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Pharmacist counseling improves medication compliance of schizophrenia patients

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ABSTRACT

Schizophrenia is a disorder characterized by abnormal behavior, impaired thinking, disorganized speech, and a reduced ability to perceive reality. One of the key factors influencing the success of schizophrenia therapy is patient adherence. Pharmacy plays a crucial role in the treatment of schizophrenia patients. This study aimed to determine the effect of pharmacist counseling on drug adherence of schizophrenia patients from the first month to the second month. The method used in this study was a one-group pre-test and post-test design that used quasi-experimental research. The subjects of this study were schizophrenia patients in the outpatient installation of Prof.Dr.Soerojo Mental Hospital, Magelang. This study used the Medication Adherence Rating Scale (MARS) questionnaire to measure the level of adherence and drug use monitoring sheet (pill count) to monitor the amount of patient medication. The population in this study was calculated using the Lameshow formula. Data analysis was performed using the chi-square test and the Wilcoxon test. After analyzing data of 108 patients, it was found that there was a significant difference between before and after counseling conducted by pharmacists on medication adherence in schizophrenia patients, with a significance value of $p < 0.05$. Counseling conducted by pharmacists has a good impact on patient medication adherence and monitoring the amount of medication taken. These results indicate the effect of counseling conducted by pharmacists on adherence to taking medication and the monitoring of the amount of medication taken by patients.

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Keywords: counseling, pharmacist, MARS, schizophrenic, adherence medication

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INTRODUCTION

The World Health Organization (WHO) data in 2022 showed that 50% of the 24 million world population were diagnosed with mental disorders in mental hospitals. Only 31.3% of the patients received mental health care specifically (Shnayder et al., 2022). The incidence of schizophrenia cases in Indonesia in 2018 increased by 6.7% with a total of 282,654 patient Central Java Province is ranked 6th with a total percentage of 8.7% and placed at the third place with a population of 37,516 patient (Kemenkes RI, 2019).

Schizophrenia is a severe mental illness that causes abnormalities in cognitive function and requires special attention for treating early symptoms. Patients with schizophrenia often feel like a burden to their family (Jorquera et al., 2015). The levels of human needs necessary for individuals with schizophrenia include esteem needs, such as self-esteem, reputation, recognition, and social connections (Ritsner & Grinshpoon, 2015) Schizophrenic patients require healthcare needs while carrying out therapeutic management in order to be able to evaluate the course of the disease, prognosis and good quality of life (Tiandini W & Khairina, 2020). Neurotransmitter disorders are the basis of disorders in schizophrenic patients, so they require treatment starting with antipsychotic drugs and psychosocial interventions (Volk et al., 2020). Several factors influence patients in taking drugs, including side effects (Leijala et al., 2021), the number of drugs received (Both et al., 2021), information about the patient's disease (Eticha et al., 2015), and the type of drug received (Lee et al., 2019).

Pharmacists have an important role in schizophrenic patients (Stuhec et al., 2019). Counseling conducted by pharmacists can increase patient knowledge, reduce drug-related problems, minimize comorbidity risks, self-improvement, and reduce health service costs (Samaksha et al., 2022). Previous research stated that efforts made by pharmacists through counseling can increase the knowledge of schizophrenic patients while undergoing treatment (Ní Dhubhlaing et al., 2017). The purpose of this study was to determine the effect of pharmacist counseling on medication adherence in schizophrenic patients.

MATERIALS AND METHOD

Materials

There are two instruments used in this study, namely patient characteristics data sheets including age, gender, education level, marital status, occupation, length of treatment, and the Medication Adherence Rating Scale (MARS) questionnaire, which consists of 10 types of questions that describe three dimensions including medication adherence behavior (1-4), attitudes towards drug use (5-8) and negative side effects and attitudes towards treatment (9-10) (Thompson et al., 2000). Each question has 2 yes and no answers. There are three treatment adherence assessment score categories; they are high adherence (8–10), moderate adherence (5–7), and low adherence (0–4) (Julaeha et al., 2020). Counseling provided includes pharmacological counseling consisting of duration of treatment, time of effect, side effects and how to handle it, when to take the drug, and how to use the drug. Non-pharmacological counseling consists of motivation and disease education as well as lifestyle improvements. Pill count using initial drug data and final drug data. The scoring category includes the compliance category, with a score > 80%, and the non-compliant category, with a score < 80% (Brain et al., 2014).

Methods

This research was conducted at Prof. Dr. Soerojo Mental Hospital Magelang. The research design is a quasi-experimental study with one group pre-test and post-test design. The type of research data is prospective data from August 2022 to September 2022. Data collection was carried out using a non-probability purposive sampling approach. This research was approved by the ethical and legal committee of Prof. Dr. Soerojo Mental Hospital Magelang with number 44/KEH/VII/2022.

The population in this study was calculated using the Lameshow formula. Figure 1 shows that a total of 108 patients from the outpatient facility at the Prof. Dr. Soerojo Mental Hospital Magelang were included, all of whom met the inclusion and exclusion criteria. The inclusion criteria consisted of patients aged 18 to 60 years, diagnosed with mild schizophrenia, outpatients, cooperative and communicative, those undergoing drug therapy for at least 12 months, and patients willing to participate in the study. The exclusion criteria were patients receiving social services, those who did not comply with treatment, and patients who withdrew from the study.

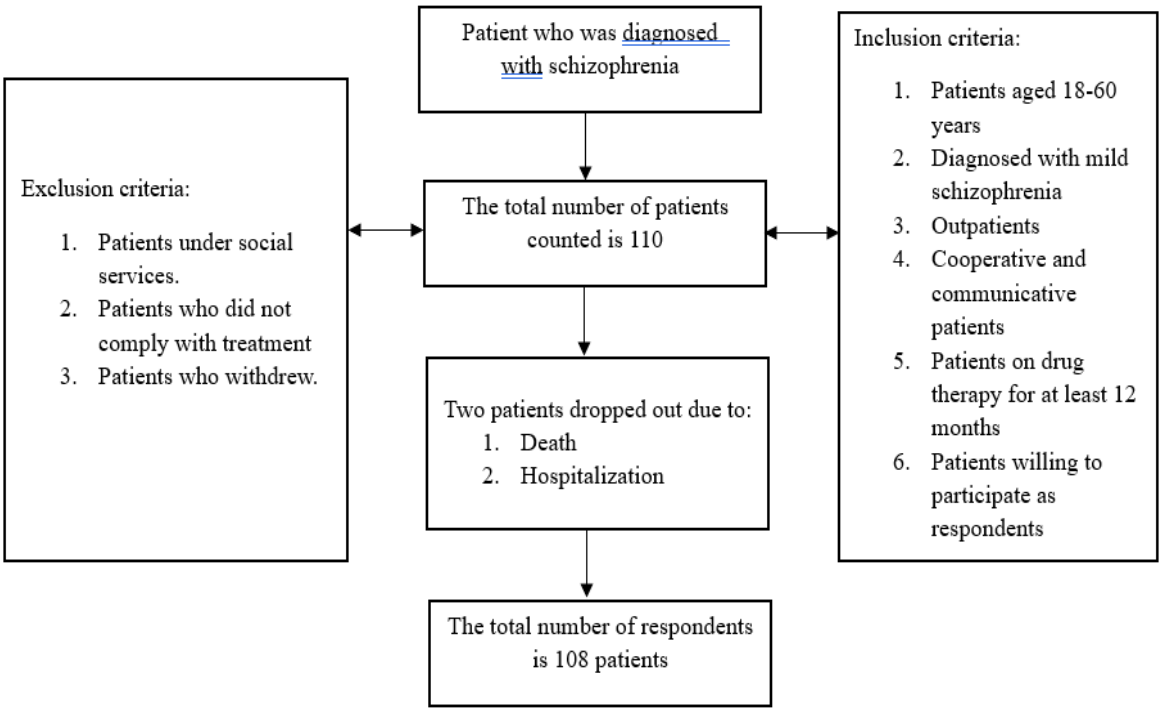

Figure 1. Sampling procedure in the study

Data Analysis

The Data analysis was interpreted using Statistical Package for the Social Sciences (SPSS) through chi-square test and Wilcoxon test. The chi-square test was used to determine the effect of characteristics such as age, gender, education, marital status, occupation, and the length of treatment of respondents on adherence to taking medication for schizophrenia patients. Patient adherence research data was not normally distributed, so it was done through the Wilcoxon test in order to determine the effect of counseling on adherence to taking medication in schizophrenia patients.

RESULT AND DISCUSSION

Characteristics of patients on the level of medication adherence

Table 1 shows that the characteristics of the respondents consist of age, gender, education level, marital status, occupation, and length of treatment. Age characteristics show that the age <40 years predominates the occurrence of schizophrenia by 65.47%, and age does not have any relationship towards adherence with a significance of p>0.05. The average age of patients diagnosed with schizophrenia is <40 years (Furukawa et al., 2015). This is because young adults' lives are full of stress, social pressure, heavy responsibilities, and economic difficulties. Young people will have many activities in their daily lives, so they can forget to take their medicine. Younger patients may not be

able to trust the initial diagnosis and may not need medication because of the side effects of the drug (Acosta, 2012; Sendt et al., 2015). Male patients are about 65.47%, and it is more than female patients, namely 34.26% with a significance value of p> 0.05. These results indicate that there is no relationship between gender and medication adherence. The incidence of schizophrenia in males was 55.9%, and it was higher than in females, which was 44.1%, with a significance p>0.05. The effect of the female hormone, oxytocin, can reduce the symptoms of psychosis. This is different from males, who are the breadwinners of the family and have big tasks. In addition, men tend to be closed in dealing with problems that arise so that they have large symptoms of schizophrenia (Hsieh et al., 2022).
The results of the correlation between education level and medication adherence showed a significance of p>0.05. This result indicates that there is no significant relationship between educational status and length of treatment on medication adherence. The higher a person's education will make working activities busier so that it can make the patient forget to take medication and result in longer medication treatment time (Çetin & Aylaz, 2018). Marital status was more common among unmarried, namely 58.33% compared to married, namely 41.67% with a significance of p>0.05. However, this is closely related to patient happiness, where married patients get attention and affection from their families than those who are not married (El-Mallakh & Findlay, 2015; Yalamova, 2015).

There were subjects who did not work, they are 58.33%, it is higher than those who work, they are 41.67%s. Research Tessier et al., (2017) explains that patients who work are less diagnosed with schizophrenia than those who do not work. The proportion of subjects with a treatment length of less than 7 years was 63.89%, and it was greater than those who were treated for more than seven years, they are 36.11%. Previous studies have shown that the typical clinical manifestation characteristics of schizophrenic patients result in taking antipsychotic drug therapy for a long time. Abrupt discontinuation of drug therapy will lead to relapse or repeated cycle interruptions and reintroduction of the patient (Rubio et al., 2021). Abrupt discontinuation of the drug may result in a risk of failure in the treatment of schizophrenia with antipsychotics within 8 years (Tiihonen et al., 2018). Decreased adherence to taking medication in patients receiving drug therapy for 3 years can increase recurrence so that drug therapy in schizophrenia patients should not be stopped immediately (Remington et al., 2017; Takeuchi et al., 2019). The longer drug therapy treatment between 5 and more than 5 years has a significant effect p <0.05 on the patient's clinical improvement. However, discontinuation directly has an effect on poor adherence so that it can increase the risk of recurrence (Tarutani et al., 2016).

The level of patient medication adherence before and after pharmacist counseling

Table 2 show that the level of patient adherence before counseling is still low. Disobedient in taking medication of patients includes patients who are uncomfortable with the side effects, patients feel bored in taking medication (Higashi et al., 2013; Medic et al., 2012) and patients feel their body weight increased after taking the drug (Haddad et al., 2014). The results of counseling conducted by pharmacists can have an impact on patient medication adherence. These results show that the provision of information through counseling before and after has a significance value of p = 0.000 with a median value before 7.00 (2.0-10.0) and after 8.00 (4.0-10.0). This is in line with previous studies where there was an increase in medication adherence in schizophrenic patients after being given information by pharmacists about the drugs to be consumed with a significance p<0.001 (Yalçin et al., 2019). Counseling services provided by clinical pharmacists can effectively help schizophrenic patients during treatment (Yalcin et al., 2020). Counseling can also have an impact on adherence, reduce medical costs, and improve the quality of life of patients (Mounica et al., 2015). The presence of pharmacist in a health care can help identifying problems regarding treatment so that this can help increasing patient knowledge while undergoing medication therapy (O'Reilly et al., 2015). Pharmacists have a positive health-care impact on schizophrenic patients. However, it is necessary to carry out continuous counseling training to improve the quality of counseling conducted by pharmacists (Bamgbade et al., 2017). Adherence on taking medication shows knowledge about the

disease, awareness in taking medication, and a good perception of recovery by patients in undergoing treatment (Misdrahi et al., 2012; Novick et al., 2015).

Tabel 1. Relationship between respondents' characteristics and medication compliance in Schizophrenia patients at the Soerojo Mental Hospital, Magelang

Variable	Adherence in Taking Medication			Total (%)	X2	*p-value*
	Low	Moderate	High			
Age						
< 40 year	15	32	24	65.74	3.494	0.174
>40 year	3	22	12	34.26		
Gender						
Male	12	37	22	65.74	0.534	0.766
Female	6	17	14	34.26		
Education Level						
Low	11	25	15	47.23	1.858	0.395
High	7	29	21	52.77		
Marital Status						
Married	10	20	15	41.67	1.905	0.386
Unmarried	8	34	21	58.33		
Occupation						
Working	9	23	13	41.67	0.990	0.609
Unemployed	9	31	23	58.33		
Length of Treatment						
< 7 year	13	30	26	63.89	3.251	0.197
>7 year	5	24	10	36.11		

Table 2. The Effects of Before and After Counseling on Adherence with Schizophrenia Patients at Soerojo Hospital, Magelang

Level of adherence category	Percentage		Median (Min-max)	Median (Min-max)	*p value*
	Before	*After*	*Pretest*	*postest*	
Low adherence	16.7	3.70			
Moderate adherence	50.0	30.6	7.00 (2.0-10.0)	8.00 (4.0-10.0)	0.000*
High adherence	33.3	65.7			

*: significant

Medication adherence level category based on pill count

Measurement of medication adherence in schizophrenic patients uses the pill count method. The calculation of the remaining amount of drug is carried out by the pharmacist through patient visits and the control system at the hospital. Data collection was based on the number of patient medicines at the end of the month on the 30th day. The category of patient medication adherence levels, it was found that the number of adherent patients was 100% and the number of non-adherent patients was 0% of the total 108 patients. The percentage of patient adherence is in accordance with research (Brain et al., 2014) which has divided into adherent (>80%) and non-adherent (<80%) categories. Patient compliance in undergoing drug therapy is influenced by good education, employment, social support, family support, education from pharmacy and minimal drug side effects (Stentzel et al., 2018). Evaluation of the number of drugs assisted by pharmacists has a good impact on medication

adherence, knowledge of antipsychotic drugs, improving the quality of life for both the family and social life of schizophrenic patients (Tan et al., 2019). The drug monitoring system through pill count has a good impact on patients, especially in improving adherence (Kim et al., 2020). Limitations in this study included the absence of a control group and the study time which was too short so that a follow-up was necessary for further research.

CONCLUSION

Counseling carried out by pharmacists both before and after counseling can significantly increase medication adherence in schizophrenic patients based on the Medication Adherence Rating Scale (MARS) and pill count. Pharmacists in hospitals are expected to increase their role in monitoring patient adherence in order to increase the effectiveness of treatment.

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