(RESEARCH ARTICLE)

Analysis of factors influencing the incidence of schizophrenia in the inpatient room of mental Hospitals in Southeast Sulawesi Province in 2025

I Dewa Putu Oka Diatmika, Sartiah Yusran * and I Putu Sudayasa

Faculty of Public Health, Master of Public Health Program, Halu Oleo University, Address: Jl. H. E. Mokodompit, Anduonohu, Kendari, Sulawesi Tenggara, Indonesia.

Abstract

Schizophrenia is a severe mental disorder characterized by disturbances in thought processes, emotions, perceptions, and behaviors that are influenced by biological, psychological, and social factors. Data from the Southeast Sulawesi Provincial Mental Hospital shows an increase in schizophrenia cases from year to year, so a study is needed to find out the factors that affect the occurrence of this disorder. This study aims to analyze the influence of education, family support, income, and social environment on the incidence of schizophrenia in inpatients at the Southeast Sulawesi Provincial Psychiatric Hospital. This study is a quantitative research with a cross sectional design. The population is all schizophrenic patients who will be hospitalized by 2025, with sampling using the Simple random sampling technique. Data collection was carried out using structured questionnaires, and data analysis included univariate, bivariate, and multivariate logistic regression. The results of the study showed that education, family support, income, and social environment had a significant effect on the incidence of schizophrenia. Family support and a negative social environment increase the risk of schizophrenia, while higher education and income play a protective role. The most dominant variable was family support. This study emphasizes the importance of family-based interventions and strengthening socioeconomic factors in efforts to prevent and control schizophrenia.

Keywords: Schizophrenia; Education; Family support; income; Social Environment

1. Introduction

WHO data (2022) recorded that 300 million people around the world have mental disorders, including depression, bipolar, and dementia. Schizophrenia affects about 24 million people or 1 in 300 people (0.32%) worldwide (WHO, 2022). In 2023, it is estimated that more than 1 billion people will be living with mental, neurological, and substance abuse disorders (WHO EMRO, 2023). Schizophrenia ranks third highest in the burden of mental illness, after major depression and anxiety, and is above bipolar disorder in Global Burden of Disease 2021 (Fan et al., 2025).

Global Burden of Disease In 2021, it was reported that 80.4 million (95% of UI 73.8–87.2) cases of mental disorders such as schizophrenia, depression, anxiety, bipolar, and ASD occurred in ASEAN countries. The prevalence standardized by age reached 11.9% (range between countries; 10.1% in Vietnam to 13.2% in Malaysia, Indonesia at 11.8%). Burden disability adjusted life years (DALYs) due to mental disorders in ASEAN reached 11.2 million in 2021, up nearly 8% since 1990 (GBD 2021 ASEAN Mental Disorders Collaborators, 2025). Mental disorders are among the top ten causes of disease burden in all ASEAN countries except Myanmar (GBD 2021 ASEAN Mental Disorders Collaborators, 2025; Mizzima, 2025)

Data from the Indonesian Health Survey (SKI) Ministry of Health of the Republic of Indonesia (2023) shows that prevalence psychosis/schizophrenia mental disorder reached 3%, decreased when compared to the results Riskesdas

(2018) by 7%. SKI 2023 data shows that the main reason for non-adherence to taking medication in households with ART with psychosis/schizophrenia mental disorders who seek treatment is due to boredom/laziness/often forgetfulness, reaching 27.5% and feeling healthy 25.4% (Ministry of Health of the Republic of Indonesia, 2023).

The prevalence of schizophrenia in Southeast Sulawesi Province (Sulawesi) based on SKI in 2023 is 2.2% below the national prevalence of 3% (Ministry of Health BKPK, 2023). Meanwhile, the target of mental disorders who receive health services in South Sulawesi has only reached 21.6% below the national figure of 60% (South Sulawesi Health Office, 2024; Ministry of Health of the Republic of Indonesia, 2023).

Schizophrenia cause psychosis and is associated with severe disability and can affect all aspects of life including personal, family, social, educational, income and work functions, for example violent behavior appears as a maladaptive response so that it can harm oneself, others, or the environment (Rizki & Wardani, 2020; WHO, 2022). Schizophrenia can be caused by a variety of biological factors such as genetics, neurology, neurotransmitter imbalances (increased dopamine), brain development, and virus theory. Psychological factors such as failure to fulfill psychosocial developmental tasks and family disharmony increase the risk of schizophrenia and sociocultural stressors such as accumulated stress can contribute to the onset of schizophrenia and other psychotic disorders (Stuart, 2016).

Research Chairil & Intan (2021) reported that risk factors related to the incidence of schizophrenia were family history. Other studies have identified that genetic factors, social environmental status, and economic status are associated with the incidence of mental disorders (Ayu et al., 2024; Farida et al., 2018; Kirana et al., 2022). In line with research Jester et al. (2023) which states that schizophrenia spectrum psychotic disorders (SSPD) caused by childhood violence, psychological disorders in the elderly, communication problems in the family, bullying (Bullying), and urban environments with low socioeconomic status.

Southeast Sulawesi Province Mental Hospital (RSJ) is a final referral hospital for mental health services in Southeast Sulawesi Province. Data for 2022 shows that the overall cases of schizophrenia are 1,698 cases, with details of 759 hospitalized cases (44.7%) and 939 outpatient cases (55.3%). In 2023, it increased to 1,737 cases, consisting of 832 hospitalized cases (47.9%) and 905 outpatient cases (52.1%). Furthermore, in 2024, the number of schizophrenia cases will be recorded at 1,779 cases, of which 768 cases are hospitalized (42.6%) and 1,021 cases are outpatient (57.4%) with an average of 85 outpatient visits per month and 64 hospitalization cases per month. In 2025 in the I-III Quarter period, the total number of hospitalized patients will be 598 with an average of 65 patients per month at the Southeast Sulawesi Provincial Psychiatric Hospital (RSJ Prov. South Sulawesi, 2024).

An initial study conducted by researchers on July 15, 2025 on 10 schizophrenic patients who were hospitalized found that as many as 3 people had a history of past trauma, such as bullying and unpleasant events, 4 people had a history of not having a job, failing to achieve goals, failing to get a job, while 3 other people had a history of relationships The family is not harmonious, the client is often blamed for something that happens to other family members, the client is shunned because he has symptoms that lead to mental disorders such as talking to himself, laughing to himself, and confining himself. The results of the initial study conducted concluded that each client suffering from schizophrenia has a variety of triggering factors ranging from family relationships, employment status, to past trauma. Factors as a sign of urgency are important for clients to get regular treatment to get optimal health status.

Mental health services in Southeast Sulawesi have not reached national standards, which is a challenge for the government, medical personnel and health workers. Some previous studies have Examine risk factors for schizophrenia, but most of them are still limited to aspects of family history, personality, or outpatient medication adherence. Socio-economic variables such as income, education level, and environmental conditions social has not been analyzed in depth (Hakulinen et al., 2019). In fact, these factors have the potential to significantly affect the incidence of schizophrenia. This gap shows the need for more up-to-date, contextual and comprehensive research according to the phenomenon that occurs in order to provide Service schizophrenia optimally.

Based on the above background description, it can be concluded that schizophrenia is a complex mental disorder caused by the interaction of various factors. Therefore, the researcher is interested in conducting research related to "Factors influencing the incidence of schizophrenia in Southeast Sulawesi Provincial Psychiatric Hospital".

2. Material and methods

The type of research is an analytical survey and the design used is a cross sectional study. The population in this study is schizophrenic patients who are hospitalized at the Southeast Sulawesi Provincial Psychiatric Hospital in 2025 for the January-September period, totaling 598 people. The research sample was taken from 97 respondents using a simple random sampling technique.

The determination of the sample criteria in this study consisted of inclusion criteria: schizophrenic patients who are being hospitalized have no complications, are willing to be research respondents, can communicate well, have a low Positive and Negative Syndrome Scale – Excited Component (PANSS – EC) score (< 15), patient's family who is willing to be a respondent While the exclusion criteria set are schizophrenic patients who suddenly experience changes in emotional state, patients withdrawing during the research process.

The research instrument is in the form of a questionnaire that has scientific validity obtained through validity and reliability tests from previous research. The research data that has been collected is then analyzed. Data were analyzed and interpreted using IBM SPSS Statistics 25. Data analysis consists of univariate analysis to describe the characteristics and variables of the study (Arikunto, 2019). Bivariate analysis using tests Chi Square. Multivariate analysis uses binary logistics management analysis.

3. Results

3.1. Univariate Analysis

3.1.1. Characteristics of Respondents

Table 1 Frequency distribution of respondent characteristics based on age in the inpatient room of the Southeast Sulawesi Provincial Psychiatric Hospital in 2025

Characteristic	Category	Frequency	Present (%)
Age (Year)	20 – 29	25	25.8
	30 – 39	19	19.6
	40 – 49	26	26.8
	50 – 59	22	22.7
	60 - 69	5	5.2
Education	No School	6	6.2
	Not graduating from elementary school	7	7.2
	Elementary school	21	21.6
	Junior High School	29	29.9
	Senior High School	28	28.9
	Bachelor	7	7.2
	ASN	6	6.2
Work	Self employed	2	2,0
	Private	21	21,4
	Laborer	3	3,1
	Farmer	12	12,2
	Pensioner	3	3,1
	IRT	55	56,1

The table above shows that the most respondents are respondents aged 40 – 49 years, which is 26 people (26.8%), the lowest respondents are respondents aged 60 – 69 years, which is 5 people (5.2%). Respondents with junior high school

education were 29 people (29.9%), while the lowest respondent education was respondents who were not in school, which was as many as 6 people (6.2%). In addition, most of the respondents did not work, namely 38 (39.2%), and the lowest were respondents who worked as fishermen, namely 2 people (2.1%).

3.1.2. Research Variables

- Education

Table 2 Distribution of respondent frequencies based on education in the inpatient room of the Southeast Sulawesi Provincial Psychiatric Hospital in 2025

No.	Education	Frequency	Present (%)
1	Low	61	62.9
2	Tall	36	37.1
	Total	97	100,0

Table 2 shows that most of the respondents were poorly educated, which was 61 people (62.9%) and the lowest was the highly educated respondents, which was 36 people (37.1%).

Family Support

Table 3 Distribution of research variable frequencies based on family support in the inpatient room of the Southeast Sulawesi Provincial Mental Hospital in 2025

No.	Family Support	Frequency	Present (%)
1	Good	24	24.7
2	Less	73	75.3
	Total	97	100,0

Table 3 shows that most of the respondents had poor family support, namely 73 people (75.3%) and the lowest were respondents with good family support, namely 24 people (24.7%).

Income

Table 4 Distribution of research variable frequencies by income in the inpatient room of a psychiatric hospital Southeast Sulawesi Province in 2025

No.	Income	Frequency	Present (%)
1	Low	64	66.0
2	Tall	33	34.0
	Total	97	100,0

Table 4 shows that most of the respondents have low category income, which is 64 people (66%) and the lowest is respondents with high category income, which is 33 people (34%).

Social Environment

Table 5 Distribution of the frequency of the study variables by social environment in the inpatient room of a mental hospital Southeast Sulawesi Province in 2025

No.	Social Environment	Frequency	Present (%)
1	Support	57	58.8
2	Not Supported	40	41.2
	Total	97	100,0

Table 5 shows that most of the respondents have a supportive social environment, namely 57 people (58.8%) and the lowest is the respondents who have a non-supportive social environment, namely as many as 40 people (41.2%).

Incidence of Schizophrenia

Table 6 Distribution of the frequency of the study variables based on the incidence of schizophrenia in the inpatient room of the Southeast Sulawesi Provincial Psychiatric Hospital in 2025

No.	Incidence of Schizophrenia	Frequency	Present (%)
1	Non-Schizophrenia	18	18.6
2	Schizophrenia	79	81.4
	Total	97	100,0

Table 6 shows that most of the respondents were with schizophrenia, which was 79 people (81.4%) and the lowest was non-schizophrenic respondents, which was 18 people (18.6%).

3.2. Bivariate Analysis

Bivariate analysis is carried out to determine the relationship between independent variables and dependent variables through Crosstabs or cross-tabulation. The statistical test carried out in this Bivariate analysis was to use the Chi Square test with a 95% confidence degree ($\alpha = 0.05$). It is said that there is a statistical relationship if a $p<0.05$ value is obtained

3.1.3. Education

Table 7 Distribution of the influence of education variables with the incidence of schizophrenia in the inpatient room of the Southeast Sulawesi Provincial Psychiatric Hospital in 2025

Education	Incidence of Schizophrenia				Sum		p Value
	Non-Schizophrenia		Schizophrenia				
	n	%	n	%	n	%	
Tall	11	11.3	25	25.8	36	37.1	
Low	7	7.2	54	55.7	61	62.9	0.020
Total	18	18.6	79	81.4	97	100	

As a result of the analysis above, it is known that 11 respondents who have higher education and experience non-schizophrenia are 11 people (11.3%), while respondents who have higher education and experience schizophrenia are 25 people (25.8%). Meanwhile, respondents were poorly educated and experienced non-schizophrenic as many as 7 people (7.2%), respondents were poorly educated and experienced schizophrenia as many as 54 people (61%). The results of statistical analysis obtained a p value of 0.020 < from a = 0.05 which means that there is an influence of education on the incidence of schizophrenia at the Southeast Sulawesi Provincial Psychiatric Hospital.

3.1.4. Family Support

Table 8 Distribution of the influence of family support variables with the incidence of schizophrenia in the inpatient room of the Southeast Sulawesi Provincial Mental Hospital in 2025

Family Support	Incidence of Schizophrenia				Sum		p Value
	Non-Schizophrenia		Schizophrenia				
	n	%	n	%	n	%	
Good	12	12.4	12	12.4	24	24.7	0.000
Less	6	6.2	67	84.8	73	75.3	
Total	18	18.6	79	81.4	97	100	

As a result of the analysis of the table above, it is known that 12 respondents who have good family support and experience non-schizophrenia are 12 people (12.4%), while respondents who have good family support and experience schizophrenia are 12 people (12.4%). Meanwhile, respondents with less family support and experienced non-schizophrenia as many as 6 people (6.2%), respondents with less family support and experienced schizophrenia as many as 67 people (69.1%). The results of statistical analysis obtained a p value of 0.000 < from a = 0.05 which means that there is an influence of family support on the incidence of schizophrenia at the Southeast Sulawesi Provincial Psychiatric Hospital.

3.1.5. Income

Table 9 Distribution of the influence of income variables with the incidence of schizophrenia in the inpatient room of the Southeast Sulawesi Provincial Mental Hospital in 2025

Income	Incidence of Schizophrenia				Sum		p Value
	Non-Schizophrenia		Schizophrenia				
	n	%	n	%	n	%	
Tall	8	8.2	56	57.7	64	66	0.033
Low	10	10.3	23	23.7	33	34	
Total	8	8.2	56	57.7	64	66	

As a result of the analysis of the table above, it is known that 8 people (8.2%) of respondents who have low income and experience non-schizophrenia are 56 people (57.7%). Meanwhile, respondents with high income and experienced non-schizophrenia were 10 people (10.3%), respondents with high income and experienced schizophrenia were 23 people (23.7%). The results of statistical analysis obtained a p value of 0.033 < from a = 0.05 which means that there is an influence of income on the incidence of schizophrenia at the Southeast Sulawesi Provincial Psychiatric Hospital

3.1.6. Social Environment

Table 10 Distribution of the influence of social environment variables with the incidence of schizophrenia in the inpatient room of the Southeast Sulawesi Provincial Mental Hospital in 2025

Social Environment	Incidence of Schizophrenia				Sum		p Value
	Non-Schizophrenia		Schizophrenia				
	n	%	n	%	n	%	
Support	16	16.5	41	42.3	57	58.8	0.004
Not Supported	2	2.1	38	39.2	40	41.2	
Total	18	18.6	79	81.4	97	100	

As a result of the analysis of the table above, it is known that respondents who have a supportive social environment and experience non-schizophrenia as many as 16 people (16.5%), respondents who have a supportive social environment and experience schizophrenia as many as 41 people (42.3%). Meanwhile, respondents with a non-supportive social environment and experienced non-schizophrenia were 2 people (2.1%), respondents with a social environment that was not supportive and experienced schizophrenia were 38 people (39.2%). The results of statistical analysis obtained a p value of 0.004 < from a = 0.05 which means that there is an influence of the social environment on the incidence of schizophrenia in Southeast Sulawesi Provincial Psychiatric Hospitals.

3.3. Multivariate Analysis

Multivariate analysis is used to look at the influence of several independent variables and dependent variables at the same time. This analysis is used to find out which variables are most dominant with the variables they obtain. The analysis used is binary logistic regression. (Sastroasmoro. 2013)

Based on the results of the bivariate test, independent variables were obtained that had a p<0.05 value, namely tangible evidence, reliability, responsiveness, assurance, emphaty, and trust so that these variables would be included in the binary logical regression multivariate analysis.

Table 11 Distribution of binary logistics regression results of factors influencing the incidence of schizophrenia in the inpatient room of Southeast Sulawesi Provincial Psychiatric Hospital in 2025

Variable	B	S.E.	Wald	Df	Sig.	Exp(B)
Education	0.704	0.675	1.089	1	0.297	2.023
Family Support	-2.660	0.730	13.258	1	0.000	0.070
Social environment	-1.984	0.892	4.946	1	0.026	0.138
Income	1.418	0.710	3.991	1	0.046	4.130

The table above shows that partially the education variable did not have a significant effect on the incidence of schizophrenia (p = 0.297). The odds ratio value of 2,023 shows a tendency that respondents with low education levels have a greater chance of developing schizophrenia than those with higher education. However, because the p-value exceeds 0.05 and the confidence interval crosses the number 1, the relationship is not statistically proven. Thus, education is not a factor that plays a role in influencing the incidence of schizophrenia in this study.

Based on the binary logistics regression analysis conducted, the variable that had the most influence on the incidence of schizophrenia was family support. This is indicated by the smallest p-value (p = 0.000), the largest negative regression coefficient, and the lowest odds ratio value (OR = 0.070), which means that good family support can reduce the risk of schizophrenia by up to 93%. The next variable that had an influence was the social environment (OR = 0.138; p = 0.026), then income (OR = 4.130; p = 0.046). Thus, family support appears to be the most powerful protective factor in lowering the risk of schizophrenia compared to other variables analyzed in this study.

4. Discussion

4.1. The influence of education on the incidence of schizophrenia

The results of statistical analysis showed that there was an influence of education on the incidence of schizophrenia at the Southeast Sulawesi Provincial Psychiatric Hospital with a p value of 0.020 < from a = 0.05. When viewed descriptively, most of the respondents were poorly educated, namely 61 people (62.9%) and the lowest were respondents in the higher education category, which was 36 people (37.1%). This means that low education has a significant relationship with the incidence of schizophrenia, which means that, in a simple analysis without controlling for other variables, respondents with low education are more likely to develop schizophrenia than higher education respondents. The results of this study are consistent with the initial hypothesis that low education is a social risk factor that has the potential to influence the incidence of schizophrenia. Thus, at the bivariate stage, education appears to be an important predictor before considering other factors.

Low education can describe a more limited cognitive capacity, which further degrades a person's cognitive ability in dealing with biological loads or psychological stress. Additionally, individuals with low education are more susceptible

to social pressure, stigma, and job instability, all of which can trigger or exacerbate psychotic disorders (WHO, 2023). Longitudinal research also shows that low academic achievement in adolescence (e.g. school grades) correlates with the risk of schizophrenia in adulthood (Dickson et al., 2020).

The results of this study are supported by previous research, where in the study Dickson et al. (2020) found that people who later developed schizophrenia had lower academic achievement in adolescence and were less likely to enter higher education (OR = 0.49). Crossley et al. (2022) has conducted meta-analysis research that illustrates that people with schizophrenia generally have lower education or shorter education.

The results of multivariate analysis showed that the educational variables were not significant (p = 0.297). This means that when analyzed together with variables such as family support, social environment, and income, the influence of education on the incidence of schizophrenia becomes statistically meaningless. This can be because other variables have a much stronger effect and dominate some of the influence of education. In other words, although bivariate education seems important, in this research model the education factor is not the strongest independent predictor.

Education can be seen as one of the key social determinants that can affect mental health through several approaches such as improving health literacy, developing coping skills, access to more stable jobs, and strengthening social networks (Caron & Stevens, 2021). Research shows that factors such as income, socioeconomics, family support, and access to health services often mediate or moderate between education and mental disorders such as schizophrenia (Crossley et al., 2022). Individuals with higher education tend to have a better understanding of the early signs of mental disorders, so they are quicker to seek help or do stress management.

4.2. The effect of family support on the incidence of schizophrenia

The results of the univariate analysis of this study showed that the majority of respondents with family support did not experience schizophrenia, which indicates that a high proportion of cases (75.3%) were in an unsupportive family environment. Bivariate analysis showed that there was a significant influence between family support and the incidence of schizophrenia (p = 0.000). This suggests that family support is directly related to the likelihood that a person will experience this psychotic disorder. The results of this study show that the family has a vital role in the psychological balance of the individual, so the absence of support can trigger higher emotional distress.

A family environment with excessive criticism, hostility, or excessive emotional involvement can increase psychosocial stress and lead to relapse in schizophrenic patients (Haniyashfira et al., 2025). A previous study showed that high emotional engagement (emotional over-involvement) of the family is a predictor of psychotic relapse after the first episode. This supports the findings that poor family emotions or low emotional support can worsen the early prognosis of psychosis (da Silva et al., 2021). Previous research is in line with this study where family interventions can reduce expressed emotion which can then decrease relapse or improve symptoms in schizophrenic patients (Shetty et al., 2023).

The results of the multivariate analysis showed that the family support variable was the most significant and dominant variable with values of p = 0.000 and OR = 0.070. This means that good family support can reduce the risk of schizophrenia by up to 93%, making it the most powerful protective factor in this research model. These results indicate that even when other variables such as education, income, and social environment were controlled, the influence of family support remained very strong. Thus, family support is a key factor that has a major impact on mental health and schizophrenia risk.

Emotional support from loved ones can reduce the impact of severe stressors on the nervous system and mental health (Acoba, 2024). Previous research has shown there is a significant association between family support and relapse in schizophrenic patients. Therefore, emotional support plays a very important role in preventing the occurrence or occurrence Relapses in schizophrenia patients where the family provides an empathetic attitude in caring for the patient so that the sufferer feels comfortable and appreciated (Swan, 2022).

3.1.7. Effect of income on the incidence of schizophrenia

The results of the univariate analysis showed that most of the respondents had an income (66%). The results of the bivariate analysis showed that there was an influence of income on the incidence of schizophrenia at the Southeast

Sulawesi Provincial Psychiatric Hospital with a p value of 0.033 < from a = 0.05 which means that respondents with low income were more likely to experience schizophrenia than those with high income in a simple analysis. These findings suggest that economic status (through income) plays a role as a social risk factor for this disorder before considering other variables.

Low income can affect the risk of schizophrenia including chronic stress resulting from financial limitations, such as job insecurity, unstable housing, and difficulty meeting basic needs (Heyl, 2023). Constant economic stress can activate long-term stress responses, which can then contribute to neurobiological dysfunction (Palamarchuk et al., 2023). Previous research has found that time spent in low-income conditions in childhood is closely related."Dos-response" with the risk of schizophrenia later in life (Hakulinen et al., 2020).

The results of the multivariate analysis showed that the income variable had a significant effect with an OR of around 4.13 on the incidence of schizophrenia, which means that low income increased the chance of schizophrenia more than four times compared to higher income. The results of the study found that the income variable is a strong predictor of risk. This supports the hypothesis that economic conditions are not only correlated, but can be quite strong independent risk factors.

Previous studies have shown that income levels are related to the risk of schizophrenia (Andreu-Bernabeu et al., 2023). This is in line with previous longitudinal studies that showed that low income during childhood may contribute to the risk of schizophrenia in the future (Schneider et al., 2022). Low incomes can affect mental health through limited access to social support, congested or inadequate housing, and a lack of control over living conditions (Wulandari et al., 2025).

3.1.8. The influence of the social environment on the incidence of schizophrenia

The results of the univariate analysis showed that most respondents (58.8%) had a supportive social environment in the sense of having a positive social environment. In the results of bivariate statistical analysis, it was found that there was an influence of the social environment on the incidence of schizophrenia at the Southeast Sulawesi Provincial Psychiatric Hospital with a p value of 0.004 < from a = 0.05. The results of the study show that the social environment is an important risk factor and plays a role in increasing the chances of schizophrenia.

The social environment affects mental health through exposure to chronic social stress, social isolation, and decreased sense of security. Constant environmental stress such as conflicts with family, conflicts with neighbors or criminality can trigger dysregulation of the biological stress system, such as an increase in the hormone cortisol that contributes to psychosis problems (Fahmi, 2025; Faculty of Psychology, University of Medan Area, 2024). Research also shows that social factors such as loneliness, social rejection, and low community support can hinder an individual's ability to cope with psychological distress (Egaña-marcos et al., 2025).

Previous research has proven that poor social conditions such as urbanization, high population density, stigma, and social discrimination are associated with an increased risk of schizophrenia (Gonz et al., 2023; Halodoc, 2025; Ventriglio et al., 2021). Other research shows that low social cohesion and high environmental tension worsen schizophrenic symptoms and increase relapse rates (Dewi & Sukmayanti, 2020; Purwoko & Sari, 2025). These findings reinforce the argument that the social environment has a significant influence on the development of psychotic disorders.

The results of multivariate analysis showed that the social environment also had a significant effect on the incidence of schizophrenia (p = 0.026). The value of a negative regression coefficient (B = –1.984) and an odds ratio of 0.138 indicated that a good social environment was able to reduce the risk of schizophrenia by up to 86%. This suggests that the social environment is an independent factor that contributes to the incidence of schizophrenia. Even if personal or family factors are good, poor social environmental conditions can still increase the risk of psychosis.

Based on the results of the multivariate analysis, it can be said that individuals who live in a supportive environment, have minimal social stress, have positive interactions, and do not experience discrimination or social isolation, tend to have a lower risk of experiencing this disorder. A healthy social environment plays an important role as a protective factor against the incidence of schizophrenia.

The results of this analysis are in line with previous research that confirmed the influence of the social environment as a strong predictor of schizophrenia as was the case with the prospective cohort study in Denmark, urbanity still increases the risk of schizophrenia even though individual variables such as education, employment, and family status have been controlled (Pedersen et al., 2022). Other studies show that Social fragmentation related to higher psychotic rates, even though other variables such as Deprivation, urbanity, and social status of individuals (Ku et al., 2021). The

results of previous research explain that the social environment variable has independent predictive power in the regression model.

5. Conclusion

The results of the study concluded that education did not have a significant effect on the incidence of schizophrenia. Family support has the strongest influence on the incidence of schizophrenia and is a protective factor. This variable emerged as the most dominant factor in the research model. Income has a significant effect on the incidence of schizophrenia which has a 4.13 times greater risk of developing schizophrenia. The social environment has a significant effect on the incidence of schizophrenia and is an important protective factor. The most influential variable in this study was family support, followed by social environment and income while education did not play a significant role.

The Southeast Sulawesi Provincial Psychiatric Hospital needs to develop family-based intervention programs, such as family psychoeducation, family communication training, and patient family assistance to improve emotional support and understanding of patients' conditions. Improving community-based services such as home visits and community mental health programs is the most urgent thing to reduce the risk of recurrence in patients who are in less supportive social environments.

Compliance with ethical standards

Disclosure of Conflict of Interest

There was no conflict of interest in this study.

Statement of ethical approval

This research was carried out in accordance with ethical principles and has been approved by the Research Ethics Committee of the Southeast Sulawesi Provincial Psychiatric Hospital. All participants gave consent after a voluntary explanation, and their confidentiality and anonymity were strictly

Statement of informed consent

maintained throughout the research process. This research does not have any financial conflicts of interest or any external influence in the implementation and reporting of research results.

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