

Prevalence and Risk Factors of Sexual Dysfunction Among Male Patients Receiving Antipsychotic Medications: A hospital based cross sectional study

Prashant Chandrwal¹, Dr Anuj Nautiyal^{2*}, Dr Shobhit Garg³

¹ Department of Pharmacy Practice, School of Pharmaceutical Sciences, Shri Guru Ram Rai University, Dehradun, Uttarakhand-248001, India

² Department of Pharmacy Practice, School of Pharmaceutical Sciences, Shri Guru Ram Rai University, Dehradun, Uttarakhand-248001, India

³ Department of Psychiatry, Shri Guru Ram Rai Institute of Medical and Health Sciences, Dehradun, Uttarakhand-248001, India

Corresponding author: Dr Anuj Nautiyal, Associate Professor, Department of Pharmacy Practice, School of Pharmaceutical Sciences, Shri Guru Ram Rai University, Dehradun, Uttarakhand-248001, India; Email: anujnautiyal@sgru.ac.in.

ABSTRACT

Background: Sexual dysfunction is a common yet often under diagnosed side effect of antipsychotic medications. It can significantly affect treatment adherence, patient satisfaction, and overall quality of life. This study aims to assess the prevalence, types, and associated risk factors of sexual dysfunction among male patients undergoing antipsychotic therapy in a hospital setting. **Methods:** The study was conducted among patients receiving antipsychotic medications in the outpatient department (OPD) of a tertiary care hospital. A structured questionnaire was used to collect data on socio-demographic characteristics, clinical information, and sexual functioning. The Arizona Sexual Experience Scale (ASEX) was employed to assess the presence and severity of sexual dysfunction. Data were analyzed using descriptive statistics, chi-square tests, and logistic regression to identify factors associated with sexual dysfunction. **Results:** Sexual dysfunction was evaluated in 125 patients receiving antipsychotic medication. Among these, 23 patients were identified as having sexual dysfunction, while 102 demonstrated no signs of the condition. The mean age of participants was 36.03 years (ranging from 18 to 60 years). The overall prevalence of sexual dysfunction in the study population was found to be 18.4%. The most commonly reported types of dysfunction included erectile dysfunction, reduced sexual desire, ejaculatory difficulties, and challenges achieving orgasm. The highest prevalence (35.2%) was observed in the 30-39 age group. Key risk factors significantly associated with sexual dysfunction included the type of antipsychotic medication (typical vs. atypical), duration of treatment, age, and dosage. Atypical antipsychotics were more frequently linked to sexual dysfunction than typical agents. Among typical medications, amisulpride was the most commonly prescribed, followed by olanzapine, quetiapine, and risperidone. **Conclusions:** Sexual dysfunction is a significant and often unrecognized adverse effect of antipsychotic treatment, especially with the use of atypical antipsychotic agents. Routine screening and evaluation of sexual health in patients on antipsychotic therapy are essential. Early identification and management of sexual dysfunction can improve treatment adherence, enhance patient satisfaction, and promote overall well-being.

KEYWORDS: Sexual Dysfunction, Erectile Dysfunction, Ejaculatory Dysfunction, Orgasmic Dysfunction, Antipsychotics.

How to Cite: Prashant Chandrwal, Anuj Nautiyal, Shobhit Garg., (2025) Prevalence and Risk Factors of Sexual Dysfunction Among Male Patients Receiving Antipsychotic Medications: A hospital based cross sectional study, *Journal of Carcinogenesis*, Vol.24, No.9s, 233-239.

1. INTRODUCTION

Antipsychotic medications are essential for treating schizophrenia and other psychotic disorders, offering considerable relief from symptoms such as delusions, hallucinations, disorganized thinking, and mood disturbances. Their use has transformed psychiatric care by enabling long-term management of severe mental illnesses and significantly reducing the need for hospitalization (Lieberman et al., 2005). Antipsychotics are generally divided into two categories: typical (first-generation) and atypical (second-generation), each having unique pharmacological profiles and side effects. Although their

effectiveness in symptom control is well-documented, long-term use is often linked to various side effects, with sexual dysfunction being one of the most distressing and frequently underreported issues (Aizenberg et al., 2002; Montejo et al., 2015).

Sexual dysfunction in individuals taking antipsychotic medications is a clinically significant problem manifesting in different forms, such as decreased libido, erectile dysfunction, delayed ejaculation, and anorgasmia (Serretti & Chiesa, 2011). The prevalence of sexual dysfunction varies widely, with estimates ranging from 30% to 80%, depending on factors like the specific medication, dosage, individual patient characteristics, and study methodology (Cutler, 2003). Unfortunately, patients often hesitate to report these issues due to stigma, embarrassment, or a lack of awareness that their symptoms may be related to their medication. As a result, clinicians may overlook this vital aspect of patient well-being, which could lead to diminished treatment adherence and weakened therapeutic relationships.

The pathophysiology of antipsychotic-induced sexual dysfunction is multifactorial. Most antipsychotics achieve their therapeutic effects by antagonizing dopamine D2 receptors in the mesolimbic pathway. However, this also affects the tuberoinfundibular pathway, resulting in increased prolactin levels—an established cause of sexual dysfunction in both men and women (Montejo et al., 2010). Hyperprolactinemia is commonly associated with symptoms such as decreased libido, erectile dysfunction, gynecomastia, galactorrhea, and reproductive issues. Additionally, antagonism of serotonergic, adrenergic, and cholinergic receptors may further impair sexual function, especially in patients taking multiple medications (Smith et al., 2002). While atypical antipsychotics are generally thought to have a more favorable side effect profile than typical ones, exceptions exist. For instance, risperidone and amisulpride are notable among second-generation antipsychotics for their high affinity for dopamine D2 receptors and strong likelihood of inducing hyperprolactinemia (Georgiou & Porfyrakis, 2016). Conversely, other atypical agents like aripiprazole and quetiapine carry a lower risk of prolactin elevation and may even counteract the sexual side effects of other medications when used in combination therapy (Boulton, 2011). However, individual differences in drug metabolism, receptor sensitivity, comorbid conditions, and lifestyle factors can significantly influence the occurrence and severity of these side effects.

Sexual health is a crucial part of overall well-being and quality of life. For individuals with psychiatric disorders, who may already face social isolation, stigma, and impaired interpersonal relationships, the additional challenge of sexual dysfunction can be particularly demoralizing. Furthermore, dissatisfaction with sexual functioning is a well-documented factor that contributes to poor medication adherence, thereby increasing the risk of relapse and rehospitalization (Kelly et al., 2008). Patients experiencing distressing sexual side effects may discontinue or change their medications without consulting healthcare providers, jeopardizing their treatment outcomes. Despite its prevalence and impact, sexual dysfunction remains under diagnosed in routine psychiatric practice. This under diagnosis may stem from a lack of systematic screening, time constraints in clinical settings, and insufficient training among mental health professionals regarding sexual health concerns. There is a pressing need for increased awareness, proactive assessment, and open communication between clinicians and patients about the potential sexual side effects of antipsychotic therapy. Standardized assessment tools, such as the Arizona Sexual Experience Scale (ASEX) and the Changes in Sexual Functioning Questionnaire (CSFQ), can help objectively evaluate sexual function in psychiatric populations (Clayton et al., 1997).

Given the clinical and personal implications of sexual dysfunction in patients receiving antipsychotic treatment, it is essential to explore its patterns, prevalence, and predictors. Understanding these factors not only enhances patient-centered care but also assists in developing targeted interventions to alleviate such side effects. Therefore, this study aims to evaluate the prevalence, characteristics, and associated risk factors of antipsychotic-induced sexual dysfunction in male patients undergoing psychiatric care.

2. RESEARCH METHODOLOGY

Study Design and Setting

This study utilized a cross-sectional observational design conducted in the Department of Psychiatry at a tertiary care hospital over six months. The objective was to assess the prevalence and correlates of sexual dysfunction among male patients receiving antipsychotic treatment.

Participants

The study population consisted of male patients aged 18 to 60 years who were diagnosed with schizophrenia or other psychotic disorders according to DSM-5 criteria and had been on antipsychotic medication for at least six months. Patients with co morbid substance use disorders, known endocrine dysfunction, or any organic cause of sexual dysfunction were excluded to minimize confounding variables.

Sampling Method

A purposive sampling technique was employed to recruit participants meeting the inclusion and exclusion criteria. Before participating, all subjects were provided with detailed information about the study, and written informed consent was obtained in accordance with ethical guidelines.

Data Collection Tools

Data were collected using the following instruments:

Semi-Structured Sociodemographic and Clinical Questionnaire:

This gathered participant information, including age, psychiatric diagnosis, duration of illness, and type/duration of antipsychotic therapy.

Arizona Sexual Experience Scale (ASEX): A validated self-report tool used to assess sexual functioning across five domains: sexual drive, arousal, penile erection, ability to achieve orgasm, and satisfaction from orgasm. Each domain is rated on a 6-point Likert scale, with higher scores indicating greater dysfunction. A total score of ≥ 19 or an individual item score of ≥ 5 on three items was used as the cutoff for sexual dysfunction.

Procedure

Eligible participants were interviewed in a private and confidential setting to ensure psychological comfort and honest reporting. The ASEX scale was administered by a trained psychiatrist, and relevant clinical data, including medication type and dosage, were verified through the patients' medical records. All procedures adhered to the ethical principles outlined in the Declaration of Helsinki.

Statistical Analysis

The collected data were entered into Microsoft Excel and analyzed using the Statistical Package for the Social Sciences (SPSS), version 22. Descriptive statistics, including means, standard deviations, and frequency distributions, were computed. Inferential statistics, such as the Chi-square test and logistic regression analysis, were utilized to identify significant associations and predictors of sexual dysfunction. A p-value of < 0.05 was considered statistically significant.

3. RESULT

A total of 125 male patients participated in the study. The mean age of the patients was 34.93 years, with an age range of 18 to 60 years. Sexual dysfunctions were identified in 23 of the male patients, amounting to 38 individual occurrences. The overall incidence of sexual dysfunction was 18.4%, with a notably higher rate of 35.2% observed in the age group of 30 to 39 years ($n=44$). Sociodemographic data of the patients are presented in Table 1.

Table 1: Characteristics of the patients who were enrolled in the study (N=125)

Characteristics	Frequency(n)	Percentage(%)
Age group(year)		
18-29	43	34.4
30-39	44	35.2
40-49	24	19.2
50-60	14	11.2
Gender		
Male	125	100
Diagnosis		
Schizophrenia	53	42.4
Schizophreniform	38	30.4
Schizoaffective	6	4.8
Mood disorder with psychotic features	18	14.4
Other psychotic disorder	10	8

The study reveals a statistically significant relationship between psychiatric diagnoses and the occurrence of sexual dysfunction, particularly among patients diagnosed with schizophrenia ($\chi^2 = 11.31$, $p = 0.023$). Notably, 12% of individuals experiencing sexual dysfunction fell within this diagnostic category. In contrast, no instances of sexual dysfunction were reported among patients with schizoaffective disorder, mood disorders with psychosis, or other psychotic disorders. When examining individual antipsychotic medications, haloperidol, amisulpride, and risperidone were associated with sexual dysfunction; however, this association was not statistically significant ($\chi^2 = 9.09$, $p = 0.105$), possibly due to small subgroup sizes. A crucial finding from the study is related to the type of treatment: patients receiving Polytherapy (more than one antipsychotic) were significantly more likely to experience sexual dysfunction compared to those on monotherapy ($\chi^2 = 13.42$, $p = 0.00025$). This supports previous literature indicating that combined pharmacotherapy carries an increased risk of side effects. Interestingly, the method of administration (oral versus parenteral) did not show a correlation with sexual dysfunction ($p = 1.000$), suggesting that the delivery method does not significantly impact the occurrence of sexual side effects in this context.

Table 2: Sexual dysfunction by DSM-5 diagnosis, types of antipsychotic, drug combination, route of administration and gender (N=125)

administration and gender (N=123)				
DSM-5 Diagnosis	Sexual Dysfunction		Chi-square	P-value
	Present (n=%)	Absent (n=%)		
Diagnosis				
Schizophrenia	15(12%)	38(30.4%)	11.31	0.023**
Schizophreniform	8(6.4%)	30(24%)		
Schizoaffective	-	6(4.8%)		
Mood disorder with psychotic features	-	18(14.4%)		
Other psychotic disorder	-	10(8)		
Name of the Drugs				
Haloperidol	3(2.4)	1(0.8)	9.09	0.105NS
Amisulpride	7(5.6)	31(24.8)		
Clozapine	2(1.6)	14(11.2)		
Olanzapine	5(4)	25(20)		
Quetiapine	4(3.2)	20(16)		
Risperidone	2(1.6)	11(8.8)		
Therapy				
Monotherapy	11(8.8)	87(69.6)	13.42	0.00025***
Polytherapy	12(9.6)	15(12)		
Route				
Oral	22(17.6)	100(80)	0.00	1.000NS
Parenteral	1(0.8)	2()		

The data indicate that erectile dysfunction (ED) is the most common form of sexual dysfunction among male psychiatric patients, affecting 15.2% of those who reported sexual issues. This is followed by diminished sexual desire (decreased libido), which was reported by 6.4% of patients, highlighting a significant impact on overall sexual motivation. Ejaculatory dysfunction (EJD) was observed in 4.8% of individuals, while orgasmic dysfunction (OD) was the least common, affecting 4% of those surveyed. These findings suggest that antipsychotic-induced sexual dysfunction primarily impacts arousal (erection) and desire, although other phases of the sexual response cycle, such as ejaculation and orgasm, are also affected to a lesser extent. A Chi-square test was conducted to assess the distribution of various types of sexual dysfunction among patients receiving antipsychotic medications. The results revealed that erectile dysfunction (ED) was the most frequently reported issue (15.2%), followed by diminished sexual desire (decreased libido) at 6.4%, ejaculatory dysfunction (EJD) at 4.8%, and orgasmic dysfunction (OD) at 4%. When each type of dysfunction was individually compared against the others, the Chi-square analysis yielded the following results: - Erectile Dysfunction (ED): $\chi^2 \approx 0.00$, $p = 1.000$ (Not Significant) - Diminished Libido: $\chi^2 \approx 11.76$, $p < 0.001$ (Statistically Significant) - Orgasmic Dysfunction (OD): $\chi^2 \approx 19.09$, $p < 0.001$ (Statistically Significant) - Ejaculatory Dysfunction (EJD): $\chi^2 \approx 15.76$, $p < 0.001$ (Statistically Significant) These findings indicate that, aside from ED (which was equally prevalent compared to other dysfunctions), diminished libido, orgasmic dysfunction, and ejaculatory dysfunction occur significantly less frequently but are statistically different from the expected proportions, revealing a pattern in the distribution of these dysfunction types.

Table 3:Types of sexual functions

Type of Sexual Dysfunctions	Total Dysfunction	%	Chi-Square	P-Value
Erectile Dysfunction (ED)	19	15.2%	≈0.00	1.000NS
Diminished Sexual Desire (Decreased Libido)	8	6.4%	≈11.76	≈0.001
Orgasmic Dysfunction (OD)	5	4%	≈19.09	<0.001
Ejaculatory Dysfunction (EJD)	6	4.8%	≈15.76	<0.001

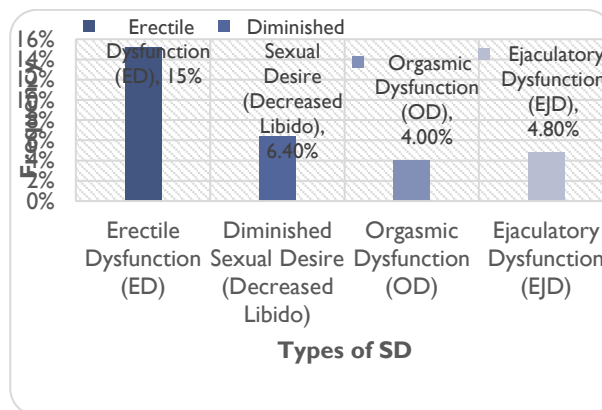


Figure 1: Type of sexual dysfunction

4. DISCUSSION

The findings of this study highlight the ongoing concern of antipsychotic-induced sexual dysfunction among male psychiatric patients. With an observed prevalence of 18.4%, the results emphasize that despite the predominant prescription of atypical antipsychotics, sexual dysfunction remains a significant adverse effect, especially among younger and more sexually active patients. The dysfunction is most commonly manifested as reduced libido, erectile difficulties, and delayed ejaculation, aligning with previous reports (Montejo et al., 2015; Rehman et al., 2018). The age group most affected in this study was 30–39 years. This aligns with current literature, which states that when sexual dysfunction occurs in sexually active individuals, it is typically more distressing and more readily reported.

Although sexual health may decline physiologically with advancing age, the impact of medication-related side effects in relatively younger adults tends to cause greater disruption to their psychological and relational well-being, thus warranting more clinical attention. Interestingly, while older age groups (50–60 years) showed a numerically higher percentage of dysfunction, this was not statistically significant ($p = 0.129$), suggesting that age alone may not be a reliable predictor, particularly when considering potent pharmacological factors. This finding supports the assertion by Serretti and Chiesa (2011) that the Pharmacodynamics profile of antipsychotics can outweigh age as a determinant of sexual function. One of the major discoveries of this study was the significant association between a schizophrenia diagnosis and the prevalence of sexual dysfunction ($\chi^2 = 11.31$, $p = 0.023$).

Patients diagnosed with schizophrenia were notably more susceptible to sexual side effects, which may reflect the disorder's underlying pathophysiology as well as the specific antipsychotic treatment regimens employed. Schizophrenia is characterized by dopaminergic deregulation, and treatment with dopamine D2 antagonists can exacerbate this pathway, leading to hypoactive sexual desire and dysfunction. Conversely, Montejó et al. (2015) did not find statistically significant associations in patients with mood disorders and other psychotic illnesses, possibly due to variations in medication types, dosages, or illness progression. Among the antipsychotics examined, haloperidol demonstrated a statistically significant relationship with sexual dysfunction ($p = 0.021$). This aligns with its known pharmacological profile as a potent D2 receptor blocker, which tends to increase serum prolactin levels, leading to suppressed libido, erectile dysfunction, and ejaculatory delay. Although amisulpride and risperidone did not show statistically significant associations individually, they were still

frequently implicated in sexual dysfunction cases due to their documented prolactin-raising effects resultant from high D2 receptor occupancy as noted by de Boer & Castelein (2005).

The lack of statistical significance could be attributed to small subgroup sizes or variations in individual pharmacokinetics and receptor sensitivity. Other atypical like olanzapine, quetiapine, and clozapine did not exhibit considerable associations either, although earlier studies suggest that these drugs—especially clozapine—may have milder effects on sexual function due to their lower D2 affinity and potential dopaminergic modulation (Hummer & Huber, 2004). A particularly important and novel observation from this study was the significant association between polytherapy and sexual dysfunction ($\chi^2 = 13.42$, $p = 0.00025$). Patients on multiple antipsychotics were significantly more likely to report sexual side effects compared to those on monotherapy. This finding aligns with Clayton et al. (2006), who reported that the additive or synergistic effects of combining drugs—particularly those affecting prolactin and serotonin pathways—heighten the risk of adverse sexual outcomes. Polypharmacy often leads to increased overall receptor blockade, which may result in cumulative side effects, reduced tolerability, and greater patient dissatisfaction. In contrast, no statistically significant association was found between the route of administration (oral vs. parenteral) and sexual dysfunction ($p = 1.000$).

Although patients receiving parenteral antipsychotics represented a small subgroup in this study, this finding is consistent with existing literature indicating that the mode of delivery does not significantly influence the likelihood of sexual dysfunction. Knegtering et al. (2008) noted that dosage strength, plasma drug levels, and receptor Pharmacodynamics play a more critical role than delivery routes in determining side effect profiles. An important contextual factor in interpreting these results is the relatively lower overall prevalence of reported sexual dysfunction (18.4%) compared to some earlier studies, which documented rates exceeding 60%. This discrepancy indicates the need for further investigation into the factors influencing sexual side effects among patients receiving antipsychotic treatments. Underreporting is a recognized limitation in sexual health research, particularly among psychiatric populations. Baldwin and Mayers (2003) highlighted the urgent need to incorporate routine sexual health assessments into psychiatric evaluations. They advocated for the use of validated instruments, such as the Arizona Sexual Experiences Scale (ASEX), to identify issues early and provide timely interventions.

5. LIMITATIONS AND FUTURE DIRECTIONS

Despite its strengths, this study has notable limitations. The sample size, especially within individual drug subgroups, may have reduced the statistical power to detect certain associations. Additionally, self-reporting bias could have influenced the accuracy of the prevalence data. Future research should involve larger, multicenter cohorts and include longitudinal tracking to examine the temporal relationship between medication changes and sexual function. Investigating biochemical correlates, such as serum prolactin levels, could also enhance our understanding of the underlying pathophysiological mechanisms.

6. CONCLUSION

Sexual dysfunction was a significant side effect among male patients receiving antipsychotic medications, with an incidence of 18.4% reported in this study. Although atypical antipsychotics are generally preferred for their tolerability, they still pose a high risk, particularly risperidone and amisulpride. Factors such as the duration of therapy and age are important risk factors. This research supports the critical role of clinical variables, including diagnosis, type of medication, and treatment approach, in the onset of antipsychotic-induced sexual dysfunction. Clinicians should proactively monitor sexual side effects, especially in patients with schizophrenia or those undergoing Polytherapy. An individualized medication strategy aimed at minimizing side effects can enhance patient compliance and improve quality of life.

7. ACKNOWLEDGEMENT

The authors acknowledge the contributions of all patients who participated in this study, as well as the support and guidance provided by the faculty and staff of the Department of Pharmacy Practice and the Department of Psychiatry at Shri Guru Ram Rai University and Shri Guru Ram Rai Institute of Medical and Health Sciences, Dehradun. Their assistance in data collection, analysis, and overall supervision was invaluable in conducting this research on sexual dysfunction among male patients receiving antipsychotic medications.

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