The Effect of Emotion Regulation Therapy on the Resilience of Caregivers of Schizophrenia Patients in Aceh: A Pre-Experimental Study

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ABSTRACT

Schizophrenia is a chronic mental disorder requiring long-term care. This burden places caregivers at risk of emotional exhaustion and reduced resilience. Families, as primary caregivers, must possess strong emotional endurance to provide consistent care. Emotion Regulation Therapy is an intervention that improves individuals' ability to manage emotions adaptively, thereby enhancing resilience. This study aims to examine the effect of emotion regulation therapy on the resilience of caregivers for schizophrenia patients in Aceh. A pre-experimental design with a one-group pre-post-test approach was used. A total of 33 caregivers were selected through purposive sampling and received seven therapy sessions. The Connor-Davidson Resilience Scale (CD-RISC) was used to measure resilience before and after the intervention. Data were analyzed using the Wilcoxon Signed-Rank Test. The results showed a significant increase in resilience, with a $Z = -5.205$ and $p < .001$. Before the intervention, 51.5% of caregivers had low resilience. After the therapy, 84.8% were in the high resilience category. The mean resilience score increased from 49.00 to 73.15. These findings indicate that emotion regulation therapy is effective in increasing caregiver resilience. This intervention can serve as a practical psychosocial strategy to support caregivers in managing long-term emotional challenges associated with schizophrenia care.

INTRODUCTION

Mental health disorders are a global health issue with increasing prevalence, including schizophrenia, which ranks as the fifth most common mental illness worldwide, affecting approximately 450 million people [1]. In Indonesia, based on the 2023 Indonesia Health Survey, the prevalence of households with members exhibiting symptoms of psychosis/schizophrenia is 4.0 per mil, while those with members who have received a medical diagnosis reach 3.0 per mil. In Aceh, the prevalence is slightly higher than the national average, with 4.6 per mil of households having symptomatic members and 4.0 per mil having members who have been medically diagnosed [2]. These figures indicate the need for serious attention through comprehensive mental health policy interventions.

Schizophrenia is a psychiatric disorder characterized by disorganized thinking, communication disturbances, and perceptual distortions such as hallucinations and delusions. It significantly impairs an individual's functioning [3]. A diagnosis of schizophrenia is established when psychotic symptoms persist for at least six months, are not due to medical conditions or substance use, and interfere with social or occupational functioning [4]. Kaplan, Sadock, and Grebb outline three main approaches to understanding the causes of schizophrenia: genetic, neuroanatomical, and neurochemical. The genetic factor shows that a family history increases risk, although it is not the sole cause, as even identical twins share only a 50% risk. Neuroanatomically, disruptions in brain areas such as the limbic system, frontal cortex, cerebellum, and basal ganglia are believed to play key roles in the pathophysiology of schizophrenia. Neurochemically, the disorder is associated with excessive dopamine activity, evidenced by the effectiveness of dopamine-blocking antipsychotic drugs and elevated levels of dopamine metabolites such as homovanillic acid in the central nervous system [5].

Schizophrenia is a chronic mental disorder requiring long-term care, often provided by family members as caregivers [6]. A caregiver is someone who provides care for individuals with mental disorders and frequently faces emotional stress, particularly when caring for someone with schizophrenia. This stress not only affects the caregiver's well-being but also the quality of care provided [7]. Approximately 90% of adults with schizophrenia live with caregivers. The caregiver role demands not only physical involvement but also strong mental and emotional readiness. Ongoing psychological burden can lead to emotional exhaustion and reduced caregiver well-being [8].

Caregiver's level of resilience in handling patient relapses significantly contributes to reducing relapse risk and promoting recovery. Given the long-term nature of schizophrenia care, resilience becomes a critical component for caregivers as it directly affects the quality of care provided. Resilience refers to the ability to adapt and recover from stress and adversity. It reflects an individual's capacity to endure and respond positively under pressure. Caregiver resilience involves a family's ability to function and adapt in stressful situations [9]. Resilience is not only about surviving difficulties but also using them as opportunities to grow and strengthen relationships [10].

One key factor influencing resilience is emotion regulation, which enables individuals to recognize, manage, and express their emotions adaptively, maintaining psychological stability in challenging situations [11]. Based on this, Emotion Regulation Therapy is an appropriate intervention for caregivers of schizophrenia patients who show low resilience, as it addresses emotions, thoughts, and behaviors. Emotion Regulation Therapy involves building skills to manage emotions by recognizing and expressing them effectively. Developed by James J. Gross, the therapy focuses on cognitive aspects and consists of five sessions: situation selection, situation modification, attentional deployment, cognitive change, and response modulation [12].

Research has confirmed the effectiveness of emotion regulation therapy in enhancing the resilience of caregivers for schizophrenia [13]. Caregivers who underwent this therapy showed improved emotional management and resilience. The intervention used in that study included eight sessions based on cognitive behavioral therapy principles, guided by the Dialectical Behavior Therapy Skills Workbook.

Furthermore, a previous study also demonstrated that emotion regulation therapy effectively increased caregiver resilience and helped strengthen social support networks. Caregivers who showed improved resilience scores often received emotional support and advice from fellow participants during the intervention [14].

Caring for a patient with schizophrenia is a significant responsibility due to the complexity and long recovery process of the illness. Therefore, caregivers need a high level of resilience. The emotion regulation therapy used in this study is based on James J. Gross's theory and includes five sessions. Its implementation to enhance caregiver resilience for schizophrenia patients is still rarely conducted in Aceh. Based on this background, the researcher aims to evaluate the effectiveness of emotion regulation therapy on the resilience of caregivers for schizophrenia patients in Aceh.

METHOD

This study employed a quantitative approach using a pre-experimental design with a one-group pre-post-test model. The sampling technique used was non-probability sampling with a purposive sampling approach, involving 33 caregivers of patients with schizophrenia. The sample size was determined based on an effect size of 0.70 and a power of 0.80, resulting in a total of 33 respondents. Inclusion criteria included individuals aged 18–65 years, living in the same household as the patient, not having any mental disorders, being able to communicate, and having provided care for at least six months. Exclusion criteria included caregivers with mental disorders or physical disabilities.

The intervention provided was emotion regulation therapy based on the model developed by Gross, consisting of five sessions. The first session was situation selection, which helped participants understand how to choose situations that could minimize emotional distress. The second session was situation modification, which taught participants how to alter situations to reduce negative emotional impacts. The third session was attentional deployment, aimed at helping participants direct their attention adaptively in stressful situations. The fourth session focused on cognitive change, which taught participants how to modify their thinking patterns to respond to situations more adaptively. The fifth session was response modulation, which assisted participants in managing emotional responses that had already emerged so they could remain better controlled [15]. Caregivers are taught to choose more emotionally safe time to care, create comfortable routines, focus on the positive, reinterpret stressful situations, and manage emotions with relaxation techniques. These entire sessions form emotion regulation skills that help reduce psychological distress and increase the resilience of caregivers caring for patients with schizophrenia. Each

intervention session lasted approximately 90 minutes and was conducted individually to ensure participants had sufficient time to understand and apply each therapeutic component. The researcher visited each participant's home to deliver the therapy on an individual basis. This study was conducted over a three-month period, during which emotion regulation therapy was administered to the respondents in seven sequential sessions. The therapy was delivered gradually, beginning with the first session on the initial day and continuing with the subsequent sessions on the following days. The researcher was able to provide therapy to up to three respondents per day.

Instruments used in the study included a demographic data sheet to collect respondent characteristics and the Connor-Davidson Resilience Scale (CD-RISC) questionnaire to measure resilience levels. Data collection was carried out in two stages: completing the CD-RISC questionnaire before (pre-test) and after (post-test) the intervention. The instrument consists of 25 items rated on a Likert scale (0–4). Scores were totaled across the 25 items, yielding a range from 0 to 100. The instrument demonstrated excellent validity, with a Scale Content Validity Index (S-CVI/Ave) of 0.96. Furthermore, the internal consistency reliability test showed a Cronbach's alpha value of 0.917, indicating that the instrument had very good internal consistency reliability. Higher scores indicate greater resilience, while lower scores reflect lower resilience. Data analysis was conducted using the Wilcoxon Signed-Rank Test to evaluate differences in resilience scores before and after the intervention. The significance level was set at $\alpha = 0.05$.

This study was approved by the Research Ethics Committee of the Faculty of Nursing, Universitas Syiah Kuala, with approval number 112021210924. All respondents were given a complete explanation of the study and asked to sign a written informed consent form before participating. Patient privacy and data confidentiality were ensured in accordance with research ethics principles.

RESULTS AND DISCUSSION

The results of this study present the demographic characteristics of the respondents and the outcomes of the emotion regulation therapy intervention. The demographic characteristics examined included age, gender, religion, education level, occupation, monthly income, relationship with the patient, duration of caregiving, and health insurance status. According to Table 1, the majority of respondents were in the middle adulthood category, totaling 14 individuals (42.4%). All respondents were Muslim (100.0%). In terms of gender, most respondents were female, totaling 32 individuals (97.0%). Regarding educational attainment, more than half of the respondents had a basic education level (elementary or junior high school), accounting for 17 individuals (51.5%). With respect to employment status, the majority were unemployed (housewives), totaling 19 individuals (57.6%). In terms of monthly income, all respondents reported earnings below the regional minimum wage (UMK) of Aceh Besar District (IDR 3,165,030). Concerning the relationship with the client, most respondents were immediate family members (biological mother, biological child, older sibling, or younger sibling), totaling 25 individuals (75.8%). In relation to the

duration of caregiving, the majority had provided care for a long period (>10 years), comprising 24 individuals (72.7%). All respondents were covered by national health insurance (BPJS) (100%).

Table 1. Demographic characteristics of respondents (N=33)

No.	Demographic Data	f	%
1.	Age		
	a. Young Adult	9	27,3
	b. Middle Adult	14	42,4
	c. Elderly	10	30,3
2.	Gender		
	a. Male	1	3,0
	b. Female	32	97,0
3.	Religion (Islam)	33	100,0
4.	Last Education Level		
	a. Primary Education	17	51,5
	b. Secondary Education	14	42,4
	c. Higher Education	2	6,1
5.	Occupation		
	a. Unemployed	19	57,6
	b. Civil Servant	2	6,1
	c. Private Sector Employee	1	3,0
	d. Trader	1	3,0
	e. Farmer	10	30,3
6.	Monthly Income		
	a. ≤ IDR 3.165.030	33	100,0
7.	Relationship with the Patient		
	a. Spouse	5	15,2
	b. Immediate Family Member	25	75,8
	c. Extended Family Member	3	9,1
8.	Duration of Caregiving		
	a. Short-Term (< 5 Tahun)	3	9,1
	b. Medium-Term (5-10 Tahun)	6	18,2
	c. Long-Term (> 10 Tahun)	24	72,7
9.	Health Insurance	33	100,0

Based on Table 2, it can be seen that the respondents' level of resilience increased significantly after the intervention was administered. In the pre-test results, most respondents were in the low resilience category, accounting for 17 individuals (51.5%), while 16 respondents (48.5%) were in the moderate category, and none were in the high category. After the intervention, the post-test results indicated a substantial improvement, with the majority of respondents (28 individuals or 84.8%) classified as having high resilience, and 5 respondents (15.2%) in the moderate category. No respondents remained in the low resilience category. The mean resilience score increased from 49.00 (SD = 13.407) at the pre-test to 73.15 (SD = 3.650) at the post-test, resulting in a mean difference of 24.15 points following the emotion regulation therapy. This increase demonstrates that, overall, there was a significant improvement in resilience levels after the intervention. Additionally, the median score rose from 40.00 to 72.00, indicating that most

respondents shifted from the low to the high resilience category. The interquartile range (IQR) decreased from 23 to 5, suggesting that the distribution of resilience scores became more homogeneous after the intervention. The Wilcoxon signed-rank test yielded a Z value of -5.205; p < 0.001, indicating a statistically significant difference in resilience levels before and after the intervention. Therefore, emotion regulation therapy was proven to be effective in enhancing caregiver resilience.

Table 2. Effect of Emotion Regulation Therapy on Resilience (N=33)

Test	Category						M±SD	Median (IQR)	Wilcoxon Signed-Rank Test	
	Low		Medium		High					
	f	%	f	%	f	%			Z	p
Pre-test	17	51,5%	16	48,5%	-	-	49,00±13,407	40,00 (23)		
									-5,205	<0,001
Post-test	-	-	5	15,2%	28	84,8%	73,15±3,650	72,00 (5)		

This study aims to evaluate the effectiveness of emotion regulation therapy on increasing caregiver resilience of schizophrenic patients. Data collection was carried out on 33 respondents by measuring the level of resilience before and after the intervention. Emotion regulation therapy has shown significant results in improving caregiver resilience in schizophrenia patients. The results showed that before being given therapy, the majority of resonants had a low level of resilience (51.5%) and the rest were at a moderate level of resilience (48.5%). This suggests that emotion regulation therapy has a direct impact on the level of resilience of caregivers caring for patients with schizophrenia. This improvement shows that interventions based on Gross's theory are effective in forming emotional management skills in individuals who experience high psychological stress due to the burden of caregiving [15]. Each therapy session is designed to help caregivers identify, accept, and manage their emotional responses adaptively, ultimately supporting increased psychological resilience.

The results of this study are in line with the study by Behrouian et al., which demonstrated that emotion regulation therapy has a significant effect on enhancing the resilience of individuals providing support to schizophrenia patients. This intervention enables families to better manage emotional stress associated with the long-term support of relatives with chronic psychiatric conditions. Their study revealed that participants who engaged in eight therapy sessions experienced a meaningful improvement in resilience levels (p<0.001). Such improvements play a critical role in equipping families to cope with the psychological challenges encountered in the caregiving process [13].

In addition, research by Andriani, Afiatin, and Sulistyarini also showed that there was a significant difference between the group that received emotion regulation training and the control group. Caregivers who received emotion regulation training showed a significant increase in resilience. The intervention

strengthens the caregiver's adaptive ability to cope with stress and improves positive coping mechanisms [14].

This research is also supported by the results of the meta-analysis by Cahyono, which examined 14 studies in the last ten years. The results showed a strong link between emotion regulation and resilience. Emotion regulation interventions have been shown to improve an individual's ability to recognize, interpret, and respond constructively to emotions, which has a positive impact on mental resilience in stressful situations [16].

Several factors influence the level of resilience, including age, education, income, and the duration of caregiving for patients with chronic illnesses [17]. Age is one of the key variables affecting the resilience level among caregivers. Younger caregivers tend to demonstrate a higher level of resilience compared to older caregivers, particularly those aged 60 years and above, who exhibit the lowest resilience levels [18]. These findings are consistent with the pattern of association between respondents' age and resilience levels identified in this study. Among the 33 respondents, approximately 90% of older adults (≥60 years) were categorized as having low resilience, whereas the young adult group (20–39 years) showed a moderate resilience level of 77.8%. Meanwhile, in the middle-aged group, the distribution of resilience was more balanced, with 42.9% demonstrating low resilience and 57.1% moderate resilience. These results indicate th at the younger the caregiver, the higher the likelihood of possessing greater resilience. Younger caregivers generally have better physical and cognitive conditions, higher energy levels, and greater capacity to learn new coping strategies, enabling them to better manage the pressures of caregiving. In contrast, older caregivers tend to experience declines in physical function and health, which may reduce their ability to cope with stress and consequently lower their resilience.

In addition, the educational level plays a significant role in influencing caregivers' resilience. Education strengthens rational thinking skills, enhances the use of positive coping strategies, and reinforces self-efficacy in dealing with stressful situations. Individuals with a higher educational background tend to have broader access to information and a better understanding of psychological stress management, which enables them to develop more adaptive and resilient attitudes [19]. This tendency is reflected in the pattern of association between educational level and resilience observed in this study. Among the 33 respondents, 17 individuals (51.5%) with a basic education level were categorized as having low resilience, whereas 16 respondents (48.5%) with secondary and higher education demonstrated moderate resilience. These findings indicate that the higher the caregiver's educational level, the greater their resilience. Caregivers with secondary and higher education possess better abilities to comprehend information, manage stress, and solve problems, making them more prepared to cope with the challenges of caregiving. Conversely, lower educational attainment may limit an individual's understanding of their situation, reduce the range of available coping strategies, and diminish their readiness to face challenges, ultimately resulting in lower resilience levels.

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In addition, caregivers with low economic conditions, such as those who are unemployed or have insufficient income, tend to experience a heavier caregiving burden and lower quality of life. Financial constraints limit access to supportive resources and hinder adaptive coping abilities in managing long-term caregiving stress [20]. This finding is consistent with the results of the present study, in which 17 respondents (51.5%) with low income levels were categorized as having low resilience. This condition indicates that income level plays an important role in shaping caregivers' psychological resilience. Higher income enables caregivers to meet basic needs, reduce financial stress, and access supportive resources such as healthcare services. Conversely, economic hardship tends to increase pressure and worry, thereby reducing stress-coping capacity and weakening resilience.

In addition to age, education, and income, the duration of caregiving was also found to be associated with the caregivers' level of resilience. The pattern of relationship between caregiving duration and resilience identified in this study shows that caregivers who had been caring for patients for more than 10 years (83.3%) tended to exhibit high resilience, while those who had provided care for less than 10 years were generally classified in the moderate resilience category. Long-term caregiving experience enables caregivers to become more accustomed to handling stress, develop effective coping strategies, and adapt better to the patient's condition. Conversely, caregivers with shorter caregiving experience are often still in the adjustment phase, which may limit their adaptive capacity and result in lower resilience levels. These findings are consistent with Bartels et al., who reported that long-term caregiving experience contributes to enhanced psychological adaptation and strengthens caregiver resilience [21].

In addition to demographic factors, the spiritual approach also plays a significant role in strengthening caregivers' resilience in caring for patients with schizophrenia. In this study, all respondents were Muslim, making Islamic values an integral component of their psychological adaptation process. Principles such as patience (sabr), gratitude (syukur), and trust in God (tawakkul) form a positive cognitive framework and an attitude of acceptance that help caregivers face the patient's condition with sincerity and emotional stability. This finding is consistent with Anlı, who reported that positive psychology practices integrated with Islamic values can enhance resilience and emotional well-being. Thus, the spiritual dimension serves as an internal source of strength that not only enables caregivers to endure caregiving stress but also helps them find meaning and inner peace throughout the long-term caregiving process [22].

This finding indicates that spirituality functions as a complementary psychosocial resource that supports the success of interventions. Resilience is an essential aspect in determining the quality of care and overall well-being of caregivers who provide care for patients with schizophrenia. In this context, emotion regulation therapy has been proven to be an effective intervention in helping individuals manage their emotions adaptively. When caregivers are able to regulate their emotions effectively, they become better equipped to cope with daily challenges, including chronic stress that often arises during the caregiving process [23].

Resilience is an important aspect that determines the quality of care and overall caregiver welfare in caregivers who care for patients with schizophrenia [24]. Increased resilience has an important role because the responsibility of caring for schizophrenia patients is not only physically demanding, but also emotionally draining. With adequate emotion regulation skills, caregivers can be more resilient in the face of pressure and able to provide more optimal care services [25]. Findings from Behrouian et al., also reinforce this, suggesting that emotion regulation therapy can significantly reduce stress, anxiety, and depression in caregivers [26].

Emotion regulation therapy can also be a tool to increase resilience and prevent burnout in caregivers, especially if it is done in an ongoing manner and supported by health professionals such as psychiatric nurses. The inability to manage negative emotions can worsen the caregiver's psychological condition and negatively impact the care provided to patients with schizophrenia. Based on this, the implementation of this therapy is not only useful in improving the quality of life of caregivers but also has a positive impact on the patient's condition [15].

This study reinforces previous findings that suggest that psychological training that focuses on aspects of emotion regulation can result in a significant increase in resilience. Emotion regulation therapy is not only effective in reducing psychological burden, but also significantly improves an individual's ability to cope with stress with adaptive and sustainable coping strategies, thereby increasing resilience [27]. These findings underline the importance of incorporating emotion-focused interventions in mental health programs, particularly for caregivers facing chronic stress. Strengthening emotional regulation capacity enables caregivers to respond more constructively to emotional challenges, avoid burnout, and maintain long-term psychological well-being.

The implementation of emotion regulation therapy in this study refers to Gross's Model, which consists of five sessions, ranging from situation selection to emotional response control [28]. Each session is designed to help caregivers manage psychological stress while caring for schizophrenic patients, through adjustments to activities, environment, attention focus, cognitive reinterpretation, and relaxation techniques. One of the key aspects is cognitive reappraisal which has been proven to be effective in increasing the resilience and emotional well-being of caregivers. These findings are in line with research by Panzeri et al., which affirms that positive reinterpretation of situations can strengthen emotional resilience and prevent burnout in informal caregivers [29].

The findings of this study are also consistent with the Resilience in Illness Model (RIM) developed by Haase and Peterson [30]. This model explains that resilience in the context of chronic illness care, including caregiving for patients with schizophrenia, results from the interaction between risk factors, protective factors, and the coping strategies employed by individuals in dealing with psychological stress. In this context, emotion regulation therapy functions as an adaptive coping strategy that strengthens protective factors while mitigating the impact of risk factors faced by caregivers. Based on the findings of

this study, the stress experienced by caregivers in caring for patients with schizophrenia can be categorized as a risk factor, whereas emotion regulation therapy serves as an adaptive coping strategy that strengthens protective factors, such as personal resources including optimism and emotional awareness. The intervention was conducted through seven structured sessions, which facilitated a dynamic adaptation process, the development of emotional competence, and the creation of positive experiences in dealing with caregiving challenges. The outcomes of this process were reflected in the increased resilience and well-being of caregivers. This was evidenced by the rise in resilience scores and the shift in resilience categories to higher levels, indicating that caregivers became more emotionally stable, less affected by the patient's behavioral stressors, and better able to sustain their caregiving roles over the long term. Therefore, emotion regulation therapy has been proven to be both empirically effective and theoretically relevant in enhancing caregiver resilience.

The results of this study show that emotion regulation therapy contributes significantly to increasing caregiver resilience and has a positive influence on the quality of care provided to patients. Caregivers who can manage their emotions well tend to be better able to deal with stress in daily activities, reduce the risk of burnout, and improve well-being for both them and patients. Although the design of this study did not involve a control group, limiting comparative analysis to the non-interventional group, the findings still provide substantial and relevant information. Therefore, it is recommended that further research use experimental designs with comparison groups and wider coverage of areas to improve the external validity of the research results. Overall, this study makes an important contribution to the development of evidence-based psychosocial interventions in the context of community psychiatric nursing, as well as supporting the utilization of emotion regulation therapy as an effective non-pharmacological approach in increasing caregiver psychological resilience capacity.

CONCLUSION

This study confirms that emotion regulation therapy is an effective psychosocial intervention in increasing the resilience of caregivers caring for patients with schizophrenia. Through a structured approach based on the Gross model, this intervention has been shown to help caregivers in managing emotional responses adaptively, thus positively impacting their psychological resilience in the face of the burden of long-term care. These findings make an important contribution to community psychiatric nursing practice, as well as reinforce the urgency of integrating emotion regulation therapy as an evidence-based non-pharmacological approach in family empowerment programs for patients with mental disorders. Further research with more complex experimental designs and wider population coverage is needed to strengthen the generalization of outcomes and explore the influence of these therapies in different social and cultural contexts.

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