

Original Article

The Effect of CMHC-Guideline Family Psychoeducation on Resilience among Family Caregivers of Patients with Schizophrenia or Bipolar Disorder

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Abstract

Background: Family caregivers of individuals with severe mental illnesses such as schizophrenia and bipolar disorder face persistent challenges that may weaken their resilience. This study aimed to evaluate the effect of CMHC-based family psychoeducation on resilience among family caregivers of patients with severe mental disorders.

Materials and Methods: In this randomized controlled trial conducted in 2024 in Qazvin, Iran, 102 family caregivers of patients with schizophrenia or bipolar disorder were assigned to intervention and control groups. The intervention group received four 120-minute group psychoeducation sessions based on the national CMHC program, while the control group received usual care. Resilience was measured using the Connor–Davidson Resilience Scale at baseline and 3 months after the intervention.

Results: Baseline demographic, clinical, and resilience measures were comparable between the two groups. At 3-month follow-up, the intervention group showed a significantly higher total resilience score than the control group (68.2 ± 22.0 vs. 58.0 ± 22.2 , $P=0.022$). Significant improvements were also found in the subscales of perception of personal competence ($P=0.025$), trust in one's instincts and tolerance of negative affect ($P=0.014$), and self-control ($P=0.001$).

Conclusion: CMHC-based family psychoeducation significantly improved resilience among family caregivers of patients with severe mental disorders. Integrating structured family psychoeducation into community mental health services may strengthen caregivers' psychological coping capacity.

Keywords: Family psychoeducation, Caregiver resilience, Severe mental disorders, Schizophrenia, Bipolar disorder

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Introduction

Severe mental illnesses (SMI), including schizophrenia and bipolar disorder, are chronic and disabling disorders associated with impaired social

and occupational functioning. Like other chronic illnesses, severe mental disorders affect not only patients but also their families and other close caregivers¹.

Bipolar disorder affects approximately 60 million

people worldwide, with a prevalence of 1% to 3.7% in the general population, and is a major disabling condition among young people². It is characterized by episodes of depression and mania, or mania alone, separated by periods of normal mood. Pharmacotherapy is effective for symptom control and relapse prevention, and social support is also an important component of treatment³.

Schizophrenia is another major SMI, affecting about 20 million people worldwide, with a prevalence of approximately 1% in the general population, and it typically begins in late adolescence or early adulthood³. A clinical hallmark is psychosis, including hallucinations and delusions. Because many patients are unable to live independently and rely heavily on family support, families play a central role in their care⁴. Moreover, the shift toward community-based psychiatric care has further expanded the responsibilities of family caregivers.

Patients with SMI remain vulnerable after hospital discharge and are at considerable risk of relapse. Relapse often leads to rehospitalization, whereas effective family support may help reduce its occurrence⁵.

To maintain their own health and functioning while coping with the stress of caring for a person with mental illness, caregivers need a high level of resilience and effective coping capacity^{4,5}. However, the long-term psychological burden associated with these disorders may adversely affect caregivers' resilience⁶. Strengthening caregivers' resilience may help them cope more effectively with adversity, respond more flexibly to life stressors, and reduce the daily burden of caregiving, ultimately benefiting both the caregiver and the patient^{1,5}.

If caregiver stress is neglected, it may lead to physical and psychological harm to family members and compromise the continuity of patient care. Chronic psychiatric disorders can also disrupt family functioning, which may contribute to symptom exacerbation and increased rehospitalization.

The national Community Mental Health Care (CMHC) program is a community-based mental health service model that provides post-discharge care for patients with SMI, including schizophrenia and bipolar disorder. Its components include Family Psychoeducation (FPE), telephone follow-up, and

home visits. The program aims to increase caregivers' awareness of the nature of the illness, its treatment course, and ways in which families can support patients⁷.

FPE has been developed and implemented for nearly three decades to reduce caregiver difficulties⁸. As an evidence-based intervention, it improves caregivers' understanding of the illness, enhances coping skills, reduces caregiver burden, and helps decrease relapse and rehospitalization in patients. FPE typically includes education about the illness, illness-management techniques, and problem-solving strategies⁷.

Despite the established benefits of FPE in reducing caregiver burden and improving patient outcomes, evidence on its effect on caregivers' resilience remains limited, especially in the context of the national CMHC program in Iran. Moreover, most previous studies have focused primarily on patient-related outcomes such as relapse and rehospitalization rather than psychological outcomes among family caregivers. Therefore, it is important to examine whether CMHC-based FPE can improve resilience in caregivers of patients with SMI. Therefore, this randomized controlled trial aimed to determine the effect of CMHC-based family psychoeducation on resilience among family caregivers of patients with schizophrenia or bipolar disorder in Qazvin, Iran, in 2024.

Methods

Study design and participants: This randomized controlled trial (RCT) with a pretest–posttest parallel-group design was conducted in 2024. The study protocol was approved by the Ethics Committee of Qazvin University of Medical Sciences (IR.QUMS.REC.1403.239) and registered in the Iranian Registry of Clinical Trials (IRCT20241011063329N1). The study population consisted of family caregivers of patients diagnosed with schizophrenia or bipolar disorder who were hospitalized and treated at the 22 Bahman Educational and Therapeutic Center in Qazvin, Iran.

Based on a previous study⁹, the minimum sample size was estimated at 42 per group. To account for a potential 30% attrition rate and ensure 80% statistical power, 55 participants were recruited for each group (total N = 110) using convenience sampling.

Inclusion criteria were: being the primary family caregiver, age ≥ 18 years, having sufficient communication and cognitive ability to complete questionnaires, and no history of severe mental illness (SMI) or substance abuse. Caregivers who had previously participated in similar psychoeducation programs were excluded. Exclusion criteria during the study included unwillingness to continue, absence from more than one intervention session, incomplete questionnaires, or the patient's death. After providing a full explanation of the study, written informed consent was obtained from all participants.

Randomization and Allocation: Participants were randomly allocated to either the intervention or control group in a 1:1 ratio using block randomization with a block size of four. A random allocation sequence was generated before participant enrollment, and group assignments were placed in sequentially numbered, opaque, sealed envelopes. After obtaining written informed consent and confirming eligibility, each participant was assigned to a study group by opening the next envelope in sequence. Eight participants were excluded during follow-up because of incomplete data, absence from more than one intervention session, or withdrawal from the study. Therefore, the final analysis included 102 caregivers (51 in each group).

Intervention and Control: The intervention group received four 120-minute group sessions of family psychoeducation (FPE) based on the National Community Mental Health Center (CMHC) program (8). A summary of the content and objectives of each session is presented in Table 1. The sessions were facilitated by the hospital's mental health team, including a psychiatrist. Follow-up phone calls were

used to maintain participation. The control group received only the usual care provided by the center and did not receive any formal psychoeducation during the study period.

Measures: Data were collected using demographic and clinical characteristics form and the Connor-Davidson Resilience Scale (CD-RISC). The CD-RISC is a 25-item self-report instrument scored on a 5-point Likert scale (0 to 4), with total scores ranging from 0 to 100; higher scores reflect greater resilience. The scale measures five subscales: perception of personal competence, trust in one's instincts and tolerance of negative affect, positive acceptance of change and secure relationships, control, and spiritual influences. The tool has demonstrated high reliability (Cronbach's $\alpha = 0.89$) and validity in previous research¹⁰. In this study, both the total resilience score and the five subscales were analyzed. Data collection was performed at two stages: baseline (pre-intervention) and three months after the completion of the intervention (follow-up).

Data Analysis: Statistical analysis was performed using SPSS version 24. Descriptive statistics, including means, standard deviations, frequencies, and percentages, were used to summarize the data. The Kolmogorov-Smirnov test assessed the normality of the distribution. Baseline differences between groups were evaluated using independent t-tests (or Mann-Whitney U tests for non-normal data) for continuous variables and Chi-square or Fisher's exact tests for categorical variables. The effect of the intervention over time was analyzed using Repeated-Measures ANOVA, focusing on the group $\times$ time interaction. The significance level was set at $P < 0.05$.

Table 1. Summary of the CMHC-guideline family psychoeducation sessions.

Main topics	Objectives
Introduction to severe mental disorders (schizophrenia and bipolar disorder), clinical manifestations, course of illness, and prognosis	To improve caregivers' understanding of severe mental disorders and reduce misconceptions about the illness.
Treatment principles, medication adherence, early warning signs of relapse, and relapse prevention	To improve caregivers' knowledge of treatment and enhance their ability to recognize and prevent relapse.
Family role in patient care, appropriate responses to behavioral symptoms, and effective communication with patients	To strengthen caregiving skills and promote effective family-patient interactions.
Review of educational content, reinforcement of key messages, discussion of caregivers' questions, and practical strategies for community-based patient support	To consolidate caregivers' knowledge and improve confidence in providing long-term care.

Results

In this randomized controlled clinical trial with a pretest–posttest design, a total of 102 family caregivers of patients with schizophrenia and bipolar disorder, hospitalized and treated at 22 Bahman Educational and Therapeutic Center, were studied. Of these, 51 caregivers were assigned to the intervention group and 51 to the control group. Among the participants, 54 caregivers (52.9%) were male and 48 (47.1%) were female. The mean age of caregivers was 53.25 ± 12.53 years, ranging from 28 to 81 years. Findings indicated no significant differences between the intervention and control groups in terms of mean age and gender distribution ($P > 0.05$) (Table 2).

Other demographic characteristics of the caregivers, such as marital status, education, occupation, and place of residence, also showed no significant differences between the two groups

Table 2. Demographic characteristics of caregivers in the intervention and control groups.

Variable	Control (n=51) N (%)	Intervention (n=51) N (%)	P-value
Gender	Male: 29 (56.9%) Female: 22 (43.1%)	Male: 25 (49%) Female: 26 (51%)	0.552
Age (years, Mean $\pm$ SD)	54.35 $\pm$ 14.0	52.14 $\pm$ 10.86	0.377

Table 3. Other characteristics of caregivers.

Variable	Control (n=51) N (%)	Intervention (n=51) N (%)	P-value
Marital status	Single: 8 (15.7%) Married: 40 (78.4%) Divorced: 3 (5.9%)	Single: 4 (7.8%) Married: 43 (84.3%) Divorced: 4 (7.8%)	0.453
Education	Illiterate: 13 (25.5%) Below diploma: 16 (31.4%) Diploma: 12 (23.5%) Associate: 4 (7.8%) Bachelor: 4 (7.8%) Master's: 2 (3.9%)	Illiterate: 8 (15.7%) Below diploma: 20 (39.2%) Diploma: 12 (23.5%) Associate: 2 (3.9%) Bachelor: 8 (15.7%) Master's: 1 (2%)	0.554
Occupation	Self-employed: 17 (33.3%) Employee: 10 (19.6%) Housewife: 15 (29.4%) Retired: 3 (5.9%) Unemployed: 6 (11.8%)	Self-employed: 15 (29.4%) Employee: 9 (17.6%) Housewife: 19 (37.3%) Retired: 7 (13.7%) Unemployed: 1 (2%)	0.221
Place of residence	Urban: 42 (82.4%) Rural: 9 (17.6%)	Urban: 44 (86.3%) Rural: 7 (13.7%)	0.786

($P > 0.05$) (Table 3).

The results demonstrated that there were no significant differences between the two groups in terms of mean illness duration and mean number of hospitalizations of the patients ($P > 0.05$) (Table 4).

Before the intervention, the mean resilience scores of caregivers in the two groups were not significantly different ($P > 0.05$), indicating baseline comparability. However, following the psychoeducational intervention, the mean resilience score in the intervention group increased significantly and was considerably higher compared to the control group ($P < 0.05$). Also, based on the Repeated-measures ANOVA Test analysis, the changes in the mean resilience scores before and after the intervention were significant in the two groups ($P < 0.01$). (Figure 1).

Among the Connor–Davidson resilience subscales, no significant difference was observed between the control and intervention groups ($P > 0.05$). However, after the psychoeducational intervention, three Connor–Davidson resilience subscales —perception of personal competence, trust in one's instincts and tolerance of negative affect, and Self-control— showed significant improvement in the intervention group compared with the control group ($P < 0.05$) (Table 5).

Table 4. Illness duration and number of hospitalizations.

Variable	Control (n=51), Mean ± SD	Intervention (n=51), Mean ± SD	P-value*
Illness duration (years)	7.50 ± 5.04	5.96 ± 4.31	0.105
Number of hospitalizations	3.15 ± 2.57	3.07 ± 2.54	0.918

*Mann-Whitney Test

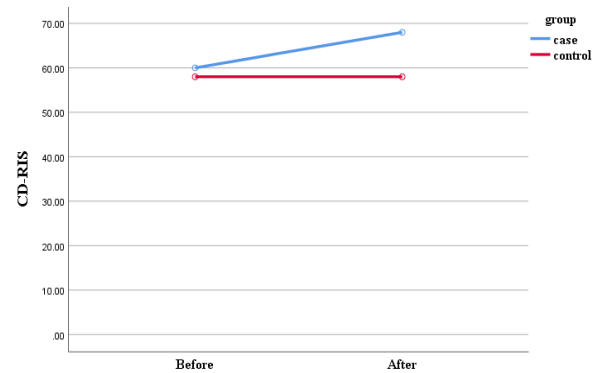


Figure 1. Comparison of connor davidson resilience score of caregivers before and after intervention in two intervention and control groups.

Table 5. Comparison of CD-RISC subscale scores and total resilience score at baseline and 3-month follow-up.

Subscale	Control (n=51), Mean ± SD	Intervention (n=51), Mean ± SD	P (baseline / follow-up)
Perception of personal competence (Baseline/ follow-up)	18.3 ± 7.4 / 18.4 ± 7.4	18.9 ± 8.7 / 22.1 ± 8.7	0.707 / 0.025
Trust in instincts & tolerance of negative affect (Before/ follow-up)	16.9 ± 6.6 / 16.0 ± 6.6	16.7 ± 6.2 / 19.1 ± 6.0	0.854 / 0.014
Positive acceptance of change & secure relationships (Baseline/ follow-up)	11.2 ± 4.8 / 11.3 ± 4.7	12.2 ± 4.6 / 12.3 ± 4.6	0.299 / 0.326
Self-control (Baseline/ follow-up)	7.3 ± 3.1 / 7.6 ± 3.1	7.4 ± 2.9 / 9.6 ± 2.8	1.0 / 0.001
Spiritual influences (Baseline/ follow-up)	4.6 ± 1.9 / 4.5 ± 1.9	5.0 ± 1.9 / 5.1 ± 1.9	0.245 / 0.179
Total resilience score (CD-RISC) (Baseline/ follow-up)	58.6±22.3 / 58.0±22.2	60.4±33.8 / 68.2 ±22.0	0.688 / 0.022

Discussion

The current study demonstrates that a CMHC-based family psychoeducation program significantly strengthens the resilience of family caregivers of patients with severe mental disorders. While baseline resilience levels were comparable between the intervention and control groups, the intervention group exhibited a significantly higher level of resilience at the 3-month follow-up. This improvement was primarily driven by significant gains in three specific domains: perception of personal competence, trust in one’s instincts and tolerance of negative affect, and self-control. The marked improvement in self-control is of particular clinical significance. This finding may reflect the impact of the CMHC program’s core training, particularly the “What should be done?”

module. During these sessions, caregivers learned to reinterpret patients’ behavioral symptoms as manifestations of illness rather than intentional or malicious acts. This cognitive shift may reduce ineffective reactions, such as arguing or punishment, while encouraging caregivers to manage their own anger, frustration, and anxiety⁸. Improved emotional regulation may, in turn, enhance caregiver–patient interactions and strengthen caregivers’ emotional resilience. These results can be interpreted through the lens of research by Rohmi et al., which found that resilience in caregivers is influenced by protective factors like family functioning and risk factors like social stigma. By providing structured education, the CMHC program likely strengthens these protective resources, thereby enhancing resilience¹¹. The findings of this study are consistent with several national and international studies that have shown

significant improvements in resilience through structured educational interventions, despite differences in methodology, tools, and target populations.

For example, Seyed fatemi et al. (2018) used the Connor–Davidson Resilience Scale in a quasi-experimental design with two post-tests to evaluate the effectiveness of virtual psychoeducation via social media. Over four weeks, training was delivered through Telegram, and results showed significant resilience increases in the intervention group, both immediately and four weeks after the intervention¹². Comparing these findings to the present study—both using the same assessment tool—demonstrates the effectiveness of structured education, whether delivered in person or virtually, in improving resilience.

Similarly, Taghavi Larijani et al. (2019) conducted in-person group psychoeducation for families of patients with schizophrenia over eight sessions, finding significant resilience improvements in the intervention group¹³. Kazemian et al. (2019) also found that a structured intervention aimed at strengthening family coping resources significantly improved resilience among caregivers of patients with schizophrenia⁴.

More broadly, evidence from other caregiving contexts also suggests that structured educational interventions may contribute to improved resilience, including among mothers of children with disabilities, mothers of children with autism, and women with addicted spouses^{4,14,15}.

Beyond these national findings, the global literature further reinforces the efficacy of such interventions. In line with the present findings, a recent systematic review and meta-analysis by Okafor et al. (2023) in the United Kingdom evaluated the effectiveness of psychoeducation among family caregivers of adults with schizophrenia. Their analysis of several randomized controlled trials (RCTs) revealed that face-to-face group psychoeducation significantly reduces caregiver burden. Most importantly, they reported that these positive effects were sustained during follow-up periods of 6 and 12 months. This supports the notion that structured educational interventions, similar to the CMHC-based program used in this study, can provide long-lasting

psychological benefits for caregivers by improving their understanding of the illness and enhancing their coping strategies¹⁶. Furthermore, the effectiveness of various modalities of psycho-educational interventions has been evidenced in recent research. Elmadni (2026) evaluated different approaches—including Mindfulness-Based Stress Reduction (MBSR), Cognitive Behavioral Therapy (CBT), and Stress Inoculation Training (SIT)—and demonstrated that structured interventions in psychiatric settings significantly enhance caregivers' emotional resilience and coping abilities. Specifically, MBSR and CBT were found to be highly effective, with nearly all participants reporting improvements in stress management and problem-solving. These findings reinforce the results of the current study, suggesting that structured educational support, regardless of the specific therapeutic model, is a vital factor in promoting the psychological well-being and optimism of caregivers managing mental health disorders¹⁷.

These findings underline the importance of targeted support programs to enhance caregiver resilience and reduce the psychological burden of caregiving. Thus, the results of this study reinforce that structured family psychoeducation plays a key role in improving caregivers' resilience. Evidence suggests that limited awareness of psychiatric disorders and treatment processes can foster misconceptions and reduce engagement with care^{18,19}. Accordingly, family interventions and psychoeducational strategies have been shown to improve illness-related understanding²⁰⁻²⁷, which may help caregivers respond more adaptively to caregiving demands and, in turn, strengthen resilience. Practically, these findings support incorporating structured family psychoeducation within CMHC services by social workers, nurses, and other mental health providers to strengthen caregivers' resilience and coping in the context of severe mental illness.

This study has several limitations. First, participants were recruited using convenience sampling, which may limit the generalizability of the findings. Second, the study was conducted at a single Community Mental Health Center, and the results may not be fully representative of other healthcare settings. Finally, the three-month follow-up period may not have been sufficient to evaluate the long-term sustainability of the

intervention effects. Future multicenter studies with larger samples and longer follow-up periods are recommended to confirm and extend these findings.

Conclusion

The findings of this study support the research hypothesis that CMHC-based family psychoeducation has a positive effect on the resilience of family caregivers of individuals with severe mental disorders. Given the long-term challenges associated with severe mental illness and the central role of families in community-based care, strengthening caregiver resilience is of clear practical importance. Structured psychoeducational interventions may help achieve this by improving caregivers' understanding of the illness, treatment process, and crisis-management strategies. These findings support the integration of family psychoeducation into routine CMHC services and suggest that repeated or flexible modes of delivery, including virtual formats, may further enhance accessibility and continuity of support.

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Conflict of Interest

The authors declare no conflicts of interest related to this study.

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