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The Impact of Socio-demographic Factors on the Recovery Potential of Schizophrenia Patients Post Hospitalization

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ABSTRACT

Background: Mental health is a series of emotional, psychological, and social well-being. Psychological well-being focuses on individuals having meaning in life and having choices in actualizing their potential. This study aimed to analyze the influence of socio-demographic factors on the recovery ability of schizophrenia patients after hospitalization.
Subjects and Method: This research was conducted using a cross-sectional design carried out at the Outpatient Polyclinic of RSJD Dr. Arif Zainudin Surakarta from December 2023 to January 2024. The sample used in this study was 200 schizophrenia patients who were selected using purposive sampling. The independent variables in this study are gender, age, duration of illness, duration of hospitalization, education level, and employment status. The dependent variable is the recovery ability of schizophrenia patients after hospitalization. Data collection was carried out using a questionnaire and data was analyzed using a multiple linear regression analysis model.
Results: The ability to recover from schizophrenia patients after hospitalization increased with female (b= 5.58; 95% CI= 1.29 to 9.87; p= 0.011), age ≥ 39 years (b= 0.66; 95% CI= -3.51 to 4.83; p= 0.756), high education (b= 7.24; 95% CI= 2.83 to 11.64; p= 0.001), and employed (b= 16.36; 95% CI= 12.06 to 20.67; p< 0.001). It decreased with a duration of illness ≥8 years (b= -5.77; 95% CI= -10.15 to -1.40; p= 0.010) and length of hospital stay ≥21 days (b= -6.88; 95% CI= -11.27 to -2.49; p= 0.002).
Conclusion: The recovery ability of schizophrenia patients after hospitalization will increase with female, age ≥39 years, high education, and employed. It decreased with length of illness ≥8 years and length of stay ≥21 days.

Keywords: Socio-demographic factors, sick recovery, schizophrenia, post-hospitalization

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BACKGROUND

Mental health as a series of emotional, psychological, and social well-being. The subjective feeling of happiness and satisfaction experienced by individuals is included in emotional well-being. Psychological well-being focuses on individuals having meaning in life and having choices in actualizing their potential. Social welfare is shown by good or bad relationships with other people, the

environment, and the surrounding community (Chan et al., 2018). The above concept is by the definition of mental health according to the World Health Organization, namely a state of well-being in which individuals are aware of their abilities, can cope with the normal stresses of life, can work productively and usefully and can contribute to their community (WHO, 2014).

Mental disorders are diseases whose sufferers continue to increase, which require a long time to heal and are classified as chronic diseases (Hartanto et al., 2021). According to WHO, there will be 300 million people suffering from mental disorders throughout the world, consisting of depression, bipolar disorder, dementia, and 24 million people suffering from severe mental disorders (schizophrenia) (Dwijayanti, 2022). In Indonesia, mental health disorders are still a fairly big problem. Based on 2018 Basic Health Research (Riskesdas) data by the Ministry of Health, there was an increase in cases of mental disorders which can be seen from the increasing prevalence rate of households with people with mental disorders of 7 per million or per 1000 households having 7 households with mental disorders (Ministry of Health RI, 2018). So there are 9.8% or around 26 million people out of 267 million people in Indonesia living with mental disorders. This figure has increased compared to the 2013 Riskesdas data, where the prevalence of severe mental disorders (schizophrenia) was 1.7% per mile or per 1000 population, the number of mental disorders was 1-2 people (Ministry of Health of the Republic of Indonesia, 2018).

An increase in the prevalence of mental disorders also occurred in Central Java Province, namely by 9%. In 2013 the prevalence was 2.3%, increasing to 9% in 2018 and this increase was ranked fifth in patients with mental disorders (Agusman et al., 2022). Based on medical record data at RSJD Dr. Arif Zainudin Surakarta, it shows that 1,939 schizophrenia patients were hospitalized in 2020, 1,798 people in 2021, and 2,246 people in 2022. Meanwhile, in 2020 there were 19,983 outpatients, in 2021 there were 20,995 people and in 2022 there were 21,262 people. From these data, schizophrenia patients undergoing inpatient and outpatient treatment tend to experience an increase and the diagnosis of schizophrenia is ranked first out of the top 10 diseases in the Dr. RSJD Outpatient Installation. Arif Zainudin Surakarta from 2020 to 2022.

Schizophrenia or severe mental disorders are included in the category of mental illnesses that contribute to the global burden of disease, schizophrenia is associated with a 20% reduction in life expectancy and 40% of schizophrenic sufferers die by suicide. This is also related to social isolation, less than optimal access to health services, poverty, and non-compliance with treatment (Isaacs et al., 2022). If people with schizophrenia do not receive treatment, it can have an impact in every area of life, including suicidal ideation, anxiety, obsessive-compulsive disorder, depression, substance and alcohol abuse, inability to work and go to school, social isolation, inability to care for themselves and not being able to participate. in activities in the community (APA, 2020).

Recovery is often described as a subjective or self-defined experience so it is not easy to operationalize and measure. Understanding recovery and the factors that help or hinder recovery are used to develop the quality of health services that can be provided (Garverich et al., 2021). The results of research (Singla et al., 2020) suggest that factors related to the recovery of schizophrenia patients include age, older age can achieve greater recovery but does not show that there is a relationship between age and a higher recovery score. Another factor, namely sociodemographics, shows that the

recovery of schizophrenia patients looks better in those who work and have a high level of education. Several correlations from the study results state that there is no relationship between the stage of recovery and the length of the final hospital stay, but a correlation is seen in post-hospitalization and psychological recovery which shows that the patient's feelings of loneliness are lower and social support is greater which can improve the quality of life thereby influencing recovery. schizophrenic patients. Recovery is not influenced by cultural or ethnic factors (Saputra et al., 2022). According to (Adebiyi et al., 2018) socio-demographic and clinical factors are significantly associated with recurrence.

Recovery of patients with schizophrenia is very important apart from focusing on healing and rehabilitation as well as helping patients return to their families and communities after undergoing treatment from the hospital (Saputra et al., 2022). Based on data from the medical records of RSJD Dr. Arif Zainudin Surakarta, 393 patients experienced recurrence or repeated hospitalization more than once a year, in 2020 there were 393 people, in 2021 there were 332 people and in 2022 there were 420 people. Based on these problems, this research aims to analyze and explain the influence of socio-demographic factors on the recovery ability of schizophrenia patients after hospitalization.

SUBJECTS AND METHOD

1. Study Design

This research was conducted using an analytical observational research design with a cross sectional approach. This research is intended to look for the influence between the independent variables, namely gender, age, duration of illness, duration of treatment, level of education, and employment status, with the dependent variable, namely the ability to recover from schizophrenia patients after hospitalization. This research was conducted from December 2023 to January 2024. The research location was carried out at the Outpatient Polyclinic Dr. Arif Zainudin Hospital Surakarta.

2. Population and Sample

The target population for this study was schizophrenic patients at Dr Arif Zainudin Hospital, Surakarta after hospitalization. The sampling technique was purposive sampling, and 200 of schizophrenia patients were selected.

3. Study Variables

The independent variables in this study include gender, age, duration of illness, duration of hospitalization, education level, and employment status. The dependent variable in this study is the recovery ability of schizophrenia patients after hospitalization.

4. Operational Definition of Variables

The recovery ability of schizophrenic patients after hospitalization: is a gradual process in schizophrenic patients with the development of independence and self-regulation and reducing symptoms.

Gender: is the difference between biologically male and female respondents.

Age: is the time from birth until the study was carried out, expressed in years.

Duration of Illness: the amount of time the respondent started to get sick until the research was carried out.

Duration of Hospitalization: is the number of days the respondent was hospitalized, from admission to discharge.

Education Level: is the last formal level of education the respondent has taken, including elementary school, middle school, high school/equivalent, and college.

Employment Status: is the employment status of respondent, worker, or non-worker.

5. Study Instruments

In collecting primary data, the instrument used was a questionnaire. The questionnaire used is the Recovery Assessment Scale – Domains and Stages (RAS-DS).

6. Data Analysis

Univariate analyses were presented in frequency and percentage tables. This bivariate analysis uses a simple linear regression test. Multivariate analysis in this study used multiple linear analysis.

7. Research Ethics

This research has received permission, namely ethical clearance with number 070/39711 on November 24 2023 from the ethics commission at Dr. Arif Zainudin Hospital Surakarta.

RESULTS

1. Univariate Analysis

Subject characteristics were described in Table 1 and Table 2. Table 1 showed that mean of age of schizophrenia sufferers was 37 years old, with the youngest age was 18 and oldest age was 63. According to the duration of illness or duration of suffering from schizophrenia in years, the average is 9.75 years, the minimum is 1 year, and the maximum is 40 years. Meanwhile, looking at the duration of hospitalization in days, the average was 21.98 days, the minimum was 3 days, and the maximum was 60 days. The results of the ability to recover from schizophrenia patients after being hospitalized showed a mean score of 116.85, a minimum score of 57, and a maximum score of 152.

Table 1. Characteristics of research subjects (N= 200)

Characteristics	Mean	SD	Min	Max
Age	37.99	10.75	18	63
Duration of illness	9.75	7.43	1	40
Duration of hospitalization	21.98	8.99	3	60
Recovery ability	116.85	19.21	57	152

Table 2. Characteristics of research subjects (N= 200)

Characteristics	Category	Frequency (n)	Percentage (%)
Gender	Male	124	62.0
	Female	76	38.0
Education Level	Primary school	62	31.0
	Junior high school	42	21.0
	Senior high school	79	39.5
	Higher Education	17	8.5
Working Status	Not Working	107	53.5
	Working	93	46.5

Based on Table 2, the majority of schizophrenia sufferers are male, accounting for 62% of the total cases. According to the highest level of education, the majority of schizophrenic sufferers had a final education, namely Senior High School (SMA) amounting to 39.5% of the total cases. Meanwhile, looking at the employment status of schizophrenic sufferers, the majority have the status of non-workers, amounting to 53.5% of the total cases.

2. Bivariate Analysis

After carrying out the univariate analysis, it was continued with bivariate analysis using simple linear logistic regression which is shown in Table 3. Table 3 shows that there are statistically significant differences in recovery ability according to gender. Post-hospitalization, female schizophrenia patients had an average recovery score of 9.43 units higher than men (b= 9.43; 95% CI= 4.06 to 14.81; p=0.001). There was no statis-

tically significant difference in recovery ability according to age category (b= -0.18; 95% CI= -5.56 to 5.19; p= 0.946).

Table 3 shows that there is a relationship between the length of illness and the recovery ability of schizophrenia patients after hospitalization, and this relationship is statistically significant. Schizophrenia patients who had been ill for ≥8 years had an average recovery score of 12.23 units lower than those <8 years (b= -12.23; 95% CI= -17.32 to -7.14; p<0.001). Table 3 shows that there is a relationship between the length of hospitalization and the recovery ability of schizophrenia patients after hospitalization, and this relationship is statistically significant. Schizophrenia patients who were hospitalized ≥21 days had an average recovery score of 13.35 units lower than <21 days (b= -13.35; 95% CI= -18.53 to -8.17; p<0.001).

Table 3 shows that there is a relationship between education and the recovery ability of schizophrenia patients after hospitalization, and this relationship is statistically significant. Schizophrenia patients with ≥high school education had an average recovery score of 14.10 units higher than those with <high school education (b= 14.10; 95% CI= 9.09 to 19.10; p<0.001). Table 3 shows that there is a relationship between work and the recovery ability of schizophrenia patients after hospitalization, and this relationship is statistically significant. Schizophrenia patients who worked had an average recovery score of 20.89 units higher than those who did not work (b= 20.89; 95% CI= 16.37 to 25.41; p< 0.001).

Table 3. Results of simple linear logistic regression bivariate tests on the influence of sociodemographic factors on the recovery ability of schizophrenia patients after hospitalization

Independent variables	b	CI 95%		p
		Lower Limit	Upper Limit	
Gender (female)	9.43	4.06	14.81	0.001
Age ≥39 years old	-0.18	-5.56	5.19	0.946
Duration of illness ≥8 years	-12.23	-17.32	-7.14	<0.001
Duration of hospitalization ≥21 days	-13.35	-18.53	-8.17	<0.001
Education status ≥high school	14.10	9.09	19.10	<0.001
Working Status	20.89	16.37	25.41	<0.001

3. Multivariate Analysis

Results of multiple linear logistic regression analysis. shown in Table 4. Table 4 shows there are statistically significant differences in recovery ability according to gender. Post-hospitalization, female schizophrenia patients had an average recovery score of 5.58 units higher than men (b= 5.58; 95% CI= 1.29 to 9.87; p= 0.011). Table 4 shows that there is no statistically significant difference in recovery ability according to age category (b= 0.66; 95% CI= -3.51 to 4.83; p= 0.756).

Table 4 shows that there is a relationship between the length of illness and the recovery ability of schizophrenia patients after hospitalization, and this relationship is statistically significant. Schizophrenia patients who had been ill for ≥8 years had an average recovery score of 5.77 units lower than those <8 years (b= -5.77; 95% CI= -10.15 to -1.39; p= 0.010). Table 4 shows that there is a relationship between the length of hospitalization and the recovery ability of schizophrenia patients after hospitalization, and this relationship is statistically significant. Schizophrenia patients who were hospitalized for ≥21 days had an average recovery score of 6.88 units lower than <21

days (b= -6.88; 95% CI= -11.27 to -2.49; p= 0.002).

Table 4 shows that there is a relationship between education and the recovery ability of schizophrenia patients after hospitalization, and this relationship is statistically significant. Schizophrenia patients with ≥high school education had an average recovery score of 7.24 units higher than those with <high school education (b= 7.24; 95% CI= 2.83 to 11.64; p= 0.001).

Table 4 shows that there is a relationship between work and the recovery ability of schizophrenia patients after hospitalization, and this relationship is statistically significant. Schizophrenia patients who worked had an average recovery score of 16.36 units higher than those who did not work (b= 16.36; 95% CI= 12.06 to 20.67; p< 0.001). This multiple linear regression model has a moderate fit with an adjusted R-squared of 42.45%. This means that the variation in recovery scores in schizophrenia patients after hospitalization can be explained by 42.45% by the independent variables in the regression model.

Table 4. Multivariate results of multiple linear logistic regression tests on the influence of socio-demographic factors on the recovery ability of schizophrenia patients after hospitalization

Independent variables	b	CI 95%		p
		Lower Limit	Upper Limit	
Gender (Female)	5.58	1.29	9.87	0.011
Age ≥39 years old	0.66	-3.51	4.83	0.756
Duration of illness ≥8 years	-5.77	-10.15	-1.39	0.010
Duration of hospitalization ≥21 days	-6.88	-11.27	-2.49	0.002
Education status ≥high school	7.24	2.83	11.64	0.001
Working Status	16.36	12.06	20.67	<0.001
Constanta	110.45	104.67	116.22	<0.001
N Observation= 200				
Adj R-squared= 42.45%				
p< 0.001				

DISCUSSION

1. The relationship between gender and the ability to recover after hospitalization

The results of the multiple linear regression test show that there are statistically significant differences in recovery ability according to gender. After hospitalization, female schizo-phrenia patients had an average recovery score of 5.58 units higher than men (b= 5.58; 95% CI= 1.29 to 9.87; p= 0.011). The results of this study are in line with research from Goodsmith et al., (2023) that gender plays a role in the function and recovery of ODS, women show higher social function than men. Married women show a higher quality of life than men. These findings provide input for health service providers for ODS in gender adjustment.

Other research with linear regression shows the significance of gender with treatment response, women with schizophrenia show a faster and better response to treatment than men (Habiba et al., 2023).

2. The relationship between age and ability to recover after hospitalization

The results of the multiple linear regression test showed that there was no statistically significant difference in recovery ability according to age category (b= 0.66; 95% CI= -3.51 to 4.83; p= 0.756).

The results of this research are in line with research from Singla et al. (2020)

stated that factors related to the recovery of schizophrenia patients include age, older age can achieve greater recovery but did not show that there is a significant relationship between age and a higher recovery score.

3. Relationship between duration of illness and ability to recover after hospitalization

The results of the multiple linear regression test show that there is a relationship between the duration of illness and the recovery ability of schizophrenia patients after hospitalization, and this relationship is statistically significant. Schizophrenia patients who had been ill for ≥8 years had an average recovery score of 5.77 units lower than those <8 years (b= -5.77; 95% CI= -10.15 to -1.39; p= 0.010).

The results of this study are in line with research from Adebiyi et al., (2018) with multiple logistic regression. ODS who suffer from the disease for more than five years have a greater chance of recurrence compared to those with fewer years. This is in line with research by Garverich et al., (2021) where the initial time of illness is significantly related to recovery. Another study with multiple regression showed significant results between the duration of illness and the total RAS score (Concerto et al., 2023).

4. The relationship between the duration of hospitalization and the ability to recover after hospitalization

Schizophrenia patients who were hospitalized for ≥21 days had an average recovery score of 6.88 units lower than <21 days. The study's results found a significant relationship between length of stay and psychiatric severity scores which influence the quality of life, length of stay predicts a decrease in psychiatric severity (Bobak et al., 2022). Other research shows that a longer length of hospitalization is significantly related to cognitive function in ODS (Ong et al., 2016).

5. Relationship between education level and ability to recover after hospitalization

The results of the multiple linear regression test show that there is a relationship between education and the recovery ability of schizophrenia patients after hospitalization, and this relationship is statistically significant. Schizophrenia patients with ≥high school education had an average recovery score of 7.24 units higher than those with <high school education (b= 7.24; 95% CI= 2.83 to 11.64; p= 0.001).

Garverich et al., (2021) stated that ODS who have a high level of literacy can gain more knowledge and understand about their illness which influences recovery. Educational status is significantly related to the patient's readmission into the community which influences their recovery. From the research, most of the patients who were readmitted were due to secondary or higher education. This is in line with the results of research conducted by Barbalat et al., (2024) that ODS with more than 12 years of education improve their quality of life.

6. Relationship between employment status and ability to recover after hospitalization

The results of the multiple linear regression test show that there is a relationship between employment and the recovery ability of schizophrenia patients after hospitalization, and this relationship is statistically significant. Schizophrenia patients who worked had an average recovery score of 16.36 units higher than those who did not work (b= 16.36; 95% CI= 12.06 to 20.67; p< 0.001).

Garverich et al., (2021) mentioned that socio-demographics such as employment status were significantly associated with patient readmission to the community.

From the research, most of the patients who were readmitted were due to upper secondary education and professional work. Other research related to occupational socio-demographic factors shows that the recovery of schizophrenia patients looks better in those who work. Singla et al., (2020). Adebiyi et al., (2018) reported that ODS which works at the start of the disease reduces recurrence.

This study concluded that the recovery ability of schizophrenia patients after hospitalization will increase with female gender, age ≥ 39 years, education ≥ high school and having a job. The ability to recover after hospitalization for schizophrenia patients will decrease with a duration of illness of ≥8 years and a duration of hospital stay of ≥21 days. This study has limitations, namely that the researcher only studied the recovery ability of socio-demographic factors, namely gender, age, duration of illness, duration of hospitalization, educational level and post-hospitalization employment status of schizophrenia patients, while for environmental factors, social support, resilience and Patient well-being and marital status were not studied.

AUTHOR CONTRIBUTION

Sri Mulyani is a researcher who selects topics, searches, and collects research data. Bhisma Murti and Achmad Arman Subijanto analyzed the data and reviewed the research documents.

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CONFLICT OF INTEREST

Nill.

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