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Characteristics of Schizophrenia Patients at Kasihan II Bantul Public Health Center in 2022

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ABSTRACT

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Mental health problems are still a significant problem throughout the world. Schizophrenia is a form of chronic mental disorder that affects a person's ability to think, behave, manage emotions and interact with other people. Sociodemographic factors in individuals can be one of the risk factors for someone experiencing mental disorders, including schizophrenia. Therefore, knowing the sociodemographic factors of schizophrenia patients can be a way of early detection and preventive measures against the high rate of schizophrenia recurrence. The aim of this study was to determine the sociodemographic characteristics of schizophrenia patients at Kasihan II Bantul Public Health Center. This research is quantitative research with a descriptive observational research design. Data collection was carried out retrospectively using medical record data from 91 schizophrenia patients at Kasihan II Bantul Public Health Center in 2022. Sociodemographic data was taken and analyzed by presenting the results using frequency and proportion distribution tables. The results of the study showed that the incidence of schizophrenia at Kasihan II Bantul Public Health Center occurred most frequently in the adult age group as many as 79 subjects (86.8%), 57 subjects (62.6%) were males, 37 subjects (48.4%) had secondary education, 65 subjects (71.4%) had jobs, and 51 subjects (56%) were unmarried.

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INTRODUCTION

Mental health problems are still a significant problem throughout the world. However, there are still many people who ignore the importance of mental health. One form of mental disorder that is a major problem is schizophrenia¹. Schizophrenia is defined as a chronic mental disorder

that affects a person's ability to think, behave, manage emotions and interact with other people².

According to the World Health Organization (WHO), schizophrenia is estimated to affect 1 in 300 people (0,33%) or around 24 million people worldwide, where the recurrence rate ranges from 50-92%^{1,3}. Based on the results of Riset Kesehatan Dasar (Riskesdas) 2018, the prevalence of schizophrenia/psychosis in Indonesia in 2013 was 1,7 per mile and experienced a significant increase to 6,7 per mile in 2018⁴. Of the 34 provinces in Indonesia, Yogyakarta province has the second highest number of people with schizophrenia at around 10,4 per 1.000 households⁵. Based on data from the Bantul Regency Health Profile, schizophrenia is 1 of the 10 most common diseases in public health centers throughout Bantul Regency in 2020 with the highest number of cases of people with mental disorders being in the working area of the Kasihan II Bantul Public Health Center, there were 238 cases^{6,7}.

The causes of schizophrenia are multifactorial which occurs due to interactions between genetic, psychological and environmental factors⁸. A research conducted by Davies shows that sociodemographic factors in individuals such as age, gender, education level, employment, and marital status can be a risk factor for someone experiencing mental disorders. People who tend to be at risk of suffering from mental disorders are the adult age group, male gender, individuals with a low level of education, people who are unemployed, and people who are not/haven't been married⁹.

From a study conducted by Choi et al., showed that sociodemographic factors or have a significant influence on diagnosis prediction, where the prediction success rate increased from 62,8% to 69,2% for schizophrenia. This means that sociodemographic variables can help in establishing a psychiatric diagnosis apart from clinical manifestations. This is important to pay attention because misdiagnosis can lead to inadequate care and treatment for the patient¹⁰.

Mental health problems, especially schizophrenia, must receive special attention considering the high number of cases and limited data related to schizophrenia. In addition, knowing the sociodemographic factors of schizophrenia patients can be a way of early detection and preventive measures against the high rate of schizophrenia recurrence.

METHODS

This study is a type of quantitative research with a descriptive observational research design. Data collection was carried out retrospectively using medical record data. The population in this study were all patients with a diagnosis of schizophrenia at the Kasihan II Bantul Public Health Center in 2022. The sampling technique used a non-probability sampling method, namely purposive sampling with a total sample of 91 schizophrenia patients who were adjusted to the inclusion and exclusion criteria. The inclusion criteria in this study were patients who had been

diagnosed with schizophrenia with the ICD code F20 and visited the Kasihan II Bantul Public Health Center in 2022. Meanwhile, the exclusion criteria in this study were schizophrenia patients who did not have complete sociodemographic data in their medical records. Descriptive or univariate statistical analysis is used to analyze data by describing or illustrating data that has been collected in categorical form (frequency and percentage). In this research, data analysis is presented in the form of frequency and proportion distribution tables.

RESULTS

Based on the results of univariate analysis, the sociodemographic characteristics of the research subjects are presented in the distribution table as follows:

Table 1. Sociodemographic characteristics of schizophrenia patients

Variables	Frequency	
	n	%
Age		
Teenager (10-19 years)	2	2,2
Adult (20-59 years)	79	86,8
Elderly (≥60 years)	10	11
Gender		
Male	57	62,6
Female	34	37,4
Education level		
Primary education (elementary school, junior high school/equivalent)	37	40,7
Secondary education (high school/equivalent)	44	48,3
Higher education (university)	7	7,7
Not in school	3	3,3
Occupation		
Employed	65	71,4
Unemployed	26	28,6
Marital Status		
Married	40	44
Not yet/unmarried	51	56

Based on table 1 above, it is known that 2 subjects (2.2%) are teenagers, 79 subjects (86.8%) are in the adult age category, and 10 subjects (11%) are elderly, 57 subjects (62.6%) are male and 34 subjects (37.4%) are female, 37 subjects (40, 7%) had primary education, 44 subjects (48.4%) had secondary education, 7 subjects (7.7%) had higher education, and 3 subjects (3.3%) did not in school, 65 subjects (71.4%) had jobs and 26 subjects (28.6%) did not work, 40 subjects (44%) were married and 51 subjects (56%) were unmarried.

DISCUSSION

Age of Research Subjects

Table 1 above shows that the highest age frequency is the adult age group with an age range of 20-59 years. Many neuropsychiatric diseases including schizophrenia present in adulthood or late adolescence. Late adolescence reflects a critical period in brain development, making it particularly vulnerable to the onset of psychopathology. According to the neurodevelopmental theory of schizophrenia proposed by Weinberger, Murray, and Lewis in 1987, early brain

disorders can affect prenatal brain development and the resulting pathophysiological mechanisms that lead to brain dysfunction in adulthood which is a predisposing factor for schizophrenia. Neuroimaging studies have identified a number of brain structural changes relevant to the incidence of schizophrenia, including synaptic shortening, myelination, developmental changes in neurotransmitters, and changes in gene expression during adolescent development¹¹.

The population of Bantul Regency in 2022 reached 1.0113.170 people with the largest proportion of the population being the productive age group (15-64 years), which amounted to 74.39% of the total population¹². The high prevalence of schizophrenia in the productive age range is thought to be due to the fact that during this period individuals have a greater burden of responsibility and many stressors¹³. It is during this period that a person is required to be able to produce something, both for himself, family, and the surrounding environment¹⁴.

Differences in the age of onset can depend on whether there is a family history of the disease. Patients with a family history of schizophrenia tend to have an earlier onset¹⁵. Other factors such as childhood trauma, drug use, traumatic brain injury, and comorbid psychiatric illnesses particularly anxiety and depression are also often associated with the onset of early-onset psychosis¹⁶. The main risk factors for schizophrenia in old age are cognitive and sensory impairment or neurodegenerative diseases, such as dementia and delirium¹⁷. In addition, psychosocial factors associated with aging such as retirement, financial difficulties, loss, death of peers, or physical disability may contribute to the onset of schizophrenia symptoms in old age¹⁸.

Early adulthood is a critical stage where development can change significantly but can also be a time of higher treatment response towards stable remission. Therefore, psychotherapy is particularly beneficial for young adult patients to instill hope, encourage adherence, and work towards recovery¹⁹.

Gender of Research Subjects

Based on table 1 in this study, schizophrenia patients were dominated by male gender. It has been shown that estrogen can play a protective role against neuropsychiatric disorders. According to the estrogen hypothesis of schizophrenia, estrogen has antipsychotic activity at dopamine 2 (D2) receptors and inhibits the development of the disease in women¹⁵. Animal experiments have also shown that short or long-term use of estrogen can reduce dopaminergic activity by weakening the sensitivity of central D2 receptors. The effects of estrogen on serotonin and glutamate receptors at the neurochemical and molecular (gene expression) levels have also been reported²⁰. In addition to modulating the dopaminergic system in the brain, estrogen also has a significant effect on serotonin (5-HT) receptors, especially 5-HT1A and 5-HT2A. A series of animal studies have observed that estrogen increases the binding and density of 5-HT2A receptors in the

cingulate area, anterior frontal cortex, primary olfactory cortex, and nucleus accumbens which are associated with the expression of emotion, mood, cognition and olfaction. This suggests an association between estrogen levels and schizophrenia symptoms. Serum estrogen levels have a strong correlation with cognitive function especially global cognition, verbal, spatial memory deceleration and motor perception speed²¹.

Cordosa et al., said that men have more difficulty in accepting pressure than women so that the stress they get is also more²². There is a theory that states that the high risk of men to suffer from schizophrenia is because men tend to have more stress hormone production than women. There are also other studies that mention that men are more at risk of mental disorders because men have more factors that cause stress due to supporting the household⁸.

Education Level of Research Subjects

The results showed that most of the subjects had secondary education (high school/ equivalent). A person's level of education can affect the way the individual thinks¹⁴. Education can teach an individual how to think logically and solve problems²³. Neuroplasticity theory states that the brain still has the capacity in adulthood to grow, develop, and undergo structural and functional changes in response to environmental stimuli and behavioral changes. The length of formal education a person completes is positively correlated with their cognitive function during adulthood. Training with cognitive tasks during education can increase plasticity in the prefrontal areas of the brain²⁴. The results of research conducted by Sudarmono et al., (2018) show that people with low levels of education have a 1,1 times greater risk of developing schizophrenia²⁵. This occurs because individuals with high levels of education tend to have better ways of controlling emotions and psychological conditions than individuals with lower levels of education²⁶.

Mental health problems, especially those that arise in early childhood, are associated with disruption in school. Among other mental disorders, schizophrenia has the worst impact on education. Schizophrenia is associated with lower educational attainment than the general population. In a study conducted by Crossley et al. (2022) it was reported that patients with schizophrenia were less likely to enter post-secondary education. This can be interpreted as possibly related to the appearance of prodromal symptoms or the first episode of schizophrenia. Symptoms of cognitive deficits, long-term medication, as well as societal stigma are thought to play a role in inhibiting schizophrenia patients from re-entering education after a psychotic episode²⁷. The majority of patients diagnosed with schizophrenia at a young age tend to experience difficulties in attending formal education and eventually decide to drop out of school²⁸.

Occupation of Research Subjects

In this study, most of the schizophrenia patients had jobs. Factors describing a milder disease course or better social functioning are associated with higher levels of employment, especially among individuals with schizophrenia. People who were younger, had higher education, and were married were more likely to be employed especially among those with schizophrenia. Among individuals with schizophrenia, employment rates decline after diagnosis and begin to increase slightly about 2 years after onset of illness. This increase may reflect recovery from the illness. In addition, other factors that influence a higher likelihood of employment are a high level of education and a low number of previous hospitalizations²⁹.

For individuals who did not undergo hospitalization or had a less chronic course of the disease, the unemployment rate steadily decreased from 75% to 55%³⁰. In addition, environmental and societal factors also affect the likelihood of patients finding employment, such as the level of local employment. Data from the Central Statistics Agency (BPS) of Bantul shows a decrease in the open unemployment rate in 2022 of 4,02% and an increase in the labor participation rate to 2,75%³¹.

It is possible that work can also sometimes cause stress or pressure in individuals¹⁴. People who are stressed will produce excessive stress hormones (catecholamines). Prolonged stress can cause brain disorders and the onset of schizophrenia symptoms⁸.

Marital Status of Research Subjects

The results of the study in Table 1 show that the majority of schizophrenia patients were not married. Marriage is considered a protective factor for mental health and a predictive feature of social functioning³². There are reasons to believe that having a partner can be a protective factor for schizophrenia, because married people are not isolated like single people, where social isolation is one of the etiologies of schizophrenia. On the other hand, individuals diagnosed with schizophrenia tend to have difficulty finding a partner³³. Loneliness has been identified as a risk factor for a range of negative physical, cognitive, and emotional health outcomes over time including depression, anxiety, and other behavioral and mood changes. This increased perception of social threat is believed to lead to chronic activation of the autonomic nervous system and the hypothalamic-pituitary-adrenocortical (HPA) axis resulting in poor physical health, particularly in relation to cardiovascular health and immune function³⁴.

Schizophrenia has been associated with lower marriage rates and high separation/divorce rates suggesting that many individuals with schizophrenia tend to live alone. Research conducted by Nyer et al., (2010) showed that marital status plays a very important role in the impact, course, and prognosis of schizophrenia³⁵. Single marital status in schizophrenia patients has been

associated with various clinical characteristics such as increased hospitalization, social dysfunction, depression, suicide, as well as poorer quality of life and prognosis. Therefore, they should receive more emphasized psychosocial rehabilitation therapy soon after diagnosis to prevent the development of social dysfunction. Comprehensive and continuous rehabilitation interventions are necessary for the patient's therapeutic success³².

For schizophrenia patients who are not married, it is advisable to conduct further mental health checks first if the patient is getting married. Premarital counseling is integrated with mental health services for prospective brides and grooms³⁶. Knowing the mental health status of a prospective spouse should also be everyone's right. Premarital mental health screening is important because spending your life with someone who is facing or vulnerable to mental health problems is not easy. Health care professionals and policy makers are strongly encouraged to raise awareness about premarital mental health screening and provide counseling on pre-marital screening consultations³⁷.

CONCLUSION

Based on research that has been conducted from a total of 91 subjects, it can be concluded that the incidence of schizophrenia patients at Kasihan II Bantul Public Health Center in 2022 mostly occurred in the adults age group and was dominated by males. Most schizophrenic patients had secondary education, have jobs, and single/unmarried.

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