

Evaluation of antipsychotic utilization among outpatient schizophrenia patients at the mental health facility in West Java

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ABSTRACT: Rational use of drugs aims to give therapy according to patient's clinical needs. Based on Ni komang's research (2021) there are still inaccuracies in the use of antipsychotic drugs. The purpose of this study was to determine the evaluation of the use of Antipsychotics based on the parameters of right indications, drugs, dosage, and frequency in outpatient schizophrenia patients at the West Java Provincial Mental Hospital. The study used a method with descriptive presentation of data and retrospective data collection. Data obtained period October-December 2022 from 130 patients, this study evaluated the use of Antipsychotics with the parameters of right indications, drugs, dosage, and frequency then the data will be analyzed based on the criteria for drug use from Pharmacotherapy A Pathophysiologic Approach 11th and PIONAS. The results of the study on the use of Antipsychotics in schizophrenic patients at the Java Provincial Mental Hospital based on Pharmacotherapy A Pathophysiologic Approach 11th and PIONAS obtained the right indications as much as (100%), the right drugs (100%), the right dose (98%), and the right frequency (98%).

KEYWORDS: Antipsychotic drug evaluation; rational medicine; schizophrenia.

INTRODUCTION

Schizophrenia is a mental disorder characterized by emotional, cognitive, and behavioral disturbances, including symptoms such as delusions and hallucinations [1]. According to the 2018 Basic Health Research (Riskesdas), 84.9% of schizophrenia patients in Indonesia have sought treatment. However, 51.1% of these patients adhere to their medication regimen regularly, while 48.9% do not. Economic factors and a false sense of recovery are among the reasons for non-compliance, with 23.6% citing financial issues and 36.1% feeling they have already recovered [2].

Rational drug use aims to ensure that patients receive therapies that meet their clinical needs. Effective medication requires appropriate selection, correct diagnosis, proper dosing, administration, and awareness of potential side effects [3]. Antipsychotic medications, the primary treatment for schizophrenia, are divided into typical and atypical categories, which differ in their side effects [4]. A study by Ni Komang [5] evaluated the appropriateness of medication use in schizophrenia patients and found that 88.51% of patients were on the correct medication, 98.85% received the correct dosage, and 96.55% adhered to the correct frequency.

Typical antipsychotics have a significant drawback: they often cause extrapyramidal symptoms (EPS), which can impact patients' productivity and lead to non-compliance with treatment. Non-compliance, in turn, increases the risk of relapse [6]. Ensuring that patients receive rational therapy that minimizes adverse effects is crucial. This study evaluates the use of antipsychotic medications in outpatients with schizophrenia at the West Java Provincial Mental Hospital.

This study aims to assess the use of antipsychotic medications based on parameters of correct drug, correct indication, correct dose, and correct frequency in outpatients with schizophrenia at the West Java Provincial Mental Hospital. The findings will contribute to understanding the rational use of antipsychotics and provide valuable insights for future research and clinical practice.

Data collection for this study was conducted retrospectively using medical records and the Hospital Management Information System (SIMRS) for outpatients with schizophrenia from October to December 2021.

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A total of 130 patients meeting the inclusion criteria were analyzed. This study categorizes patients by gender, revealing that 82% of schizophrenia patients are male and 18% are female, consistent with previous research indicating higher prevalence in males due to earlier onset and higher stress levels related to their societal roles [2].

The research will contribute to improving the rational use of antipsychotic medications in clinical settings and provide recommendations for healthcare practitioners to optimize treatment outcomes for schizophrenia patients. The findings are expected to enhance the knowledge base of students and faculty at Bhakti Kencana University and offer practical insights for the West Java Provincial Mental Hospital.

▪ MATERIALS AND METHODS

Materials

The research was conducted at the West Java Provincial Mental Hospital in March 2022. The population in this study consisted of outpatient schizophrenia patients receiving antipsychotic medication at the West Java Provincial Mental Hospital from October to December 2021. The criteria for patient selection included outpatient visit data from October to December 2021, schizophrenia patients over 18 years old, a diagnosis based on ICD 10 with diagnostic codes F.20.0-F.20.9, and patients receiving antipsychotic therapy.

The criteria for the drugs to be observed and evaluated included typical and atypical antipsychotics. Drug use criteria were evaluated based on Pharmacotherapy A Pathophysiologic Approach 11th [7] and PIONAS, which covered the drug name, indication, dose, and frequency.

Methods

This study employed a retrospective observational research with descriptive analysis method with descriptive data presentation and retrospective data collection. Data collection was conducted using medical records and the Hospital Management Information System (SIMRS) for outpatients at the West Java Provincial Mental Hospital from October to December 2021. Data collection and processing were carried out using Microsoft Excel. Quantitative data analysis included patient profiles, such as gender and age, diagnosis, and antipsychotic use (monotherapy and combination therapy). Qualitative data analysis evaluated the right indication, right drug, right dose, and right frequency.

Data were analyzed based on Pharmacotherapy A Pathophysiologic Approach 11th [8] and PIONAS. The assessment of drug accuracy, including right indication, right drug, right dose, and right frequency, was evaluated by the researcher based on comparison with the Drug Use Criteria (KPO).

▪ RESULTS

Patient characteristics

Data was obtained from October to December 2021, for 130 patients who were included in the inclusion criteria.

Gender

Patients were grouped based on gender with the aim of knowing the number of schizophrenia patients based on gender.

Table 1. Gender distribution of outpatient schizophrenia patients at the West Java Provincial Mental Hospital for the period October – December 2021.

Gender	Total	Percentage (%)
Male	106	82
Female	24	18
Total	130	100

Data from 130 patients showed that schizophrenic sufferers were more likely to be male, 106 patients (82%) compared to 24 female patients (18%). The results of this research are the same as previous research by [5] stating that schizophrenia is more common in men, amounting to 79.31%, while in women it is 20.69%.

Schizophrenia is often suffered by men because men have a very aggressive nature so it would be difficult if they were treated only at home, while women's aggressive nature can still be handled by their family at home. In accordance with the literature which explains that men have an earlier onset of schizophrenia because men's puberty is later, which affects the maturity of brain function and they are more susceptible to mental disorders [2]. The results of this research are the same as previous research by [5] stating that schizophrenia is more common in men, amounting to 79.31%, while in women it is 20.69%.

Men tend to have difficulty controlling their emotions, compared to women. Because men are the backbone of the family, they are more stressed than women. These periods of stress occur because a decrease in opioid levels in the brain automatically triggers an increase in dopamine, which increases the appearance of caution and anxiety and leads to schizophrenia. In women, estrogen has anti-dopaminergic effects, therefore blocking the release of dopamine in the nucleus accumbens. [2]

Age

The ages of schizophrenia patients were grouped according to the 2009 Ministry of Health with the aim of finding out at what age schizophrenia usually occurs.

Table 2. Age distribution of outpatient schizophrenia patients at the West Java Provincial Mental Hospital for the period October – December 2021

Age	Total	Percentage (%)
18-25	24	18
26-35	43	33
36-45	42	32
46-55	14	11
56-65	7	5
Total	130	100

The table above shows that schizophrenia sufferers are mostly aged 26-35 years, namely 43 patients (33%). The second sequence occurred at the age of 36-45 years, namely 42 patients (32%). The third group was aged 17-25 years as many as 24 patients (18%). The fourth sequence was age 46-55 as many as 14 patients (11%) and the last sequence was age 56-65 as many as 7 patients (5%). Previous research by Ni Komang [5] stated that people with schizophrenia mostly occurred at the age of 26-35 years, amounting to 56.32%.

The highest age obtained from male or female patients is 26-35 years, this is because this age is an early adult phase which is influenced by several factors such as environmental factors and emotional development, while in old age it is influenced by biological factors. [2]

The age range of 26-35 years is the highest in the West Java Province Mental Hospital because this age is a productive age so many problems arise and are complex, such as personal, work, partner, family and relationships with the environment. Therefore, schizophrenia can appear in early adulthood, which will affect the sufferer's quality of life.

Types of Schizophrenia

Schizophrenia patients were grouped based on type with the aim of knowing the types of schizophrenia in the West Java Provincial Mental Hospital.

Table 3. Distribution of Types of Schizophrenia in outpatient schizophrenia patients at the West Java Provincial Mental Hospital for the period October – December 2021.

Type	Total	Percentage (%)
Paranoid Schizophrenia	12	9
Hebephrenic Schizophrenia	13	10
Residual Schizophrenia	11	8
Other Schizophrenia	12	9
Schizophrenia Unspecified	82	63
Total	130	100

The table above shows the distribution of the most common types of schizophrenia in the West Java Provincial Mental Hospital is unspecified schizophrenia with 82 patients (63%) then second place is Hebephrenic schizophrenia with 13 patients (10%) third place is paranoid schizophrenia and other schizophrenia with 12 each. patients (9%) and the lowest type of schizophrenia was residual schizophrenia with 11 patients (8%).

Previous research by Khofifah et al., [8] stated that the most unspecified type of schizophrenia was 66.67%. From the data above, it shows that the unspecified type of schizophrenia is most common in West Java Provincial Mental Hospitals. Unspecified schizophrenia is a type of schizophrenia whose symptoms appear difficult to classify with certain types of schizophrenia. Patients with this type of schizophrenia have varying symptoms, which result from the background that is the source of the symptoms, as well as the clinical picture that arises, such as hallucinations, chaotic behaviour, and delusions [9].

Antipsychotic medication

Antipsychotic drugs are the main therapy given to people with schizophrenia. Antipsychotics are classified into 2, they are typical antipsychotics and atypical antipsychotics.

Table 4. Distribution of antipsychotic medication use in outpatient schizophrenia patients at the West Java Provincial Mental Hospital for the period October – December 2021.

Antipsychotic Drug Name	Total	Percentage (%)
Haloperidol	34	16
Chlorpromazin	10	5
Trifluoperazine	33	15
Clozapin	76	37
Risperidon	49	24
Olanzapine	6	3
Total	208	100

Overall data on antipsychotics used in outpatient schizophrenia patients at the West Java Provincial Mental Hospital are 6 types of antipsychotics, namely typical antipsychotics (Haloperidol, Chlorpromazine, Trifluoperazine) and atypical antipsychotics (Clozapine, Risperidone, Olanzapine). Data obtained from medical records and SIMRS of the West Java Province Mental Hospital, the most widely used antipsychotic is Clozapine. This is consistent with Khoirunnisa's prior research [10], which found that Clozapine was the most often utilised atypical antipsychotic

Clozapine is an atypical antipsychotic drug that works in treating negative, positive and cognitive syndromes without causing extrapyramidal symptoms (EPS). This drug is usually used as a therapeutic option for patients who are at risk of suicide and severe depression [7].

The second most common antipsychotic is Risperidone, this drug is a therapy for positive and negative symptoms. Risperidone is a selective monoaminergic antagonist that has high binding to dopamine D2 and serotonin 5HT2 receptors [11].

Chlorpromazine is a typical antipsychotic drug which has a mechanism, namely blocking dopamine at synaptic receptors in the brain, especially in the extrapyramidal system (dopamine D2) and the limbic system [12]. Trifluoperazine (TFP) is a typical antipsychotic that works by inhibiting dopamine in the brain to reduce dopamine levels thereby limiting the appearance of symptoms of psychosis and the motor system.

Haloperidol is a typical class of antipsychotic that works by inhibiting dopamine D1 and D2 receptors, this drug is often used for manic impulsive violent behavior which is dangerous for schizophrenia sufferers [12].

Adjuvant medication

Several types of adjuvant drugs are given to schizophrenia patients to treat the effects of extrapyramidal syndrome caused by antipsychotic drugs.

Table 5. Distribution of adjuvant medication use in outpatient schizophrenia patients at the West Java Provincial Mental Hospital for the period October – December 2021.

Medicine name	Total	Percentage (%)
Trihexyphenidil	65	79
Lorazepam	11	13
Amitrypyline	2	2
Diazepam	4	5
Total	82	100

The table above shows a medicine that is frequently coupled with antipsychotic drugs, trihexyphenidil, by as much as 79%. Trihexyphenidil is a piperidine compound that has anticholinergic power and central effects similar to atropine but weak, which has a mechanism for reducing puntamen and caudate cholinergic activity by inhibiting acetylcholine receptors.

Trihexyphenidil is an anticholinergic drug that is widely indicated in treating the effects of extrapyramidal syndrome [13]. The administration of trihexyphenidil as a precaution aims to prevent side effects that arise from typical antipsychotic drugs, including symptoms that appear, namely hypersalivation, stiffness of the muscles of movement (extrapyramidal syndrome) and Parkinson's symptoms [14].

The second most commonly used combination is Lorazepam, a tranquilizer drug which is indicated for schizophrenia patients to treat the acute stage and is capable of providing anxiolytic and sedative effects. [11].

Treatment category

Table 6. Distribution of treatment categories for outpatient schizophrenia patients at the West Java Provincial Mental Hospital for the period October – December 2021

Treatment category	Total	Percentage (%)
Single	26	20
Combination	104	80
Total	130	100

According to data from medical records and the SIMRS of the West Java Provincial Mental Hospital, 104 (80%) patients received combined treatment with conventional and atypical antipsychotics. The fewest single treatments totaled 26 (20%). This is the same as previous research by Utami Sri, which stated that the most widely used combination treatment was 60.8%[15]. Patients who have been referred to the West Java Provincial Mental Hospital no longer have mild symptoms, so they are given combination therapy.

Combination antipsychotic drugs are often used in West Java Provincial Mental Hospitals. The use of combination drugs aims to reduce and treat negative and positive symptoms that arise. The use of typical class drugs only treats positive symptoms, so they need to be combined with the atypical class because the atypical class is able to treat negative and positive symptoms by inhibiting serotonin and dopamine [16].

Schizophrenia patients with single therapy treatment sometimes experience failure in treatment, therefore combination therapy treatment is often used which aims to increase the effectiveness of antipsychotic drugs. The antipsychotic that is often combined and widely used in West Java Provincial Mental Hospitals is (Haloperidol+Clozapine+Trihexyphenidil).

The use of this combination is in accordance with the algorithm which states that in combination therapy typical and atypical antipsychotics are used and adjuvant drugs such as antidepressants, mood stabilizers and antiparkinsonians are added. The most frequently and widely used antipsychotic drug is a single atypical

antipsychotic drug. Currently, atypical antipsychotics are the main therapy of choice in the treatment of schizophrenia because the atypical group has an interaction mechanism between dopamine and serotonin in the 4 dopamine pathways in the brain. So this results in the use of atypical antipsychotics being very effective in dealing with negative symptoms and low extrapyramidal side effects [17].

A single typical antipsychotic drug is the drug that is least used, this drug has a mechanism for reducing dopamine hyperactivity in the mesolimbic pathway which results in a decrease in positive symptoms. The use of typical antipsychotics has disadvantages, namely the emergence of extrapyramidal side effects, relapse and tardive dyskinesia [17].

Evaluation of antipsychotic medication use

Exact indication

The correct indication is that the medication given to the patient must be in accordance with the diagnosis of schizophrenia that has been diagnosed by the doctor based on the clinical symptoms that arise.

Table 7. Exact distribution of indications for antipsychotic treatment for outpatient schizophrenia patients at the West Java Provincial Mental Hospital for the period October – December 2021.

Result	Total	Percentage
Exact indication	130	100
Inaccurate indication	0	0
Total	130	100

The table above shows that all schizophrenia patients at the West Java Provincial Mental Hospital receive antipsychotic therapy. This shows that the treatment of schizophrenia patients in the period October-December 2021 was 130 patients (100%) according to the indications based on Pharmacotherapy A Pathophysiologic Approach 11th. Research conducted by Khofifah et al [8] states that 100% of schizophrenia patients have correct indications.

According to the guidelines for the classification and diagnosis of mental disorders, paranoid schizophrenia has symptoms such as hallucinations and delusions, hebephrenic schizophrenia has symptoms of delusions, slow thought processes, strange behavior, unspecified schizophrenia has symptoms such as delusions, hallucinations and psychotic symptoms that cannot be classified separately. clear and specific, residual schizophrenia has symptoms such as illogical thoughts, withdrawal from the environment and flat affect.

Right medicine

The right drug is the drug chosen that must have a therapeutic effect according to the patient's disease by considering drug suitability, safety and effectiveness.

Table 8. Exact distribution of antipsychotic medication for outpatient schizophrenia patients at the West Java Provincial Mental Hospital for the period October – December 2021

Result	Total	Percentage (%)
Right medicine	130	100
Inappropriate medication	0	0
Total	130	100

The table above shows that all schizophrenia patients receive antipsychotic therapy. This shows that the treatment of outpatient schizophrenia patients at the West Java Provincial Mental Hospital for the period October-December 2021 was 130 patients (100%) using appropriate medication based on Pharmacotherapy A Pathophysiologic Approach 11th. Research conducted by Khofifah et al., [8] states that 100% of schizophrenia patients get the right medication. Antipsychotic drugs differ based on the response of the drug to the patient, meaning that the type of antipsychotic drug given to the patient is based on the patient's response to the drug. If the patient shows a good response, indicated by improvement in symptoms from administering a certain type of antipsychotic drug, then that drug is effective for the patient. the. However, if the response that

appears shows no improvement then it must be replaced with another type of antipsychotic drug until the patient produces a good response [18].

Basically, schizophrenia therapy is based on references from the Pharmacotherapy Handbook 11 Edition Algorithms and PIONAS, with the schizophrenia therapy given at RSJ West Java Province, both are the same, namely given typical and atypical antipsychotics. The results of ethical tests with doctors and pharmacists at RSJ West Java Province were not based on the Pharmacotherapy algorithm.

Handbook 11 Edition Algorithms and PIONAS drug selection for patients is based on the patient's history and condition. According to the algorithm theory, the first administration was given the atypical group (except clozapine) but at the hospital the patient was given first line therapy in accordance with the conditions of the schizophrenia therapy algorithm but the patient's condition did not improve, therefore the doctor gave another type of antipsychotic therapy. Then, if the patient relapses and does not want to take medication, the next step is to give the patient a combination or even an antipsychotic injection. Then for schizophrenic patients at the West Java Provincial Mental Hospital whose history is taken into consideration by the doctor, the choice of medication for schizophrenic patients at the West Java Provincial Mental Hospital not only follow the schizophrenia therapy algorithm in theory but is also adjusted to the patient's history and condition.

Right dosage

The correct dose is the appropriateness of administering the therapeutic dose required by outpatient schizophrenia patients at the West Java Provincial Mental Hospital.

Table 9. Exact distribution of antipsychotic medication doses for outpatient schizophrenia patients at the West Java Provincial Mental Hospital for the period October – December 2021

Result	Total	Percentage (%)
Right dosage	128	98
Incorrect dosage	2	2
Total	130	100

The table shows the correct distribution of antipsychotic doses in schizophrenia patients. From the research results, it was found that the correct dose was 98% and incorrect in 2% of 130 patients based on Pharmacotherapy A Pathophysiologic Approach 11th [7]. Previous research conducted by Utami Sri, [15] stated that as many as 4 patients (3.33%) had the wrong dose.

The correct dose is a condition where the dose is within the therapeutic range and in accordance with the patient's condition. The results of the research that was carried out were obtained in 2 patients with a dose that was less than the usual dose for administering haloperidol, namely 1.5 mg, while the initial dose range for KPO was 2-5 mg and the maintenance dose was 2-20 mg. Even though the patient is not in a condition that requires a dose adjustment, if the therapeutic dose is given less then the desired therapeutic effect will not be achieved and if the antipsychotic is given at an excessive dose during long-term use it will cause damage to body organs such as kidney and liver damage and the risk of other side effects. [19]

Exact frequency

The exact frequency is related to the bioavailability that will produce a therapeutic effect.

Table 10. Exact distribution of frequency of antipsychotic medication for outpatient schizophrenia patients at the West Java Provincial Mental Hospital for the period October – December 2021.

Result	Total	Percentage (%)
Exact frequency	128	98
Wrong frequency	2	2
Total	130	100

The table shows the distribution of the correct frequency of antipsychotic administration in schizophrenia patients. From the research results, it was found that the correct frequency of antipsychotic administration

was 98% and incorrectly 2% of 130 patients based on PIONAS. Previous research conducted by Utami Sri, [15] stated that as many as 4 patients (3.33%) had incorrect frequencies.

The data obtained is that there is an inaccuracy in the frequency of the drug haloperidol once a day with a half-life of 24 hours, according to PIONAS it should have a half-life of 12 hours, so it is sufficient to give it 2-3 times a day. The frequency of medication is declared inappropriate if the rules given are more or less even though it is seen that there is no patient condition that requires frequency adjustment.

The frequency of drug administration can determine the maximum or not of the drug therapy process because this process determines biological effects such as absorption, drug levels in the blood, duration of drug action, intensity of drug action as well as pharmacological effects and the right dose can provide a certain response [20].

■ DISCUSSION

The gender distribution in this study revealed that schizophrenia is more prevalent in male patients (82%) compared to females (18%), which aligns with previous research by Ni Komang [5] and Khofifah et al. [8]. This finding may be attributed to differences in hormonal and psychosocial factors. Men typically experience earlier onset and more severe symptoms, potentially due to delayed brain maturation and the effects of testosterone, which may heighten vulnerability to psychosis [21]. Moreover, societal expectations and roles that place men under increased stress could contribute to the development or worsening of schizophrenia symptoms.

In terms of age, the majority of patients were between 26 and 35 years old, consistent with Ni Komang [5], who identified this age group as the most affected. This early adulthood phase is often marked by transitional life events, such as employment, relationships, and financial pressures, which may trigger or exacerbate mental health issues. The findings reinforce the importance of early detection and intervention in younger adults to prevent chronicity and improve long-term outcomes.

The study identified unspecified schizophrenia as the most prevalent subtype (63%), followed by hebephrenic and paranoid types. This is consistent with findings by Khofifah et al. [8] who reported a similarly high prevalence of unspecified schizophrenia. This subtype is characterized by diverse, non-specific symptoms that do not clearly fit into other defined categories, complicating diagnosis and treatment planning [6]. The predominance of this type may indicate a need for more comprehensive diagnostic assessments and individualized therapeutic strategies.

Clozapine was the most frequently used antipsychotic drug (37%), consistent with previous studies highlighting its efficacy in treatment-resistant schizophrenia and its favorable side effect profile regarding extrapyramidal symptoms [10][21]. The second most commonly used antipsychotic was risperidone, a selective monoaminergic antagonist known for its dual action on dopamine D2 and serotonin 5HT2 receptors [8]. These findings suggest that clinicians at the West Java Provincial Mental Hospital prioritize atypical antipsychotics due to their broader symptom coverage and reduced risk of side effects.

Adjuvant medications were primarily prescribed to mitigate extrapyramidal symptoms (EPS) caused by typical antipsychotics. Trihexyphenidyl was the most used adjuvant drug (79%), supporting findings from Maharani [22] and indicating a proactive approach to managing EPS. The use of lorazepam and amitriptyline also suggests attention to comorbid anxiety and depressive symptoms, which are common in schizophrenia and can influence treatment adherence [22].

The evaluation of rational antipsychotic use showed positive results: 100% of patients received treatment with the correct indication and appropriate medication, and 98% received the correct dosage and frequency. These results indicate high compliance with clinical guidelines such as those outlined in *Pharmacotherapy: A Pathophysiologic Approach* 11th edition [7] and PIONAS. Compared with previous studies by Khofifah et al. [8] and Utami Sri [15], this study demonstrates a similar or even improved adherence to rational prescribing standards.

The small proportion of incorrect dosages and frequencies (2%) highlights the importance of continued efforts to refine treatment protocols and minimize potential therapeutic risks. Incorrect dosing can reduce treatment efficacy and increase the likelihood of side effects or relapse [23]. It is essential to integrate routine drug utilization evaluations, preferably using concurrent methods rather than retrospective, to ensure timely interventions and improved patient outcomes.

This study underscores the importance of rational prescribing practices in psychiatric care. The high compliance with prescribing standards reflects a commendable level of awareness among clinicians at the West Java Provincial Mental Hospital. However, the continued prevalence of combination therapy and the dominance of unspecified schizophrenia suggest a need for further training in diagnostic accuracy and personalized treatment planning.

The findings have implications for clinical pharmacy practice, psychiatric training, and policy-making in Indonesia. Future research should consider longitudinal designs and include patient outcomes, such as relapse rates and quality of life, to provide a more comprehensive evaluation of treatment effectiveness. Incorporating patient education and family involvement could also improve adherence and therapeutic success.

CONCLUSION

Based on the research results obtained from 130 samples of outpatient schizophrenia patients at the West Java Provincial Mental Hospital who met the inclusion criteria, it can be concluded evaluation of the use of antipsychotic drugs in outpatient schizophrenia patients at the West Java Provincial Mental Hospital based on Pharmacotherapy A Pathophysiologic Approach 11th (DiPiro 2020) and PIONAS obtained the right indication (100%), the right drug (100%), the right dose (98%), and exact frequency (98%). We plan to use concurrent or prospective approaches to evaluate antipsychotic medicines in schizophrenic patients at the West Java Provincial Mental Hospital, avoiding data bias and allowing for quick action if inconsistencies are discovered.

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