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Application the Cognitive-Behavioral Model of Relapse in Preventing Bipolar Relapse at RSI. Madinah Tulungagung

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ABSTRACT

Background: Mental health has a low early mortality rate, but contributes the most to disability and recurrence is an indicator of successful treatment of mental disorders, including bipolar. Bipolar relapse is caused by many factors or high-risk situations.

Purpose: The purpose of this study was to analyze the determinants of bipolar relapse from a cognitive-behavioral model of relapse.

Method: This research was conducted at Islamic Hospital of Madinah Tulungagung used a correlational design with a cross sectional approach to 108 respondents who were taken using a simple random sampling technique. The exogenous variables were genetics, age of onset, gender, occupation, marriage, family support, social capital, stigma, self-efficacy, motivation, medication adherence and the endogenous variable was bipolar relapse, using a questionnaire and analyzed path analysis.

Results: Genetics, occupation, social capital, self-efficacy, motivation, medication adherence, community stigma and family support have a direct effect on bipolar relapse with a p-value <0.05. Community stigma has an indirect effect on bipolar relapse through medication adherence with a path coefficient (b) of 11.35. Family support has an indirect effect on bipolar relapse through medication adherence (b = 8.9), motivation (b = 11.89) and self-efficacy (b = 18.26). The most effective way to prevent bipolar relapse is family support which has an indirect effect on bipolar relapse through self-efficacy.

Conclusion: Family support is expected to increase self-efficacy so that it is effective in preventing bipolar relapse.

Keywords: bipolar, determinant factors, relapse

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BACKGROUND

Bipolar can cause lifelong relapses for sufferers (Angst et al., 2003; Najafi-Vosough et al., 2016) with a recurrence prevalence of 71%, with longer morbidity (more than 5 years) and non-adherence/discontinuation of taking medication (long-term use of antidepressants) (Belete et al., 2020; Goodwin, 2020). Relapse prevention is one strategy to reduce maladaptive behavior or the possibility of disease severity/poor prognosis.

According to the Global Health Data Exchange (2019), 1 out of every 8 people, or 970 million people worldwide live with mental disorders, anxiety disorders and depression. Bipolar disorder as many as 40 million (4%). In Indonesia, the number of clients with mental disorders is 7‰ or 7 out of 1000 Indonesians and this number has increased by 5% from 2013 (Riskesdas, 2018). According to Bipolar Care Indonesia (2018), there were 72,860 people experiencing bipolar disorder in 2017. Based on medical record data at Islamic Hospital of Madinah Tulungagung in November 2022, the psychiatric polyclinic is the polyclinic with the second most visits after the polyclinic while bipolar disorder is the second psychiatric diagnosis with the most visits, namely 138 visits/week.

Cognitive-behavioral model of relapse put forward by Marlatt, (1996), bipolar relapse can be triggered due to a high-risk situation, which is divided into 2 parts, namely the tonic processes (stable) and the phasic responses (transient). The tonic processes includes distal risk and cognitive factors. The distal risk tonic process includes socio-demographic (genetic, age of onset, gender, occupation, marriage), family support, social capital, stigma and cognitive factors including self-efficacy, motivation while the wicked response is adherence to taking medication. Phasic responses include affective responses (coping). Coping responses contribute to determining relapse in high risk situations. Thus, the tonic process can determine "who" is susceptible to relapse and the phasic process determines "when" a relapse occurs.

Genetics have an influence on the incidence of bipolar disorder. According to (Sundaresh et al., 2018), the genetic human leukocyte antigen (HLA) -G locus which acts as a regulator of immunity from the intrauterine period to the entire development, contributes to the incidence of bipolar disorder. In addition, genetic SNP (Single Nucleotide Polymorphism) has an association between bipolar and schizophrenia with manifestations of cognitive impairment in childhood (Gialluisi et al., 2021; Mistry et al., 2019). Early age of onset, family history of mental health, first episode depression correlate with recurrence of bipolar disorder (Hong et al., 2016). According to (Davarinejad et al., 2021), factors that influence bipolar relapse include young age at the time of disease onset, smokers, divorced or widowed patients, and non-adherence to treatment.

Social capital, social support and social trust can improve depression (Wilmot & Dauner, 2019), as a manifestation of bipolar disorder. Family support, health literacy and community stigma have contributed to the recurrence of people with mental disorders (Widyowati et al., 2018; 2021). Non-compliance with taking medication is a contributor to bipolar relapse so sufferers must be able to develop self-confidence (self-efficacy), motivation to be responsible for bipolar disorder through the process of learning about bipolar disorder and treatment and understanding what this means for them (Inder et al., 2019).

METHODS

Quantitative research with a correlational design uses a cross sectional approach, namely collecting data from a population at the same time or at a certain time. This research was conducted at Islamic Hospital Of Madinah Tulungagung. The population of all bipolar

patients was 138 patients with a sample of 108 respondents (using the Slovin Formula). The sampling technique used simple random sampling technique by setting inclusion criteria: outpatients, accompanied by caregivers, willing to be respondents. Exogenous variables were genetics, age of onset, gender, occupation, marriage, family support, social capital, stigma and the endogenous variable was self-efficacy, motivation, medication adherence, bipolar relapse. Data collection using questionnaires, namely Community Attitudes Toward Mental Illness (CAMI), General Self Efficacy Scale (GSE), Nursalam's family support, Morisky Medication Adherence Scale (MMAS-8), Mood Disorder Questionnaire (MDQ). Data analysis uses path analysis, which is used to find out how big the influence is between exogenous variables and endogenous variables including model specifications, model identification, model suitability, model respecification.

RESULTS

This research was conducted on April 27 until May 06, 2023 at Islamic Hospital Of Madinah Tulungagung with a total of 108 respondents using random sampling technique and data processing using path analysis (STATA 13). The results of this research:

1. Model specifications. There are 12 measured variables (observed variables), namely genetics, age of onset, gender, employment, marriage, social support, social capital, community stigma, self-efficacy, motivation, medication adherence and bipolar relapse
2. Model identification. Identifying the number of measured variables, the number of endogenous variables, exogenous variables, and parameters to be estimated by calculating the degree of freedom (df). The df value in the study was 51 (df ≥ 0 or overidentified) so that path analysis could be carried out.
3. Model suitability.

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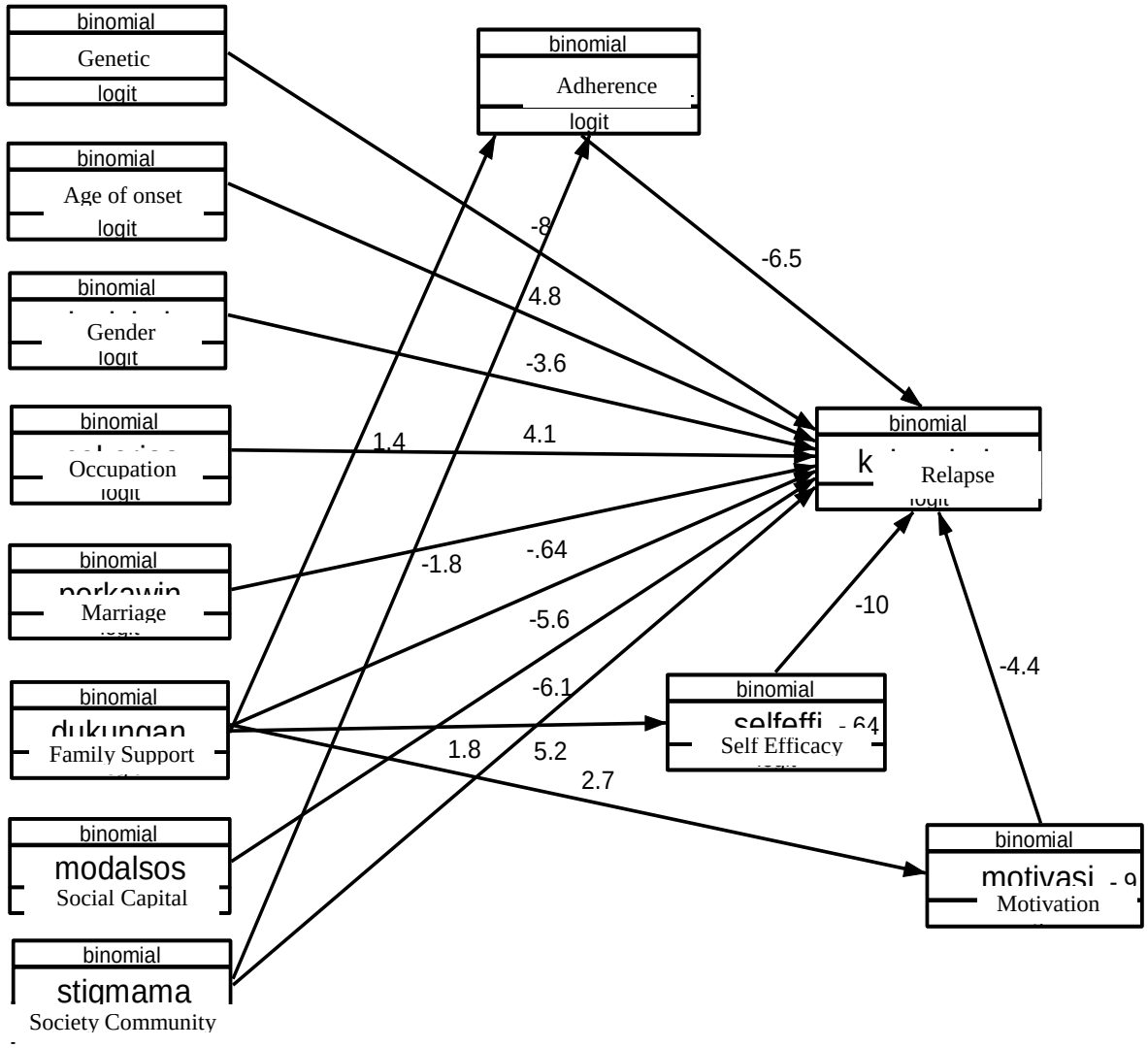

Figure 1. Path analysis: determinants of bipolar relapse in terms of the cognitive-behavioral model of relapse

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Table 1. Path analysis: determinants of bipolar relapse in terms of the cognitive-behavioral model of relapse

Endogenous Variable		Exogenous Variable	b	95% CI		p
				Lower	Upper	
Direct Effect						
Bipolar Relapse (Rarely)						
	←	Genetic (None)	-8.01	-14.02	-2.01	0.009
	←	Age of Onset (Mature)	4.75	-0.89	10.39	0.099
	←	Gender (Female)	-3.62	-7.89	0.66	0.098
	←	Occupation (Work)	4.05	0.06	8.05	0.047
	←	Marriage (Not Married)	-0.64	-4.63	3.35	0.754
	←	Family Support (High)	-5.56	-10.99	-0.12	0.045
	←	Social Capital (High)	-6.14	-10.81	-1.47	0.010
	←	Society Stigma (Poor)	5.20	0.58	9.82	0.027
	←	Medication Adherence (Adheren)	-6.45	-11.25	-1.66	0.008
	←	*Self Efficacy* (High)	-9.98	-18.45	-1.49	0.021
	←	Motivasi (High)	-4.42	-7.72	-1.12	0.009
Indirect Effect						
Medication Adherence (Adheren)						
	←	Family Support (High)	1.38	0.98	2.29	0.003
	←	Society Stigma (Poor)	-1.76	-1.21	-0.80	<0.000
Self Efficacy (High)						
	←	Family Support (High)	1.83	0.99	2.68	<0.001
Motivasi (High)						
	←	Family Support (High)	2.69	1.74	3.65	<0.001

N Observed = 76
Log likelihood = -64.200

Information:
← = Connected

There is a direct positive relationship between genetics (b= -8.01; 95% CI= -14.02 to -2.04), occupation (b= 4.05; 95% CI= 0.06 to 8.05), social capital (b= -6.14; 95% CI= -10.81 to -1.47), family support (b= -5.56; 95% CI= -10.99 to -0.12), society stigma (b= 5.20; 95% CI= 0.58 to 9.82), medication adherence (b= -6.45; 95% CI= -11.25 to -1.66), self efficacy (b= -9.98; 95% CI= -18.45 to -1.49), motivation (b= -4.42; 95% CI= -7.72 to -1.12) with the bipolar relapse and statistically significant ($p < 0.05$).

There is a positive relationship and statistically significant between indirect society stigma with the bipolar relapse through medication adherence of 11.35, family support with the bipolar relapse through medication adherence of 8.90, family support with the bipolar relapse through self-efficacy of 18.26, family support with the bipolar relapse through motivation of 11.89.

DISCUSSION

Genetic factors have a direct influence on bipolar recurrence with a p value = 0.009. Genetic mechanisms increase sensitization to bipolar relapse (recurrent stressors, affective episodes, and other possible substances) and thus become targets for prevention, early intervention, and ongoing treatment (Post, 2016). This is in accordance with the statement of (Gordovez & McMahon, 2020; Mashfupah, 2020), genetics has a significant influence on mental health relapse (schizophrenia, bipolar disorder). Genetic factors have a significant influence on a person's mental health, although they are also influenced by environmental factors (Barnett, 2013; Latalova et al., 2020; O'Connell et al., 2022). Genetic factors (endophenotypes) are inherited characteristics (predisposing factors) because they have specific genes that can increase the risk of developing a disease. Endophenotypes in psychiatric disorders include neuroanatomy, biochemistry, neurophysiology, cognitive and psychology (Chana et al., 2009). This is in accordance with the statement (Iacono, 2018), endophenotype is a neurobehavioral trait that indexes genetic vulnerability to psychiatric disorders. Endophenotypes are relevant to schizophrenia, bipolar disorder, depression and anxiety disorders (Domschke & Dannlowski, 2010; Greenwood TA, Shutes-David A, Tsuang DW, 2019; Goldstein & Klein, 2014; Miskowiak et al., 2017).

Occupational factors have a direct influence on bipolar recurrence with a p value = 0.047. People with mental health disorders experience relapse at a higher rate than people with chronic illnesses (Gaspar et al., 2018; Norder et al., 2015), so patients with bipolar must consider intrinsic factors (working routine: regularity of hours, no night work and work adapted to the degree of seriousness of their disorder; working environment) and extrinsic (destigmatization, regularity of medical follow-up, the support of family and friends) in their work (Marion-Paris et al., 2023).

The family support factor has a direct influence on bipolar recurrence with a p value = 0.045. High family support can reduce relapse in people with mental health disorders than low family support (Widyowati et al., 2018; 2021). Family involvement in treating people with mental health disorders is an important part of the patient's treatment program and optimizing the patient's recovery, so that he or she can achieve a better level of recovery and improve their social function. Family support in supporting the healing process and preventing recurrence includes hope, information and emotion (Başoğul & Buldukoğlu, 2015), fulfillment of daily needs, support for access to health service facilities including treatment, active involvement of patients in the family and communication (Kyriopoulos et al. al., 2014).

The social capital factor has a direct influence on bipolar recurrence with a p value = 0.010. Social capital can encourage someone to utilize information sources (Ahn et al., 2022). Social capital has significant value to a person's health through bridging/connecting with

information sources and health workers so that they have good health literacy in reducing mortality, morbidity rates and reducing relapse (mental health) (Villalonga-Olives et al., 2022); Xue et al., 2020). Social capital in the form of social assistance, social trust, social networks, and social participation where citizens trust each other and help each other has a significant influence on mental health (Dai & Gu, 2022).

The self-efficacy factor has a direct influence on bipolar recurrence with a p value = 0.021. Self-efficacy tends to increase the skills and confidence of people with mental health disorders so that they can play an effective role in maintaining (preventing relapse) and improving mental health status (Abdel-Khalek & Lester, 2017; Agustin Widyowati et al., 2020; Qin et al., 2023). The skills and beliefs needed to increase self-efficacy include "health information seeking behavior", "life adaptation to disease and treatment conditions", "adaptive coping", and "social self-care" through efforts to promote adaptive styles and social support (Behzadi et al. , 2023).

Motivational factors have a direct influence on bipolar recurrence with a p value = 0.009. Motivation is the result of internal and external factors that influence a person to make decisions and behave. Motivation can reduce comorbidities, increase compliance with long-term treatment, change dysfunctional behavior (Reinauer et al., 2018). In line with research (Hassan et al., 2020), changes in health behavior of people with mental health disorders are influenced by the patient's motivation to recover.

The medication adherence factor has a direct influence on bipolar recurrence with a p value = 0.008. Relapse is an indicator of treatment failure in people with mental health disorders, especially bipolar. The results of research conducted (Belete et al., 2020) show that the prevalence of bipolar recurrence is 71% with the main factor being non-compliance with taking medication. According to research (Masithoh, et al., 2022) that adherence to taking medication is negatively correlated with relapse, meaning that the more non-compliant the patient is with taking medication, the more frequently they experience relapse.

The societal stigma factor has a direct influence on bipolar recurrence with a p value = 0.027. Stigma given by society can hinder mental health treatment so that the person will experience a recurrence of the disease and a decrease in their quality of life. People with mental health disorders who live in a society that is stigmatized will be hampered in the healing process because society tends to avoid or is unwilling to provide assistance (Mestdagh & Hansen, 2014). According to research (Widyowati et al., 2021; Huraju et al., 2023) that public stigma can increase relapse in people with mental health disorders.

Indirect influence of community stigma on bipolar relapse through medication adherence. Non-compliance with taking medication has been proven to have a significant influence on treatment outcomes with a poor prognosis, namely a high rate of hospitalization due to recurrence and accompanied by increased costs to health facilities. One of the factors that contributes to non-compliance is societal stigma (Sandhya et al., 2015; Uhlmann et al., 2014).

Family support has an indirect relationship to bipolar relapse through medication adherence, motivation and self-efficacy. People with mental health disorders, especially bipolar, are prone to relapse. Predisposing factors that influence recurrence are previously experienced mental disorders, unfulfilled desires and conflict with the family. Precipitating factors that influence relapse are drug withdrawal and lack of motivation (Mawaddah et al., 2020). Supported by research (Fakhriyah et al., 2020) that family support has an important role in increasing motivation and compliance with taking medication to recover. Non-adherence to treatment determines a poor prognosis and frequent mental health relapses (depression, bipolar disorder and schizophrenia). Treatment non-adherence is influenced by

health beliefs (self-efficacy) and other psychological variables. Health beliefs are positively related to family support (Marrero et al., 2020). Research (Tsikada, 2020) also states that treatment compliance is an important indicator of success (good prognosis and no recurrence). Treatment compliance is supported by awareness and self-efficacy and the role of the family is the most effective factor for increasing self-efficacy and treatment compliance.

CONCLUSION

The most effective path for preventing bipolar relapse is family support through self-efficacy for bipolar relapse. It is hoped that family support can increase self-efficacy so that it is effective in preventing bipolar relapse.

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