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THE RELATIONSHIP BETWEEN ANTIPSYCHOTIC THERAPY WITH CREATININE LEVELS IN SCHIZOPHRENIA PATIENTS

Marisa[1)*], Endang Suriani[2)], Rinda Lestari [3)], Lisa Fradisa [4),]

[1,2,3,4)] Fakultas Ilmu Kesehatan, Universitas Perintis Indonesia, Jl. Simpang Kalumpang KM 17 Lubuk Buaya Padang

*Email : azilamarisa@gmail.com

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Length of Antipsychotic Therapy
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Penulis Korespondensi

Name : Marisa
Affiliation : Universitas Perintis Indonesia
E-mail : azilamarisa@gmail.com

ABSTRACT

Schizophrenia is a condition of severe mental disorder, characterized by many disturbances in thinking, language, perception and sense of awareness. The use of antipsychotic therapy in the long term can cause damage to kidney function and aggravate the work of the kidneys marked by increased creatinine levels. The purpose of this study was to determine the relationship between duration of antipsychotic therapy and creatinine levels in schizophrenic patients at the Mendawai Health Center. The type of research used is analytic research with a cross sectional approach. In this study the sampling technique used was purposive sampling. This study used the T-Independent Sample T Test. The results showed that there was a relationship between duration of antipsychotic therapy and creatinine levels in schizophrenic patients. It can be seen that the average value of respondents in the category of long antipsychotic therapy is 1.06 and short antipsychotic therapy is 0.71 and the value of equal variance assumed has a sig (2 Talled) p-value of 0.005 (<0.05), so Ha is accepted. So in conclusion there is a significant relationship between the duration of antipsychotic therapy and creatinine levels in schizophrenic patients at the Mendawai Health Center. It is recommended to pay more attention to the side effects of the treatment carried out for further therapy.

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INTRODUCTION

Mental disorders are a very important health problem to pay attention to. People with mental disorders themselves often show symptoms and signs such as cognitive disorders, thought process disorders, impaired consciousness, emotional disorders, thinking abilities, and strange behavior. Schizophrenia is one of the mental disorders that occurs more than other mental disorders. Schizophrenia (severe mental disorder) is the inability to see reality, confusion in distinguishing between reality and non-reality. Schizophrenics in Indonesia usually get a negative stigma in society. The negative stigma that is usually attached to schizophrenics is because they often do strange actions (such as talking to themselves, getting angry or laughing at themselves, hallucinations), doing dangerous actions because they lose control, and their physical condition is not taken care of. Schizophrenic disorders occur in about 1% of the world's population. Signs of schizophrenia usually appear in adolescence or early adulthood.

According to epidemiological data from the *World Health Organization* (WHO) in 2016, more than 21 million people worldwide suffer from schizophrenia although unlike other more common mental disorders. Men are more common with schizophrenia, which is about 12 million people, while women are about 9 million people.

Schizophrenia also usually starts earlier in men than women. According to the Indonesian Ministry of Health, mental health is still one of the significant health problems in the world, including in Indonesia. The prevalence of severe mental disorders (Schizophrenia) in Indonesia reaches around 400,000 people or as much as 1.7 per 1000 population. Basic Health Research Data (RISKESDAS) in 2018 shows that the prevalence of schizophrenia mental disorders in Central Kalimantan Province is 3.9 per mile, this proves a very significant increase in schizophrenia patients, because in the 2013 RISKESDAS data in Central Kalimantan Province schizophrenia patients are 1.0 per mile. In patients with schizophrenia, pharmacology plays an important role in treating and overcoming symptoms of psychotic disorders, the pharmacology used is the antipsychotic class.

Antipsychotics or so-called neuroleptics are the first drug therapy that effectively treats schizophrenia. There are two classes of antipsychotics, namely typical and atypical antipsychotics. Both Antipsychotics are high potency drugs, both of these drugs have side effects, which cause metabolic related side effects that are quite serious. Some antipsychotics, including chlorpromazine, haloperidol, and risperidone, have been investigated to cause kidney damage if consumed continuously it is characterized by an increase in creatinine levels The kidneys as one of the important organs in the human body have the function of cleaning the blood from toxic compounds and harmful substances in the body to finally flow throughout the body. After that it is excreted through urine. The necessity of schizophrenia patients in taking drugs can aggravate the work of the kidneys and inhibit kidney function, which is characterized by an increase in creatini levels. Some factors that affect creatinine levels in the blood include drugs that interfere with creatinine secretion so as to increase creatinine levels in the blood such as antipsychotic drugs Seeing the increase in schizophrenic sufferers, the Mendawai Health Center with the People with Mental Disorders program provides services on the management of ODGJ patients both from guaranteeing ODGJ Service Rights, risk factors and control to administering therapeutic drugs Antipsychotics. Therefore, this study was conducted to determine the relationship between antipsychotic

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therapy and creatinine levels in schizophrenia patients in the Mendawai Health Center work area.

METHODE

The type of research used is *analytical* research with a *cross sectional approach*. This study was conducted from September to October 2022. This research was carried out at the Laboratory of RSUD dr. Murjani Sampit, Population Samples were taken from all patients with schizophrenia in the working area of the Mendawai Health Center as many as 15 people. The samples taken in this study were schizophrenia patients who met the inclusion and exclusion criteria. The sampling technique used is *purposive sampling*. The results of the research analyzed data will be tested for data normality. Because the number of samples used is less than 50, the Shapiro-Wilk normality test is used, followed by the *Independent Samples T-Test.* To test meaningfulness, the test result is said to have a meaningful relationship if the value is ($p<0.05$) and the result is said to have no meaningful relationship if ($p>0.05$).

RESULT

This study aims to determine whether or not there is a long-standing relationship of antipsychopathic therapy to creatinine levels in scrizophrenia patients. The results of data analysis obtained from this study found that there was a significant relationship between the duration of antipsychotic therapy and creatinine levels in schizophrenia patients.

Table 1. Distribution Age, Gender, and Duration of therapy

Age	**F**	**%**
20 – 25	2	13,3 %
26 – 30	1	6,7 %
31 – 35	1	6,7 %
36 – 40	4	26,7 %
41 – 45	2	13,3 %
>46 Tahun	5	33,3 %
Total	**15**	**100 %**
Gender	**Frequency**	**Percentage**
Male	9	60 %
Female	6	40 %
Total	**15**	**100 %**
Duration of Therapy	**F**	**%**
Long Therapy	**8**	**53 %**
Short Therapy	**7**	**47 %**
Total	**15**	**100 %**

Based on table 1, it can be seen that the majority of respondents are at the age of 20-25 years as many as 2 respondents (13.3%), 26 years - 30 years old ie as many as 1

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respondent (6.7%), 31-35 years as many as 1 (6.7%) 36-40 years silent 4 respondents (26.7%) and 41 years - 45 years old ie as many as 2 respondents (13.3%) and respondents over >46 years as many as 5 (33.3%). The majority of respondents were men as many as 9 respondents (60.0%) and 6 female respondents (40%). It can be seen that, from the two therapy groups, the number of subjects who received short-term antipsychotic therapy was 8 respondents (53%) and long-term as many as 7 respondents (47%).

Table 2. Distribution of Respondent Frequency Based on Normal and Abnormal Creatinine Levels in Schizophrenic Patients in the Mendawai Health Center Work Area

Creatinine levels Pada pasien Skizofrenia	**Ferquence**	
	N	**%**
Normal	12	80 %
Abnormal	3	20 %
Total	**15**	**100,0**

Based on table 2, from the table above obtained the results of the study, from 15 schizophrenic patients found abnormal creatinine levels as many as 3 patients (20%) and normal creatinine levels as many as 12 patients (80%).

Based on Table 3 Based on the table above, it can be seen that with the number of patients who received antipsychotic therapy as many as 8 respondents (53%) and Short antipsychotic therapy as many as 7 respondents (47%) respondents known the highest creatinine level value in schizophrenia patients using long antipsychotic therapy was 1.40 mg / dl and the lowest value was 0.80 mg / dl, while patients who used Short antipsychotic therapy found the highest value of 0.89 mg/dl and the lowest level is 0.55 mg/dl. The average value of long antipsychotic therapy amounted to 1.06 mg / dl, and the average short antipsychotic therapy was 0.71 mg / dl.

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Table 3. The average value of long antipsychotic therapy and the average short antipsychotic therapy

Duration antipsychotic therapy	Frequence N	%	value Hight Mg/dl	Low Mg/dl	Mean Mg/dl	Standar Deviation
Long antipsychotic Therapy	8	60	1.40	0.80	1.06	0.2399
Short antipsycho Therapy	7	40	0.89	0.55	0.71	0.1363

Table 4. Shapiro–Wilk Normality Test

	Shapiro-Wilk		
	Statistic	**Df**	**Sig.**
Creatinin levels	0,980	15	0,180

Based on table 4 of the Shapiro-Wilk normality test, a p-value was obtained in the creatinine level data of schizophrenic patients of 0.180 In the normality test, the data is considered normally distributed if a p>0.05 value is obtained. conclusion sig value 0.180 (>0.05) means the data is normally distributed.followed by the Independent Test Sample T Test.

Table 5. Relationship of Antipsychotic therapy duration with creatinine levels in schizophrenia patients at Mendawai Health Center

	Mean	SD	Sig (2-talled)	P- Value
Creatinine levels (Mg/dl) against long antipsychotic therapy in schizophrenia patients.	1.0612	0.32164	0.005	P-value>0.05 H0 received P-value<0.05 Ha received
Creatinine levels (Mg/dl) against short antipsychotic therapy in schizophrenia patients.	0.7086	0.34049		

Based on table 5, the p-value significance results were 0.005 (<0.05) so that the conclusion was that there was a significant relationship between the duration of antipsychotic therapy and keratinin levels in schizophrenic patients at the Mendawai health center. Based on the table above, it can also be seen that the average value of respondents in the category of long antipsychotic therapy is 1.06 and short antipsychotic therapy is 0.71

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and the *value of equal variance assumed* has a sig value (2 Talled) p = value of 0.005 (< 0.05) then Ha is accepted. So that the conclusion is that there is a significant relationship between the duration of antipsychotic therapy and creatinine levels in schizophrenic patients at the health center.

Based on the results of this study with a total of 15 patients. there is a long-standing relationship of antipsychopathic tearapi to creatinine levels in scrizophrenia patients. The majority of respondents were 9 male respondents (60.0%) and 6 female respondents (40%). It can be seen that, from the two therapy groups, the number of subjects who received long-term antipsychotic therapy was 8 respondents (53%) and short-term as many as 7 respondents (47%). abnormal creatinine levels were 3 patients (20%) and normal creatinine levels were 12 patients (80%). The highest value of creatinine levels in patients using Long antipsychotic therapy was 1.40 mg / dl and the lowest value was 0.80 mg / dl, while creatinine levels in patients using Short antipsychotic therapy found the highest value of 0.89 mg / dl and the lowest 0.55 mg / dl . For the average value of Long antipsychotic therapy of 1.06 mg / dl, and the average Short antipsychotic therapy of 0.71 mg / dl. Shapiro-Wilk normality test, obtained p-value on creatinine level data of schizophrenic patients sig 0.180 (>0.05) means the data is normally distributed. after data processing using the Independent sample T Test test obtained the average value of creatinine levels in schizophrenia patients Long antipsychotic therapy 1.06 and Short antpsychotic therapy of 0.71. after processing the data obtained The value of *equal variance assumed* sig (2 Talled) p = value of 0.005 (< 0.05) then Ha is accepted. So that the conclusion is that there is a significant relationship between the duration of antipsychotic therapy and creatinine levels in schizophrenic patients at the health center. According to Baron's theory (2013), long-term administration of anti-psychotic drugs can affect the working system of kidney function due to the drug excretion process that occurs for years. Conditions that last a long time will affect the kidney work system, the kidney work system is declining. Creatinine is a parameter of renal function examination, creatinine levels that exceed normal values indicate impaired renal function. Taking drugs for a long time and in large quantities will affect the kidneys, resulting in high creatinine levels. This is due to the function of the kidneys as a means of excretion of the body, where non-metabolized drug compounds will be excreted through the kidneys. This study is in line with research by Aprilianti et al. (2019), schizophrenia patients have increased creatinine levels as much as (72%) and (28%) have normal creatinine levels .Long-term use of the drug can affect creatinine levels in schizophrenic patients. Long-term use of drugs can cause damage to kidney function and aggravate the work of the kidneys, causing the kidneys to no longer function properly. Scryophrenia is a disease that affects patients in the long term. This can be caused because in patients with skrizorenia requires a relatively long time, namely months or even years in undergoing treatment, long-term drug consumption can aggravate the work of the kidneys as a result of which the kidneys are no longer able to function optimally where creatinine is excreted by the kidneys through a combination of filtration and secretion, the concentration is realistically constant in serum from day to day, Levels greater than normal values indicate impaired kidney function, so creatinine levels in the blood increase if kidney function decreases. The recommended dose of antipsychotics in the treatment of schizophrenia, both early and acute stages, is the lower limit of the recommended dose

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range, then titrate the dose taking into account the level of efficacy and tolerability. Kidney damage that occurs can be seen by a decrease in the value of glomerular filtration rate or an increase in creatinine value. Ureum is the end product of protein metabolism in the body which is produced by the liver and excreted through urine. In renal excretion disorders, the release of urea into the urine is inhibited so that ureal levels increase in the blood.

CONCLUSIONS

Based on the results of research that has been conducted in the Mendawai Health Center work area on the Old Relationship of Antipsychotic Therapy with Creatinine Levels in Schizophrenic Patients, it can be concluded that:

1. There is a significant association between the duration of antipsychotic therapy and creatinine levels in schizophrenia patients
2. Creatinine levels in schizophrenia patients from 15 respondents, as many as 12 respondents (80%) Normal and abnormal as many as 3 respondents (20%), repondent conditions whose creatinine levels increased occurred in the category of patients with Long Antipsychotic Therapy.
3. The highest value of creatinine levels in patients using Long antipsychotic therapy was 1.40 mg / dl and the lowest value was 0.80 mg / dl, while creatinine levels in patients using Short antipsychotic therapy found the highest value of 0.89 mg / dl and the lowest 0.55 mg / dl . The average creatinine levels of therapy for schizophrenia patients in the Mendawai Health Center work area with Long antipsychotic therapy was 1.06 and Short antipsychotic therapy was 0.71 mg / dl.
4. It was found that patients in the category of Long Antipsychotic Therapy were 8 respondents (53%) out of 15 respondents and Short Antipsychotic Therapy 7 respondents (47%).
5. In the value of *equal variance assumed* sig (2 Talled) p = value of 0.005 (<0.05) then Ha is accepted. So that the conclusion is that there is a "significant relationship between the duration of antipsychotic therapy and creatinine levels in schizophrenic patients at the health center."

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