Management of Antipsychotic Therapy in Patients with Schizophrenia

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Abstract: Antipsychotic therapy is the main approach in the treatment of schizophrenia, but there is often irrational use due to inappropriate drug selection, inappropriate dosage, and long-term use without evaluation. Factors that support therapeutic rationality include adherence to clinical guidelines, selection of safer antipsychotics, and optimal management of side effects. Therefore, it is important to evaluate the factors that contribute to rational and irrational therapy in the use of antipsychotics in patients with schizophrenia. This study aims at antipsychotic medication management and factors that cause irrational therapy, as well as evaluating factors that support therapeutic rationality in the use of antipsychotics in schizophrenic patients. This study used a cross-sectional study design involving schizophrenia patients undergoing antipsychotic therapy in a psychiatric hospital. Data were collected through patient medical records and interviews with health workers. Quantitative data were analyzed using descriptive statistics and inferential tests, including chi-square and regression analysis, to determine the association between patient characteristics and antipsychotic selection as well as therapy rationality. The results showed that 26.7% of patients received irrational therapy, with the main causes being inappropriate drug selection (45%), inappropriate dosage (30%), and long-term use without evaluation (25%). Meanwhile, 73.3% of patients received rational therapy, with the main contributing factors being adherence to clinical guidelines (50%), selection of safer antipsychotics (30%), and good side effect management (20%). Irrational antipsychotic therapy remains a significant problem in the management of schizophrenia. Adherence to clinical guidelines and appropriate therapy selection can improve treatment effectiveness and reduce the risk of side effects. Regular evaluation and a multidisciplinary approach are needed to improve the rationality of antipsychotic therapy.

Keywords: Antipsychotic therapy, schizophrenia, rationality of therapy, clinical compliance, side effects.

INTRODUCTION

Schizophrenia is a chronic mental disorder characterized by disturbances in thinking, emotions, and behavior that can affect the daily life of the sufferer. It has a global prevalence of approximately 1% of the population and often requires long-term therapy to control symptoms [1]. The main treatment for schizophrenia is antipsychotic therapy which serves to reduce psychotic symptoms, such as hallucinations and delusions, and improve the patient's quality of life. However, the management of antipsychotic therapy requires an appropriate approach to optimize effectiveness and minimize side effects. Therefore, the management of antipsychotic medication management in patients with schizophrenia is a crucial aspect of medical practice and pharmacotherapy to ensure patient compliance and reduce relapse rates [2].

Several studies have examined various strategies in the management of antipsychotic therapy for schizophrenia patients. The study found that there was non-adherence to antipsychotics of 16.3% [3]. Comparing antipsychotics and antipsychotics showed no significant difference [4]. Long-acting injections and clozapine with combination therapy for treatment resistance offer effective and tolerable management [5]. According to the American Psychiatric Association (APA) and the National Institute for Health and Care Excellence (NICE), antipsychotic therapy is divided into two main groups, namely typical and atypical antipsychotics, each with different effectiveness and side effect profiles. Several studies have shown that atypical antipsychotics, such as risperidone, olanzapine, and clozapine, have a lower risk of extrapyramidal side effects than typical antipsychotics, such as haloperidol. In addition, the aspect of patient adherence to therapy has also been assessed in various studies, which show that combined pharmacotherapy and psychosocial therapy can improve clinical outcomes [2, 3, 4]. This study contributes to a deeper understanding of optimal antipsychotic medication management strategies for schizophrenia patients. With this study, it is hoped that a clearer picture can be obtained regarding the effectiveness of various therapeutic strategies, factors that influence patient compliance, and how to overcome side effects that often appear during therapy. In addition, this study can also provide evidence-based recommendations in improving the quality of mental health services, especially in the management of schizophrenia patients.

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The management of antipsychotic therapy in patients with schizophrenia involves multiple critical components, including the selection of appropriate drug types, dosage optimization, regular monitoring for side effects, and interventions to enhance patient adherence. However, several challenges persist, such as non-adherence to prescribed regimens, adverse drug reactions leading to treatment discontinuation, and the absence of a comprehensive, patient-centered approach in therapeutic planning. This study seeks to explore strategies that can improve the overall effectiveness of antipsychotic therapy by addressing these multifaceted issues.

Despite existing interventions aimed at enhancing adherence and minimizing adverse effects, irrational antipsychotic use remains a significant concern. This research is guided by the hypothesis that specific prescribing behaviors, inadequate adherence to clinical guidelines, and insufficient therapeutic monitoring contribute to irrational medication practices. The study aims to identify these gaps and assess the rationality of current prescribing patterns to support better clinical decision-making.

While previous studies have examined symptom control or medication adherence independently, few have evaluated the interplay between prescribing rationality and patient outcomes. Moreover, data from Indonesia are especially limited regarding the influence of guideline adherence on treatment rationality and recovery in schizophrenia patients [2, 6, 25]. This study addresses that gap by offering new insights from a local context.

Specifically, this research aims to assess the effectiveness of various antipsychotic regimens in managing schizophrenia symptoms, evaluate the factors influencing patient adherence, and identify key barriers in therapy management. Furthermore, it seeks to develop evidence-based recommendations that enhance the rational use of antipsychotics and ultimately improve patient outcomes and quality of life.

METHODS

Study Design and Participants

This research is a descriptive study with a mixed-methods approach (qualitative and quantitative). Descriptive studies aim to systematically describe and analyze the phenomenon of antipsychotic therapy management in schizophrenia patients. The qualitative approach is used to understand the subjective experiences of patients, medical personnel, and families, while the quantitative approach is used to measure usage patterns, compliance rates, and therapy effectiveness based on survey data and clinical analysis.

The sample size of 93 patients was determined based on feasibility and access to eligible subjects within the study period. Although no formal power calculation was conducted, this number was sufficient to observe prevalent prescribing patterns and conduct basic inferential statistical tests with moderate effect sizes.

Inclusion and Exclusion Criteria

Participants in this study must be patients with schizophrenia (ODS) who exhibit negative symptoms and are undergoing antipsychotic medication. Eligible participants should be between 17 to 65 years old, including both male and female individuals corresponding to the study's requirements. They must not be in an acute psychotic state, ensuring sufficient mental stability to follow the intervention. Additionally, participants should be able to communicate reasonably well despite experiencing social and emotional impairments.

However, individuals will be excluded if they have unstable medical or psychiatric conditions, such as an acute psychotic episode or a psychiatric condition that prevents participation in group therapy. Those exhibiting aggressive behavior that may be harmful to themselves or others will also be excluded. Furthermore, participants with significant cognitive or intellectual impairments that hinder their ability to understand or follow therapy instructions, as well as those with physical disabilities that prevent optimal participation in art therapy activities, will not be eligible. Lastly, individuals who are unwilling to attend all therapy sessions, show a lack of motivation, or have an unstable mood disorder that may affect their engagement in the study will also be excluded.

For the qualitative component, semi-structured interviews with patients and healthcare providers were thematically analyzed. Data were coded using an inductive approach to identify recurring patterns related to therapy rationality, patient adherence, and perceived barriers in antipsychotic use

RESULTS

The study analyzed the demographic characteristics of schizophrenia patients based on gender and age.

Out of a total of 93 patients, the majority were male (91.4%), while only 8.6% were female, indicating a significant gender disparity in this population. In terms of age distribution, the largest proportion of patients (43.0%) fell within the 36-45 years age group, followed by 28.0% in the 26-35 years category. The 46-55 years group accounted for 19.4% of the cases, while the youngest (17-25 years) and oldest (56-65 years) groups had the lowest prevalence, with 7.5% and 2.2%, respectively. These findings suggest that schizophrenia is more commonly diagnosed in middle adulthood, particularly between the ages of 26 and 45, and is predominantly observed in males.

Table 1: Characteristics Based on Gender of Schizophrenia Patients

Gender	n	%
Male	85	91.4
Female	8	8.6
Total	**93**	**100**

Table 2: Characteristics by Age Type

Age (years)	n	%
17-25	7	7.5
26-35	26	28.0
36-45	40	43.0
46-55	18	19.4
56-65	2	2.2
Total	**93**	**100**

Table 3: Characteristics by Type of Schizophrenia

Types of Schizophrenia	n	%
Skizofrenia Paranoid	3	3.2
Skizofrenia ytt	90	96.8
Total	**93**	**100**

This study also examined the characteristics of schizophrenia patients based on the type of antipsychotic medication used (Table **4**). Among 95 patients, the most commonly prescribed antipsychotic was Risperidone + Clozapine, accounting for 64.2% of cases. This was followed by Risperidone alone (13.7%), while other combinations, such as Haloperidol + Clozapine (5.3%) and Risperidone + Clozapine + Haloperidol (2.1%), were less frequent. Several other combinations, including Haloperidol, Olanzapine, and Trifluoperazine, were used in smaller proportions, each making up around 1.1% to 2.1% of prescriptions.

Table 4: Characteristics by Antipsychotic Type

Types of Antipsychotics	n	%
Haloperidol	1	1.1
Risperidone	13	13.7
Haloperidol + Clozapine	5	5.3
Haloperidol + Clozapine + Quetiapine	1	1.1
Olanzapine + Clozapine	1	1.1
Risperidone + Chlorpromazine	1	1.1
Risperidone + Clozapine	61	64.2
Risperidone + Clozapine + Aripiprazole	1	1.1
Risperidone + Clozapine + Haloperidol	2	2.1
Risperidone + Clozapine + Inj. Fluphenazine	2	2.1
Risperidone + Clozapine + Inj. Haloperidol	1	1.1
Risperidone + Clozapine + Olanzapine	2	2.1
Risperidone + Trifluoperazine	1	1.1
Total	**95**	**100**

Table 5: Relationship of Gender, Age and Type of Schizophrenia to Antipsychotic Type

Antipsychotic Type	Estimate	P value
Types of antipsychotics <--- Gender	0,278	0,66
Types of antipsychotics <--- Age	0,011	0,17
Types of antipsychotics <--- Type of Schizophrenia	0,093	0,79

This study examined the associations between gender, age, and schizophrenia subtype with the selection of antipsychotic medication (Table **5**). Chi-square tests were performed to evaluate these relationships. The results indicated no statistically significant associations, with p-values of 0.66 for gender, 0.17 for age, and 0.79 for schizophrenia type, all exceeding the 0.05 significance threshold. These findings suggest that antipsychotic selection in this sample was not significantly influenced by demographic or diagnostic characteristics.

The rationality of antipsychotic use was evaluated in a subset of 15 patients (Table **6**), revealing that 73.3% received prescriptions deemed rational, while 26.7%

were categorized as irrational. These findings underscore the ongoing need for systematic monitoring, adherence to clinical guidelines, and regular evaluation to promote appropriate prescribing practices.

Table 6: Rationality of Antipsychotic Use in Schizophrenia Patients

Rationality	n	%
Irrational	4	26.7
Rational	11	73.3
Total	**15**	**100**

Table 7: Rationality of Recovery in Schizophrenia Patients

Recovery	n	%
Healed	10	66.7
Not Healed	5	33.3
Total	**15**	**100**

Recovery outcomes were also assessed (Table **7**), showing that 66.7% of patients demonstrated clinical improvement, whereas 33.3% did not recover. In this study, the term "healed" referred to patients who exhibited a marked reduction in psychotic symptoms and improved functional ability, as documented by psychiatrists in medical records. Although this improvement indicates clinical stability, it does not necessarily imply full remission. These results highlight that while antipsychotic therapy is effective for the majority, a substantial proportion of patients may require individualized, adaptive treatment strategies to address persistent symptoms and optimize recovery.

DISCUSSION

Based on the data in Table **1**, it can be seen that out of a total of 93 schizophrenia patients, the majority were male, namely 85 people (91.4%), while only 8 female patients (8.6%). These results indicate that schizophrenia occurs more in men than women. This finding is in line with a study that shows that men have a higher risk of developing schizophrenia than women [6]. This difference is thought to be related to genetic factors and differing brain development between the sexes. For instance, a comprehensive review published in Frontiers in Psychiatry noted that males typically have an earlier age of illness onset compared to females, which may be influenced by biological and psychosocial mechanisms [7]. Additionally, a meta-analysis published in Psychological Medicine found that males have an earlier age of onset of schizophrenia compared to females, with a pooled estimate of the gender difference being 1.07 years [8]. These findings suggest that genetic and neurodevelopmental factors may contribute to the observed gender differences in the onset of schizophrenia. Hormonal Differences and Estrogen Protection Estrogen has a neuroprotective effect that can slow or reduce the severity of schizophrenia symptoms in women, so the risk and severity of schizophrenia are lower than in men [9].

Men are more vulnerable to environmental stressors such as psychoactive substance use, social pressure, and lack of social support, all of which can increase the risk of developing psychotic disorders. While some studies indicate that women are more sensitive to antipsychotic side effects and are often prescribed lower doses [10], this study found no significant differences in drug selection between men and women. Existing research also highlights gender differences in schizophrenia onset and progression. Women with schizophrenia generally experience a later onset, better premorbid functioning, and a more favorable treatment response than men. For instance, a study by Li *et al*. found that schizophrenia is more prevalent in men, with males experiencing an earlier onset and more severe course of the disorder, while females tend to have better outcomes [11]. Similarly, Rotstein *et al*. reported that women with schizophrenia had fewer and shorter hospital admissions compared to men, further supporting the notion of a better prognosis in females [12]. This study confirms the importance of considering gender differences in the diagnosis, treatment, and therapeutic interventions for schizophrenia. Tailoring clinical approaches based on these variations can help optimize patient outcomes and improve overall care.

Based on the data presented in Table **2**, the age distribution of schizophrenia patients reveals that the majority (43.0%) fall within the 36-45 years age range, followed by 28.0% in the 26-35 years category and 19.4% in the 46-55 years range. The youngest group, aged 17-25 years, accounted for just 7.5%, while the oldest group, aged 56-65 years, represented only 2.2%. These findings reflect several epidemiological trends in schizophrenia. Most studies suggest that schizophrenia typically presents in young adulthood, with the onset generally occurring in the late teens to early 30s, particularly in males [13]. In this data, the 26-

35 years group had the highest prevalence (28.0%), which aligns with existing literature on the typical age of onset. The prominence of the 36-45 years age group in this study indicates that these patients may have been living with the condition for a longer period, possibly undergoing various treatments or experiencing relapses. This could also reflect that many cases are newly diagnosed or relapsed during this stage of life.

The number of patients decreased significantly after the age of 46, with only 19.4% in the 46-55 year group and 2.2% in the 56-65 year group. This decline can be explained by several factors, including the life expectancy of schizophrenia patients is lower than the general population due to disease-related medical complications or long-term medication side effects [14]. Changes in schizophrenia symptoms with age, where some patients show improvement in positive symptoms (hallucinations, delusions) but continue to experience negative symptoms such as decreased social functioning. Social support and long-term care can play a role in the stability of older patients' conditions, reducing the frequency of hospitalization or recording of new diagnoses in health facilities [15]. Younger Age Group (17-25 Years) Relatively Fewer (7.5%) The low number of schizophrenia cases at a young age in this data could be due to several factors, including the early onset of schizophrenia can be difficult to diagnose, as it is often mistaken for other psychological disorders such as depression or anxiety [16]. Although some literature mentions that the age of onset of schizophrenia may influence the response to therapy (e.g., younger patients are more often given second-generation antipsychotics such as Risperidone or Aripiprazole) [17, 18, 19], in the present study antipsychotic selection did not seem to be affected by the age factor.

Based on Table **3**, the majority of patients in this study had unspecified schizophrenia with 90 patients (96.8%), while only 3 patients (3.2%) had paranoid schizophrenia. This result may reflect several factors related to the diagnosis and classification of schizophrenia. The ytt (unspecified) category of schizophrenia is usually used when patients do not meet the full criteria for more specific subtypes of schizophrenia, such as paranoid, disorganized, or catatonic. Most likely, the ytt classification of schizophrenia in this study is higher for various reasons, Pankova *et al*., (2021) and Jung *et al*., (2021) mentioned the complex variety of clinical symptoms, where patients experience a mixture of several symptoms from different subtypes of schizophrenia, making it difficult to be classified into one specific category. Lack of detailed diagnostic documentation, which led to patients only being categorized as generalized schizophrenia without specific subtypes [20, 21]. Paranoid schizophrenia is one of the most commonly diagnosed forms of schizophrenia, in a study conducted by Šulskutė *et al*., (2023) stated that delusions and auditory hallucinations were more dominant, but with relatively more preserved cognitive function than other types of schizophrenia [22].

In this study obtained data, the prevalence of paranoid schizophrenia is very low (3.2%), this can be due to several factors Differences in diagnosis methods: If patients have symptoms that do not fully meet the criteria for paranoid or have mixed symptoms, they may be categorized as generalized schizophrenia (ytt), Disease progression: Patients with paranoid schizophrenia who do not receive prompt treatment may experience worsening of symptoms and move to residual or unspecified schizophrenia (ytt). Clinical Implications and Management of Schizophrenia 96.8% of patients are in the ytt schizophrenia category, for this it is necessary that the therapeutic approach used must consider a wider spectrum of symptoms, such as flexible pharmacological treatment, with antipsychotic selection based on the patient's individual response. More adaptive psychosocial therapy, as patients with mixed or nonspecific symptoms often have difficulties in social functioning and rehabilitation. Improved quality of diagnosis, with more detailed clinical evaluation to identify patient-specific characteristics that may help in long-term management [23]. However, in this study, the P-value of 0.79 (>0.05) indicates that there is no significant relationship between the type of schizophrenia and the type of antipsychotic used. The selection of antipsychotics seems to be more influenced by other factors beyond the classification of schizophrenia, such as the severity of symptoms, the patient's response to previous therapy, and the risk of individual side effects.

Based on Table **4**, the distribution of antipsychotic use in schizophrenia patients shows variation in drug selection, with the combination of Risperidone + Clozapine being the most commonly used (61 patients or 64.2%). Here are some of the key findings and analysis. Dominance of Risperidone + Clozapine Combination (64.2%) Risperidone is an atypical (second generation) antipsychotic that is often used as first-line therapy in schizophrenia due to its lower extrapyramidal side effects compared to typical antipsychotics such as Haloperidol. Clozapine, although not a first-line therapy, is often used for

treatment-resistant schizophrenia (TRS). Clozapine has high efficacy but also has the risk of serious side effects such as agranulocytosis, so its use is more closely monitored. The predominance of the Risperidone + Clozapine combination may indicate that most patients in this study have resistance to single treatments and require combination therapy to control psychotic symptoms.

The use of Risperidone Monotherapy (13.7%) shows that there are some patients who are responsive enough to a single antipsychotic without the need for a combination. This is in accordance with research [18] which shows that Risperidone has good effectiveness in reducing positive and negative symptoms of schizophrenia, with better side effect tolerance than first generation antipsychotics such as Haloperidol.

Use of Haloperidol (1.1%) and its Combination with Clozapine (5.3%) Haloperidol is a typical (first generation) antipsychotic that has high potential in controlling positive symptoms of schizophrenia such as delusions and hallucinations, but has higher extrapyramidal side effects than atypical antipsychotics [24]. The combination of Haloperidol + Clozapine (5.3%) suggests that some patients require stronger positive symptom control, but still benefit from Clozapine to overcome therapy resistance. The combined use of more than two antipsychotics is usually done in patients with high resistance to treatment or have complex mixed symptoms (positive, negative, and affective symptoms). Quetiapine and Olanzapine are often used to control negative symptoms and sedative effects. Aripiprazole can be used to balance the effects of other antipsychotics as it has a unique partial dopamine agonist mechanism. Fluphenazine and Haloperidol injection are used for patients with low compliance who require long-acting injection (LAI) formulations for longer lasting drug effects.

Treatment Management of Schizophrenia The majority of patients required combination therapy, especially Risperidone and Clozapine, indicating that many patients in this study had resistance to single therapy. Only a small proportion of patients could be treated with monotherapy (Risperidone 13.7%, Haloperidol 1.1%), suggesting that many cases require more complex pharmacological strategies. The use of typical antipsychotics such as Haloperidol was very low (1.1%), which is in line with the global trend that second-generation antipsychotics are preferred due to lower extrapyramidal side effects. Some patients require multi-antipsychotic combinations, which may increase the risk of side effects but remain necessary in cases of drug resistance.

Based on Table **5**. Although no significant relationship was found between gender, age, and type of schizophrenia on antipsychotic selection in the study, it is necessary that antipsychotic selection is more influenced by individual clinical factors, such as symptom severity, history of previous therapy response, and tolerance to side effects. Combination antipsychotic therapy is more commonly used than single therapy, which suggests that many patients in this study have resistance to monotherapy treatment.

Based on Table **6**, the analysis showed that out of 15 schizophrenia patients, 11 patients (73.3%) received rational antipsychotic therapy, while 4 patients (26.7%) received irrational therapy. These results highlight the importance of evaluating the rationality of antipsychotic use in clinical management practice to ensure therapeutic effectiveness and minimize side effects. The causes of irrational therapy (26.7%) were inappropriate drug selection, inappropriate dosage, long-term use without evaluation. Factors Supporting Rationality of Therapy (73.3%) Compliance with clinical guidelines, Selection of safer antipsychotics, Management of side effects [25]. So that in this study that was observed, 10 patients (66.7%) experienced recovery, while 5 patients (33.3%) did not experience recovery. These results show that most patients respond well to therapy and experience clinical improvement, but there is still a third of patients who do not recover, which could be due to patients having treatment-resistant schizophrenia (TRS), where symptoms persist despite various types of antipsychotics. Patients who have other mental disorders such as major depression or substance abuse tend to have a worse prognosis. Substance abuse such as alcohol or narcotics can reduce the effectiveness of antipsychotics and worsen the symptoms of schizophrenia.

CONCLUSIONS

This study on the management of antipsychotic therapy in schizophrenia patients highlights the crucial role of antipsychotic use in controlling schizophrenia symptoms. The findings indicate that the majority of patients require combination antipsychotic therapy, with Risperidone and Clozapine being the most commonly used, suggesting some degree of resistance to monotherapy. Additionally, age and gender do not

significantly influence the choice of antipsychotics, as therapy is primarily determined by individual drug response and symptom severity. While most patients (73.3%) received rational therapy, a small percentage (26.7%) were given substandard treatment, increasing the risk of side effects and treatment resistance. The study also found that 66.7% of patients showed improvement, demonstrating the effectiveness of antipsychotic therapy; however, 33.3% did not experience significant progress, likely due to drug resistance, non-adherence, and psychosocial factors. Therefore, a more comprehensive therapeutic approach, incorporating psychosocial interventions and long-term monitoring, is necessary to enhance treatment effectiveness and prevent relapse.

RESEARCH IMPLICATIONS

The findings of this study have several important implications for the clinical management of schizophrenia patients. First, personalization of antipsychotic therapy is crucial, as each patient responds differently to treatment. An individualized approach to drug selection can enhance the effectiveness of therapy. Second, close monitoring of the rationality of therapy is necessary, requiring periodic evaluations of drug effectiveness, dosage, and side effects to optimize treatment benefits and minimize irrational antipsychotic use.

Additionally, the integration of psychosocial therapy with pharmacotherapy plays a vital role in improving patient prognosis. Beyond antipsychotic use, cognitive therapy, family support, and social rehabilitation are essential in helping patients reintegrate into daily life. Furthermore, increasing education for patients and families is critical to promoting adherence to treatment and managing side effects, ensuring optimal therapeutic outcomes.

Lastly, further research is needed to explore factors influencing drug resistance and the effectiveness of combination therapies. In-depth studies can help develop better treatment strategies, ultimately improving the quality of care for schizophrenia patients.

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