Therefore, the mechanism of action of these psychotropic medications may be implicated as a cause of sexual dysfunction. A feeling of inadequacy is observed in men due to their Inability to achieve a good penile erection for optimal sexual satisfaction. Stigma and spousal abandonment also increase the feeling of inadequacy. [11] Once patients recognize that their psychotropic medications produce one form of sexual dysfunction or the other, it often results in poor treatment adherence.[22]

This study found that age is related to all forms of sexual dysfunction among both male and female patients. The natural process of aging increases sexual dysfunction [12] but use of psychotropic medication further increases the risk of developing sexual adverse effects through their mechanisms of action as reported by many studies.[22,31,29]

This study also reported that employment status was significantly associated with all the domains of sexual dysfunction in both male and female patients which is similar to the finding of a study [25] Overall, employment status was found to be predictive of sexual dysfunction in male patients receiving psychotropic medication. Unemployment produces financial stress in both male and female patients which in turn negatively affects the sexual functioning. Several studies have shown that unemployment was associated with low sexual desire and erectile dysfunction in the general population.[21,2] and mentally ill patients [34]

Duration of illness and duration of treatment is associated with all forms of sexual dysfunction in both male and female participants. Patients usually take regular maintenance dose for continuous illness and try to be in symptom free condition. By the time they realized the negative impact of psychotropic medication and started to drop the medication impairment in sexual dysfunction had already been taken place. [34]

This research showed no association between the clinical diagnoses of participants, domicile and education and sexual dysfunction. Sexual functioning is a biological phenomenon that has universal pattern of presentation at diagnosis, educational background and domicile. Only use of psychotropic medication probably causes decreased sexual performance and satisfaction.[18,9]

Psychotropic medication use was found to be associated with sexual dysfunction in male and female participants. In this study 76.6% male and 75.9% female participants used more than two psychotropic medication Several studies have reported that typical antipsychotic use was associated with erectile dysfunction in males and orgasmic dysfunction in males and females while antidepressant use was associated with orgasmic dysfunction in males and females. [8,25] . This study simply reported the status of various types of sexual

dysfunction among male and female psychiatric patients receiving psychotropic medications at Institute of mental health and hospital, Agra. But the diagnosis of psychotropic drug-induced sexual dysfunction still needs further exploration

CONCLUSION

The use of psychotropic medication has adverse effects on sexual functioning of the psychiatric ill patients and is associated with various demographic, illness related and medication-related variables limitations. First, it was cross-sectional in design which is only predictive but not sufficient to establish the causal relationship between sexual dysfunction and the sociodemographic and clinical variables. The absence of a control group in this study design is another limitation to the generalizability of our results.

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