

Estimates of sexual dysfunction in patients on antipsychotic medications

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Abstract

Background: Sexual performance related side effects of antipsychotic medications are important causes of non-compliance to medications.

Objectives: To estimate sexual dysfunction (SD) in patients taking antipsychotic medications.

Methods: A total of 146 participants taking antipsychotic medications attending the inpatient and outpatient units of National Institute of Mental Health (NIMH), Dhaka were recruited for the study. Bangla adapted version of Psychotropic Related Sexual Dysfunction Questionnaire (PRSexDQ) was used to determine SD along with a semi-structured questionnaire for collecting sociodemographic and relevant clinical information.

Results: Among the 146 participants, 52.1% exhibited SD and males exhibited higher prevalence of SD (58.5%) than females (43.8%). Among the sufferers, 63.2% had shown problems in all three domains of SD, that were desire, arousal and orgasm; 23.7% in desire and arousal; 5.3% in desire and orgasm; 5.3% in arousal and orgasm; and 2.6% solely in desire domain.

Conclusions: More than half of the participants showed SD and it usually affected multiple domains of sexual performance.

Declaration of interest: None

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Keywords: Sexual dysfunction; antipsychotic medication

Introduction

Sexual functioning is an important component of maintaining life quality and intimate relationship. Various studies have reported a prevalence of 30 to 60% for sexual side effects related to treatment with antipsychotics.¹ Antipsychotic drugs modulate neurotransmitters and hormones that can lead to impaired desire, arousal, erectile dysfunction and orgasm.^{2,3} Suggested mechanisms for sexual dysfunction (SD) include dopaminergic D₂ agonism and antagonism; serotonergic 5-HT₂ agonism; adrenergic alpha-1 and alpha-2, histaminergic H₁ and cholinergic M₁ receptors antagonisms; and prolactin elevation.²

Sexual dysfunction has also been identified as one of the major reasons for discontinuing drug treatment.⁴ But researchers have noticed that both patients and

doctors are reluctant to discuss this issue. This study was designed with the aim of determining prevalence and nature of SD in patients receiving antipsychotic medications. Currently there is no comparable study in Bangladesh and the present study aimed to contribute to this area and raise awareness among physicians.

Methods

It was a cross-sectional study and carried out in the inpatient and outpatient units of NIMH in between January 2019 to September 2019. A total of 146 participants taking antipsychotic medications were recruited by convenient sampling technique. Inclusion criteria were age of more than 21 years, sexually active and having a DSM-5 diagnosis of schizophrenia, schizophreniform disorder, schizoaffective disorder

der or mood disorder with psychotic features. Patients receiving antidepressant or mood stabilizer drugs that might interfere with sexual functioning like alpha blockers, beta blockers, etc. or who had medical condition like hypertension, diabetes, etc. that might affect sexual performance were excluded from the study. A semi-structured questionnaire was used to collect sociodemographic and relevant clinical information. Bangla adapted version of PRSexDQ was used to evaluate SD. The PRSexDQ consists of seven items evaluating the occurrence of sexual dysfunction along with subjective report on decrease of libido, delay of orgasm or ejaculation, lack of orgasm or ejaculation, erectile dysfunction or decrease of vaginal lubrication and the level of patient's tolerance to dysfunction. Sexual dysfunction was defined as having a score equal to or greater than 1 in any of the five items of the PRSexDQ that evaluated the various dimensions of sexual function. Ethical approval was provided by the Institutional Review Board of NIMH. Following data collection, data analyses were completed on the full sample using SPSS 24.0.

Results

The characteristics of the participants are shown in Table 1. Mean age (s.d.) of the participants was 32.6 (9.9) years. They were prescribed eight different antipsychotics and 88.8% of them received one of the following four drugs; risperidone, olanzapine, haloperidol or trifluoperazine. Of the 146 participants, 116 (79.5%) reported that they were taking single drug and 30 (20.5%) were taking two antipsychotics at the same time. Mean duration of illness for the participants was 5.5 years with minimum duration of 0.25 years and maximum duration of 21 years.

Table 1: Characteristics of the participants (N=146)

	Frequency (n)	Percentage (%)
Age group		
18-28	66	45.2
29-39	44	30.1
40-50	28	19.2
51 and above	08	5.5
Gender		
Male	82	56.2
Female	64	43.8
Educational status		
Illiterate	28	19.2
Primary	26	17.8

	Frequency (n)	Percentage (%)
Secondary	58	39.7
Higher Secondary	12	8.2
Honors	22	15.1
DSM-5 diagnosis		
Schizophrenia	96	65.8
Schizophreniform	30	20.5
Schizoaffective	02	1.4
Mood disorder with psychotic features	16	11.0
Other psychotic disorders	02	1.4
Name of the drug		
Haloperidol	30	20.5
Trifluoperazine	18	12.3
Risperidone	60	41.1
Olanzapine	32	21.9
Quetiapine	02	1.4
Clozapine	04	2.8
Fluphenazine	06	4.2
Chlorpromazine	04	2.8
Total	146	100

Estimated proportion of sexual dysfunction as measured by PRSexDQ is shown in Table 2.

Table 2: Proportion of sexual dysfunction among participants (N=146)

Gender	Sexual Dysfunction		Percentage (%)
	No SD (%)	SD (%)	
Male	34 (41.5%)	48 (58.5%)	82 (100%)
Female	36 (56.3%)	28 (43.7%)	64 (100%)
Total	70 (47.9%)	76 (52.1%)	146 (100%)

Three domains of sexual performance that are desire, arousal and orgasm were measured by PRSexDQ. By permutation and combination, we identified seven different types of possible sexual dysfunctions. Seventy-six participants who reported SD are categorized according to their problem domain in table 3. Desire was affected almost universally and only 5.3% had sole disturbances in arousal and orgasm without affecting the desire.

Table 3: Forms of sexual dysfunction (n=76)

Form of sexual dysfunction	Frequency (n)	Percentage (%)
Desire only	02	2.6
Arousal only	-	-
Orgasm only	-	-

Form of sexual dysfunction	Frequency (n)	Percentage (%)
Desire and Arousal	18	23.7
Desire and Orgasm	04	5.3
Arousal and Orgasm	04	5.3
Desire, Arousal and Orgasm	48	63.2
Total	76	100

Discussion

Among the participants, 52.1% reported to have one or more forms of SD. This implies that, patients on antipsychotics are at risk of having SD. Nazareth (2003)⁵ reported a prevalence of 31% in general population. So, in comparison to general population, patients on antipsychotic medications are at higher risk of developing SD. The prevalence of SD was 58.5% among males and 43.8% among females (Table 2). Previous studies have also reported higher prevalence of SD in males (45~80% vs. 30~80%).⁶ The reason behind comparatively low female SD could be explained by cultural values like conservative attitude of Bangladeshi females towards sexual matters, lack of sex education and reluctance to divulge information to male researchers.

Desire part of sexual performance was almost always affected in patients receiving antipsychotics (Table 3). This finding suggests role of dopamine blockade in motivational function. Desire can also be impaired by raised prolactin level. Drugs like haloperidol, trifluoperazine, risperidone thus impaired desire in participants. Some atypical antipsychotics have little prolactin elevating and D₂ blockade properties. However, they may impair arousal/lubrication and orgasm by acting on other receptors like serotonin 5-HT₂, cholinergic M₁, adrenergic alpha-1, alpha-2, histaminergic H₁, etc. Once there is arousal or orgasm difficulty it may eventually lead to performance anxiety, low mood and low desire. This is how we can explain universal involvement of desire/libido in antipsychotic receivers. It is important to note that many psychotic conditions themselves are associated with sexual dysfunction independent of drug therapy.⁴

The cross-sectional design of the study limits the strength of the causal relationship. The long treatment duration with the antipsychotics might be associated

with a survival bias; that is patients who exhibited more severe forms of sexual dysfunction were more prone to discontinue their treatment and therefore were not captured by the study. The sample size for some of the antipsychotics studied, namely chlorpromazine, quetiapine, clozapine was too small and made difficult to reach any conclusion about these medications. Recruiting large enough sample size and conducting study in a tertiary and national referral center might have reduced these biases.

Conclusions

These findings suggest about half of the patients receiving antipsychotics faced sexual problems and all domains of sexual function could be affected. Considering the study findings, appropriate measures should be taken to raise awareness among physicians, patients as well as family members.

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