



MEDICATION ADHERENCE AS A DOMINANT FACTOR INFLUENCING SCHIZOPHRENIA RELAPSE

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ABSTRACT

The occurrence of relapses in schizophrenic patients has great potential to harm and endanger patients, family and society. Relapse increases the burden of care and is a significant economic burden for families and communities because if the patient has rehospitalization in the psychiatric clinic, it increases the cost of the family for the treatment. The aim of this study was to analyze the factors related to schizophrenia relapse and to find out the dominant factors related to schizophrenia relapse in Puskesmas Bantur Working Area, Malang Regency. Analytic observational design with cross-sectional approach was utilized. There were 83 respondents contributed in this study. The respondents were obtained using total sampling technique. The results showed a significant relationship between medication adherence, expression emotion and schizophrenia onset with schizophrenia relapse. The result from multiple logistic regression shows medication adherence has the highest OR value at 27.182. There were significant correlation between medication adherence, expression emotion and schizophrenia onset with schizophrenia relapse. Medication adherence as a dominant factor influencing schizophrenia relapse.

KEYWORDS: Relapse, schizophrenia.

INTRODUCTION

World Health Organization (WHO) from 2012 show that around 450 million people worldwide suffer from mental disorders. Based on Indonesia's Basic Health Research data in 2007, the number of people with severe mental illness reached 4.6 per mile and decreased to 1.7 per mile in 2013. East Java is one of the provinces in Indonesia having a high number of people with severe mental illness, which were 3.1 per mile in 2007 and decreased to 2.2 per mile in 2013 (Risksedas, 2007). Majority of schizophrenics experience acute symptomatic relapses with periods of complete or partial remission (Xiao et al, 2015). The definition of relapse in people who have been diagnosed with schizophrenia is the recurrence of hospitalization and re-emergence of symptoms of schizophrenia experienced by patients (Olivares, 2013). Patients with a diagnosis of schizophrenia are estimated to recur 50% in the first year, 70% in the second year and 100% in the fifth year after discharge from hospital (Madriffa'i et al, 2015). There are four factors that influence of schizophrenia relapse; patient factor, which is medication adherence, caregiver factor, and family supportive factor (Kaplan and Saddock, 2016).

Patients who do not take regular medication tend to relapse, while caregivers have more opportunities to meet clients so they can see early symptoms and take immediate action (Keliat, 2006). Regular medication may reduce relapse, but long-term use of antipsychotics may lead to extrapyramidal side effects such as uncontrolled and drowsy movements (Raharjo, 2014). In addition to the medication adherence, family knowledge also plays a role in preventing recurrences (Fadli, 2013). Family knowledge determines how the family behaves and how families judge positively or negatively on an object that the patient is (Ronald, 2016). Family knowledge is effective in improving the adaptability of the patient (Aghayusefi, 2016). If family knowledge of schizophrenia is lacking, the family's attitude towards the patient will be less assertive (Fadli, 2013). The lack of knowledge about mental health in the family is responsible for the unfair treatment that patients receive.

Family support involves emotional expression. Families with high emotional expression (hostile, criticizing, rude, oppressive and accusing) cause patients relapse (Prihandini et al, 2012). The results showed the possibility of relapse patients increased by 8 times when

the family showed a high EE level (Roseliza, 2014). It because the schizophrenic patient is easily affected by the stress of a pleasant life (marriage, promotion) or miserable (Death, loss, accident).

Puskesmas Bantur is one of government-mandated community health clinics located across Indonesia in Malang Regency with total of schizophrenia patient 134 in 2017 spread in 5 Villages. Compared to 2016, the number of relapse schizophrenics reached 50%. However, the number of relapsing schizophrenic patients is still quite high in 2017. It is interesting to examine whether adherence to medication and caregiver knowledge influences the recurrence of schizophrenic patients in the Puskesmas Bantur.

METHODS

This research used observational analytic design with cross-sectional approach. The research locations were 5 villages in Bantur Malang, Indonesia. The research was held from March 01st to March 31st, 2018. The samples were 83 caregivers selected by total sampling technique. The research instruments were questionnaires from Family Questionnaire, Knowledge Questionnaire Home Care 36 Schizophrenics, and Morisky Medication Adherence Scale 8. This research performed three types of analysis: univariate, bivariate, and multivariate analysis. The univariate analysis aimed to describe the characteristic of the research respondents, the bivariate analysis used Chi-Square correlation test with significant level (α) = 0.05, and the multivariate analysis used logistic regression test to examine the independent variable having the most dominant relationship with the dependent variable.

RESULTS

Table 1: Characteristics of Respondents by Gender, Education, and occupation.

Characteristics		Frequency (n)	Percentage (%)
Caregiver Gender	Male	31	37
	Female	52	63
	Total	83	100
Caregiver Education	Primary School	64	77
	Junior High School	14	17
	Senior High School	4	5
	University	1	1
	Total	83	100
Caregiver Occupation	Labor	70	84
	Unemployed	13	16
	Total	83	100

Source: Primary Data (2018)

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Table 1 shows that 52 (63.0%) of the respondents were female, 64 (63.0%), most of them were labor (84%) with their most recent education being at primary school (77.0%).

Table 2: Chi Square correlation test results between medication adherence, caregiver knowledge, caregiver expressed emotion, schizophrenia onset and schizophrenia relapse.

Independent variable	Relapse
	p-value
Medication Adherence	0.000
Caregiver Knowledge	0.208
Caregiver Expressed emotion	0.000
Schizophrenia Onset	0.042

Source: Primary Data (2018)

Table 2 shows that medication adherence, caregiver expressed emotion and Schizophrenia Onset had $p = 0.000$. $p = 0.000$ and $p = 0.042 < \alpha (0.05)$ respectively, which indicated a significant relationship with schizophrenia relapse.

Table 3: Logistic regression test results between medication adherence, caregiver knowledge, caregiver expressed emotion, schizophrenia onset and schizophrenia relapse.

Variables	The value of p	Exp (B)	R Square
Medication Adherence	0.000	27.182	0.659
Caregiver Expressed Emotion	0.000	7.124	
Caregiver Knowledge	0.386	0.047	
Schizophrenia Onset	0.425	2.535	

Source: Primary Data (2018)

Table 3 shows that medication adherence was the most dominant factor on the schizophrenia relapse.

DISCUSSION

The relationship between medication adherence and relapse of schizophrenic patients

Based on the results of bivariate statistical tests showed that there was a significant relationship between the variables of medication adherence to recurrence with p value of 0,000 ($p < 0.05$). A total of 43 schizophrenic patients who had low medication adherence experienced recurrence. This is consistent with research conducted by Garcia et al (2016), Rozali et al (2014), Weret et al (2014), Xiao et al (2015) who stated that medication adherence affects recurrence in schizophrenic patients. On the other hand, research by Widodo et al (2017) and Ronald (2016) states there is no relationship between medication adherence to recurrence of schizophrenic patients.

Patients are said to be obedient in taking medicine if taking medication according to the dosage, frequency, time and correctness of the medication (Nursalam, 2009). When the patient is hospitalized, the nurse is responsible for administering and monitoring medication while at home, the task is replaced by the family. As many as

75% of patients will stop treatment within the first 18 months and those who stop antipsychotic treatment have a 5 times greater chance of relapse (Katona et al, 2012). Based on the theory of hypothetical schizophrenia, schizophrenia is caused by central dopaminergic hyperactivity in the brain system. While the effective antipsychotic drugs for treatment of schizophrenia are dopamine blocking agents which help normalize the patient's dopamine levels (Laking, 2011). The cause of patient disobedience to drug therapy is the chronic nature of the disease so that patients feel bored taking medication, reduced symptoms, lack of knowledge about therapeutic goals, not understanding about drug use instructions, inaccurate doses in taking drugs, and unpleasant side effects such as blurry and trembling eyes (Erwina, 2017).

Success of therapy usually occurs when the caregiver and / or patient knows about the benefits, information and use of drugs consumed (Siregar, 2006). Caregivers who consider treatment of schizophrenia as the treatment of disease in general will form the caregiver's actions in stopping treatment when the patient is in a better condition, not exercising control and not doing proper treatment (Kurnia, 2015). From the results of statistical tests it was found that there were still many patients who did not take medication regularly so that a recurrence occurred. So it can be concluded that non-adherence to taking medication causes relapse of schizophrenic patients.

Caregiver's knowledge relationship with the recurrence of schizophrenic patients

Based on the results of bivariate statistical tests showed that there was no significant relationship between the variable caregiver knowledge of recurrence with p value of 0.213 ($p > 0.05$). The results of this study are in accordance with this in accordance with the research conducted by Widodo (2017) and Farida (2015) which states that there is no relationship between family knowledge of the recurrence of schizophrenic patients. Different results were expressed by Farkhah et al (2017) and Fadli et al (2013) which stated the relationship between knowledge and relapse. In treating schizophrenics who are their responsibility, caregivers should have good persuasive abilities.

In the adaptation mechanism, humans and families have the ability to maintain health and use their energy to adapt positively through the process of receiving information, learning so that they become aware and ultimately play a role in decision making. This means that families and or patients adapt to the ways to activate cognitive functions to solve problems faced based on the knowledge they have (Rasmun, 2004). Knowledge of schizophrenic client families is the result of knowing and understanding after people have sensed a particular object. Caregiver and / or family are expected to be able to better understand, know and understand which ultimately can play an active role as the main support for

patients who will also improve their adaptability and are not vulnerable to the influence of psychosocial stressors. In addition, the higher the level of one's knowledge about mental disorders, the higher the level of tolerance of a person with mental disorder patients (Smith, 2011).

In treating schizophrenics who are their responsibility, caregivers should have good persuasive abilities. Persuasive communication is communication that aims to change or influence a person's beliefs, attitudes and behavior so that it acts in accordance with what the communicator wants (Stiff, 2016). There are four main factors that influence the success of a persuasive message (Young, 2016). The first factor is the high credibility of the communicator. High credibility is obtained for example from the level of education, experience or good knowledge so that it can bring out the ability of the communicator in influencing others. The second factor is the message itself, whether it makes sense or not. The third factor is the presence of environmental influences. While the fourth factor is the continuity of a message in the sense of whether the message is repeated (Raditya, 2014). The reason why in this study knowledge has no effect on patient relapse is despite high caregiver knowledge but medication adherence to patients remains low so that relapse still occurs. Caregiver lacks persuasive ability to make patients obedient to take medication, but also accompanied by a high emotional expression of the caregiver.

Relationship between emotional expression of caregiver and recurrence of schizophrenic patients

Based on the results of bivariate statistical tests showed that there was a significant relationship between the variables of emotional expression to recurrence with p value of 0.000 ($p < 0.05$). A total of 47 patients who had a caregiver with a high emotional expression score experienced recurrence. This is consistent with the research conducted by Lee et al (2014), Putri (2013) and Prihandini (2012) which states the emotional expression of caregiver and family influences the recurrence of schizophrenic patients.

Emotional expression is one element in family support which is included in emotional support. Family emotional support is support that gives patients a sense of comfort, feeling loved, feeling supported, empathy, trust, caring so that the patient feels valuable and accepted. If this is fulfilled, it can make the family functional in supporting patient recovery. Functional caregivers and families who are able to form a balance will be able to improve the mental health of their family members while increasing the mental resilience of their families from the mental disorders and emotional instability of their members (Rasmun 2004). The caregiver's actions that allow or treat roughly in other words have high emotional expression will affect the mental development of the patient. Caregiver and family have an important role in the process of patient care both

in the hospital, preparation for going home and care while at home so that the patient's adaptation goes well.

High emotional expressions often cause relapse because of aggressive verbal criticism raised by the caregiver and / or other family members (Weintraub, Hall, Carbonella, Weisman de Mamani & Hooley, 2017). In families with low emotional expressions, family members feel that individuals who experience disruption do not have control over disturbances and sympathy. This can be caused by the family having enough information and knowledge about the state of the patient so that the family is able to understand and not criticize. So it can be concluded that emotional expression is one of the factors that influence recurrence in schizophrenics.

The relationship of onset of schizophrenia with recurrence in schizophrenic patients

From this study, 7 patients (8.4%) had one year less onset, while 76 patients (91.6%) had an onset of more than one year. Based on the results of bivariate statistical tests showed that there was a significant relationship between the onset of schizophrenia and recurrence with p value of 0.043 ($p < 0.05$). In this study, patients who had the most recurrence had > 1 year onset of 30 people (36%). This is consistent with research conducted by Kurnia (2015) which states schizophrenic patients are estimated to experience recurrence of 50% in the first year and 70% in the second year (Kurnia, 2015). Meanwhile, according to Spaniel (2015), the onset of schizophrenia is influential because more than 80% of those who recover from the first episode of schizophrenia experience recurrence within a period of more than 1 year. Whereas according to Robinson (2001) the onset of schizophrenia does not affect recurrence.

The likelihood of a patient recurring after the first year is due to many factors including delayed treatment at the onset of schizophrenia, non-adherence to medication because the patient is bored or refuses to take medication, lack of knowledge and high emotional expression of the family (Garcia et al, 2016; Lee, 2014; Fadli, 2013) .. As many as 75% of patients will stop treatment within the first 18 months and those who stop antipsychotic treatment have a 5 times greater chance of relapse (Katona et al). This underlies why patients are more likely to relapse in the second year and beyond.

One obstacle in treating schizophrenia optimally is the delay of patients coming to the treatment clinic. This delay in handling will have a bad impact. Many think that symptoms in schizophrenia occur due to occult things. Finally the treatment becomes late so the possibility of a patient's recurrence increases in the second, third year and so on. In addition, the onset that first arises in schizophrenia is often found in adolescence or young adulthood but is late to be treated so that the course of the disease becomes chronic and difficult to recover (Amelia, 2013). Recurrence becomes frequent, treatment becomes increasingly difficult and eventually

will lead sufferers to prolonged chronic conditions (Kaunang, 2015). Due to delays in handling at the beginning, schizophrenics will tend to be "immune" to drugs, use drugs with higher doses and longer hospital care. In the end it will increase the costs and economic burden of the family (Kaunang, 2015).

CONCLUSION

From the results of the research carried out, it was concluded that:

There is a relationship between medication adherence, emotional expression caregiver, schizophrenia onset with relapse of schizophrenic patients in the Bantur Puskesmas work area in Malang. There was no knowledge relationship between the caregiver and the relapse of schizophrenic patients in the Bantur Puskesmas work area in Malang. The factor that is most related to the relapse of schizophrenic patients in the Bantur Puskesmas working area is adherence to taking medication.

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