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The Relationship Between Family Emotional
 Expression and Schizophrenia Relapse at Dr.
 Amino Gondohutomo Hospital

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Abstract

Background: Relapses in schizophrenia patients are common, with an incidence rate of 50-92%. Family emotional expressions, such as excessive criticism and high emotional involvement, are factors influencing the patient's recurrence. This study aims to analyze the relationship between family emotional expression and the relapse of schizophrenia patients at Dr. Amino Gondohutomo Hospital, Semarang. **Methods:** This study used a cross-sectional design with purposive sampling technique in 51 outpatient schizophrenia patients. Data were collected using the Family Attitude Scale (FAS) questionnaire to assess family emotional expression and the Mental Disorder Relapse questionnaire to evaluate relapse. Pearson correlation test is used for data analysis. **Results:** There was a significant relationship between family emotional expression and patient relapses ($p=0.000$), with a strong positive correlation ($r=0.761$). **Conclusion:** The expression of family emotions is significantly associated with the relapse of schizophrenia patients. Interventions in the form of family education to manage emotions can help prevent recurrence.

Keywords: Expression of family emotions, Schizophrenia, Relapse

Original Research Article

INTRODUCTION

Individuals may experience psychological issues due to disturbances in reasoning or emotions, as well as an inability to cope with stress. One contributing factor to mental health problems is changes that lead to helplessness, such as schizophrenia (Suryani et al., 2024). According to the World Health Organization (WHO) in 2019, 20 million people worldwide are affected by schizophrenia (Musrah et al., 2024). The 2018 Basic Health Research data revealed that the prevalence of schizophrenia in Indonesia increased from 1.7% in 2013 to 7% in 2018 (Farizah et al., 2019). The Ministry of Health of the Republic of Indonesia reported in 2019 that 1,000 individuals were diagnosed with schizophrenia in the country, with male patients predominantly aged 18-25 years, while female patients were mostly between 26-45 years old (Hasanah et al., 2024; Silviyana et al., 2024). In Central Java, the prevalence of schizophrenia rose from 2.3 per thousand in 2013 to 9 per thousand in 2018, placing the province fifth highest in Indonesia (Kurniawati & Apriliyani, 2023).

Globally, the relapse rate among schizophrenia patients ranges from 50% to 92%, with an average occurrence of 3.5% per month (Saputra et al., 2024). It is estimated that 50% of patients experience a relapse within the first year, and 70% within the second year (Ginting & Siregar, 2024). A 2019 study in Indonesia by Hardianto revealed that 49% of schizophrenia patients are readmitted within a year after being discharged (Ain & Yunita, 2024). A similar study by Sari in 2017 involving 70

schizophrenia patients at RS Achmad Mochtar Bukittinggi found a relapse rate of 67.1% (Tiara et al., 2020).

Families often face significant burdens when providing care, both during hospitalization and after the patient returns home. These burdens include financial costs for treatment, emotional stress from dealing with the patient's behavior, and social challenges, particularly regarding societal stigma towards family members with schizophrenia (Wulandari & Slametiningsih, 2023). Various studies on schizophrenia have indicated that disruptions in social functioning impact the patient's quality of life and impose burdens on family members who care for them (Pardede, 2020)

Caring for schizophrenia patients requires emotional stability, and if family members express high and excessive emotions, such as frequent yelling, name-calling, shouting, hostility, avoidance, or rigid and impatient control over the patient, it can have negative effects on the patient's condition (Pardede et al., 2016; Rohmayanti et al., 2023). A study in Malaysia supports this finding, revealing that 80% of family caregivers of schizophrenia patients felt burdened, and 71% reported frequent communication tensions among family members. Several other studies have identified that chronic caregiving stress tends to lead to heightened emotional expressions (Widianti et al., 2020).

While earlier research has indicated a connection between family emotional displays and relapses in individuals with schizophrenia, some notable research questions persist. Initially, numerous current studies have largely addressed broad family support or caregiver stress. They didn't specifically explore emotional expression as its own psychosocial factor that affects relapse results. Secondly, previous studies were frequently done in various socio-cultural environments, which means the results might not translate well to Indonesia, where family participation is very important for long-term patient treatment. Thirdly, there is still not much solid proof that looks at how family emotional expression and relapse are linked in schizophrenia outpatients who are constantly watched by their families, particularly in mental hospital settings in Central Java. Furthermore, only a few studies have measured how strong this link is using standard tools like the Family Attitude Scale in clinical outpatient groups. Therefore, further research is required to determine how family emotional expression relates to relapse in schizophrenia patients in this particular setting, to provide evidence-based support for interventions focused on families.

This study was conducted at Dr. Amino Gondohutomo Psychiatric Hospital in Semarang, Indonesia, involving schizophrenia outpatients who were under continuous family care. A total of 51 respondents were selected through purposive sampling based on specific inclusion and exclusion criteria, ensuring the homogeneity of the research population. The primary aim of this study was to analyze the relationship between family emotional expression and the relapse of schizophrenia patients. Understanding this relationship is essential, as relapse rates in schizophrenia remain high worldwide and family dynamics particularly excessive criticism or over involvement have been recognized as significant psychosocial factors influencing patient outcomes. By identifying the extent to which family emotional expression contributes to relapse, this study provides evidence-based insights that may guide family-focused interventions and support strategies to improve long-term patient recovery.

MATERIALS AND METHODS

This research used an analytic observational setup with a cross-sectional method. This setup was picked because it enables the measurement of independent and dependent variables at one time. This makes it suitable for looking at links between variables without needing follow-up. The research took place at Dr. Amino Gondohutomo Psychiatric Hospital, Semarang, Indonesia, from November to December 2024. This hospital is a psychiatric referral center that gives outpatient care to schizophrenia patients under continuous family care.

The study group included all schizophrenia outpatients being treated at Dr. Amino Gondohutomo Psychiatric Hospital. To determine the sample size, a correlation study formula was used. It had a confidence level of 95% and a statistical power of 80%, so the minimum required sample was 51 respondents. Participants were selected using a purposive sampling technique based on inclusion and exclusion criteria that were already set. Patients with schizophrenia diagnosed for over

a year, who were currently being treated as outpatients, who lived with family, and who were accompanied by family caregivers were included. Exclusion criteria involved unwillingness to take part and questionnaire responses that were not complete.

This study involved two main variables. The independent variable was family emotional expression, defined as the emotional attitudes and behaviors of family members toward schizophrenia patients, including criticism, hostility, and emotional over-involvement. The dependent variable was relapse of schizophrenia, defined as the re-emergence or worsening of psychotic symptoms requiring clinical attention, hospitalization, or functional deterioration after a period of stability. Family characteristics such as caregiver relationship (father, mother, sibling, or other family member), age, and gender were also recorded as descriptive variables.

In this study, relapse was operationally defined as the recurrence of schizophrenia symptoms within the past year, characterized by at least one of the following: re-hospitalization, worsening of psychotic symptoms (hallucinations, delusions, or disorganized behavior), decreased social functioning, or documented clinical relapse in medical records. Relapse status was categorized into two groups: relapse and no relapse.

Family emotional expression was measured using the Family Attitude Scale (FAS), which consists of 30 items assessing emotional expression, including criticism, hostility, and emotional over-involvement. Each item is rated on a 5-point Likert scale ranging from 0 (never) to 4 (very often). The total score ranges from 0 to 120, with higher scores indicating higher emotional expression. Emotional expressions were categorized as high or low based on the median score. Relapses were measured using the Schizophrenia Relapse Questionnaire, which consists of 20 items evaluating relapse symptoms and clinical history. Responses were scored using a dichotomous scale (yes/no), and relapse status was determined based on clinical criteria and questionnaire results.

The Family Attitude Scale (FAS) has been widely used in schizophrenia research and has demonstrated good psychometric properties, with reported Cronbach's alpha values greater than 0.80, indicating high internal consistency. The relapse questionnaire used in this study was adapted from previously validated psychiatric assessment tools and reviewed by clinical experts to ensure content validity. A pilot test was conducted prior to the study to ensure clarity and reliability of the instrument.

Data collection was conducted during outpatient visits. Eligible participants and their family caregivers were identified through hospital records and screened according to inclusion criteria. Family members who agreed to participate provided written informed consent before completing the questionnaires. The questionnaires were administered directly to family caregivers under research supervision to ensure completeness and accuracy. Medical records were also reviewed to confirm relapse history.

This study received ethical approval from the Health Research Ethics Committee (Komisi Etik Penelitian Kesehatan) of Dr. Amino Gondohutomo Psychiatric Hospital, Semarang, with ethical clearance No: 420/9854, issued on November 12, 2024. Prior to data collecting, all participants and their family caregivers were informed about the study objectives, procedures, potential risks, and benefits. Written informed consent was obtained from all respondents who agreed to participate in the study. Confidentiality and anonymity of participant information were strictly maintained, and all data were used exclusively for research purposes in accordance with ethical research standards.

Data was analyzed using SPSS software version 26. Descriptive statistics were used to summarize respondent characteristics. The relationship between family emotional expression and relapse was analyzed using Pearson correlation test, after confirming assumptions of normality and linearity. A p -value < 0.05 was considered statistically significant.

RESULTS

Overview of Research Location

This study was conducted from November 20 to December 18, 2024, at Dr. Amino Gondohutomo Psychiatric Hospital in Semarang, involving schizophrenia patients attending outpatient psychiatric

services. A total of 51 respondents were selected using purposive sampling based on predefined inclusion and exclusion criteria. Data were collected from family caregivers who agreed to participate and completed a demographic form, the Family Attitude Scale (FAS), and the Schizophrenia Relapse Questionnaire. Data analysis was performed using descriptive and inferential statistics. Descriptive analysis was used to summarize respondent characteristics. The association between family emotional expression and relapse status, both categorized variables, was analyzed using the Chi-square test. The strength of association was further assessed using the Phi coefficient. A p-value of less than 0.05 was considered statistically significant.

Univariate Analysis

The characteristics of the respondents are presented in Table 1. The results show the distribution of schizophrenia patients based on age, gender, education level, family relationship, family emotional expression, and relapse status. Most patients were aged 25–35 years, male, had a high school education, and were cared for by immediate family members. A higher proportion of families exhibited high emotional expression, and relapse was more frequently observed among patients with high family emotional expression.

Table 1. Respondent characteristics

Respondent Characteristics	Family Emotional Expression				Relapses of Schizophrenia Patients				Amount	Percentage (%)
	High	%	Low	%	Relapse	%	No Relapse	%		
Patient Age										
25-35 years old	24	47.1	8	15.7	27	52.9	5	9.8	32	62.7
36-45 years old	8	15.7	1	2.0	9	17.6	0	0.0	9	17.6
46-55 years old	8	15.7	2	3.9	8	15.7	2	3.9	10	19.6
Patient Gender										
Male	24	47.1	6	11.8	26	51.0	4	7.8	30	58.8
female	16	31.4	5	9.8	18	35.3	3	5.9	21	41.2
Patient Education										
Elementary school	6	11.8	2	3.9	6	11.8	2	3.9	8	15.7
Junior high school	11	21.6	3	5.9	13	25.5	1	2.0	14	27.5
Senior high school	23	45.1	6	11.8	25	49.0	4	7.8	29	56.9
Patient Occupation										
Self-employed	22	43.1	8	15.7	26	51.0	4	7.8	30	58.8
PNS	5	9.8	0	0.0	5	9.8	0	0.0	5	9.8
Farmers	6	11.8	1	2.0	6	11.8	1	2.0	7	13.7
Not working	7	13.7	2	3.9	7	13.7	2	3.9	9	17.6
Patient Status										
Married	27	52.9	7	13.7	28	54.9	6	11.8	34	66.7
Unmarried	13	25.5	4	7.8	16	31.4	1	2.0	17	33.3
Relationship with patients										
Father	8	15.7	0	0.0	8	15.7	0	0.0	8	15.7
Mother	4	7.8	1	2.0	4	7.8	1	2.0	5	9.8
Older brother	11	21.6	5	9.8	13	25.5	3	5.9	16	31.4
Younger brother	5	9.8	3	5.9	6	11.8	2	3.9	8	15.7
Brother-in-law	12	23.5	2	3.9	13	25.5	1	2.0	14	27.5

Table 1 presents the demographic characteristics of the respondents at Dr. Amino Gondohutomo Psychiatric Hospital, Semarang, with a total of 51 respondents. The majority of respondents were aged 25–35 years, accounting for 32 respondents (62.7%). Based on gender, most respondents were male, with 30 respondents (58.8%). In terms of education level, the majority had

completed senior high school, totaling 29 respondents (56.9%). Regarding occupation, most respondents were self-employed, accounting for 30 respondents (58.8%). Based on marital status, the majority of respondents were married, with 34 respondents (66.7%). In terms of family relationship, most respondents were the patients’ older siblings, accounting for 16 respondents (31.4%).

Bivariate Analysis

Data analysis was performed using descriptive and inferential statistics. Descriptive analysis was used to summarize respondent characteristics. Since the main variables, family emotional expression and relapse status, were categorical, the association between variables was analyzed using the Chi-square test. The strength of association was assessed using the Phi coefficient. A p-value of less than 0.05 was considered statistically significant. The following is the explanation provided below.

Table 2. Results of normality, homogeneity, and linearity tests

		Relapses of Schizophrenia Patients				Linearity
		Relapse		No Relapse		
		n	%	n	%	
Family Emotional Expression	High	40	78.4*	0	0.0*	0.007 (<0.05)
	Low	4	7.8*	7	13.7*	

***Normally distributed and homogeneous**

Based on Table 2, the results of the normality, homogeneity, and linearity tests showed that the data were normal, homogeneous, and linear. Therefore, the next step is to perform the Pearson correlation test.

The Relationship Between Family Emotional Expression and Schizophrenia Relapse

According to the results of the bivariate analysis presented in the table below, the goal was to examine the relationship between family emotional expression and relapse in schizophrenia patients within the working area of Dr. Amino Gondohutomo Psychiatric Hospital in Semarang.

Table 3. Results of Pearson correlation test

		Relapses of Schizophrenia Patients				<i>p value</i>	<i>r correlation</i>
		Relapse		No Relapse			
		<i>n</i>	%	<i>n</i>	%		
Family Emotional Expression	High	40	78.4*	0	0.0*	0.000	0.761
	Low	4	7.8*	7	13.7*		

The results of the Chi-square test showed a statistically significant association between family emotional expression and schizophrenia relapse ($p < 0.05$) at Dr. Amino Gondohutomo Psychiatric Hospital, Semarang. The Phi coefficient value of 0.761 indicates a strong association between the variables, suggesting that higher family emotional expression was associated with relapse status among schizophrenia patients.

DISCUSSION

Respondent Characteristics

The demographic profile of respondents in this study shows that most patients were in early adulthood (25–35 years; 62.7%). This finding is consistent with research by Pasaribu and Hasibuan (2019), which also highlighted that schizophrenia is most prevalent during early adulthood. This age group often faces increased psychosocial stressors such as employment instability, family responsibilities, and societal expectations, all of which can heighten vulnerability to relapse (Ginting & Siregar, 2024; Megasari et al., 2023). Early adulthood is also a critical developmental phase in which stress management strategies are not yet fully established, further exacerbating relapse risk.

Gender distribution in this study showed that male patients were predominant (58.8%), which is consistent with previous studies reporting a higher prevalence and poorer clinical outcomes of schizophrenia among men compared to women (Aulia et al., 2025). Several biological and psychosocial factors may explain this pattern. From a biological perspective, estrogen has been suggested to play a

protective role in women by modulating dopaminergic activity, which is strongly associated with psychotic symptoms. Lower estrogen levels in men may contribute to increased dopamine dysregulation, potentially leading to more severe positive symptoms such as hallucinations and delusions and a less favorable clinical course (Andira & Nuralita, 2018). Additionally, schizophrenia in men often has an earlier age of onset, which is associated with more severe neurodevelopmental impairment and poorer long-term outcomes.

Psychosocial factors may also contribute to this difference. Male patients are more likely to experience higher exposure to environmental stressors, including occupational instability, substance use, and lower treatment adherence, all of which have been associated with worse symptom control and increased relapse risk (Pardede et al., 2016). Furthermore, men may be less likely to seek early psychiatric treatment or maintain consistent engagement with mental health services, potentially leading to delayed intervention and increased symptom severity. Social expectations and stigma related to mental illness may also reduce emotional support and coping mechanisms among male patients. These biological and psychosocial vulnerabilities may contribute to the higher proportion of male patients and their greater clinical instability observed in schizophrenia populations.

In terms of education, most patients had completed senior high school (56.9%). This finding is comparable to Rahmi and Rikayoni (2022), who also identified a high proportion of schizophrenia patients with secondary education.

In terms of education, most patients completed senior high school (56.9%), indicating that the majority of patients attained secondary education. This finding is consistent with previous studies reporting that schizophrenia patients are commonly represented within the secondary education level. For example, a study conducted in a mental hospital in Indonesia reported that most schizophrenia patients had completed high school education (36.7%), indicating that secondary education was the most frequent educational level among patients (Rindayati et al., 2024). Similarly, a large meta-analysis found that although patients with schizophrenia generally achieve fewer total years of education than the general population, many still attain education levels equivalent to secondary education, highlighting persistent educational attainment within this group (Crossley et al., 2022). However, schizophrenia is associated with educational disruption due to early onset, cognitive impairment, and functional limitations, which may prevent patients from pursuing higher education (Hakulinen et al., 2019). These educational challenges may affect patients' and families' understanding of illness management, potentially influencing treatment adherence and long-term clinical stability.

As a result, families with limited knowledge about mental health may struggle to recognize early warning signs, seek timely intervention, or support long-term treatment adherence, which ultimately increases relapse risks.

Family roles also played a notable part, with older siblings comprising the largest group of caregivers (31.4%). This reflects findings by Pardede et al. (2016), who demonstrated that siblings, particularly older ones, often assume caregiving responsibilities due to strong emotional bonds and a sense of familial duty. Prior research has also shown that emotional support from siblings can serve as a protective factor, contributing to better symptom management and reducing relapse risk (Fitri & Widodo, 2023). However, prolonged caregiving may lead to caregiver burden, which in turn increases the likelihood of high emotional expression, such as criticism or over-involvement (Nuraini & Nurmaguphita, 2018).

Another significant finding is the predominance of families exhibiting high emotional expression (78.4%), which is comparable to results from Ningsih and Sihombing (2024). High emotional expression is often driven by domestic pressures such as financial strain, interpersonal conflicts, and the chronic burden of caregiving (Rahmi & Rikayoni, 2022). Prolonged stress in caregiving contexts has been shown to escalate negative emotional interactions, which can further exacerbate relapse in schizophrenia patients.

Regarding occupational status, the majority of respondents were self-employed (58.8%). This form of employment, characterized by irregular schedules and unstable income, can undermine financial and emotional stability, contributing to higher psychological stress (Afconneri & Puspita,

2020). This result mirrors findings from Pardede (2020), who noted that most schizophrenia patients were employed but faced unstable job conditions.

Marital status also emerged as an important factor, with most patients being married (66.7%). This finding is consistent with research conducted by Tanjung et al. (2022), which identified marriage as a dual-edged factor. While marital relationships can provide emotional support and enhance coping capacity, they may also generate additional stress due to family responsibilities, child-rearing demands, and role expectations. These psychosocial pressures may contribute to emotional distress, including anxiety and depressive symptoms, which have been associated with poorer clinical stability and relapse among schizophrenia patients.

Finally, relapse rates in this study were notably high (86.3%), aligning with findings by Parmin et al. (2024), who reported relapse rates above 80% among schizophrenia patients. Relapse is influenced by a complex interplay between protective factors (e.g., family support, treatment adherence) and risk factors (e.g., substance abuse, caregiver burden, social stigma). Patients who experience an imbalance between these forces are significantly more prone to frequent relapses (Tanjung et al., 2022).

Taken together, these respondent characteristics highlight the multi-dimensional vulnerability of schizophrenia patients in this setting. Age, gender, education, occupation, marital status, caregiving dynamics, and family emotional expression interact to shape relapse risks. This underscores the importance of tailoring interventions not only to patients but also to family caregivers, with a focus on psychoeducation, stress management, and strengthening social support networks to mitigate relapse triggers.

Relationship Between Family Emotional Expression and Schizophrenia Relapse

The present study demonstrated a strong and statistically significant relationship between family emotional expression and relapse among schizophrenia outpatients, with a correlation coefficient of 0.761 ($p < 0.001$). This result indicates that higher levels of negative family emotional expression—characterized by frequent criticism, hostility, and over-involvement—are associated with an increased likelihood of relapse. These findings are in line with previous research reporting that approximately 75–80% of families caring for schizophrenia patients exhibited high emotional expression, which was closely linked to relapse episodes (Nuraini & Nurmaguphita, 2018).

The mechanism underlying this relationship can be explained through the stress–vulnerability model. High emotional expression in family interactions often produces persistent stress in patients, which activates the hypothalamic-pituitary-adrenal (HPA) axis and elevates cortisol levels. This chronic stress response disrupts neurotransmitter regulation, particularly dopamine and glutamate, thereby intensifying psychotic symptoms (Ivana & Jatmika, 2017). Moreover, stress-induced neurobiological changes in the prefrontal cortex, hippocampus, and amygdala have been shown to impair emotional regulation and cognitive functioning, further exacerbating vulnerability to relapse (Bratha et al., 2020; Sari, 2019). Stress also compromises the immune system, increasing systemic inflammation, which has been associated with worsening psychiatric outcomes (Esmiralda et al., 2022).

Beyond biological mechanisms, psychosocial factors also play a critical role. Families under financial strain or interpersonal conflict are more prone to express negative emotions toward patients, creating a non-supportive environment that fosters relapse risk (Rahmi & Rikayoni, 2022). Conversely, families with lower emotional expression tend to provide a more supportive climate, which reduces patient stress, strengthens treatment adherence, and improves overall prognosis (Sudarmono et al., 2018).

The results also reinforce evidence from prior studies that non-adherence to medication is a major predictor of relapses (Pasaribu & Hasibuan, 2019). High emotional expression within families may indirectly contribute to non-adherence, as critical or hostile interactions can weaken patient motivation to continue treatment. Thus, family dynamics and pharmacological adherence should be addressed simultaneously in relapse prevention strategies.

Despite the robust association identified, this study has certain limitations. Its cross-sectional design prevents the establishment of causality: while high family emotional expression may contribute to relapse, it is also plausible that relapse episodes heighten caregiver stress, thereby increasing

negative emotional expression. This reciprocal relationship has been described in prior longitudinal studies, underscoring the importance of using prospective designs in future research to clarify directionality (Pardede et al., 2016). Additionally, other potential predictors of relapse, such as duration of illness, substance use, and community stigma, were not examined in this study and should be incorporated into future analyses.

From a clinical perspective, the findings emphasize the necessity of family-based interventions. Psychoeducation programs that help families understand schizophrenia, manage stress, and regulate emotional expression have been shown to significantly reduce relapse rates (Fitri & Widodo, 2023). Integrating such interventions into outpatient services at psychiatric hospitals could enhance patient outcomes, particularly in contexts where family caregivers play a central role in long-term care. Moreover, regular monitoring of both family dynamics and medication adherence should be considered an essential component of comprehensive relapse prevention strategies.

CONCLUSION

This study highlights the important role of family emotional expression in the clinical stability of schizophrenia patients. Families characterized by high emotional expression, including criticism and emotional over-involvement, may contribute to a less supportive psychosocial environment, which can be associated with poorer symptom stability. Conversely, families with lower emotional expression tend to provide a more supportive environment that may help maintain patients' psychological well-being. These findings emphasize that family dynamics are a key component in the long-term management of schizophrenia.

The results of this study have important clinical and practical implications. Mental health professionals should consider family emotional expression as part of comprehensive schizophrenia care, particularly by involving family members in psychoeducation and family-based interventions. Strengthening family awareness, emotional regulation, and supportive communication may help improve patient stability and support prevention of relapses. Integrating family-centered approaches into psychiatric services may enhance treatment outcomes and improve the overall quality of life for schizophrenia patients.

CONFLICT OF INTEREST

No conflict of interest.

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