MAK HILL Publications Research Journal of Medical Sciences

Research Article
doi: 10.59218/makrjms.2024.5.336.340

# A Study to Assess the Prevalence of Sexual Dysfunction in Psychiatric Patients Taking Antipsychotic Medications: A Prospective Observational Study

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**ABSTRACT**

Sexual dysfunction (SD) is a prevalent concern in individuals with mood disorders and psychotic conditions, with reported rates of 30%-80% in women and 45%-80% in men. Antipsychotic medications, used for managing psychosis, are associated with substantial impairment of sexual function. This study addresses a gap in the literature regarding the prevalence and types of SD in individuals receiving oral antipsychotic treatment in Gujarat, India. A prospective observational study conducted at a tertiary care teaching hospital in Gujarat from January 2021 to December 2023 included 200 participants on antipsychotic medication. Inclusion criteria involved age over 18, specific psychiatric diagnoses, and active engagement in sexual activity. Exclusion criteria comprised certain medications and medical conditions affecting sexual function. A locally adapted questionnaire and the PRSexDQ assessed clinical and demographic data and SD, respectively. Data analysis utilized Graphed version 8.Demographic analysis revealed diverse characteristics among the 200 participants, predominantly diagnosed with schizophrenia. Respiration was the most prescribed antipsychotic. Sexual dysfunction prevalence was 56.5%, with a notable gender difference-66.14% in males and 39.73% in females. Different forms of SD were categorized, emphasizing simultaneous dysfunction in desire, arousal, and orgasm as most prevalent at 56.64%.This study underscores a significant prevalence of SD among individuals on oral antipsychotic treatment in Gujarat, with higher rates in males. Respiration was frequently prescribed, aligning with a meta-analysis on varied antipsychotic impacts on sexual function. Consistent impairment in desire/libido, influenced by dopamine blockade and elevated prolactin levels, highlights the complex interplay of Antipsychotic, SD and underlying psychotic conditions. Further research, incorporating randomized designs and dose-related investigations, is crucial for a more comprehensive understanding of these relationships.

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**Key Words**
Sexual dysfunction, erection, orgasm, anti-psychotic drugs.

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**Received:** 15 January 2024
**Accepted:** 13 February 2024
**Published:** 14 February 2024

**Citation:** Bhavinkumar N. Kadavala, Mark Andrew. D, Rajesh. D and Prashant M. Parmar, 2024. A Study to Assess the Prevalence of Sexual Dysfunction in Psychiatric Patients Taking Antipsychotic Medications: A Prospective observational study. Res. J. Med. Sci., 18: 336-340, doi: 10.59218/makrjms.2024.5.336.340

## INTRODUCTION

Sexual dysfunction (SD) emerges as a prevalent concern among individuals afflicted with mood disorders, schizophrenia and other psychotic conditions, with documented prevalence rates ranging from 30-80% in women and 45-80% in maen[1-4].The pharmacological intervention for the management of psychosis includes antipsychotic medications, which are occasionally employed in the treatment February 28, 2024of nonpsychotic disorders as well[5].

Both classical and certain atypical Antipsychotic, such as respiration, are frequently linked to substantial impairment of sexual function[6]. Existing evidence indicates that various antipsychotic agents may disrupt one or more facets of the normal sexual-response cycle, encompassing sexual interest (libido), arousal (including vaginal lubrication in women and erection in men) and orgasm (coupled with additional endocrine disturbances), to varying degrees contingent upon the pharmacological properties inherent to each specific compound[6]. Of greater concern is the recognition that sexual dysfunction (SD) is ranked among the most distressing adverse effects of antipsychotic medications, significantly impacting the quality of life. Moreover, SD is associated with a negative attitude toward therapy and contributes to noncompliance with treatment regimens[6].

Following an extensive review of the existing literature, a noticeable scarcity of data pertaining to the prevalence and types of sexual dysfunction among individuals undergoing oral antipsychotic treatment in both Gujarat and India as a whole was identified. Consequently, there arose a necessity for a comprehensive investigation to address this gap. The principal objective of this study was to ascertain the prevalence and categorize the types of sexual dysfunction in individuals receiving oral antipsychotic treatment at a tertiary healthcare center situated in Gujarat, India.

## MATERIALS AND METHODS

This prospective observational study was conducted among both inpatients and outpatients at a tertiary care teaching hospital in Gujarat, India, spanning from January 2021 to December 2023. Ethical approval was obtained from the Institutional Review Board of the aforementioned tertiary care teaching hospital in Gujarat, India. A total of 200 participants, undergoing antipsychotic medication, were recruited through a convenient sampling method.

Inclusion criteria comprised individuals aged 18 years and above, possessing DSM-5 or ICD-10 diagnoses of schizophrenia, schizophreniform disorder, schizoaffective disorder or mood disorder with psychotic features and actively engaging in sexual activity. Exclusion criteria encompassed individuals receiving treatment with two or more antipsychotic drugs, tricyclic antidepressants, selective serotonin reuptake inhibitors (SSRIs), venlafaxine, mood stabilizers (including lithium and anticonvulsants), or medications with well-established adverse effects on sexual function (e.g., beta-blockers, alpha-blockers, H2 antagonists).

Patients concurrently using alcohol or other substances at the study commencement were excluded, as were individuals with any coexisting medical conditions (e.g., diabetes, primary hyperprolactinemia, prostate cancer, asthma, chronic obstructive pulmonary disease, or acute myocardial infarction) that might impact sexual function.

We employed a locally adapted semi-structured questionnaire in the native language to systematically gather pertinent clinical information and demographic data. The assessment of sexual dysfunction (SD) was conducted utilizing the local language version of the PRSexDQ. This questionnaire comprises seven items, evaluating the occurrence of SD and obtaining subjective reports on diminished libido, absence of orgasm or ejaculation, delayed orgasm or ejaculation, erectile dysfunction, or reduced vaginal lubrication. Additionally, the questionnaire assesses the patient's tolerance level to dysfunction. Sexual dysfunction, in this context, was operationally defined as obtaining a score equal to or greater than 1 in any of the five items of the PRSexDQ that specifically evaluate various dimensions of sexual function. Subsequent to data collection, comprehensive data analyses were performed on the entire sample utilizing Graphed version 8.

## RESULTS AND DISCUSSIONS

The study involved a total of 200 patients and their demographic and clinical characteristics are outlined in (Table 1). In terms of age distribution, 39 patients fell within the 18-30 age group, constituting 19.5% of the total population. The majority of participants, 113 individuals (56.5%), belonged to the 31-40 age range. Additionally, 48 patients, or 24% of the total, were in the 41-50 age group. Regarding gender, the study had a higher representation of males, with 127 patients making up 63.5% of the cohort. Females accounted for the remaining 73 patients, comprising 36.5%. Educational background varied among the participants, with 37 patients classified as illiterate, making up 18.5% of the total, while the literate group consisted of 163 patients, constituting 81.5%. The DSM-5/ICD 10 classification of diseases revealed that the majority of patients, 139 individuals (69.5%), were diagnosed with schizophrenia. Schizophreniform was identified in 33 patients, representing 16.5%, while schizoaffective disorder was observed in 4 patients, accounting for 2%. Additionally, 21 patients (10.5%) had a mood disorder with psychotic features and 3 patients (1.5%) had other

**Table 1: Demographic and Clinical characteristics of study patients**

| Characteristics | | Number of Patients (N = 200) | Percentage |
|---|---|---|---|
| Age Group | 18-30 | 39 | 19.5 |
| | 31-40 | 113 | 56.5 |
| | 41-50 | 48 | 24 |
| Gender | Male | 127 | 63.5 |
| | Female | 73 | 36.5 |
| Education | Illiterate | 37 | 18.5 |
| | Literate | 163 | 81.5 |
| DSM-5/ICD 10 classification of disease | Schizophrenia | 139 | 69.5 |
| | Schizophreniform | 33 | 16.5 |
| | Schizoaffective | 04 | 2 |
| | Mood disorder with psychotic feature | 21 | 10.5 |
| | Other psychotic disorder | 3 | 1.5 |
| Name of the drug | Chlorpromazine | 5 | 2.5 |
| | Risperidone | 70 | 35 |
| | Trifluoperazine | 26 | 13 |
| | Fluphenazine | 8 | 4 |
| | Olanzapine | 61 | 30.5 |
| | Haloperidol | 14 | 7 |
| | Clozapine | 11 | 5.5 |
| | Quetiapine | 5 | 2.5 |

**Table 2: Proportion of sexual dysfunction among study patients**

| | Sexual Dysfunction (SD) | | |
|---|---|---|---|
| Gender | SD | No SD | Percentage |
| Male | 84 (66.14%) | 43 (33.86%) | 127 (100) |
| Female | 29 (39.73%) | 44 (60.27%) | 73 (100) |
| Total | 113 (56.5%) | 87 (43.5%) | 200 (100) |

**Table 3: Categorisation of forms of sexual Dysfunction**

| Sexual dysfunction form | Frequency | Percentage |
|---|---|---|
| Desire only | 5 | 4.43 |
| Arousal only | 0 | 0 |
| Orgasm only | 2 | 1.77 |
| Desire and arousal | 35 | 30.97 |
| Desire and orgasm | 3 | 2.65 |
| Arousal and orgasm | 4 | 3.53 |
| Desire, arousal and orgasm | 64 | 56.64 |

psychotic disorders. In terms of medication, the study explored the use of various drugs. Chlorpromazine was prescribed to 5 patients, making up 2.5% of the cohort. Respiration was the most frequently prescribed drug, with 70 patients (35%). Trifluoperazine was administered to 26 patients (13%), while fluphenazine and olanzapine were prescribed to 8 (4%) and 61 (30.5%) patients, respectively. Haloperidol, clozapine and quetiapine were used by 14 (7%), 11 (5.5%) and 5 (2.5%) patients, respectively. This comprehensive overview provides insights into the diverse demographic characteristics, clinical diagnoses and medication profiles of the study population (Table 1).

Table 2 presents the proportion of sexual dysfunction among the study patients, categorized by gender. Among the male participants, 84 individuals, or 66.14%, reported experiencing sexual dysfunction, while 43 individuals, accounting for 33.86%, did not exhibit such issues. This indicates a significant prevalence of sexual dysfunction within the male subgroup, constituting the entire male cohort of 127 patients. In contrast, among the female participants, 29 individuals, or 39.73%, reported sexual dysfunction, while 44 individuals, representing 60.27%, did not face such concerns. These findings reveal a noteworthy gender-based difference in the prevalence of sexual dysfunction, with a higher proportion observed amongmales compared to females. Overall, the combined data from both genders indicates that 113 patients, or 56.5%, reported experiencing sexual dysfunction, while 87 patients, comprising 43.5%, did not report such issues. This comprehensive analysis provides valuable insights into the prevalence of sexual dysfunction within the study population, highlighting the gender-specific variations in the reported experiences.

Table 3 categorizes forms of sexual dysfunction in the study population, with Desire only at 4.43%, Arousal only at 0% and Orgasm only at 1.77%. Desire and Arousal occurred in 30.97%, Desire and Orgasm in 2.65% and Arousal Orgasm in 3.53%. Simultaneous Desire, arousal and orgasm were most prevalent at 56.64%. This analysis offers a nuance understanding of specific patterns of sexual dysfunction within the study group, contributing to a comprehensive assessment of impaired sexual functioning.

In the present investigation, the assessment of sexual dysfunction within a clinical cohort of psychotic patients undergoing antipsychotic drug treatment yielded a prevalence of 56.5% based on scores obtained from the PRSexDQ scale. In a study by Close EO *et al*[5]. the observed prevalence of sexual dysfunction was 67.2%, surpassing the findings of the current study. Among the male participants, the prevalence of sexual dysfunction was 66.14%, with 39.73% observed in females. Consistent with previous research, a higher prevalence of sexual dysfunction was noted in males compared to females[5,7,8].

Contrastingly, a Scottish study reported a substantially elevated prevalence of sexual dysfunction in their subjects, with a higher incidence among females than males. Notably, the disparities in findings

may be attributed to the utilization of a self-administered sexual function questionnaire developed by the authors, lacking validation in prior studies-a limitation acknowledged by the authors. Furthermore, the inclusion of subjects not undergoing antipsychotic treatment in their study could contribute to the observed differences[9].

In comparison to the general population, Nazareth *et al*. reported a 31% prevalence of sexual dysfunction. Consequently, individuals receiving antipsychotic medication are at a heightened risk of developing sexual dysfunction in contrast to the general population[10]. In the current investigation, the predominant utilization of respiration was observed among patients, followed by olanzapine and trifluoperazine. A meta-analysis indicated that quetiapine had the least impact on sexual function among the drugs analyzed. Ziprasidone, perphenazine and aripiprazole were linked to a modest but discernible likelihood of sexual dysfunction, while olanzapine, respiration, haloperidol, clozapine and thioridazine exhibited a higher association with substantial sexual dysfunction[6]. The findings of our study align with the outcomes of this meta-analysis.

The desire component of sexual performance exhibited consistent impairment in individuals receiving antipsychotic medications, as depicted in (Table 3). This observation underscores the potential influence of dopamine blockade on motivational function[11]. Elevated prolactin levels, attributed to drugs such as haloperidol, trifluoperazine and respiration, were identified as contributors to desire impairment in study participants. Notably, certain atypical Antipsychotic display limited prolactin-elevating and D2 blockade properties[11].

However, these atypical Antipsychotic may still adversely affect arousal, lubrication and orgasm by interacting with other receptors, such as serotonin 5-HT2, histaminergic H1, adrenergic alpha-1, alpha-2, cholinergic M1, among others[11].The manifestation of difficulties in arousal or orgasm may subsequently lead to diminished mood, decreased desire and performance anxiety[11]. This elucidates the pervasive involvement of desire/libido in individuals receiving antipsychotic medications. It is noteworthy that many psychotic conditions themselves are associated with sexual dysfunction, irrespective of the influence of drug therapy[11]. This study adopts an observational design, inherently limited in its capacity to establish causality between antipsychotic use and sexual dysfunction, as well as the development of hyperprolactinemia. In contrast to a prospective randomized study with an equal distribution of participants across various antipsychotic drugs, the current investigation lacks the robustness to draw definitive causal relationships. Additionally, the study does not assess the impact of dosage on sexual dysfunction. Consequently, a comprehensive exploration of the effects of Antipsychotic on sexual dysfunction necessitates further research employing a larger cohort of patients, incorporating randomization and systematically evaluating the influence of dosage.

## CONCLUSION

In summary, our study highlights a significant prevalence of sexual dysfunction (SD) among individuals on oral antipsychotic treatment in Gujarat, India, revealing a notable gender difference with higher prevalence in males. Respiration was the most prescribed antipsychotic, consistent with a meta-analysis on varied impacts of Antipsychotic on sexual function. Consistent impairment in desire/libido, influenced by dopamine blockade and elevated prolactin levels, underscores the intricate interplay of Antipsychotic, SD and underlying psychotic conditions. Further research with randomized designs and dose-related investigations is imperative for a more comprehensive understanding of these relationships.

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