

Drug side effects affect medication compliance in schizophrenia patients

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Abstract

Schizophrenia is a chronic mental disorder characterized by impaired thinking, emotions, and behavior, requiring long-term therapy. Medication adherence is a crucial factor in preventing relapse, yet many patients remain non-compliant for various reasons, including medication side effects. This non-adherence can increase the risk of relapse, readmission, and even reduce the patient's quality of life. Therefore, this study aims to analyze the relationship between medication side effects and medication adherence in schizophrenia patients at Grhasia Hospital, Yogyakarta, in 2025. The aim of this study was to determine the side effects of drugs and the level of compliance with taking medication in schizophrenia patients, as well as to analyze the relationship between side effects of drugs and compliance with taking medication at Grhasia Hospital, Yogyakarta. This study uses a descriptive correlational quantitative method with a cross-sectional approach. The sample consisted of 93 schizophrenia patients undergoing treatment at the psychiatric clinic of Grhasia Mental Hospital, Yogyakarta, selected using the accidental technique. sampling according to inclusion and exclusion criteria. The instruments used were the Glasgow Antipsychotic Side-Effect Scale (GASS) to measure drug side effects, and the Medication Morisky Adherence Scale (MMAS-8) to measure medication adherence. Data analysis was performed using the Kendall Tau correlation test. The results of the study showed that there was a significant relationship between drug side effects and medication adherence ($p = 0.025$), patients with milder side effects tended to have higher adherence. This study concluded that there is a significant relationship between medication side effects and medication adherence in schizophrenia patients. The milder the side effects experienced, the higher the level of medication adherence, making side effect management a crucial factor in improving therapy success.

keywords: schizophrenia; drug side effects; medication compliance

1. Introduction

Mental disorders are a global health problem that continues to increase along with the rapid flow of globalization and the development of information technology, which influences social and cultural values. Not all individuals are able to adapt well to these changes, resulting in some experiencing psychological and mental disorders, one of which is schizophrenia. Schizophrenia is a chronic mental disorder characterized by illusions, hallucinations, delusions, impaired thought processes, and abnormal behavior. This condition does not directly cause death, but it impacts profound suffering for patients and places a heavy burden on families. (Pardede et al., 2019).

The urgency of research related to schizophrenia arises because patient compliance with medication remains a major challenge. Adherence to treatment is key to successful therapy, but many patients are inconsistent due to various factors, one of which is medication side effects. This non-adherence can increase the risk of relapse, worsen symptoms, and even lead to rehospitalization. This has implications for the increasing public health burden and the need for mental health services in Indonesia. (Siagian et al., 2023).

Several previous studies have shown that adherence in schizophrenia patients is influenced by various factors, including family support, patient knowledge, and experience with medication side effects. For example, research by Dewi and Yani (2021) emphasized the importance of the family's role in improving patient adherence, while research by Radiah and Ismika (2020) demonstrated extrapyramidal side effects from antipsychotic use, which can disrupt patient comfort during therapy. However, studies specifically linking medication side effects to patient adherence are limited.

Based on the above description, this study aims to determine drug side effects, medication adherence levels, and analyze the relationship between drug side effects and medication adherence in schizophrenia patients at Grhasia Hospital, Yogyakarta. This study is expected to provide scientific

contributions and practical input for healthcare professionals in improving service quality, particularly in managing drug side effects to support medication adherence in schizophrenia patients.

2. Method

This research method uses a quantitative descriptive correlational design with a *cross-sectional approach*. The purpose of this design is to determine the relationship between drug side effects as an independent variable and medication adherence as a dependent variable in schizophrenia patients at Grhasia Hospital, Yogyakarta. The study population was all schizophrenia patients undergoing treatment at Grhasia Hospital, while the sample was determined by accidental sampling technique based on inclusion criteria, namely willing to be respondents, aged ≥ 18 years, and undergoing treatment, and exclusion criteria, namely patients who refused to participate.

The research instruments used included the *Glasgow Antipsychotic Side-Effect Scale* (GASS) to measure medication side effects and the *Medication Morisky Adherence Scale* (MMAS-8) to measure medication adherence. Both instruments have undergone validity and reliability testing, with valid and reliable results. Data collection was conducted through questionnaires and direct interviews after respondents signed informed consent. Ethical aspects of the research were maintained through ethical approval, the principles of *anonymity*, *confidentiality*, *autonomy*, and protection of vulnerable groups.

The collected data were analyzed univariately to describe the characteristics of respondents, drug side effects, and compliance levels, and bivariate using the *Kendall Tau correlation test* with a significance level of $p < 0.05$. This study was conducted in three stages, namely the preparation stage in the form of permits, instrument preparation, and ethical testing; the implementation stage in the form of respondent selection, questionnaire distribution, and interviews; and the final stage which included data processing, analysis of results, and preparation of the research report. This study has obtained ethical approval from the Research Ethics Committee of Grhasia Mental Hospital Yogyakarta (No. 43 / EC-KEPKRSJG / VIII / 2025).

3. Results

This study involved 93 respondents diagnosed with schizophrenia and undergoing treatment at the psychiatric outpatient clinic at Grhasia Hospital in Yogyakarta. The following table shows the frequency distribution of the respondents' characteristics. This analysis aims to provide an overview of demographic variables such as gender, age, education, occupation, marital status, diagnosis, medical history, and hospitalization history relevant to the study.

Table 1. Frequency Distribution of Characteristics of Schizophrenia Patients at Grhasia Mental Hospital, Sleman Yogyakarta

Characteristics	Frequency	Percentage (%)
Gender		
Man	53	57.0
Woman	40	43.0
Age		
17-25 years	10	10.8
26-35 years old	35	26.9
36-45 years	28	30.1
46-55 years	25	26.9
56-65 years	5	5.4
Education		
Elementary School	8	8.6
Junior High School	24	25.8
Senior High School	50	33.8
College	11	11.8
Work		
Doesn't work	53	57.0
Work	40	43.0
Marital status		
Not married (single, widow, widower)	62	66.7

Characteristics	Frequency	Percentage (%)
Marry	31	33.3
Long illness		
≤ 2 years	20	21.5
> 2 years	73	78.5
Hospitalization history		
≥ 3 times	68	73.1
1-2 times	25	26.9
Amount	93	100

Table 1 shows that there were more male schizophrenia patients than female ones, at 53 (57%). The largest percentage of patients were aged 26-35 years, at 35 (26.9%). The highest number of patients had a high school education, at 50 (33.8%). There were more unmarried patients than married ones, at 53 (57%). There were more unemployed patients than employed ones, at 32 (56.1%). There were more unmarried patients than married ones, at 62 (66.7%). There were more patients with a duration of illness > 2 years than ≤ 2 years, at 73 (78.5%). There were more patients with a history of hospitalization ≥ 3 times than 1-2 times, at 68 (73.1%).

3.1. Research Results on Drug Side Effects

The results of the study of drug side effects in schizophrenia patients at Grhasia Hospital are presented in Table 2.

Table 2. Frequency Distribution Based on Drug Side Effects in Schizophrenia Patients at Grhasia Hospital.

Drug side effects	Frequency	Percentage (%)
Heavy	7	7.5
Currently	40	43.0
Light	36	36.7
There isn't any	10	10.8
Amount	93	100

Table 2 shows that the side effects of drugs in schizophrenia patients at Grhasia Hospital were mostly moderate, as many as 40 people (43%).

The results of the study showed that the most common side effects of antipsychotic drugs experienced by schizophrenia patients at Grhasia Hospital were moderate (43.0%), with symptoms such as tremors, stiffness, dry mouth, drowsiness, and weight gain. This finding is in line with the study by Chow et al. (2023) who reported that the majority of schizophrenia patients experienced mild-moderate side effects, especially extrapyramidal and metabolic, which impacted quality of life and treatment adherence. The moderate side effects in this study were suspected to be influenced by the use of the combination of Haloperidol and Trihexyphenidyl, where Haloperidol causes extrapyramidal symptoms while Trihexyphenidyl contributes to anticholinergic symptoms.

3.2. Research Results on Medication Compliance

The results of measuring medication adherence in schizophrenia patients at Grhasia Mental Hospital are presented in Table 3.

Table 3. Frequency Distribution Based on Medication Compliance in Schizophrenia at Grhasia Mental Hospital

Compliance with taking medication	Frequency	Percentage (%)
Low	32	34.4
Currently	41	44.1
Tall	20	21.5
Amount	93	100

Table 3 shows that medication compliance in schizophrenia patients at Grhasia Mental Hospital was mostly moderate, as many as 41 people (44.1%).

The results of this study indicate that medication adherence among schizophrenia patients at Grhasia Mental Hospital was mostly in the moderate category (44.1%). This finding aligns with a study in Ethiopia that reported a non-adherence rate of 44.6% (Mohamed et al., 2025) and a systematic review by Guo et al. (2023) that emphasized that partial adherence is a common phenomenon due to individual, social, and therapeutic factors. Sociodemographic factors also influenced adherence patterns, with the majority of respondents being male, of productive age, having secondary education, unmarried, and mostly unemployed—characteristics previously reported to be associated with a higher risk of non-adherence (Yu et al., 2021; Mohamed et al., 2025). Furthermore, a duration of illness of more than two years and a history of repeated hospitalizations reinforced the tendency for treatment fatigue, which decreased treatment motivation (Guo et al., 2023). The consistency of these results with previous studies confirms that partial adherence remains a major challenge in the management of schizophrenia.

3.3. Research Results on the Relationship between Drug Side Effects and Medication Compliance in Schizophrenia Patients

Kendall tau test results The relationship between drug side effects and medication adherence in schizophrenia patients at Grhasia Mental Hospital is presented in Table 4.

Table 4. Kendall Test Results Relationship between Drug Side Effects and Medication Compliance in Schizophrenia Patients at Grhasia Mental Hospital

Side effects drug	Compliance with taking medication								<i>p-value</i>
	Low		Currently		Tall		Total		
	f	%	f	%	f	%	f	%	
Heavy	4	4.3	2	2.2	1	1.1	7	7.5	0.025
Currently	13	14.0	24	25.8	3	3.2	40	43.0	
Light	13	14.0	14	15.1	9	9.7	36	38.7	
There isn't any	2	2.2	1	1.1	7	7.5	10	10.8	
Total	32	34.4	41	44.1	20	21.5	93	100	

Table 4 shows Patients with severe side effects mostly had low medication adherence (4 people) (4.3%). Patients with moderate side effects mostly had moderate medication adherence (24 people) (25.8%). Patients with mild side effects mostly had moderate medication adherence (14 people) (15.1%). Patients who did not experience side effects mostly had high medication adherence (7 people) (7.5%).

The results of statistical calculations using the Kendall tau test The p- value obtained was $0.025 < \alpha(0.05)$ so it can be concluded that there is a relationship between drug side effects and compliance with taking medication in schizophrenia patients at Grhasia Mental Hospital.

The results of this study indicate a significant relationship between drug side effects and medication adherence in schizophrenia patients at Grhasia Mental Hospital. Patients with severe side effects tended to have low adherence, while patients without side effects were more likely to have high adherence. This finding aligns with studies by Yaegashi et al. (2024) and Chen et al. (2023) which confirmed that negative experiences due to side effects, especially those that interfere with social functioning and well-being, are the main reason for patients to be non-adherent or discontinue therapy. Guo et al. (2023) also reported that side effects almost doubled the risk of non-adherence, while Faugère et al. (2025) showed that the more severe the side effect profile, the lower the patient's adherence. This consistency is reinforced by a meta-analysis by Zewdu et al. (2025) which stated that higher adherence was found in patients with well-tolerated medication regimens.

3.4. Research Results Based on Medications Consumed by Schizophrenia Patients at Grhasia Hospital, Yogyakarta

Research Results Based on Medications Consumed by Schizophrenia Patients at Grhasia Hospital, Yogyakarta are presented in Table 5.

Table 5. Research Results Based on Medications Consumed by Schizophrenia Patients at Grhasia Hospital, Yogyakarta

Characteristics	Frequency	Percentage (%)
Aripiprazole	4	4.3
Clozapine	5	5.4
Clozapine + Trihexyphenidyl	5	5.4
Fluphenazine + Clozapine	4	4.3
Fluphenazine + Trihexyphenidyl	9	9.7
Haloperidol + Benzodiazepine	5	5.4
Haloperidol + Diazepam	5	5.4
Haloperidol + Trihexyphenidyl	14	15.1
Olanzapine	4	4.3
Olanzapine + Valproate	5	5.4
Paliperidone + Carbamazepine	4	4.1
Perphenazine	5	5.4
Perphenazine + Trihexyphenidyl	5	5.4
Risperidone	9	9.7
Risperidone + Lithium	5	5.4
Thiothixene + Trihexyphenidyl	5	5.4
Amount	93	100

Table 5 shows that the most commonly consumed drugs by schizophrenia patients at Grhasia Hospital are Haloperidol + Trihexyphenidyl, as many as 14 people (15.1 %).

3.5. Research Results Based on Drug Side Effects in Schizophrenia Patients at Grhasia Hospital, Yogyakarta

Research Results Based on Drug Side Effects in Schizophrenia Patients at Grhasia Hospital, Yogyakarta are presented in Table 6.

Table 6 : Research Results Based on Drug Side Effects in Schizophrenia Patients at Grhasia Hospital, Yogyakarta

No	Side effects of GASS medication	Never	Sometimes	Often	Every day
1	I feel sleepy during the day	18	4 0	19	16
2	I took medication, I felt like I was being controlled and unable to think.	41	11	36	5
3	I feel dizzy and even faint when I stand up.	3 3	28	1 3	19
4	I feel my heart beating very fast or pounding	5 1	3 4	1	7
5	My muscles feel stiff and hard to control	4 0	7	33	1 3
6	My hands and arms are shaking	38	10	2 5	2 0
7	My legs feel like they want to keep moving and/or I can't sit down	45	6	2 4	1 8
8	I feel like I'm drooling all the time	29	9	2 2	33
9	Movement or walking becomes slower and stiffer than usual	4 5	2 1	5	2 2
10	I noticed or someone else noticed uncontrolled movements of my face or body.	5 3	9	8	2 3
11	Blurred vision	46	2 4	6	1 7
12	My mouth is dry	5 1	1 0	11	2 1
13	I have difficulty urinating	5 3	10	1 3	1 7
14	I feel nauseous and vomit	39	1 7	1 5	2 2
15	I peed on the bed	7 0	1 7	2	4
16	I often feel thirsty or urinate frequently	28	12	29	2 4
17	The area around my nipples feels sore and swollen.	5 5	10	2 0	8
18	I noticed there was fluid coming out of my nipples.	7 1	9	10	3

No	Side effects of GASS medication	Never	Sometimes	Often	Every day
19	I have difficulty enjoying intimate relations with my partner.	5 2	1 4	11	1 6
20	Man: I have difficulty passing urine; Woman: I have noticed changes in my menstrual periods.	6 1	11	1 6	5
21	Men and Women: I gained weight	46	3 5	4	8

Table 6 shows the most common side effect experienced by schizophrenia patients at Grhasia Mental Hospital: persistent drooling, which 33 respondents reported experiencing daily. Furthermore, 36 respondents reported frequently feeling controlled and having difficulty thinking. Forty respondents stated that they sometimes feel sleepy during the day.

4. Discussion

4.1. Drug Side Effects

The results of this study indicate that the most common side effects of antipsychotic drugs experienced by schizophrenia patients at Grhasia Hospital were moderate, with 40 patients (43.0%). These moderate side effects generally include extrapyramidal symptoms (EPS) such as tremors, muscle stiffness, akathisia, and anticholinergic symptoms such as dry mouth, constipation, and visual disturbances. These symptoms are not life-threatening, but are significant enough to interfere with patient comfort, daily functioning, and adherence to therapy. Patients experiencing moderate side effects are at higher risk of decreased adherence to therapy and relapse in the medium term (6–12 months) if they do not receive appropriate intervention (Mohamed et al., 2025).

These findings align with research by Chow et al. (2023) which stated that the majority of schizophrenia patients using antipsychotics experienced mild to moderate side effects, particularly EPS and metabolic disorders, while the incidence of severe side effects was relatively rare (Chow et al., 2023). Although categorized as mild-moderate, side effects still contribute to decreased quality of life and decreased medication adherence (Lawrence et al., 2025).

The use of the combination of Haloperidol + Trihexyphenidyl as the regimen most frequently consumed by patients in this study also contributed to the emergence of moderate side effects. Haloperidol, as a typical antipsychotic, is effective in reducing positive symptoms of schizophrenia but often causes EPS. To reduce EPS symptoms, doctors usually add Trihexyphenidyl. However, this drug can actually cause anticholinergic effects such as dry mouth, constipation, and mild cognitive impairment. Joshi et al (2021) study found that anticholinergic burden due to Trihexyphenidyl use correlated with decreased memory function in schizophrenia patients (Joshi et al., 2021).

Furthermore, Vanegas Arroyave et al (2024) emphasized that long-term use of Trihexyphenidyl can worsen cognitive function, especially in patients with neurological vulnerabilities, so regular monitoring is essential. Therefore, the moderate side effects in this study are likely a combination of EPS symptoms caused by Haloperidol and anticholinergic effects caused by Trihexyphenidyl.

effect experienced by schizophrenia patients at Grhasia Mental Hospital was persistent drooling, with 33 respondents reporting daily drooling. Furthermore, 36 respondents reported feeling controlled and having difficulty thinking. Forty respondents reported occasional daytime drowsiness. The study found that the most common side effects experienced by schizophrenia patients were excessive daytime sleepiness, motor symptoms such as tremors and rigidity, hypersalivation, dizziness due to orthostatic hypotension, and weight gain. Sedation and drowsiness are associated with antipsychotic activity at histamine and cholinergic receptors, while motor symptoms are due to dopamine D₂ receptor blockade in the nigrostriatal pathway (Ali et al., 2021). Hypersalivation is also frequently reported in patients taking certain antipsychotics and can impair quality of life (Kitsinthopchai et al., 2025). Furthermore, dizziness upon standing illustrates the risk of orthostatic hypotension that has been associated with psychotropic medications (Bhanu et al., 2021). Weight gain as a metabolic effect also remains a significant clinical problem, making metabolic monitoring crucial in long-term therapy (Garcia-Rizo, 2020).

4.2. The Relationship Between Medication Compliance and Side Effects of Medication in Schizophrenia Patients at Grhasia Hospital, Yogyakarta

The results of this study indicate that medication adherence in schizophrenia patients at Grhasia Mental Hospital was mostly in the moderate category, with 41 patients (44.1%). This finding indicates that most patients did not achieve optimal adherence, but not all were in the low category. This moderate adherence pattern is consistent with a study in Ethiopia that reported a non-adherence rate of antipsychotic medication reaching 44.6% (Mohamed et al., 2025) . This suggests that partial or moderate adherence is a common phenomenon in the management of schizophrenia. This condition is also supported by a systematic review by Guo et al. (2023) which found that most patients with schizophrenia showed partial adherence due to a combination of individual, social, and therapeutic factors.

Based on gender, the majority of respondents were male (57%). Previous research has shown that men tend to have lower adherence rates than women due to health behavior factors, differences in disease perceptions, and stronger social stigma (Yu et al., 2021) . This condition may be one reason for the predominance of moderate adherence among patients in this study.

Age characteristics also play a significant role. Most respondents were in the productive age group of 26–45 years (57%). Patients in this age group often face challenges in maintaining adherence due to busy activities, work, and social pressures, thus tending to exhibit partial adherence (Guo et al., 2023) . Productive age is also associated with the need to maintain independence and avoid negative labels due to long-term medication use, making this group vulnerable to partial non-adherence, as reflected in this study.

Based on education, the majority of patients had junior high or high school education (59.6%), with only 11.8% having college degrees. Educational level is closely related to patient understanding of treatment and health literacy. A study by Yu et al. (2021) showed that patients with higher education were more likely to understand the benefits of treatment and the risks of discontinuing therapy, resulting in higher adherence. The predominance of secondary education in this study sample also explains the low proportion of high adherence.

Employment characteristics also influence adherence patterns. Fifty-seven percent of respondents were unemployed, while 43% were employed. While being unemployed allows patients more time to focus on treatment, it can also reduce motivation and social support associated with productive activities. Guo et al. (2023) emphasized that employment status is related to adherence dynamics: employed patients often face time constraints, while unemployed patients tend to rely on family support to maintain adherence. This may explain why adherence in this study was more likely to be moderate, rather than high.

Marital status is also an important variable. Most respondents were unmarried, either single, widowed, or widowed (66.7%), while only 33.3% were married. A study by Mohamed et al. (2025) in Ethiopia showed that unmarried patients had a significantly greater risk of non-adherence than married patients due to a lack of social and emotional support from their partners. In this study, the predominance of unmarried patients may have contributed to the low prevalence of high adherence and high prevalence of moderate adherence.

Patients with schizophrenia tend to experience severe motor symptoms, such as stupor, mutism, or agitation, which make them highly dependent on pharmacological therapy. In this study, patients with moderate medication adherence demonstrated that despite continuing their routine treatment, they still experienced challenges due to medication side effects and the chronic nature of the disease. Even though schizophrenia patients experience various side effects from their medications during treatment, they continue their treatment. This can occur due to various factors that influence adherence, including family support, social support, good communication with healthcare providers, personal factors such as awareness of the importance of treatment, and factors related to the treatment itself, such as drug availability and easy access to services. In this study, patients Those who have moderate medication adherence show that even though routine treatment is carried out, obstacles remain due to drug side effects and the chronic course of the disease. (Yu et al., 2023) .

In addition, the duration of illness and history of hospitalization also influence adherence. The majority of patients had been ill for more than two years (78.5%), and most had a history of hospitalization more than three times (73.1%). Long-term chronic illnesses often lead to treatment

fatigue, which can reduce patient motivation to adhere to medication (Guo et al., 2023) . A history of repeated hospitalizations also reflects a previous inconsistent adherence pattern. Barliana et al. (2023) reported that patients with moderate or low adherence had a 52–72% higher risk of readmission compared to patients with high adherence.

4.3. The Relationship Between Drug Side Effects and Medication Compliance in Schizophrenia Patients at Grhasia Hospital, Yogyakarta

The results of this study indicate a significant relationship between medication side effects and medication adherence in schizophrenia patients at Grhasia Mental Hospital. Descriptively, patients experiencing severe side effects were mostly in the low adherence category, while patients who did not experience side effects tended to have high adherence. This finding is in line with Yaegashi et al. (2024) who stated that the intention to be non-compliant in schizophrenia patients is largely influenced by negative experiences related to medication side effects, especially if these side effects significantly impact the patient's appearance and social functioning.

Side effects from antipsychotic therapy, both typical and atypical, are often a major barrier to medication adherence. Patients experiencing symptoms such as excessive sedation, tremors, weight gain, extrapyramidal syndrome, and metabolic disorders often experience discomfort and choose to stop or reduce their medication dosage without consulting their healthcare provider. Guo et al. (2023) confirmed that the presence of side effects nearly doubles the risk of non-adherence compared to patients who do not experience side effects. This suggests that the more severe the medication-related disorders, the greater the likelihood that patients will neglect the recommended medication schedule.

Another study by Faugère et al. (2025) found that patients with more severe side effect profiles had significantly lower adherence rates than those with mild side effects. Side effects not only affect physical condition but also affect overall quality of life, including social activities, productivity, and psychological well-being. Side effects are perceived not only as a medical problem but also as a barrier to daily life, directly reducing patient motivation to continue treatment.

The findings of this study are also consistent with research Chen et al. (2023) showed that one of the main reasons schizophrenia patients discontinue treatment is intolerance to perceived side effects. Patients prefer to avoid the short-term discomfort caused by medication, even if the consequence is an increased risk of relapse of psychotic symptoms. This explains why in this study, the majority of patients who did not experience side effects were able to achieve high levels of adherence, as they were not faced with the dilemma of balancing the benefits of medication with the discomfort it caused.

The results of this study also showed that the highest adherence was found in the group of patients who experienced no side effects at all. This is understandable because patients felt more comfortable and had no compelling reason to stop or skip treatment. The fewer side effects experienced, the more likely patients were to stick to the prescribed therapy regimen. This aligns with a meta-analysis by Zewdu et al. (2025) , which found that adherence significantly increased in patients with well-tolerated drug profiles compared to patients who reported moderate to severe side effects.

4.4. Distribution Based on Medications Consumed by Schizophrenia Patients at Grhasia Hospital.

The use of the combination of Haloperidol + Trihexyphenidyl as the regimen most frequently consumed by patients in this study also contributed to the emergence of moderate side effects. Haloperidol, as a typical antipsychotic, is effective in reducing positive symptoms of schizophrenia but often causes EPS. To reduce the symptoms of EPS, doctors usually add Trihexyphenidyl. However, this drug can actually cause anticholinergic effects such as dry mouth, constipation, and mild cognitive impairment. Joshi et al (2021) study ADDIN CSL_CITATION {"citationItems":[{"id":"ITEM-1","itemData":{"DOI":"10.1176/appi.ajp.2020.20081212.Anticholinergic","author":[{"dropping-particle":"","family":"Joshi","given":"Yash B","non-dropping-particle":"","parse-names":false,"suffix":""}],{"dropping-particle":"","family":"Pacific","given":"Desert","non-dropping-particle":"","parse-names":false,"suffix":""}],{"dropping-

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4.5. Distribution Based on Drug Side Effects in Schizophrenia Patients at Grhasia Hospital.

effect experienced by schizophrenia patients at Grhasia Mental Hospital was persistent drooling, with 33 respondents reporting daily drooling. Furthermore, 36 respondents reported feeling controlled and having difficulty thinking. Forty respondents reported occasional daytime drowsiness. The study found that the most common side effects experienced by schizophrenia patients were excessive daytime sleepiness, motor symptoms such as tremors and rigidity, hypersalivation, dizziness due to orthostatic hypotension, and weight gain . Sedation and drowsiness are associated with antipsychotic activity at histamine and cholinergic receptors, while motor symptoms are due to dopamine D₂

receptor blockade in the nigrostriatal pathway (Ali et al., 2021) . Hypersalivation is also frequently reported in patients taking certain antipsychotics and can impair quality of life (Kitsinthopchai et al., 2025) . Furthermore, dizziness upon standing illustrates the risk of orthostatic hypotension that has been associated with psychotropic medications (Bhanu et al., 2021) . Weight gain as a metabolic effect also remains a significant clinical problem, making metabolic monitoring crucial in long-term therapy (Garcia-Rizo, 2020) .

5. Conclusion

Based on the results of research on the relationship between drug side effects and medication adherence in schizophrenia patients at Grhasia Mental Hospital Yogyakarta , it can be concluded that the most common side effects of antipsychotic drugs experienced by patients are in the moderate category, namely 40 people (43.0%). The level of medication adherence in schizophrenia patients is also mostly in the moderate category, namely 41 people (44.1 %). Further analysis shows a significant relationship between drug side effects and medication adherence ($p = 0.025$), where the more severe the side effects experienced by the patient, the lower the level of compliance, while patients who do not experience side effects tend to have high compliance. The most frequently experienced side effects include excessive daytime sleepiness, tremors, muscle stiffness, hypersalivation, dizziness due to orthostatic hypotension, and weight gain. The most widely used combination regimen of Haloperidol and Trihexyphenidyl contributes significantly to the occurrence of these side effects, particularly extrapyramidal and anticholinergic symptoms. Although most patients continue treatment despite experiencing side effects, the disruption of comfort due to side effects can reduce motivation and compliance in the long term. Therefore, regular monitoring of side effects and an individual approach in selecting therapy are important to improve compliance and long-term treatment success in schizophrenia patients.

6. Acknowledgements

With the utmost respect, the researcher would like to express his deepest gratitude to the Grhasia Mental Hospital in Yogyakarta for providing permission, support, and facilities for this research. He also expressed his gratitude to all respondents, namely schizophrenia patients at the Mental Health Clinic of Grhasia Mental Hospital in Yogyakarta, who participated sincerely and made valuable contributions to the completion of this research.

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