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Pengaruh reaksi efek samping obat *(ADRs)* antipsikotik terhadap kualitas hidup pasien rawat jalan penderita skizofrenia di Rumah Sakit Soerojo, Magelang, Indonesia

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Abstrak

Skizofrenia merupakan salah satu jenis gangguan jiwa yang banyak dialami oleh masyarakat. Terapi utama skizofrenia adalah anti-psikotik dengan penggunaan rutin dan jangka panjang, yang berpotensi menyebabkan terjadinya Adverse Drug Reactions (ADRs), yang dapat mempengaruhi kualitas hidup. Tujuan penelitian ini adalah untuk mengetahui prevalensi dan pengaruh ADRs terhadap kualitas hidup pasien skizofrenia. Penelitian dilakukan dengan pendekatan cross-sectional di Soerojo Hospital Magelang. Sampel adalah pasien yang didiagnosa skizofrenia dan diambil secara consecutive sampling. Instrumen menggunakan kuisioner Naranjo dan WHOQOL-BREF yang valid dan reliabel untuk menilai kualitas hidup pasien skizofrenia. Analisis data secara univariat menggunakan distribusi frekuensi dan bivariat menggunakan analisis non parametrik Mann-Whitney karena data tidak terdistribusi normal. Selama penelitian berlangsung, 109 pasien memenuhi kriteria inklusi dan eksklusi. Mayoritas pasien adalah laki-laki (59.63%), umur 41-60 tahun (55.96%), lama berobat 4-10 tahun (75.23%), tingkat pendidikan SMA (39.45%), menggunakan dua kombinasi Clozapin dan Risperidon (29.36%), mengalami ADR (71.55%), dengan kualitas hidup tergolong sedang (55.05%). ADR yang paling banyak dialami pasien pada penggunaan anti psikotik generasi pertama adalah tremor, mual, pusing, dan air liur berlebih, masing-masing 9.09%. Sedangkan pada penggunaan antipsikotik generasi kedua ADR yang paling banyak adalah mengantuk (34.03%). ADRs tidak berhubungan secara signifkan terhadap kualitas hidup pasien skizofrenia (p = 0,941

Kata Kunci: Adverse Drug Reactions (ADRs); Anti-psychotics; Kualitas hidup; WHOQOL-BREF; Skizofrenia

The effect of adverse drug reactions (ADRs) of anti-psychotics on the quality of life of outpatients with schizophrenia at Soerojo Hospital, Magelang, Indonesia

Abstract

Mental disorders are serious conditions of the brain that manifest as abnormalities that affect a person's behavior and character. Schizophrenia is one type of mental disorder that is widely experienced by the community. The primary therapy for schizophrenia is anti-psychotics with routine and long-term medication, which leads to Adverse Drug Reactions (ADRs). ADRs that appear have the potential to affect the quality of life of schizophrenia patients. The purpose of this study was to determine the effect of ADRs on the quality of life of schizophrenia patients at Soerojo Hospital Magelang. The study used a cross-sectional design. The population in this study was patients diagnosed with schizophrenia with consecutive sampling. The instruments used were the Naranjo and WHOQOL-BREF questionnaires to assess the quality of life of schizophrenia patients. Data analysis was conducted univariately using frequency distributions and bivariately using the nonparametric Mann-Whitney test. During the study, 109 patients met the inclusion and exclusion criteria. The majority of patients were male (59.63%), aged 41-60 years (55.96%), had been on treatment for 4-10 years (75.23%), had a high school education (39.45%), were taking a combination of clozapine and risperidone (29.36%), ADRs (71.55%), and had a moderate quality of life (55.05%). The most common ADRs experienced by patients using first-generation anti-psychotics were tremor, nausea, dizziness, and excessive salivation, each occurring at 9.09%. Meanwhile, the most common ADR for second-generation anti-psychotics was drowsiness (34.03%). ADRs were not significantly related to the quality of life of schizophrenia patients (p = 0.941).

Keywords: *Adverse drug reactions (ADRs); Anti-psychotics; Quality of life; WHOQOL-BREF; Schizophrenia*

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1. Introduction

According to the WHO, schizophrenia affects 50 million people worldwide. The Basic Health Research (Riskesdas) found that 400,000 people were affected by schizophrenia in 2018 (Kemkes RI, 2019). Schizophrenia cases in Central Java account for 0.23% of Indonesia's population. Central Java ranks fifth among provinces in schizophrenia cases, after Yogyakarta, Aceh, South Sulawesi, and Bali (Kemkes RI, 2019).

Schizophrenia is a condition where a person experiences a mental disorder characterized by hallucinations, delusions, impaired cognitive abilities, and irregular speech or behavior (Essali et al., 2019). Schizophrenia is one of the most common mental disorders in society. Schizophrenia has several classifications, including paranoid schizophrenia, hebephrenic schizophrenia, residual schizophrenia, catatonic schizophrenia, undifferentiated schizophrenia, post-schizophrenic depression, simple schizophrenia, and non-specific schizophrenia (Aprilia et al., 2018).

Anti-psychotics prescribed for schizophrenia are generally poorly tolerated. Extrapyramidal symptoms, metabolic syndrome, and weight gain typically appear early in anti-psychotic treatment. The prescribed dosage also significantly influences this poor response (Refnandes & Almaya, 2022). Extrapyramidal effects often occur with the administration of first-generation anti-psychotics (Oommen et al., 2019). Prescribing second-generation anti-psychotics in schizophrenia patients generally has fewer extrapyramidal side effects compared to first-generation anti-psychotics (Hafifah et al., 2012).

Long-term use of anti-psychotic drugs is predicted to affect the quality of life of people living with schizophrenia (Fujimaki et al., 2012). One of the things that causes a decrease in the quality of life in schizophrenia patients is the problems that arise from the use of anti-psychotics, such as adverse drug reactions (ADRs) (Aloba et al., 2013). The effects of anti-psychotic drugs will have a significant impact on daily activities and the environment (Chawla & Kumar, 2017). Researchers want to know how much influence ADRs from anti-psychotic drugs consumed have on the quality of life of schizophrenia patients at Soerojo Hospital Magelang.

2. Methods

This is a non-experimental study. Data collection was conducted prospectively using patient interviews, patient data collection sheets, the Naranjo Scale Questionnaire to assess ADRs, and the WHOQOL-BREF Questionnaire to assess the quality of life of schizophrenia patients. The WHOQOL-BREF questionnaire is available in Indonesian, so researchers do not need to translate it. The WHOQOL-BREF questionnaire consists of 26 questions and is divided into four domains, including Physical Health (Q3, Q4, Q10, Q15, Q16, Q17, Q18), Psychological Well-being (Q5, Q6, Q7, Q11, Q19, Q26), Social Relationships (Q20, Q21, Q22), and Environment (Q8, Q9, Q12, Q13, Q14, Q23, Q24, Q25) (Karuniawati et al., 2022). Data collection for the study was conducted at the Soerojo Hospital Magelang Mental Health Polyclinic from May to June 2025. This research has been tested for ethical feasibility by the Ethics and Legal Committee of Soerojo Hospital Magelang nomor DP.04.03/D.XXXVI.12/08/2025.

2.1. Research Population and Sample

Sampling was conducted using the Slovin formula. The population size for May to June 2025 was 2,830 patients diagnosed with schizophrenia. The sampling formula is as follows (N: population, n: number of sample, e: alpha (0.10) sampling error 10%) in Equation (1).

$$\boldsymbol{n = \frac{N}{1+Ne^2}}$$ Equation (2)

$$n = \frac{2830}{1 + 2830.0{,}1^2}$$

$$n = 96{,}58$$

Therefore, the minimum sample size for schizophrenia patients is 96. This study obtained a sample of 109 patients, meeting the minimum sample size requirement.

2.2. Data Analysis

The primary and secondary data obtained were analyzed using Microsoft Excel. Univariate analysis was used to determine patient characteristics, anti-psychotic use patterns, and ADRs. Data were presented using percentage and frequency tables. The results of the influence of ADRs on the quality of life of outpatients with schizophrenia were analyzed using bivariate analysis using SPSS version 26. To determine the influence of ADRs on the quality of life of schizophrenia patients at Soerojo Hospital Magelang, the analysis used the t-test when data were normally distributed and the Mann-Whitney test when data were not normally distributed.

3. Result and Discussion

3.1 Patient Characteristics

During the study period, 109 patients met the inclusion and exclusion criteria. The results of the demographic characteristics are shown in **Table 1**.

Table 1. Characteristics of schizophrenia outpatients at Soerojo Hospital Magelang

Characteristics	Classification	(N=109)	(%)
Age (year)	18-40	44	40.37
	41-60	61	55.96
	>61	4	3.67
Gender	Men	65	59.63
	Women	44	40.37
Duration of schizophrenia (years)	1-3	21	19.27
	4-10	84	77.06
	>10	4	3.67
Duration of taking medication (years)	1-3	24	22.02
	4-10	82	75.23
	>10	3	2.75
Background education	No	4	3.67
	Elementary school	20	18.35
	Junior high school	33	30.28
	Senior high school	43	39.45
	College	9	8.26
Marital Status	Married	45	41.28
	Single	64	58.72
Employment Status	Employed	56	51.38
	Unemployed	53	48.62
Rehabilitation status	Yes	62	56.88
	No	47	43.12
Smoking	Yes	42	38.53
	No	67	61.47
Alcohol consumpsion	Yes	0	0.00
	No	109	100.00
Drugs Abusing	Yes	0	0.00
	No	109	100.00

The majority of patients were aged 41-60 years (55.96%), male (59.63%), had a duration of suffering from schizophrenia of 4-10 years (77.06%), had been on treatment for 4-10 years (75.23%), and had a high school education (39.45%).

The number of female patients (44; 40.37%) is lower than that of male patients (65; 59.63%). This is consistent with previous research (Saputri et al., 2018). In research by Yulianty et al. (2017), it has been explained that the female hormone estrogen has dopamine-inhibiting activity in the nucleus accumbens. Hence, the effects indirectly influence the onset and course of schizophrenia in women. This effect is known as an antidopaminergic effect (Indriani et al., 2019). Similar results were also obtained in research by Muliyani, 2019, with 28 male schizophrenia patients and 22 female patients. The 41-60 age group had the highest number of cases (55.96%). The high number of cases in the late teen and early adult age range is due to this age group being considered productive and susceptible to several factors, such as work and family issues and economic problems (Yulianty et al., 2017). A total of 84 patients (77.06%) had schizophrenia for a period of 4-10 years. This is different from research conducted by Fujimaki et al., 2012, that the duration of schizophrenia in most patients is over 11 years. The duration of the illness affects the incidence of schizophrenia itself. The duration of the illness is influenced by factors such as the treatment phase. The treatment phases include an acute phase, a stability phase, and a maintenance phase. On average, the largest number of schizophrenia patients used anti-psychotics for 4-10 years, namely 82 patients (73.23%) Fujimaki et al. 2012, In his research, he stated that the duration of drug use will affect the improvement of clinical symptoms in schizophrenia patients.

39.45% of schizophrenia patients have a senior high school education level. According to research from Lestari et al., 2024, there was no correlation between educational level and the incidence of schizophrenia. This study indicates that schizophrenia can occur at all educational levels, including those with no education, lower education, and higher education. In the study, 64 patients (58.72%) were single. The results were similar to the previous study Lestari et al., 2024. This indicates that more schizophrenia patients are

unmarried. However, there was no significant association with the incidence of schizophrenia. Schizophrenia can occur in both married and unmarried individuals. The majority of schizophrenia patients were employed (56 patients (51.38%). Based on Handayani et al., 2017, Work is a stress factor and trigger for schizophrenia. However, the level of stress tolerated by each patient varies. A history of work on research by Lestari et al. (2024) showed no significant association with the incidence of schizophrenia.

62 patients (56.88%) have received psychosocial rehabilitation. Providing psychosocial rehabilitation interventions will increase compliance, reduce negative symptoms, and reduce the likelihood of schizophrenia relapse. Social support can be provided with psychoeducation, such as on mental health factors and coping with stress and anxiety (Farida et al., 2025). Patients who have undergone psychosocial rehabilitation can carry out daily activities like other people, demonstrating independence and social contact (Efendi & Nugraha, 2019). The number of patients who smoked was lower than that of non-smokers, namely 42 patients (38.53%). The results obtained in this study are in contrast to the research conducted by Ishiwata & Seyama, 2014 and Ayunita & Nuralita, 2018, where the characteristics of smoking behavior in schizophrenia patients are higher than those who do not smoke.

3.2 Anti-psychotic Characteristics

Anti-psychotics are divided into two generations: first-generation and second-generation (DiPiro, 2012). **Table 2** presents data on the characteristics of anti-psychotic use in schizophrenia patient.

Table 2. Characteristics of anti-psychotic drug use in schizophrenia outpatients at Soerojo Hospital Magelang

Characteristics of Anti-psychotics	Anti-psychotics	N=109	%
Single	Risperidone	10	9.17
	Olanzapine	5	4.59
	Haloperidol	4	3.67
	Trifluoperazine	4	3.67
	Aripiprazole	2	1.83
	Fluphenazine	2	1.83
	Clozapine	1	0.92
	Quetiapine	1	0.92
Double	Clozapine/Risperidone	32	29.36
	Clozapine/trifluoperazine	10	9.17
	Clozapine/Olanzapine	7	6.42
	Aripiprazole/Clozapine	4	3.67
	Clozapine/ Haloperidol	2	1.83
	Fluphenazine/risperidone	2	1.83
	fluphenazine/olanzapine	2	1.83
	quetiapine/risperidone	2	1.83
	olanzapine/risperidone	2	1.83
	Aripiprazole/Chlorpromazine	1	0.92
	haloperidol/olanzapine	1	0.92
	chlorpromazine/haloperidol	1	0.92
	clozapine/fluphenazine	1	0.92
Triple	clozapine/fluphenazine/risperidone	3	2.75
	clozapine/fluphenazine/haloperidol	2	1.83
	clozapine/fluphenazine/olanzapine	2	1.83
	clozapine/olanzapine/trifluoperazine	2	1.83
	chlorpromazine/fluphenazine/risperidone	1	0.92
	aripiprazole/clozapine/fluphenazine	1	0.92
	Fluphenzaine/quetiapine/trifluoperazine	1	0.92
	clozapine/haloperidol/risperidone	1	0.92

Of the total characteristics of anti-psychotic use, the highest prevalence was found in 32 patients (29.36%) who used a combination of two anti-psychotics, clozapine/risperidone. This finding aligns with the research by Purwandityo et al. (2018). The clozapine/risperidone combination was used in 20.62%. When patients had a poor clinical response to clozapine alone, they were also likely to have a poor response to other single-dose anti-psychotics (Keepers et al., 2020). The need for a combination of clozapine with first-generation or second-generation anti-psychotics is an alternative to improve the response to anti-psychotic therapy in schizophrenia patients (Nucifora et al., 2017). The characteristic pattern of anti-psychotic use in practice, whether single or combined, depends on the response to previous anti-psychotic therapy.

Of the total 109 respondents, 78 patients experienced ADRs of anti-psychotic drugs (71.55%) and 31 patients who did not experience ADRs of anti-psychotic drugs (28.45%). The side effects of each anti-

psychotic were determined based on patient interviews and a questionnaire on side effects experienced by patients within the last 30 days of anti-psychotic use. ADRs of first-generation anti-psychotics are presented in **Table 3**, while the ADRs of the second generation are presented in **Table 4**.

Patients prescribed haloperidol as a first-generation anti-psychotic experienced extrapyramidal side effects in the form of tremors, muscle stiffness, excessive salivation, and restlessness. Non-extrapyramidal side effects included drowsiness and nausea. Extrapyramidal side effects in haloperidol use may occur due to stronger binding to dopamine (D2) receptors in the nigrostriatal region (Ramsi & Zulaikha, 2022). Side effects caused by chlorpromazine included drowsiness and dry mouth. Dopamine receptors, especially dopamine (D2) in the brain, are bound by approximately 70% of chlorpromazine. Appropriate prophylaxis, such as antimuscarinic or anticholinergic agents like trihexyphenidyl, can minimize the incidence of extrapyramidal syndrome side effects (Ramsi & Zulaikha, 2022). The use of fluphenazine causes extrapyramidal side effects in the form of tremors, involuntary body movements, and excessive salivation. Non-extrapyramidal side effects also occur in the form of nausea, blurred vision, and dizziness. Fluphenazine as a first-generation anti-psychotic has dopamine antagonism (D2) in the mesolimbic dopamine pathway. Blockade of dopamine (D2) receptors in this pathway can reduce positive symptoms in schizophrenia patients. This blockade ability can cause side effects, including extrapyramidal symptoms (Turk et al., 2017)

Adverse Drug Reactions (ADRs) that occur with each anti-psychotic vary. Many factors influence the occurrence of ADRs, such as the drug's use (dose), the patient's demographics, and the patient's social status (Meyta Sari & Suprapti, 2024). The potential for ADRs, both extrapyramidal syndrome and non-extrapyramidal syndrome ADRs, can occur with first-generation and second-generation anti-psychotics (Rummel-Kluge et al., 2010). In practice, the use of anti-psychotics is tailored to the clinical condition of schizophrenia patients. The ineffectiveness of monotherapy has led to the consideration that combination therapy is the best treatment option (Saharuddin et al., 2021).

Table 3. Types of ADRs incidence of first-generation anti-psychotic drugs in schizophrenia outpatients at Soerojo Hospital Magelang based on the naranjo questionnaire

Anti-psychotics	ADRs	Causality		%
		Possible	Probable	
Haloperidol	Nervous	0	1	4.55
	Nausea	1	0	4.55
	Stiff muscles	0	1	4.55
	Excess saliva	1	1	9.09
	Tremor	0	1	4.55
	Drowsiness	1	0	4.55
Chlorpromazine	Drowsiness	1	0	4.55
	dry mouth	0	1	4.55
Trifluoperazine	chest pain	0	1	4.55
	Nausea	1	0	4.55
	Dizzy	1	0	4.55
	Headache	1	0	4.55
Fluphenazine	Tremor	2	0	9.09
	Nausea	2	0	9.09
	Blurred vision	1	0	4.55
	Body parts move involuntarily	1	0	4.55
	Dizzy	2	0	9.09
	Excess saliva	1	0	4.55
		16	6	100.00

The most of second-generation anti-psychotic **Table 4** drugs prescribed included clozapine, risperidone, olanzapine, quetiapine, and aripiprazole. Clozapine is a second-generation anti-psychotic with the highest incidence of side effects, namely drowsiness, with 49 incidents (34.03%).

Among all second-generation anti-psychotics, clozapine has the highest incidence of side effect of sedation/drowsiness (34.03%) compared to other anti-psychotics (Dipiro, 2012, Iqbal et al., 2020). Patients who use risperidone also experienced of drowsiness (11.11%). The potential for sedative/drowsy side effects experienced by patients occurs when doses are given at 25-50mg/day (Indriani et al., 2019). Olanzapine has antagonistic effects on serotonin (5-HT2A and 5-HT2C) and histamine (H1) receptors, which can cause

sedation and drowsiness (Citrome, 2017). In addition to sedation/drowsiness, other side effects may include constipation, weakness, dry mouth, dyspepsia, and orthostatic hypotension (Purwandityo et al., 2018).

Table 4. Types of ADRs incidence of second-generation anti-psychotic drugs in schizophrenia outpatients at Soerojo Hospital Magelang based on the naranjo questionnaire

Anti-psychotics	ADRs	Causality		%
		Possible	Probable	
Clozapine	Excess saliva	3	1	2.78
	A lot of urinating	2	0	1.39
	Excessive sweating	0	1	0.69
	Drowsiness	21	28	34.03
	Itching	1	0	0.69
	Tremor	3	0	2.08
	Nervous	1	0	0.69
	Nausea	2	0	1.39
	Stiff muscles	3	0	2.08
	Increased appetite	2	0	1.39
	Dizzy	2	0	1.39
	Blurred vision	1	0	0.69
	Excessive napping	1	0	0.69
Risperidone	Excess saliva	3	2	3.47
	Excessive napping	4	0	2.78
	Lot of urinating	2	1	2.08
	Itching	1	0	0.69
	Tremor	2	2	2.78
	Nervous	1	0	0.69
	Body parts moveinvoluntarily	1	1	1.39
	Drowsiness	13	3	11.11
	Blurred vision	2	2	2.78
	Weight gain	1	0	0.69
	Dizzy	1	1	1.39
	Nausea	1	0	0.69
	Stiff muscles	2	1	2.08
	Increased appetite	1	0	0.69
Olanzapine	Drowsiness	7	4	7.64
	Weight gain	0	1	0.69
	Tremor	2	0	1.39
	Nausea	1	0	0.69
	Get tired easily	0	1	0.69
	Increased appetite	1	1	1.39
	Constipation	0	1	0.69
Quetiapine	Drowsiness	2	0	1.39
Aripiprazole	Stiff muscles	1	1	1.39
	Body movements slow down	0	1	0.69
		91	53	100

Although second-generation anti-psychotics are considered to have fewer extrapyramidal side effects than first-generation anti-psychotics, in practice, clozapine and risperidone also causes extrapyramidal side effects. These results are in line with research Iqbal et al., 2020 where indeed the side effects of extrapyramidal syndrome can still appear depending on the clinical condition of the schizophrenia patient. The side effects depend on the dosage (Rodolico et al., 2022). The side effects of risperidone are almost similar to those of first-class anti-psychotics and cause more extrapyramidal effects, especially motor symptoms (Iqbal et al., 2020). Risperidone has the highest extrapyramidal syndrome side effects compared to other second-generation anti-psychotics, according to research conducted by Saharuddin et al., 2021. Extrapyramidal syndromes are often associated with an imbalance in dopaminergic transmission in the nigrostriatal area. This effect is thought to be less common with second-generation anti-psychotics, as dopaminergic blockade in the nigrostriatal area is less pronounced and is compensated by serotonergic blockade (Caykoylu et al., 2022). Aripiprazole is a second generation anti-psychotic which in theory has very minimal side effects of extrapyramidal syndrome (Caykoylu et al., 2022). The risk of extrapyramidal

side effects persists and may occur in individuals who are unable to metabolize aripiprazole via CYP2D6 (poor metabolizers), resulting in high plasma aripiprazole concentrations (Caykoylu et al., 2022).

The categories for determining the quality of life in schizophrenia patients using anti-psychotics are very bad, bad, moderate, good, and very good. **Table 5** presents data on the quality of life of schizophrenia patients in the Outpatient.

Table 5. Quality of life level of schizophrenia outpatients using anti-psychotics at Soerojo Hospital Magelang

Category	N=109	%
Very bad (0-20)	0	0
Bad (21-40)	5	4.59
Moderate (41-60)	60	55.05
Good (61-80)	44	40.37
Very good (81-100)	0	0

The quality of life of schizophrenia patients using anti-psychotics was highest in 60 patients (55.05%). The results of this study are almost the same as those of the study conducted by Oktrinalida et al., 2019, in which the moderate level of quality of life is the highest, namely, experienced by 65.5% of respondents, or schizophrenia patients.

The Mann-Whitney test was the appropriate choice and approach because the data were not normally distributed.**Table 6** shows the results of the Mann-Whitney test for the incidence of ADRs on the quality of life of schizophrenia patients receiving anti-psychotic therapy.

Table 6. Mann-whitney test results: the effect of anti-psychotic drug ADRs on the quality of life of schizophrenia outpatients at Soerojo Hospital Magelang

Category		N=109	Mean Rank	p-value
Quality of Life	No ADRs	31	54.65	0.941
	ADRs	78	55.14	

As shown in Table 6, the Mann-Whitney test results indicate that the significance value (Asymp. Sig. 2-tailed) for the quality-of-life variable in schizophrenia patients is 0.941. Because this value is greater than 0.05, there is no significant difference between patients who experienced ADRs and those who did not.

The role of pharmacists is crucial in monitoring anti-psychotic treatment to improve the quality of life of schizophrenia patients. Information provided by pharmacists regarding the side effects of anti-psychotics to patients and their families can be used to assess ongoing schizophrenia treatment further. Schizophrenia is a disease with multiple etiologies. Some patients may desire immediate recovery without taking anti-psychotics, or may have taken anti-psychotics but not shown a pharmacological response, necessitating alternative treatment (Lähteenvuo & Tiihonen, 2021).

4. Conclusions

Adverse Drug Reactions of anti-psychotic drugs that appeared most often occurred in the use of clozapine, namely 72 cases of ADRs including excessive salivation (2.78%), frequent urination (1.39%), excessive sweating (0.69%), drowsiness (34.03%), itching (0.69%), tremor (2.08%), restlessness (0.69%), feeling nauseous (1.39%), stiff muscles (2.08%), increased appetite (1.39%), dizziness (1.39%), blurred vision (0.69%), and excessive napping (0.69%). Meanwhile, the quality of life of schizophrenia patients using anti-psychotics with the highest score of moderate quality of life experienced by 60 patients (55.05%), good quality of life experienced by 44 patients (40.37%), and poor quality of life experienced by five patients (4.59%).

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