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Original Research

Predicting Quality of life of Schizophrenia Patients

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ABSTRACT

Background : *Previous studies on sociodemographic characteristics connected to quality of life in schizophrenia discovered inconsistent results. This study aims to analyze predicting factors of quality of life (QoL) of schizophrenia patients.*

Methods : *A quantitative study included 153 respondents who were selected using random sampling at the State Psychiatric Hospital Surakarta. The research instruments were a questionnaire containing questions about demographics consisting of age, age at first experiencing schizophrenia, gender, education level, work status, marital status, frequency of treatment, duration of suffering from schizophrenia, insight, physical health problems and quality of life by using WHOQOL-BREF. The analyses used were Spearmen's rank (rho) and the Pearson Chi-Square to analyze factors connected to QoL of schizophrenia patients and multiple logistic regression tests to analyze predictors of QoL of schizophrenia patients. This study was conducted in the State Psychiatric Hospital of Surakarta from September 2020 to March 2021.*

Results : *There were 4 characteristics of sociodemographic that have a positive significant relationship with the overall quality of life of schizophrenia patient, namely work status ($p = 0.000$), marital status with $p = 0.000$, gender ($p=0.032$), and adherence to take medicine with $p=0.015$ ($p <0.05$). marital status and work status that influence the quality of life ($p=0.000$ and $p=0.001$). Marital status and work status influence the quality of life ($p=0.000$ and $p=0.001$), the largest OR value obtained is 25.499. It means that married patients have a 25.499 times chance of having a better quality of life controlled by work status.*

Conclusion : *Marital status and work status are predictors of QoL of schizophrenia. In providing services to schizophrenic patients, health professional need to pay attention in assessing social demographics such as work status and marital status so that appropriate action can be taken with an approach to these aspects.*

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INTRODUCTION

Schizophrenia is a complex mental disorder that can present itself in a person in a number of unsettling clinical presentations, leading to a variety of treatment outcomes and a poor Quality of Life (Joshi et al., 2023). One of the top 10 diseases increasing the burden of sickness worldwide is schizophrenia. However, little is known about the quality of life for those who have schizophrenia, particularly in developing countries (Desalegn, Girma, & Abdeta, 2020). Patients with serious mental disorder including schizophrenia have lower quality of life due to several comorbidities. Internalized stigma has a negative impact on patient initiation, which plays a vital role in the management of chronic illnesses to achieve a higher quality of life. By promoting patient initiation, lowering internalized stigma, psychiatric symptoms, and the seriousness of comorbidity in patients with co-occurring serious mental illnesses and chronic diseases, these discoveries can assist mental health professionals in fostering intervention strategies to improve quality of life (Y. S. Chiang, Chang, Liu, & Tzeng, 2020). In young adults, having a single chronic illness was linked to reduced wellbeing-related quality of life and self-assessed wellbeing. In all age groups, multi-dismalness was consistently linked to a lower quality of life that is related to one's health and a lower assessment of one's own health. According to research, although chronic diseases are less common in young adults, their consequences on quality of life in terms of health and self-assessed wellbeing can be very significant in older and medium aged persons (Ge, Ong, Yap, & Heng, 2019). Being treated as an inpatient and the length of untreated psychosis both have an effect on the development of a low quality of life social domain (Renwick et al., 2017).

The respondent's education level and the affective responsiveness domain of the Family Assessment Device (FAD) independently predicted the psychological domain of quality of life. The problem solving, communication, and depressive symptom dimensions of FAD independently predicted the social relation domain of quality of life. The physical and social domains of the QOL scale, educational status, and the number of visits to health services over time account for 54% of the variance in the average functional recovery (Ertekin Pinar & Sabanciogullari, 2020). Only the current occupation was an independent predictor of the environment domain of quality of life, whereas no other variables were independent predictors of the physical health domain. Last but not least, education independently and negatively predicted total life quality, while current employment positively predicted it (Khatimah, Adami, Abdullah, & Marthoenis, 2021).

The negative symptoms had a correlation with the physical, psychological, and social QOL dimensions; the disordered symptoms had a link with the physical domain. Patients with schizoid features and patients with histrionic traits had worse QOL scores in the physical, psychological, and social relationships areas, respectively. Surprisingly patients with histrionic characteristics scored higher on the psychological and social domains, whereas patients with narcissistic traits scored higher on the physical domain (Sevilla-Llewellyn-Jones et al., 2017).

In several nations, studies on schizophrenia patients' quality of life and drug adherence have been conducted. However, there is still not a lot of research in Indonesia that examines the connection between schizophrenic patients' adherence to their drug regimens and their quality of life. In addition, socio-demographic parameters such gender, education level, household income, and marital status have been found to affect

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the quality of life of patients with schizophrenia in earlier studies (Hasan & Tumah, 2019; A. A.-H. Hasan, 2019).

Previous studies on socio demographic characteristics connected to quality of life discovered inconsistent results. On the other hand, Endriyani, Chien, Huang, & Chieh-Yu (2019) discovered that adherence to take medicine did not add enough to be meaningful in the quality of life among patients with schizophrenia. Adherence to take medicine was a predictor of quality of life of schizophrenia patients (Wang et al., 2017). Numerous sociodemographic traits are connected to patients with schizophrenia's quality of life ((A. A.-H. Hasan, 2019); Hasan & Tumah; & Peng et al., 2021; work status (Hsiao, Hsieh, Tseng, Chien, & Chang, 2012; Hamaideh, Al-Magaireh, Abu-Farsakh, & Al-Omari, 2014; A. A.-H. Hasan, 2019; Hasan & Tumah; & Peng et al., 2021), marital status ((A. A.-H. Hasan, 2019); Hasan & Tumah; & Peng et al., 2021).
The quality of life of schizophrenia patients was not found to be correlated with age (Hamaideh et al., 2014; (A. A.-H. Hasan, 2019); and Endriyani, Chien, Huang, & Chieh-Yu, 2019), age of onset (Hamaideh, Al-Magaireh, Abu-Farsakh, & Al-Omari, 2014; and Endriyani et al., 2019); education level (Hsiao, Hsieh, Tseng, Chien, & Chang, 2012; Hamaideh, Al-Magaireh, Abu-Farsakh, & Al-Omari, 2014; Endriyani, Chien, Huang, & Chieh-Yu, 2019). The purpose of this study is to demonstrate if socio-demographic characteristics have an impact on quality of life in light of the contradictions in earlier research.

MATERIALS AND METHOD

This research is a cross-sectional study to identify the relationship of social demography to quality of life of schizophrenia patients and find the predictors of quality of life of schizophrenia patients. This research was conducted as an effort to answer the inconsistent results of research on the relationship between demographic factors and the quality of life in schizophrenic patients. The population in this study were individuals with schizophrenia in the State Psychiatric Hospital Surakarta with 153 people represented the study's target population. In this study, the researchers used quota random sampling, in which the number of respondents from each region was first specified, and then random representatives from each region were selected. The inclusion criteria for the sample in this study are: being willing to be a respondent, having a history of schizophrenia at age 10-50 years old, has capability to communicate verbally, relapse and had been hospitalized at least two times. This study identified the relationship of social demography to quality of life of schizophrenia patients including age, age at first experiencing schizophrenia, gender, education level, work status, marital status, frequency of treatment, duration of suffering from schizophrenia, insight, physical health problems. The data collection tool in this study was a questionnaire containing questions about demographics consisting of age, age at first experiencing schizophrenia, gender, education level, work status, marital status, frequency of treatment, duration of suffering from schizophrenia, insight, physical health problems and quality of life by using WHOQOL-BREF. The results obtained from the instrument trial showed that the Cronbach's coefficient, was $\alpha = 0.952$ in overall WHOQOL-BREF.

After obtaining permission, the researcher entered into a contract with the State Psychiatric Hospital Surakarta, nurses, volunteer health workers, families, and people with schizophrenia. Data was collected on patients who hospitalized in collaboration with nurses. This research started from September 2020 to March 2021 in the State Psychiatric Hospital Surakarta. This study was followed by schizophrenic patients who met the inclusion criteria and obtained a sample of 153.

The data were analyzed using univariate, bivariate, and multivariate methods using SPSS for Windows version 25. The univariate analysis presented the demographic characteristics of people with schizophrenia including age, age at first experiencing schizophrenia, gender, education level, work status, marital status, frequency of treatment, duration of suffering from schizophrenia, insight, physical health problems, and quality of life by using WHOQOL-BREF were shown in the frequency distribution. An analysis of bivariate test data with the Spearmen rank (rho) test and the Pearson Chi-Square were used to analyze the relationship between each demographic factor with the quality of life by using WHOQOL-BREF. Meanwhile, multivariate test data analysis with multiple logistic regression was used to analyze the WHOQOL-BREF predictors. This research has been registered with the Health Research Ethics Commission of the Health Polytechnic of the Ministry of Health of Surakarta with the Ethical Clearancenumber: No.LB.02.02/1.1/6924.1/2019.

RESULTS

Table 1 shows that of the 153 patients the mean age was 34.33 ± 7.59 years old. The mean age for the first-time experiencing schizophrenia was 26.24 ± 7.59 years old. The mean frequency of treatment was 3.65 ± 3.37 times. The mean duration of suffering was 8.38 ± 3.52 years. More men than women are patients as a percentage. Male

respondents were 72.5% (111) while the rest were female 27.5% (42). At the level of education, most patients have senior high school and above education, 39.2% (60) people, while the lowest percentage of patients who have primary school and below was 27.5 % (42) people. The proportion of patients before illness who worked more than those who did not work were 42.5% (65) people as full time employed and 34.6% (53) people as part time employed, the patients who did not work was 22.9% (35) people. The proportion of patients who are married is more than those who are single and divorced. The number of patients who are married is 43.1% (66), while for the rest are single 28.8 % (44) and divorce/separated/widow is 28.1% (43). Meanwhile, the most respondents have no history of physical problems, account 49.7% (76), 42.5% (65) of patients with history of noninfectious problem, and 7.8% (12) with history of infectious disease problem. A total of 43.8% (67) patients had low adherence, 29.4% (45) respondents had medium adherence in taking medication while 26.8 % (41) people had high adherence with the medication given.

Table 1. Demographic Characteristics of Respondents(N=153)

Demographic Characteristics of Respondents		**N**	**%**
Age (Mean± SD)	34.33±7.59		
Age of onset (Mean± SD)	26.24±7.59		
Number of previous hospitalization (Mean± SD)	3.65±3.37		
Duration of suffering (Mean± SD)	8.38±3.52		
Gender	Male	111	72.5
	Female	42	27.5
Education level	Primary school and below	42	27.5
	Junior High School	51	33.3
	Senior High School and above	60	39.2
Work Status	Unemployed	35	22.9
	Part time employed	53	34.6
	Full time employed	65	42.5
Marital Status	Single	44	28.8
	Divorce/Separated /Widow	43	28.1
	Married	66	43.1
History of physical problem	Non infectious disease	65	42.5
	Infectious disease	12	7.8
	No history	76	49.7
Adherence taking medicine	Low adherence	67	43.8
	Medium adherence	45	29.4
	High adherence	41	26.8

Table 2. Relationship **between** sociodemographic and quality of life (WHOQOL-BREF General) in schizophrenic patients (n = 153) according to the Spearman's coefficient and the Pearson Chi-Square

Characteristics of sociodemographic	**Quality of life (WHOQOL-BREF General)**	
	Correlation Coefficient (Rs)	P value
Age	0.089	0.273
Age of onset	0. 088	0. 279
Gender		**0. 032**
Education level	0.067	0. 410
Work status	0.578**	**0.000**
Marital status	0.604**	**0.000**
Number of Previous hospitalizations	0.094	0.248
Duration of suffering illness	- 0.068	0.402
History of physical problem	0.054	0.507
Adherence taking medicine	0.197*	**0.015**

**. Correlation is significant at the 0.01 level (2-tailed).

The relationship between sociodemographic and overall quality of life (WHOQOL-BREF General) in schizophrenic patients is displayed in Table 2. There was no relationship between characteristics such as age, age at first experiencing schizophrenia symptoms, education level, number of previous hospitalizations, duration of illness, history of physical problem with the overall quality of life (WHOQOL-BREF) ($p > 0.05$). The analysis showed a significant positive correlation between quality of life (WHOQOL-BREF General) and gender (p=0. 032), work status (p =0.000), as well as with marital status (p =0.000). Furthermore, a positive significant relationship was detected between quality of life (WHOQOL-BREF General) and adherence taking medicine ($p = 0.015$)

Table 3. The predicting factors of quality of life (QOL) in patient with schizophrenia according to the Multiple Logistic Regression test (n = 153)

Variable		**Quality of Life (QOL)**			
		β	SE	P value	OR
QOL in general	Work status	2.942	0.925	0.001	18.956
	Marital status	3.239	0.912	0.000	25.499
	Constant	-1.976	0.330	0.000	0.139

The results of the analysis with multiple logistic regression using Backward stepwise are presented in Table 3. The findings revealed that work status and marital status are significant predictors of the quality of life in general. The largest OR value obtained is 25.499, this means that married patients have a 25.499 times chance of

having a better quality of life in general. Employed schizophrenia patients have 18.956 times chance to have high quality of life.

DISCUSSION

There is a relationship between social demography and quality of life of schizophrenia patients

From the demographic characteristics of schizophrenic patients in this study, there are 4 characteristics that have a positive significant relationship with the overall quality of life, namely work status ($p = 0.000$), marital status with $p = 0.000$, gender ($p=0.032$), and adherence to take medicine with $p=0.015$ ($p <0.05$). The result was in line with other studies that the overall quality of life has a significant relationship with work status (Hsiao, Hsieh, Tseng, Chien, & Chang, 2012; Ogunnubi, Olagunju, Aina, & Okubadejo, 2017; (A. A.-H. Hasan, 2019); Hasan & Tumah, 2019; Yerriah, Tomita, & Paruk, 2022), and marital status (A. A.-H. Hasan, 2019); Hasan & Tumah, 2019). This research also has similar findings with previous research that gender (Hasan & Tumah, 2019), and adherence to take medicine (Hasan & Tumah, 2019; Endriyani, Chien, Huang, & Chieh-Yu, 2019; Caqueo-Urízar, Urzúa, Mena-Chamorro, Fond, & Boyer, 2020) have a positive significant relationship with the overall quality of life.

In addition, the other results were also consistent with previous study that there was no significant relationship among quality of life in general with age (Endriyani et al., 2019; Hamaideh, Al-Magaireh, Abu-Farsakh, & Al-Omari, 2014, age at first experiencing schizophrenia (Endriyani, Chien, Huang, & Chieh-Yu, 2019), number of previous hospitalizations and education level (Hsiao, Hsieh, Tseng, Chien, & Chang, 2012; Endriyani, Chien, Huang, & Chieh-Yu, 2019), and history of physical health problem (Peng et al., 2021).

On the other hand, the results of this study are contrary to previous studies that there was no relationship among age, age at first experiencing, duration of suffering schizophrenia, and history of physical health problem. Previous study found that there was a relationship between quality of life with age (Hasan & Tumah, 2019; Hsiao et al., 2012), age at first experiencing schizophrenia (Hsiao, Hsieh, Tseng, Chien, & Chang, 2012), duration of suffering schizophrenia (Hasan & Tumah, 2019; Hsiao, Hsieh, Tseng, Chien, & Chang, 2012), and history of physical health problem (Hsiao, Hsieh, Tseng, Chien, & Chang, 2012).

The difference results of this study with previous studies may be due to the different of age, age of first suffering and duration of suffering with previous studies. The longer a person suffers from a chronic disease such as schizophrenia, the more knowledge, experience, and understanding of the drugs they consume. In this study, the mean of suffering mental disorder was 8 years. The length of time suffering from mental disorders has the potential to cause similarities to their quality of life.

Furthermore, there was no relationship between quality of life and marital status (Hsiao, Hsieh, Tseng, Chien, & Chang, 2012). Marital status can be viewed in terms of cultural needs so that it will be different for each person with a different cultural background. Moreover, marriage can also be interpreted socially and economically. The more advanced the level of education, the opening of economic job opportunities for women, and the smooth flow of information and communication make people's lives change, for instance, the working-age population's suicide rate is influenced both separately and together by marital status, educational level, and employment situation. Particularly among young adults, being divorced, unemployed, or economically inactive

increased the chance of suicide (Choi, Sempungu, Lee, Chang, & Lee, 2022). The higher the age of marriage and the phenomenon of women working/career is one of the many symptoms that marriage has become something that can be negotiated which ultimately affects a person to choose or not to choose marriage as an effort to fulfill his life satisfaction. Most Indonesian women with lower level of education and do not have good careers at work, will assume that marriage will help them to meet their needs and meet the demands of society. In addition, most Indonesian people think that getting married is part of the ideal of life. Married status makes people feel more valuable and achieve what they dream of in life. Some parents in Indonesia also want their children to get married as soon as they reach adulthood even when they graduate from school in grade 9 or 12. Marriage makes people feel there is a support system from their partner and other families to share and avoid gossip from society. People with mental problems who were married reported feeling more supported by their social networks (Vaingankar et al., 2020). The previous research is in line with this research finding.

Work status and marital status are predictors of the quality of life of schizophrenia patient

It can be concluded that of all the independent variables that are thought to affect the quality of life of schizophrenia patients in general (Overall WHOQOL-BREF), there are 2 sub variables, marital status and work status that influence the quality of life (p=0.000 and p=0.001). The largest OR value obtained is 25.499. It means that married patients have a 25.499 times chance of having a better quality of life controlled by work status.

This finding is in line with the results of previous research (Hasan & Tumah, 2019; A. A.-H. Hasan, 2019) that marital status are predictors of quality of life of schizophrenic patients. In contrast, other study found that marital status was not useful for predicting subsequent long-term quality of life (Ritsner, Lisker, & Grinshpoon, 2014). Employed schizophrenia patients have OR value 18.956. This means that employed patients have possibility 18.956 times to have high quality of life than unemployed patient. Some of the results in previous studies showed variations in different results with several similarities and differences. The conflicting results of the studies on relationship between social demographics variables and quality of life including predictors of quality of life were because of having either been directed in various nations with various psychosocial factors or design aspects of these researches.

CONCLUSION

From the demographic characteristics of schizophrenic patients in this study, there are 4 characteristics that have a positive significant relationship with the overall quality of life, in particular work status ($p = 0.000$), marital status with $p = 0.000$, gender ($p=0.032$), and adherence to take medicine with $p=0.015$ ($p <0.05$).

The multiple logistic regression test showed that marital status and work status are predictors of quality of life in general. Marriage status and employment status that affect quality of life (p=0.000 and p=0.001, respectively). Work status and marital status are important indicators of overall life quality, 25.499 is the highest OR value that was found. This indicates that patients who are married are 25.499 times more likely to have a higher overall quality of life. Schizophrenia patients who are employed had an 18.956 times higher likelihood of having lives that were satisfying.

In order to take the proper action with an approach to these factors when delivering treatment to schizophrenia patients, health professionals must pay attention when examining socioeconomic demographics such as work status and marital status. Research on sociodemographic characteristics connected to quality of life revealed inconsistent findings. Based on the inconsistency of previous research, it is necessary to prove whether socio-demographic factors can be a moderating variable on quality of life.

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