



Systematic Review

Enhancing caregiver resilience: A systematic review of interventions for chronic disease management

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Abstract

Introduction: Caregivers of patients with chronic diseases (PwCD) devote a substantial amount of energy to the care of their PwCD. This study aimed to review interventions fostering resilience in caregivers of PwCD.

Methods: A systematic review of literature published either through databases Web of Science, PubMed, Scopus, Magiran, and SID or Google Scholar search engine was undertaken. The review was conducted according to the PRISMA review guidelines.

Results: Ten studies were included in this review. Quantitative data provides empirical support for the advantages of psychoeducation, mindfulness-based intervention, cognitive behavioral therapy (CBT)-based intervention, and strengthening family coping resources approach, supportive-educational program based on COPE (Coping Orientation to Problems Experienced) model and commitment therapy. Seven out of ten included studies were randomized controlled trials (RCTs).

Conclusion: The present review revealed that psychoeducation, mindfulness-based intervention, CBT-based intervention, strengthening family coping resources approach, supportive-educational Program based on COPE model, and commitment therapy may promote resilience amongst the caregivers of PwCD. Although, it remains unclear which specific intervention would be the most efficacious in improving resilience. Additional rigorous clinical trials are necessary to fortify the current limited evidence base for interventions targeting caregiver resilience.

Keywords: Resilience, Multiple chronic conditions, Caregivers, Psychological well-being

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Introduction

World Health Organization (WHO) asserts the population of care-dependent people, those who are relied on constant support and aid of human, is almost 349 million.¹ The increase of patients with chronic diseases (PwCD), so-called care-dependent, has led to considerable growth of the number caregivers, even in developed countries like United States (from 43.5 million in 2015 to 53 million in 2020).² Carrying out the tasks involved in everyday lives, execute medical duties, engage in communication with and organize the provision of care by healthcare practitioners, as well as oversee the management of household are areas in which caregivers help PwCD.² In Iran, imbalance between the number of caregivers and the number of patients impose more stress and burden to caregivers and causes the role of resilience to become more prominent.³ Spending long hours for caring of PwCD may impact negatively on physical and psychological well-being of family caregivers (FCs), and it may result in adverse effects namely: cardiovascular disease, compromised immune function, as well as increased likelihood of experiencing depression and anxiety.⁴ On the other hand, the act of providing care can also be considered as a gratifying encounter and provoke favorable elements of nurturing,

such as contentment in one's role, emotional satisfaction, heightened sense of self-worth, personal development, and improved connection between caregiver and care-receiver.^{4,5} Moreover, in societies with strong traditional beliefs, like Iran, taking care of older members of family is considered heavenly.^{6,7} American Psychological Association states that the concept of resilience means the ability to effectively adjust and thrive in adverse circumstances, including but not limited to adversity, trauma, threats, or substantial stressors such as familial and relational difficulties, severe health conditions, or occupational and financial pressures.² Resilience is not just a process but also a characteristic of one's personality, a skill that develops over time.⁸ Although the concept of resilience has been presented in different ways within scholarly works and previous research, the majority of explanations encompass two fundamental characteristics, namely, adversity and positive adaptation.⁹ Sansoni et al clearly mention that in the context of familial caregiving, caregivers who are able to recover from, resist, or adapt to ("positive adaptation") the physical and psychological demands of caregiving ("adversity") can be considered "resilient".^{10,11} Caregivers' resilience includes characteristics like acceptance, hardiness, hope, mastery, self-efficacy,



sense of coherence, optimism, and resourcefulness.^{12,13} The result of a systematic review demonstrated that caregivers who exhibit higher levels of resilience are less likely to experience depression and have better physical health outcomes.¹⁴ Strategies directed towards caregivers, with the purpose of enhancing their resilience, can offer assistance to caregivers of PwCD through multiple aspects. Managing demanding circumstances, enhancing their capacity to solve problems, as well as actively and independently participating in self-care activities. Implementing these interventions has the potential to significantly improve well-being of caregivers, enhance the quality of caregiving, and ultimately result in better outcomes for the care recipients.^{12,13} While systematic and scoping reviews have been conducted to comprehensively investigate resilience within the realm of caregiving, the primary focus of these efforts has been on examining the concept, indicators, determinants of resilience, or scales measuring it.^{2,14} Our strengths, compared to other systematic reviews, include the incorporation of papers published in Persian (Farsi) and a thorough search across Iranian databases. Additionally, we have updated previous reviews and extended the timeframe to include literature published up to March 2023. To our knowledge, only two systematic reviews have been published to assess the effectiveness of interventions for enhancing resilience in caregivers.^{2,14} There is a clear need for a fresh systematic review with a broader scope that encompasses languages beyond English, as resilience is influenced by cultural, traditional, and religious factors. Therefore, this study systematically examined the interventions that enhance resilience in caregivers of individuals with chronic illnesses.

Methods

Design and search strategies

The present study was conducted according the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) review guidelines¹⁴ to review the interventional studies on fostering resilience amongst caregivers of PwCD. To develop the search syntax we sought help from the librarians of Tabriz University of Medical Sciences. Additionally, to enhance the comprehensiveness of our study, we reviewed the references of pertinent previous research relying on the authors' proficient understanding of the discipline, as well as their exploration methods to augment the thoroughness of our exploration techniques. such as Pandya's study that conducted over five years in two South Asian cities examined the effects of a long-term meditation program on home-based caregivers of older adults with Alzheimer's.¹⁵ The search strategy included the MeSH and text words as follows: ["Resilience" OR "Resiliency"] AND ["Carer" OR "Caregiver" OR "Caregivers"].

The following electronic databases were searched: Web

of Science, PubMed, Scopus, Magiran and SID. Moreover, a manual search was conducted via Google Scholar to find related papers. We only included English and Persian records. We additionally conducted a comparative analysis of the previous systematic studies to ascertain the inclusion of all significant studies pertaining to this subject matter in our systematic review. All available articles published before March 2023 were searched.

Inclusion and exclusion criteria

The inclusion criteria were: (a) language: articles written in English or Persian; (b) population: Caregivers of adult patients who were 18 years old or older and had a chronic or advanced condition; (c) intervention, comparator, and outcome: studies that examined an intervention (non-pharmacological) that primarily aimed to improve caregivers' resilience (or had a primary outcome of resilience) with or without an intervention comparator; (d) study design: qualitative, quantitative, or mixed methods empirical studies.

Due to the existence of numerous resilience definitions in the literature, each with its own merits, we did not impose any limitations on the selection of studies in order to favor one resilience definition over others. Instead, we meticulously documented the specific resilience definition and scale employed in each study, with the intention of facilitating future comparisons and synthesis. To put it differently, any study that employed the term "resilience" to denote its outcome or utilized a scale incorporating the concept of resilience to measure its outcome was included in our consideration.¹⁶

The exclusion criteria encompassed several factors. First, the specific article types such as dissertations, conference abstracts, editorials, and reviews were totally excluded. Additionally, studies that did not targeted caregivers were excluded based on population. Lastly, studies that did not measure the resilience of caregivers as one of the outcomes were also excluded based on the main topic.

Study selection

The search and review process adhered to the guidelines of the PRISMA.¹⁷

Initially, a search was conducted resulting in 11160 articles. Among these, 5196 duplicates were identified and subsequently eliminated. Subsequently, a total of 5964 articles were imported into EndNote software X8 (Thomson Reuters, Philadelphia, USA). Two authors (SMS and BR) evaluated the titles and abstracts of these articles by applying the predetermined criteria for inclusion and exclusion. Any discrepancies in decision-making were resolved through discussions until a consensus was reached.

After conducting a thorough evaluation of the titles and abstracts, a total of 5637 articles were eliminated.

Subsequently, two authors meticulously examined the remaining 327 full-text articles to determine their eligibility. Out of these, only ten articles fulfilled the predetermined inclusion criteria. The review and screening process is summarized in Figure 1.

Data extraction

The essential study attributes, encompassing the names of the authors, the year of publication, the geographical origin, the design of the study, the diagnosis of the patients, the sample size and characteristics of the caregivers, and the intervention employed were extracted by two authors (SMS, BR).

Results

Ten studies fulfilled the qualifying standards and were incorporated into this comprehensive analysis. Elaborated attributes of the studies and resulting consequences are succinctly outlined in Table 1 and Table 2.

Characteristics of included studies

Study design and methods

All ten studies employed interventional designs. Seven (70%) were randomized controlled trials (RCTs), while the remaining three utilized quasi-experimental designs.

Patient diagnosis

Study focus: The majority of studies (80%) examined caregivers of patients with various conditions such as heart failure, stroke, dementia, and mental disorders. **Specific focus:** Only 20% of the studies concentrated on caregivers of individuals with schizophrenia.

Concept of resilience

Several studies defined resilience as “the process of coping with adversity, change, or opportunity in a way that strengthens and enriches an individual’s inherent resilient qualities or protective factors.”^{10,12} The study presented contrasting definitions of individual and family resilience:

- *Individual resilience:* The ability to adapt successfully to high-risk conditions and return to normal.
- *Family resilience - coping with challenges:* The family’s capacity to manage stressful life events while

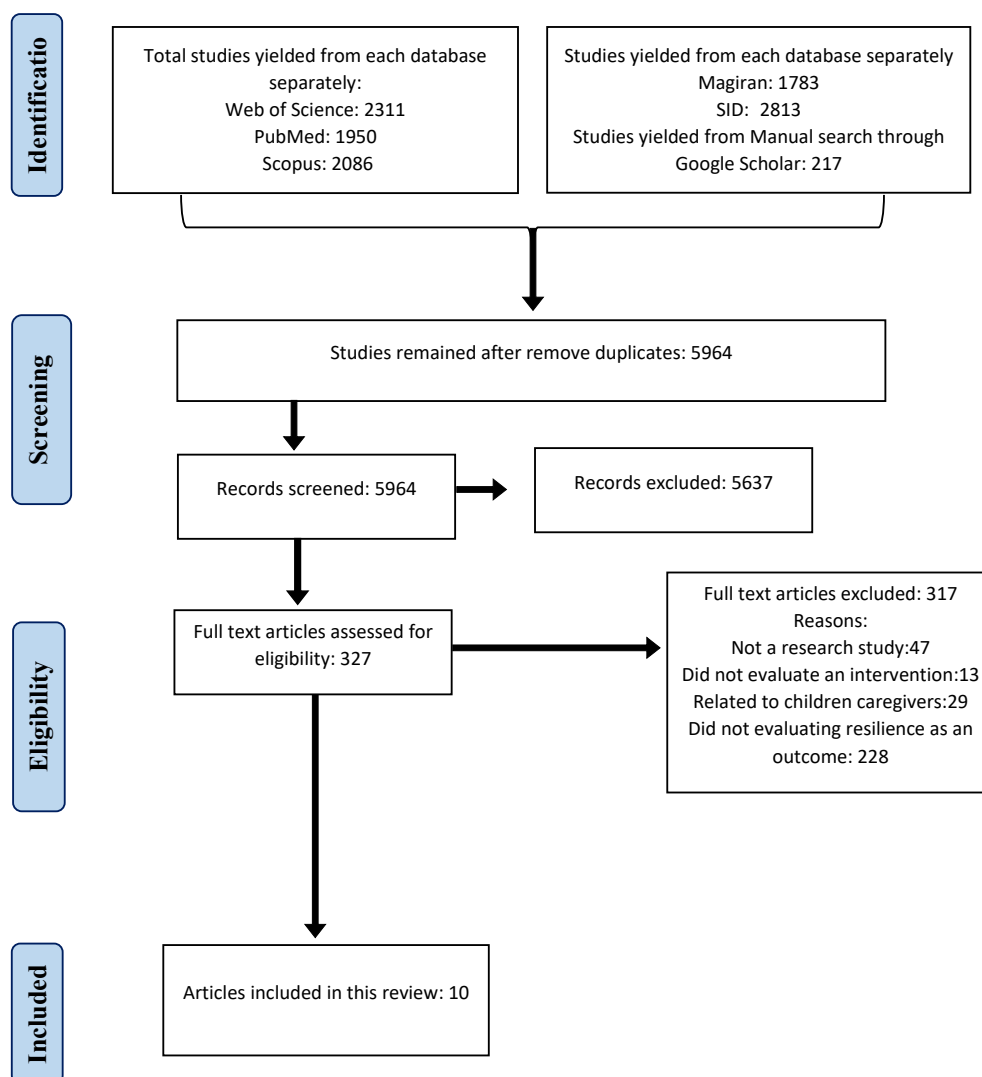


Figure 1. PRISMA flowchart

Table 1. A summary of key characteristics of included studies.

Item	Number (%)
Country	
United States	2 (20)
Thailand	1 (10)
Canada	1 (10)
Turkey	1 (10)
India	1 (10)
Iran	4 (40)
Published years	
2020-2023	1 (10)
2015–2019	8 (80)
2010–2014	1 (10)
Number of included FCs	
Less than 50	3 (30)
50-100	5 (50)
More than 100	2 (20)
Patients' diagnose	
Heart failure	1 (10)
Schizophrenia	2 (20)
Severe mental disorders	1 (10)
Stroke	1 (10)
Dementia	1 (10)
Transplant patients	1 (10)
Alzheimer's disease	1 (10)
Depression	1 (10)
Study design	
Randomized controlled trial	7 (70)
Quasi-experiment	3 (30)

maintaining cohesion.

Systemic process

A dynamic concept involving both positive and negative influences affecting the family as a whole.⁵ “Creative power” to overcome obstacles is the definition depicted in another study for resilience.⁸

Types of interventions promoting resilience

Strengthening family coping resources approach

In an experimental study from Iran, 60 FCs of patients with schizophrenia participated in a study designed to determine whether Strengthening Family Coping Resources Approach is useful for promotion of resilience among caregivers.⁷

In the intervention group, interventions were performed for 15 sessions and three modules. The interventions were based on strengthening the family coping resource approach according to the instructions of Kiser and colleagues’ multi-family model.¹⁸ Sessions were held weekly (two sessions per week; Sundays and Thursdays) for about 120 to 150 minutes in the Psychiatric Hospital

of Mashhad. Issues of each session would be discussed in a group by a clinical psychologist and a psychic nurse as a mediator. Then, some practices were considered for the next session in order to execute the provided issues. The control group received the regular cares of the hospital ward. Data were obtained before and after interventions.¹⁹

Psychoeducation

Psychoeducation teaches FCs adaptive skills for coping with caregiving demands and difficulties 31% (n=2). The intervention period was 5 weeks long in İnci and Temel’s study⁵ while MacCourt and colleagues⁹ study did not report it. The overall dosage of intervention was 6 to 9 h plus two check-in sessions of unknown lengths in one study 23 h and 12.5 h in another study.⁵ In an RCT, İnci and Temel⁵ conducted an assessment of a researcher-led, 5-week, 10-session support program designed specifically for female FCs of stroke patients.

MacCourt et al⁹ undertook a controlled trial to investigate the efficacy of a grief management coaching program for FCs of individuals with dementia.

Both studies demonstrated notable enhancements in the resilience of FCs or aspects of resilience. İnci’s research revealed that among the intervention group, there was a significant enhancement in three out of the seven dimensions of family resilience from the initial assessment to the post-intervention phase (namely, social support, family hardiness, and family distress), as well as in five dimensions from the initial assessment to the 6-month follow-up (namely, support from relatives and friends, social support, family coping coherence, family hardiness, and family distress).

The intervention group, when compared to the control group, exhibited notable reductions in family strain after the intervention. Furthermore, at the follow-up stage, the intervention group displayed higher levels of support from relatives and friends, as well as greater coherence in family coping. Additionally, over time, the intervention group experienced greater increases in social support. In a study conducted by MacCourt et al,⁹ the effectiveness of the grief management coaching program for dementia FCs was assessed from baseline to post-intervention. The study revealed significant enhancements in the resilience of FCs. Notably, the impact of the intervention did not differ based on the mode of delivery.

Supportive-educational program based on COPE model

In research by Alaei et al, 90 FCs of patients with heart failure were recruited.¹ The intervention group participated in a six-session COPE-based training program, which included in-person lectures and discussions held at a hospital, followed by follow-up support through phone calls and WhatsApp.

Table 2. Characteristics of included studies in details

Authors	Publication year	Country	Design	Patients' diagnose	Sample size/samples characteristics	Intervention
Alaei et al ¹	2023	Iran	Single blind clinical trial	Heart failure	90 FCs (intervention group (n=45) and control group (n=45) / 9 cluster including 5 FCs	Caregivers in the intervention group had 6 training sessions following the COPE model: 2 in-person sessions lasting 60 minutes at the hospital, and 4 30-minute phone calls with WhatsApp follow-up within a month. The in-person meetings included lectures, Q&A sessions, and training booklets.
Inci and Temel ⁵	2016	Turkey	RCT	Stroke	70 FCs (intervention group (n=34) and control group (n=36)	5-week program for stroke patient FCs: 10 sessions (90-min education & 60-min social support weekly)+routine home care.
Kazemian et al ⁷	2019	Iran	experimental study	Schizophrenia	60 FCs (intervention group (n=30) and control group (n=30)	In the intervention group, 15 sessions with three modules were conducted based on the family coping resource approach. Sessions were held weekly for 120-150 minutes at the Psychiatric Hospital of Mashhad. Each session involved group discussions led by a psychologist and nurse. The control group received regular care. Data were collected before and after interventions.
Kidd et al ⁸	2011	United States	RCT	Dementia	FCs (n=20)	A 4-week poetry writing study/Participants in group A wrote poems for the first 4 weeks, while group B wrote poems for the second 4 weeks.
McCourt et al ⁹	2017	Canada	Clinical trial	Dementia	200 FCs (intervention group (n=123) and control group (n=77)	Grief coaching intervention based on Caregiver Grief Model with 5 delivery methods: face-to-face, telephone (individual), face-to-face, telephone, or online (group). Sessions by counselors (1-1.5 hours). Control group had access to Alzheimer Society of British Columbia support services.
McCann et al. ¹⁰	2016	Thailand	RCT	Depression	FCs (n=54)	8-week CBT-based self-help manual for FCs and Pts (Thai translation of "The Good Mood Guide: A self-help manual for depression"). Participants completed one module weekly (2 h/module); received 5-min weekly calls for fidelity. Intervention group completed reading. Control: standard support.
Moghbel Esfahani and Haghayegh ¹³	2019	Iran	Quasi-experimental	Schizophrenia	30 FCs* (intervention group (n=15) and control group (n=15)	The study lacked detailed intervention explanations. Data extracted from a table included: Control strategies likened to a person in a well, managing outer versus inner world with a jelly donut metaphor, exploring desire over avoidance with a beggar metaphor, breaking versus cognitive fusion with a train metaphor, clarifying values using a funeral metaphor, and mindfulness for living in the present.
Pandya ¹⁵	2019	India	RCT	Alzheimer's disease	192 FCs* (intervention group (n=96) and control group (n=96)	45-min guided lessons by meditation instructors weekly, with home practice of the same content over 5 years. Attendance and home practice details recorded for treatment fidelity. Instructors maintained home practice records. Control group had no intervention.
Stonnington et al ²⁰	2016	United States	Quasi-experimental study	Transplant patients	FCs (n=18)	A 6-week mindfulness-based resilience training for transplant patients and FCs, incorporating theories and skills from various therapies. No control group.
Seyedfatemi et al ²¹	2019	Iran	semi-experimental study	Severe Mental Disorders	72 FCs* (intervention group (n=36) and control group (n=36)	During a 4-week study, psychological training was conducted by sending targeted messages via Telegram daily. The messages included text, photos, educational clips, and music. Topics were provided at the start of each week, with Q&A sessions twice a week. The final day of each week was for summarizing the content.

Abbreviations: FCs, Family caregivers; RCT, randomized clinical trial.

Mindfulness-based intervention

Mindfulness-based interventions aim to instruct individuals in the practice of focusing their attention on the current moment and deliberately and impartially observing their own thoughts, emotions, and behaviors (n=2).² Both interventions involved group sessions and home practice, but they differed in program length and intensity. One program was a long-term, intensive intervention requiring significant time commitment, while the other was shorter and less demanding.

Pandya undertook an RCT to investigate the enduring

consequences of a meditation initiative for FCs of elderly individuals afflicted with Alzheimer's disease.¹⁵ For five years, participants engaged in a weekly meditation routine. This involved attending a 45-minute group meditation session followed by practicing the same meditation technique at home once a week in preparation for the next session.

Stonnington et al²⁰ conducted a pilot study with a single-group design in order to assess the effectiveness of a six-week mindfulness-based resilience training (MBRT) program for both transplant patients and their FCs.

The MBRT program included six weekly sessions that incorporated mindfulness practice, yoga, and educational components focused on the fundamental principles of stress and resilience in neuroscience. The program integrated concepts and techniques from Mindfulness-Based Stress Reduction,⁶ and Stress Management and Resilience Training (SMART).³

Only one of the two studies demonstrated statistically significant improvements in the resilience of FCs. In Pandya's study, FCs in the intervention group reported significantly higher levels of resilience, a decreased sense of caregiving burden, and increased self-efficacy in caregiving compared to the control group after the intervention period (which was 5 years later).¹⁵ Furthermore, the study revealed that the meditation program was particularly effective for female caregivers who were spouses, Hindu, middle-class, had higher education, were homemakers, and attended at least 75% of the meditation classes and practiced at home on a weekly basis for at least 75% of the weeks.¹⁵ In Stonnington and colleagues' investigation, although lacking statistical significance, the resilience scores of FCs exhibited an escalation from the starting point to the post-intervention stage (week 6) and further from the post-intervention stage to the follow-up (month 3).²⁰

Cognitive behavioral therapy-based intervention

Cognitive behavioral therapy (CBT) is a form of psychotherapy grounded in the premise that thoughts, behaviors, and emotions are intricately interrelated, and individuals can enhance their emotional states and achievements by amending concomitant maladaptive thoughts or behaviors. Bibliotherapy denotes a self-guided therapeutic approach presented in book format. Cognitive behavioral bibliotherapy, as its name implies, pertains to self-help literature that integrates the fundamental tenets of CBT.²² McCann et al conducted an RCT to evaluate the effects of an 8-week CBT-based self-help manual on resilience in adult patients with moderate depression and their FCs.^{10,12} McCann and colleagues' study presented their resilience findings in two articles: one focused on the dyadic outcome¹² and the other on the FC outcome. The 2017 study found that the patient-caregiver intervention group had higher resilience than the control group post-intervention and at follow-up. FCs in the intervention group showed increased resilience scores from baseline to post-intervention and follow-up, but no further increase between the two later assessments. The 2016 study also showed greater resilience improvements in the intervention group compared to the control group.

Virtual social network based psycho-education

Seventy-two FCs of patients with severe mental disorders were enrolled in a study by Seyedfatemi et al.²¹ The study offered a four-week psychological training program for

caregivers through daily messages on Telegram. Content included easy-to-understand text, engaging photos, educational videos, and calming music. Clarity was ensured with topic overviews, weekly schedules, Q&A sessions, and weekly summaries.

Expressive writing

Expressive writing helps individuals explore personal experiences through various styles like letters, journaling, or poetry. It allows deeper emotional understanding and connection between events. Writers use metaphors, symbolism, and imagery for vivid expression. A study examined an intervention program using these techniques.⁸ Kidd et al conducted a pilot RCT using mixed methods to study the benefits of a 4-week poetry-writing program for FCs of elderly with dementia. Sample size: 20 participants.⁸ The study found no significant changes in resilience, self-transcendence, caregiver burden, or depressive symptoms. Qualitative analysis showed a key theme of self-validation among caregivers, supported by nine subthemes: accomplishment, purification, acceptance, empathy, contemplation, self-consciousness, enjoyment and creativity, positive challenge, and assistance. These subthemes emphasize the positive aspects of caregiving for individuals with dementia.

Commitment therapy

Thirty FCs of patients with schizophrenia were enrolled in a quasi-experimental study and were assigned to intervention and control groups equally.¹³ Intervention details were lacking in the study. Data extracted from a table included control strategies likened to a person in a well, managing inner and outer worlds with a jelly donut metaphor, exploring desire over avoidance with a beggar metaphor, breaking versus cognitive fusion with a train metaphor, clarifying values using a funeral metaphor, and mindfulness for living in the present.

Discussion

This review has conducted a synthesis of existing research evidence regarding resilience interventions for caregivers of PwCD. The review has identified the following major types of interventions, namely psycho-education, mindfulness-based intervention, CBT-based intervention, expressive writing, strengthening family coping resources approach, Supportive-Educational Program based on COPE Model, and Commitment Therapy. This paper encompasses a more extensive range of caregivers from diverse nationalities, particularly those of Iranian descent, by means of incorporating Persian (Farsi) papers, in contrast to previous systematic reviews. By identifying supplementary interventions, we are able to explore the capacity of these interventions to bolster resilience, while also scrutinizing different forms of intervention as corroborated by the studies that have been incorporated.

Furthermore, we conducted a search of databases up until March 2023, in order to offer a comprehensive update on the subject matter.

Comparisons between different types of interventions

Given the variety of interventions identified, we will discuss each type individually before offering an overall analysis.

Psychoeducation

The investigations that assessed a psychoeducational intervention discovered statistically noteworthy enhancements in FCs' resilience, or aspects of resilience such as social support and family coping-coherence.⁵ Due to differences in intervention components, intensity variations, and lack of fidelity data, it is difficult to provide specific recommendations for effective resilience-boosting psychoeducation interventions for future research or clinical use.

Virtual social network based psycho-education

Research findings indicate a significant difference in psychological training and resilience among FCs of patients with severe mental disorders before and after intervention.²¹ Severe mental disorders burden families, causing stress for caregivers. Enhancing caregiver resilience through psychoeducation can help. By increasing awareness of disorders and crisis management skills, caregivers feel better prepared. Virtual delivery makes psychoeducation accessible and cost-effective for families.

Strengthening family coping resources approach

Interventions boosting familial resources can enhance resilience in families of schizophrenia patients.⁷ It is recommended to employ these interventions as a means to enhance the resilience of FCs of individuals suffering from schizophrenia.

Supportive-educational program based on COPE model

Based on the results of the study, it seems that considering the effectiveness of the COPE model on increasing and maintaining the resilience of caregivers,¹ This study proposes using the COPE model to benefit hospital managers and nursing professionals. Implementing this program can enhance caregivers' knowledge in caring for PwCD. Despite research limitations like participant honesty and external influences, the study underscores the COPE model's potential. Further research is recommended, including a post-discharge educational support program for caregivers of chronic disease patients.

Commitment therapy

The study showed that commitment therapy can improve family interactions for FCs and reduce psychological

effects on their family members.¹² The study indicates that increased therapy sessions could enhance caregiver resilience for PwCD. Yet, the findings may have limited relevance due to study design constraints. Factors like convenience sampling and lack of blinding could impact result generalizability. Moreover, the study did not account for variables like caregiver numbers, illness duration, and caregivers' mental well-being.

Mindfulness-based intervention

The intervention that demonstrated noteworthy enhancements showed remarkably substantial effect sizes (Cohen's *d*) from baseline to post-intervention, further reinforcing the enduring positive influence of the intervention.²⁰ This intervention requires a five-year commitment with weekly classes and home practice. Participants need to attend 75% of classes and practice regularly. The study had an 80% retention rate after five years, but replicating it elsewhere is uncertain. The study's location in South Asian cities raises questions about generalizability to Western cultures. Mindfulness interventions can improve caregiver resilience, but more research and streamlined designs may be needed for wider applicability.

CBT-based intervention

We have only identified a single study that examined an intervention based on CBT. The research conducted by McCann et al¹² indicated that an 8-week intervention, which involved a CBT-based guided self-help manual, can enhance the short-term resilience of FCs at the end of the intervention (8 weeks) and during the follow-up period (12 weeks). However, it is currently unknown what the long-term effects (beyond 3 months) of this intervention are.

Expressive writing

One research study involved the participation of FCs in the activity of expressive writing for a duration of 4 weeks.⁸ Qualitative findings show caregivers benefit from psychoeducation, improving resilience. More rigorous RCTs needed for stronger evidence.

Suggestions for further research

This review found effective interventions for FCs, including psychoeducation, mindfulness, CBT, family coping resources, COPE model programs, and commitment therapy. Healthcare teams can use these interventions to enhance caregiver resilience and well-being. A resilience-specific framework is needed to guide intervention development. Future research should focus on defining resilience, validating measures, integrating resilience into interventions, and including diverse populations, especially ethnic and religious minorities.

Current investigations lack focus on minority groups, which is crucial for nations with significant minority populations.

Limitations and strength

This review has some limitations to consider:

Limitations

- The review focused solely on studies published in electronic databases, potentially excluding valuable research found in dissertations, conference abstracts, and non-English publications.
- The study population was limited to adult caregivers, excluding pediatric caregivers.

Strength

- The review included studies in multiple languages, providing a broader perspective compared to studies limited to English-language publications.

Conclusion

The review found various interventions to enhance caregiver resilience for people with dementia. Psychoeducation, mindfulness, CBT, family coping resources, COPE model programs, and commitment therapy show promise. However, expressive writing did not prove effective. More high-quality studies are needed for better evidence. Rigorous trials are crucial to determine the most effective interventions for caregiver resilience.

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Authors' Contribution

Conceptualization: Saeedeh Mohammadi Saber.

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Formal analysis: Behzad Rahimian.

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Methodology: Saeedeh Mohammadi Saber, Behzad Rahimian.

Project administration: Behzad Rahimian.

Resources: Saeedeh Mohammadi Saber.

Supervision: Saeedeh Mohammadi Saber.

Visualization: Behzad Rahimian.

Writing-original draft: Saeedeh Mohammadi Saber.

Writing-review & editing: Saeedeh Mohammadi Saber.

Competing Interests

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