

THE RELATIONSHIP OF RISPERIDONE THERAPY PATTERN TO THE SYMPTOMS THAT APPEAR IN SCHIZOPHRENIA PATIENTS UNDER OUT PATIENT TREATMENT

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ABSTRACT

Schizophrenia is a psychotic disorder that is heterogeneous and causes mental disability. One of the chronic mental illnesses, it weakens the brain and also costs a lot to treat. Schizophrenia has a high psychosocial burden and environmental influences cause an increase in patient mortality. Management of schizophrenia can be done using two methods, namely pharmacological therapy and non-pharmacological therapy. Positive symptoms can be controlled with pharmacological therapy using antipsychotic medication. After treatment of positive symptoms, negative symptoms are likely to persist. Antipsychotics are the primary therapy for schizophrenia sufferers. One of the atypical antipsychotics, namely risperidone, is effective against both positive and negative symptoms. Risperidone is known to be the first line for schizophrenia sufferers because of the mild reactions it causes. The therapy received by schizophrenia patients, either monotherapy or in combination, has an effect on the symptoms that appear in the patient. This study aims to evaluate the pattern of antipsychotic therapy given in relation to the symptoms that appear after being given therapy. It is known that at the Jombang Regional Hospital Mental Health Polytechnic there are patients with various mental disorders and most of them are schizophrenic sufferers with a low level of public awareness so they do not know the symptoms they are experiencing. The inclusion criteria in this study were patients diagnosed with schizophrenia who received the antipsychotic risperidone alone or in combination with other antipsychotics in the period January-December 2021. Data analysis used the Chi-square test to see the relationship between the administration of risperidone therapy patterns and the symptoms that appeared in patients. After the analysis was carried out, the results showed that the risperidone therapy pattern had no relationship with the symptoms that appeared after therapy. This can be caused by several factors including individual factors.

KEYWORDS

Schizophrenia, Risperidone, Monotherapy, Combination Therapy, Symptoms



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How to cite:

E-ISSN:

Aghnia Fuadatul Inayah, et al. (2025). The Relationship of Risperidone Therapy Pattern to The Symptoms That Appear in Schizophrenia Patients Under Out Patient Treatment. Journal Eduvest. 5(2): 1965-1964
2775-3727

INTRODUCTION

Schizophrenia is a mental disorder that presents with serious symptoms and can affect a person's way of thinking, feeling and behaving. Schizophrenia is a psychotic disorder that is heterogeneous and causes mental disability (Archibald, Brunette, Wallin, & Green, 2019). One of the chronic mental illnesses, it weakens the brain and also costs a lot to treat. Schizophrenia has a high psychosocial burden and environmental influences cause an increase in patient mortality (Schneider & Kircher, 2020). The biological basis of schizophrenia shows an imbalance between highly heterogeneous glutamatergic, serotonergic and dopaminergic systems. Schizophrenia has several subtypes including paranoid, disorganized, catatonic, residual and non-deficient schizophrenia (Assion, Schweppe, Reinbold, & Frommberger, 2019). The prevalence of schizophrenia is very relative between men and women. However, the onset is different between women and men, in the case of men it is known that it can increase at the age of 10-25 years and in the case of women it will increase at the age of 25-35 years (Papiilya, 2019). According to WHO (World Health Organization), the number of schizophrenia sufferers in Indonesia in 2016 was 21 million people and 6% were in the age range of 15-24 years.

Schizophrenia is known to have three sets of symptoms positive, negative, and cognitive (Harvey, Nakamura, & Miura, 2020). Management of schizophrenia can be done using two methods, namely pharmacological therapy and non-pharmacological therapy. Positive symptoms can be controlled with pharmacological therapy using antipsychotic medication (Astuti, Tri, & Putra, 2017). After treatment of positive symptoms, negative symptoms are likely to persist. Antipsychotics are the primary therapy for schizophrenia sufferers (Ih, Putri, & Untari, 2016). Meanwhile, non-pharmacological or drug-free therapy can be done by undergoing nursing therapy (Kurniasari & Dwidiyanti, 2019). Non-pharmacological therapy for schizophrenia patients can help treat the patient's cognitive, positive and negative symptoms. Schizophrenia patients must be treated immediately with therapy, both antipsychotics and other treatments using non-pharmacological methods so that patients do not get worse in their symptoms (Yuniartika, Santi, & Azizah S, 2019). National and international guidelines recommend that schizophrenic patients use antipsychotic monotherapy (Assion et al., 2019). Antipsychotics have two groups, namely typical antipsychotics and atypical antipsychotics (Afitriyani, Dwinta, Putri, & Astuti, 2024). One of the atypical antipsychotics, namely risperidone, is effective against both positive and negative symptoms. Risperidone is known to be the first line for schizophrenia sufferers because of the mild reactions it causes (Feng et al., 2020).

Insufficient levels of education mean that people do not realize the importance of mental health. Mental disorders in schizophrenia sufferers can be chronic and chronic. So it is necessary to provide antipsychotic therapy for a long period of time for ODS (People with Schizophrenia). To control and reduce symptoms of psychosis such as delusions, hallucinations and mood disorders. The therapy received by schizophrenia patients, either monotherapy or in combination, has an effect on the symptoms that appear in the patient. This requires evaluation regarding the pattern of therapy given in relation to the symptoms that appear after

therapy is given. It is known that at the Jombang Regional Hospital Mental Health Polytechnic there are patients with various mental disorders and most of them are schizophrenic sufferers with a low level of public awareness so they do not know the symptoms they are experiencing. Therefore, it is necessary to conduct research to determine the relationship between the use of risperidone alone and the symptoms that appear in patients. If the relationship can be known, it is hoped that an evaluation can be carried out regarding whether risperidone therapy should be used alone or in combination to improve symptoms in schizophrenia patients.

RESEARCH METHOD

This research design is a descriptive observational study because it does not provide intervention to the sample that will be used. The research was conducted at the Mental Health Polytechnic of Jombang Regional Hospital. The inclusion criteria in this study were patients diagnosed with schizophrenia who received the antipsychotic risperidone alone or in combination with other antipsychotics in the period January-December 2021. Data collection was carried out retrospectively on the medical records of schizophrenia patients undergoing outpatient treatment. Then, data was recapitulated from the LPD (Data Collection Sheet) and analyzed using SPSS Statistics 22. Data analysis used the Chi-square test to see the relationship between the administration of risperidone therapy patterns and the symptoms that appeared in patients. If the value of asymp. sig. < 0.05, then there is a relationship between the therapy pattern and the symptoms that appear. Before taking samples, ethical clearance was carried out first at Jombang Regional Hospital.

RESULTS AND DISCUSSION

This research was carried out by taking samples at the Mental Health Polytechnic of Jombang District Hospital in the period January - December 2021. The study population consisted of 257 schizophrenia patients and 116 patients met the inclusion criteria. Patient demographic data was obtained as in Table 1.

Table 1. Demographic data of Schizophrenia Patients

Information	Number (n)	Percentage (%)
Age		
5-20 years	11	9.5
21-30 years old	39	33.6
31-45 years old	47	40.5
46-65 years old	18	15.5
>65 years	1	0.9
Gender		
Man	76	65.5
Woman	40	34.5
Underwriting Status		
General	11	9.5

BPJS	102	87.9
Non BPJS Insurance	3	2.6
Length of Treatment		
15-30 days	22	19
31-60 days	22	19
61-80 days	20	17.2
>60 days	52	44.8

The research shows that the demographic data obtained for schizophrenia patients based on age distribution shows differences in percentages. The largest percentage is patients aged 31-45 years, amounting to 40.5%. This is in accordance with research conducted by Anas et al. states that those aged 25-35 years are vulnerable to experiencing schizophrenia when compared with young people aged 17-24 years (Anas, Arman, & Gobel, 2022). Other research also states that people of productive age suffer from schizophrenia at the age of 36-45 years. At this age the symptoms will appear clearly even though previously there were symptoms but were not yet visible (Jarut, Fatimawali, & Wiyono, 2013). Based on the gender of schizophrenic patients, of the 116 patients who received risperidone therapy, men had a greater percentage than women, namely 65.5%, while for women it was 34.5%. In men, the onset of schizophrenia is earlier and will quickly appear at the age of 15-25 years, while in women the peak is at the age of 25-35 years.

The literature also states that the course of the disease and prognosis in men is worse than in women. With various influencing factors including environmental factors. In society, men tend to have the burden of responsibility as the head of the family who must be the backbone for his family. Social and environmental factors at work, economic factors, genetics and self-influence tend to make it difficult to control stress (Jarut et al., 2013). Research conducted by Harvey et al. obtained the results that schizophrenic patients were more likely to be male than female (Harvey et al., 2020). Schizophrenia patients show that when seeking treatment, more people use health insurance issued by the government. Patients will receive relief assistance for accessing health treatment services. As time goes by, there are more and more cases of schizophrenia, the government on the other hand is trying to deal with the chronic disease of schizophrenia (Sari, Suyanti, & B, 2023).

The insurance status of most schizophrenia patients uses BPJS health, the number of patients using BPJS is 87.93% more than non-BPJS and general insurance coverage. The length of treatment or providing therapy is a performance of the form of psychiatric treatment. The duration of therapy can reduce the impact of a poor prognosis (Sari et al., 2023). As many as 44.8% received treatment duration of more than 60 days. Schizophrenia is known as a chronic mental disorder that is chronic in nature so it requires long-term care and continuous therapy so as not to increase the appearance of symptoms in the patient. (Febriana, Susanto, Rochmawati, & Setiawati, 2020).

A total of 116 patients were diagnosed with different types of schizophrenia, although most were paranoid schizophrenia, as in Figure 1. Schizophrenia has several types, including paranoid schizophrenia, hebephrenic schizophrenia, catatonic schizophrenia, unspecified schizophrenia, post-schizophrenic depression, residual schizophrenia, simplex schizophrenia, other schizophrenia, and unclassified schizophrenia. In this study, the most common type of schizophrenia diagnosis was paranoid schizophrenia at 90%.

Research conducted by Ih et al. As many as 82% of schizophrenia patients get the highest diagnosis of schizophrenia as paranoid schizophrenia, according to an article published by the University of Michigan Health System which states that based on epidemiology, the type of schizophrenia that is often found in the world is the paranoid subtype. (Ih et al., 2016). In Maharani et al's research, results from obtaining medical record data of patients that appeared most frequently were paranoid schizophrenia at 69.23% in 36 patients. Classification of Diseases (ICD) 10th edition, revised 2007, the most common type of paranoid schizophrenia in the world. Its appearance cannot be known with certainty, it is suspected that there are brain abnormalities, immune disorders and the nervous transmission system which play a role in causing schizophrenia (Mahari, Susanti, & Robiyanto, 2019).

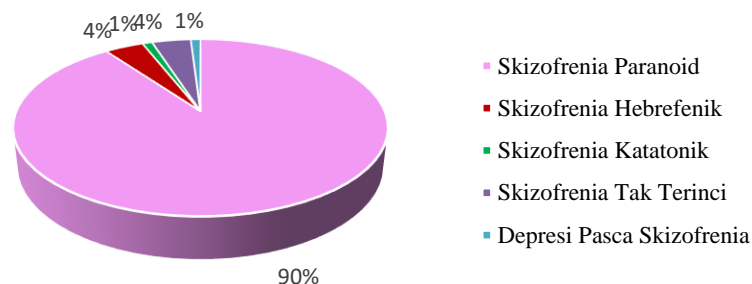


Figure 1.Types of Schizophrenia Based on Patient Diagnosis

The therapy patterns found in this research were divided into 2, namely single risperidone therapy patterns and combination therapy patterns of risperidone with other antipsychotics. The use of risperidone in combination with other antipsychotics is most often given to schizophrenia patients, as in Table 2. The most widely used single risperidone therapy pattern is risperidone 2 x 2 mg po., while the most widely used combination therapy pattern is risperidone 2 x 2 mg po + clozapine 1 x 25 mg po. Risperidone is an antipsychotic derivative of benzisoxazole with an indication as a therapy for schizophrenia to treat positive and negative symptoms (Aryani & Sari, 2016).

Risperidone can also minimize the recurrence rate of psychosis symptoms and can improve cognitive function (Utami, Darajati, & Puspitasari, 2022). For schizophrenia patients, the initial dose is 1-2 mg/day with a target dose of 4-6 mg/day and a maximum dose of 6-8 mg/day. (Soria-Chacartegui, Villapalos-García, Zubiaur, Abad-Santos, & Koller, 2021). The dose of risperidone is included in the

daily dose most often prescribed for schizophrenia, namely at a dose of 2-8 mg/day.(Indonesian Ministry of Health, 2015). In the research of Boczek et al. administering a combination of therapy can improve neurocognition but can also reduce the presence of positive and negative schizophrenia symptoms (Boczek et al., 2021). When administering combination antipsychotic therapy, drug interactions may occur. If giving single therapy fails to improve within 6-12 weeks, combination therapy can be given by reducing one of the drug doses.

The combination of risperidone and clozapine can cause the side effect of neuroleptic malignant syndrome. For management, you must observe the clinical response to the concentration of clozapine by reducing the dose of clozapine. (Lisni, Patti, & Saidah, 2017). Although clozapine has the side effect of agranulocytosis, it is generally known to be safer compared to other antipsychotics such as haloperidol.(Puspitasari, Dewi, Aini, Pratama, & Hasina, 2022). The use of 2 combinations of antipsychotics is known to produce a greater variety of receptors which can increase the efficacy of antipsychotics by increasing D2 dopaminergic receptors additively, which is expected to reduce the appearance of side effects from each drug.(Saputri, Sulistyawati, & Untari, 2019). Research by Hemalatha et al. In clinical practice and extrapyramidal studies, it is stated that the combination of 2 therapies most frequently prescribed is risperidone with clozapine because the effectiveness of these drugs can be correlated with their antagonistic effects on dopamine D2 receptors.(Hemalatha, Ramnath, & Tamiljothi, 2022).

Table 2. Risperidone Therapy Patterns in Schizophrenia Patients

Therapy Patterns	Number (n)	Percentage (%)
Single	8	7
Combination	108	93
Total	116	100

The most frequently occurring clinical symptoms in patients were positive symptoms, amounting to 48.3%, with 113 out of 116 patients experiencing these symptoms. The clinical symptoms of patients that most often appear are in accordance with the various types of positive symptoms, most often experiencing hallucinations, 39% of which 95 patients out of 116 patients experience these symptoms. The negative symptom most often experienced by patients is decreased sleep quality, namely insomnia, 62% with 62 patients experiencing these symptoms. The most common cognitive symptom was memory decline of 80% with a total of 4 patients. Like research conducted by Tarigas et al. shows that the most frequent symptoms in schizophrenia patients are positive symptoms. This is in accordance with the type of schizophrenia, namely paranoid (F20.0), which was the most common in this study. This type has the most prominent positive symptoms. Such as delusions, hallucinations and delusions (Tarigas, Untari, & Nurmainah, 2018).

Changes in the patient's condition after receiving risperidone therapy, both alone and in combination, many schizophrenia patients experienced changes in their

condition with reduced symptoms in the patient. Of the 116 schizophrenic patients at the Jombang Regional Hospital Mental Health Polytechnic, 62% experienced a reduction in their symptoms while others experienced increasingly severe symptoms or their symptoms persisted, as in Table 3. Based on this data, data analysis was carried out to determine the relationship between risperidone therapy patterns and symptoms that appear in schizophrenic patients. The results of statistical analysis using the Chi-square test, obtained the asymp value. sig. of 0.2. That is, the value of asymp. sig. > 0.05, it can be said that there is no relationship between the pattern of risperidone therapy and the symptoms that appear in schizophrenia patients.

Table 3. Number of schizophrenia patients who developed symptoms after risperidone therapy

Therapy Patterns	Post-Therapy Symptoms			Total
	Reduce	Increase	Still	
Single	3	2	3	8
Combination	69	23	16	108
Total	72	25	19	116

A number of studies have examined the comparative effectiveness and tolerability of various antipsychotics and it is known that in general various types of antipsychotics have similar effectiveness with substantial differences found in the side effects of antipsychotics except for clozapine (Belbase & Adhikari, 2020). The results of this study are also in line with research stating that although significantly fewer schizophrenia patients on monotherapy were able to complete the study, no significant differences between monotherapy or combination treatment were observed in changes in total scores measuring symptom response post-therapy. (Citrome, Leslie; Shope, Constance B; Nolan, Karen A.; Czobor, Pala; Volavka, 2007). Other research states that the use of a combination of antipsychotics can increase the risk of side effects, increase the potential for drug interactions, and potentially reduce patient compliance with treatment. (Indriani, Ardiningrum, & Febrianti, 2020). Thus, from this study it is known that giving combination therapy cannot show significant benefits for post-therapy symptoms compared to giving single therapy in patients with schizophrenia.

CONCLUSION

Based on research results and reviews, the use of risperidone therapy is first-line therapy which can be used alone/monotherapy or in combination with other antipsychotics. Combination therapy of risperidone with other antipsychotics is most often combined with clozapine. The aim of administering risperidone therapy is to reduce the symptoms felt by schizophrenia patients undergoing outpatient treatment at the Mental Health Polytechnic of Jombang District Hospital. After carrying out analysis in this study, the results showed that there was no relationship between the pattern of risperidone therapy and the symptoms that appeared after

therapy. This leads to the conclusion that the symptoms that appear after therapy do not only depend on the risperidone therapy pattern given to schizophrenia patients.

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