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Mediating Role of Resilience between the Relationship of Burden of Care and Quality of Life of Caregivers of Cancer Patients

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Abstract

Caregivers of cancer patients often experience substantial caregiving burden, which can negatively affect their quality of life. Psychological resilience may play a crucial role in buffering the adverse effects of caregiving burden. The present study aimed to examine the mediating role of resilience in the relationship between burden of care and quality of life among caregivers of cancer patients. A cross-sectional research design was employed, and data were collected from a sample of 139 caregivers recruited from oncology settings. Standardized self-report measures were used to assess caregiving burden, resilience, and quality of life. Correlation and mediation analyses were conducted to test the proposed relationships. The results revealed a significant negative relationship between burden of care and quality of life, indicating that higher caregiving burden was associated with poorer quality of life. Resilience was found to be positively associated with quality of life and negatively associated with caregiving burden. Mediation analysis demonstrated that resilience partially mediated the relationship between burden of care and quality of life, suggesting that higher resilience reduced the negative impact of caregiving burden on caregivers' quality of life. These findings highlight the protective role of resilience in caregiving contexts and underscore the importance of resilience-building interventions to enhance the well-being and quality of life of caregivers of cancer patients.

Keywords: Caregiving, Burden of Care, Quality of Life, Resilience

1. Introduction

Cancer is among the leading causes of morbidity and mortality worldwide, imposing profound physical, psychological, social, and financial stress on patients and their families alike. With improvements in cancer diagnosis and treatment, more individuals are living longer with the disease, resulting in increased reliance on informal caregivers, typically family members, to support patients through prolonged and often complex care trajectories. Caregivers play a pivotal role in administering medication, assisting with activities of daily living, coordinating healthcare appointments, managing symptoms, and providing emotional support. While this caregiving role is essential for patient outcomes, it often comes at a significant cost to the caregivers' own well-being. The physical and emotional demands of caregiving can lead to what is commonly termed caregiver burden—a multidimensional construct encompassing physical strain, emotional distress, social isolation, financial difficulties, and reduced personal time (e.g., Zarit burden inventory dimensions). Such burden has been consistently linked with adverse health outcomes including increased anxiety, depression, fatigue, and compromised quality of life (QoL) among caregivers of cancer patients (Ji et al., 2025).

Quality of life for caregivers is broadly defined as an individual's overall subjective evaluation of their well-being across physical, psychological, social, and functional domains. For caregivers of cancer patients, quality of life can deteriorate as caregiving responsibilities intensify, often due to the unpredictable progression of the disease, emotional reactions to suffering, and the complexity of medical care tasks. The literature has documented that higher levels of caregiver burden are associated with lower levels of QoL in family caregivers, reflecting the cumulative toll that caregiving roles exact on personal health, social relationships, work commitments, and emotional functioning. These negative consequences may persist long after active caregiving ends, underscoring the importance of addressing factors that can mitigate the impact of caregiving stress (Ji et al., 2025).

In parallel, resilience has emerged as a critical psychological construct within health and caregiving research. Resilience refers to an individual's capacity to adaptively respond to, recover from, and ideally grow through adversity, stress, and trauma. It is a dynamic process rather than a fixed trait, involving cognitive, emotional, and behavioral responses that enable individuals to manage demands effectively. For caregivers of patients with chronic or life-threatening illnesses such as cancer, resilience may determine who adapts well to caregiving challenges and who experiences severe distress and diminished well-being. Higher resilience has been associated with better emotion regulation, stronger coping strategies, reduced perceived stress, and, critically, improved QoL. Resilient caregivers are more likely to sustain caring roles without experiencing severe psychological breakdowns or functional impairments, even under high stress (Mollaei et al., 2024).

Despite the established importance of caregiver burden, quality of life, and resilience as key constructs in caregiving research, the mechanisms linking these variables remain insufficiently understood, particularly in the context of cancer caregiving. Traditional research has predominantly examined direct associations—for example, how caregiver burden predicts lower QoL or how resilience is related to better psychosocial outcomes. However, emerging evidence suggests that the relationship between caregiving stressors and life outcomes is more complex and likely involves mediating and moderating processes that shape how burden translates into diminished quality of life. One of the most promising mechanisms identified in recent research is resilience as a mediating variable, whereby resilience may mitigate the impact of caregiver burden on QoL by enhancing coping resources, emotional regulation, stress appraisal, and recovery processes (Song et al., 2025). Recent empirical studies have begun to unpack these dynamic relationships. For instance, a cross-sectional study involving informal caregivers of gastrointestinal cancer patients found that caregiver burden was negatively associated with both mental and physical health components of QoL, and importantly, resilience partially mediated the negative impact of caregiver burden on QoL outcomes.

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This suggests that caregivers with higher resilience are better able to maintain quality of life despite experiencing significant care responsibilities (Song et al., 2025). Similarly, research among primary caregivers of cancer patients in China showed that caregiver burden mediated the effect of psychological resilience on QoL, and that social support further influenced this relationship, highlighting a network of interrelated psychosocial factors (Ji et al., 2025).

These studies illustrate a critical point: resilience is not merely a correlate of better well-being but may actively shape the caregiving experience by buffering against the detrimental effects of stress and burden. While theoretical models have long posited resilience as a protective factor in stress and coping frameworks, the empirical demonstration of its mediating role in cancer caregiving is a notable advancement in the field, offering deeper insights into potential intervention targets. This line of inquiry aligns with broader theoretical frameworks such as the stress and coping model, which posits that individuals' appraisal of stressors and their coping resources jointly determine psychological outcomes, and positive psychology perspectives that emphasize strengths and adaptive capacities even in the context of adversity (Mollaei et al., 2024). Another dimension of relevance is the family context of resilience, which encompasses not only individual coping mechanisms but also family communication patterns, problem-solving skills, and access to social and economic resources. Studies examining family resilience—defined as the family's collective ability to withstand and rebound from crisis—have revealed its significant role in moderating the relationship between caregiver burden, psychological distress, and QoL. For example, research among caregivers of advanced cancer patients found that family resilience dimensions such as effective communication and utilization of resources moderated the impact of distress on QoL outcomes. In this sense, resilience operates at both the individual and family levels, reinforcing the complexity of psychosocial processes in caregiving settings (Cui et al., 2024).

Understanding the mediating role of resilience is critical for both theory and practice. Theoretically, it refines existing models by illustrating how psychological resources influence the caregiving stress–health outcomes pathway, offering a more nuanced conceptualization of caregiver adaptation. Practically, identifying resilience as a mediator underscores its utility as an intervention target. Programs designed to bolster resilience—such as stress management training, cognitive-behavioral coping strategies, social support enhancement, and family therapy—may attenuate caregiver burden's adverse effects and enhance QoL. Such interventions could be especially impactful in settings where caregivers face multifaceted stressors including financial strain, limited access to supportive services, and cultural expectations regarding family caregiving roles Mollaei et al., 2024).

1.1. Statement of the Problem

Caregivers of cancer patients play a crucial role in providing physical, emotional, and practical support throughout the disease trajectory. While fulfilling this role, caregivers are often exposed to substantial physical, psychological, social, and financial demands, collectively referred to as the burden of care. Prolonged exposure to caregiving burden has been consistently associated with adverse outcomes, including stress, anxiety, depression, and a diminished quality of life. Despite their central role in cancer care, the well-being of caregivers remains under-recognized and insufficiently addressed within healthcare systems. Quality of life among caregivers is influenced not only by the level of caregiving burden but also by personal and psychological resources that enable individuals to cope with stressors. One such resource is resilience, defined as the capacity to adapt positively in the face of adversity. Emerging evidence suggests that resilient caregivers may experience less negative impact of caregiving burden on their overall quality of life. However, the mechanisms through which resilience influences this relationship are not yet fully understood, particularly in the context of caregiving for cancer patients. There is a lack of empirical research examining resilience as a mediating variable between burden of care and quality of life among caregivers of cancer patients. Understanding whether and how resilience mediates this relationship is essential for identifying protective factors that can buffer the negative effects of caregiving burden. Addressing this gap may inform the development of targeted psychosocial interventions aimed at strengthening caregiver resilience and improving their quality of life. Therefore, this study seeks to examine the mediating role of resilience in the relationship between burden of care and quality of life among caregivers of cancer patients.

1.2. Rationale of the Study

Cancer is a chronic and life-threatening illness that places substantial demands not only on patients but also on their caregivers. Caregivers often assume multiple roles, including providing physical care, emotional support, and managing medical and financial responsibilities. These responsibilities can lead to a high burden of care, which has been shown to negatively affect caregivers' physical health, psychological well-being, and overall quality of life. Despite this, caregivers' needs and experiences remain insufficiently addressed in oncology care and research. Understanding the factors that influence caregivers' quality of life is essential for developing comprehensive cancer care models. While the burden of care is a well-documented predictor of poor quality of life, caregivers do not experience its effects uniformly. This suggests the presence of psychological protective factors that may mitigate the adverse consequences of caregiving stress. Resilience, as an adaptive capacity to cope with adversity, has emerged as a key construct that may help caregivers manage stress more effectively and maintain better well-being. Examining resilience as a mediating variable between burden of care and quality of life is particularly important because it provides insight into *how* and *why* caregiving burden impacts caregivers' lives. Rather than focusing solely on reducing caregiving demands—an approach that may not always be feasible—identifying resilience as a mediator highlights a modifiable psychological resource that can be strengthened through targeted interventions such as counseling, coping skills training, and psychosocial support programs. Furthermore, there is limited empirical evidence, particularly in the context of caregivers of cancer patients, exploring the mediating role of resilience. Addressing this gap will contribute to the existing body of knowledge by offering a more nuanced understanding of caregiver well-being. The findings of this study may inform healthcare professionals, policymakers, and mental health practitioners in designing interventions aimed at enhancing resilience, reducing the negative impact of caregiving burden, and ultimately improving the quality of life of caregivers of cancer patients.

1.3. Significance of the Study

This study is significant as it contributes to a deeper understanding of the psychological mechanisms influencing the well-being of caregivers of cancer patients by examining the mediating role of resilience between burden of care and quality of life. By identifying resilience as a potential protective factor, the findings may guide healthcare professionals in developing targeted psychosocial interventions aimed at strengthening caregivers’ coping capacities and reducing the negative impact of caregiving burden. The study may also inform policymakers and healthcare administrators about the importance of incorporating caregiver-focused support programs into cancer care services. Additionally, the results can enrich existing literature by providing empirical evidence on caregiver resilience, offering a foundation for future research and intervention strategies to enhance the overall quality of life of caregivers of cancer patients.

2. Research Method

2.1. Research Design

This study employed a quantitative, cross-sectional, correlational research design to examine the mediating role of resilience in the relationship between burden of care and quality of life among caregivers of cancer patients. A correlational approach was chosen because it allows for the investigation of the strength and direction of relationships between variables without manipulating them. The cross-sectional design enabled the collection of data at a single point in time, providing a snapshot of caregivers’ experiences regarding care burden, resilience, and quality of life.

2.2. Population and Sample

The target population for this study comprised caregivers of cancer patients receiving treatment in oncology units of hospitals. A total of 139 caregivers participated in the study. The sample was selected using purposive sampling, as participants needed to meet specific inclusion criteria: (1) being a primary caregiver of a cancer patient, (2) aged 18 years or older, and (3) willing to participate in the study voluntarily. This sample size was determined based on standard statistical recommendations for mediation analysis, ensuring adequate power to detect meaningful relationships among the variables.

2.3. Inclusion and Exclusion Criteria

The study included caregivers who were actively involved in the day-to-day care of cancer patients and were able to understand and respond to self-administered questionnaires. Caregivers with a diagnosed psychiatric disorder or cognitive impairment that could interfere with accurate self-reporting were excluded from the study. This criterion ensured the reliability of the responses and the validity of the data collected.

3. Data Collection Instruments

3.1. Data were collected using structured, standardized questionnaires

i. Burden of Care: The Zarit Burden Interview (ZBI) was used to assess caregivers’ perceived burden. It consists of items measuring physical, emotional, social, and financial strain.
ii. Resilience: The Connor-Davidson Resilience Scale (CD-RISC) was used to measure resilience levels. The scale assesses personal competence, tolerance of negative affect, positive acceptance of change, and secure relationships.
iii. Quality of Life: The WHO Quality of Life-BREF (WHOQOL-BREF) questionnaire was used to evaluate caregivers’ perceived quality of life across physical, psychological, social, and environmental domains.

All instruments demonstrated good reliability in previous studies, with Cronbach’s alpha coefficients exceeding 0.80. Before data collection, a pilot test was conducted with 10 caregivers to ensure clarity, comprehensibility, and suitability of the questionnaires.

3.2. Data Collection Procedure

After obtaining ethical approval from the relevant Institutional Review Board (IRB) and permissions from hospital authorities, caregivers who met the inclusion criteria were approached. The purpose of the study was explained, and informed consent was obtained from all participants. Questionnaires were administered either in person or via an online survey, depending on caregivers’ convenience. Data collection was conducted over a period of six weeks. Participants were assured of confidentiality and anonymity, and they were informed that they could withdraw at any time without consequences.

4. Data Analysis

Data were analyzed using SPSS version 26 and PROCESS Macro for mediation analysis. Initially, descriptive statistics (mean, standard deviation, frequencies, and percentages) were calculated to summarize demographic characteristics and study variables. Pearson correlation analysis was conducted to examine the relationships among burden of care, resilience, and quality of life. Mediation analysis was performed to test the hypothesis that resilience mediates the relationship between burden of care and quality of life. The significance of the mediation effect was determined using bootstrapping techniques with 5,000 resamples, with confidence intervals set at 95%. Assumptions of normality, linearity, and multicollinearity were checked before conducting the analysis.

4.1. Ethical Considerations

Ethical principles were strictly followed throughout the study. Participants provided informed consent and were assured of the confidentiality of their responses. Identifiable information was coded, and data were securely stored. The study adhered to the Declaration of Helsinki guidelines, ensuring respect for participants’ rights and well-being.

Table 1: Correlation between Burden of Care and Quality of Life (N = 139)

Variable	1	2
1. Burden of Care	—	

Variable	1	2
2. Quality of Life	−.45**	—

The results show a statistically significant, moderate negative correlation between Burden of Care and Quality of Life ($r = -0.45$, $p < 0.01$, $N = 139$). This indicates that as caregivers experience a higher burden of care, their quality of life tends to decrease. The negative relationship suggests that greater stress, responsibilities, or emotional strain associated with caregiving are linked to lower levels of well-being. Although the correlation is moderate, it highlights that burden of care is an important factor affecting quality of life, while other variables, such as social support or coping strategies, may also influence caregivers' overall well-being.

Table 2: Mediating Role of Resilience between the Relationship of Burden of Care and Quality of Life of Caregivers of Cancer Patients

Path	β (Standardized Coefficient)	SE	t-value	p-value	Interpretation
Burden of Care → Quality of Life	-0.45	0.08	-5.63	<0.001	Higher burden of care predicts lower QoL.
Burden of Care → Resilience	-0.50	0.07	-7.14	<0.001	Higher burden of care predicts lower resilience.
Resilience → Quality of Life (controlling for Burden)	0.40	0.09	4.44	<0.001	Higher resilience predicts higher QoL.
Burden of Care → Quality of Life (direct effect, controlling for Resilience)	-0.25	0.08	-3.13	0.002	Direct effect reduced after including resilience.
Indirect Effect (Burden → Resilience → QoL)	-0.20	0.05	3.90	<0.001	Resilience partially mediates the relationship.

The study found that a higher burden of care significantly predicts lower quality of life (QoL) among caregivers of cancer patients, indicating that increased caregiving responsibilities negatively affect their well-being. Burden of care also negatively impacts resilience, suggesting that greater caregiving stress reduces caregivers' ability to cope with challenges. Resilience, in turn, positively predicts QoL even when controlling for burden, highlighting its protective role. When resilience is included in the model, the direct effect of burden on QoL decreases, and the significant indirect effect confirms that resilience partially mediates this relationship. These findings suggest that part of the negative impact of caregiving burden on quality of life operates through reduced resilience, emphasizing that interventions aimed at strengthening caregivers' resilience could help mitigate the adverse effects of caregiving stress.

5. Discussion

The present study investigated the mediating role of resilience in the relationship between caregiving burden and quality of life among caregivers of cancer patients. Consistent with the study objectives and the proposed mediation model, the findings demonstrated that caregiving burden was significantly and negatively associated with caregivers' quality of life, while resilience was positively associated with quality of life and negatively associated with caregiving burden. Importantly, resilience was found to partially mediate the relationship between caregiving burden and quality of life, indicating that resilience serves as a psychological buffer that reduces the detrimental impact of caregiving burden on caregivers' well-being.

5.1. Caregiving Burden and Quality of Life

The significant negative relationship between caregiving burden and quality of life observed in this study aligns closely with a substantial body of previous research on caregivers of cancer patients. High caregiving burden—characterized by physical exhaustion, emotional distress, social restrictions, and financial strain—has consistently been associated with poorer quality of life outcomes. Studies across diverse cultural contexts have reported that caregivers experiencing higher burden exhibit lower physical health, increased psychological distress, impaired social functioning, and reduced overall life satisfaction (Ji et al., 2025; Song et al., 2025). The present findings reinforce these observations and highlight that caregiving burden remains a central risk factor for diminished quality of life in cancer caregiving contexts. From a theoretical standpoint, these findings are congruent with the stress and coping model, which posits that prolonged exposure to stressors—such as intensive caregiving demands—can overwhelm an individual's coping resources, leading to adverse health and psychosocial outcomes. Cancer caregiving is often marked by uncertainty, emotional strain related to the patient's prognosis, and the complexity of medical care, all of which can amplify perceived burden and erode caregivers' well-being over time. The current results support the view that without adequate psychological resources, caregivers are particularly vulnerable to quality-of-life deterioration.

5.2. Resilience and Quality of Life

Resilience emerged as a significant positive predictor of quality of life, indicating that caregivers with higher levels of resilience reported better overall well-being despite the challenges associated with caregiving. This finding is consistent with earlier studies demonstrating that resilience is associated with improved psychological adjustment, reduced emotional distress, and enhanced quality of life among caregivers of individuals with chronic and life-threatening illnesses (Mollaei et al., 2024). Resilient caregivers tend to exhibit more adaptive coping strategies, greater emotional regulation, and a more positive appraisal of stressful situations, which collectively contribute to better quality-of-life outcomes. Furthermore, the negative association between resilience and caregiving burden suggests that resilient caregivers may perceive caregiving demands as less overwhelming or are better equipped to manage these demands effectively. Prior research supports this interpretation, indicating that resilience can reduce the subjective experience of burden by fostering problem-solving skills, optimism, and flexibility in the face of adversity (Song et al., 2025). Thus, resilience appears to function not only as a protective factor for quality of life but also as a mitigating factor that lessens the intensity of perceived caregiving burden.

5.3. Mediating Role of Resilience

The most significant contribution of the present study lies in demonstrating that resilience partially mediates the relationship between caregiving burden and quality of life. This finding suggests that caregiving burden influences quality of life both directly and indirectly through its impact on resilience. In other words, higher caregiving burden is associated with lower resilience, which in turn contributes to poorer quality of life. However, because the mediation was partial rather than full, caregiving burden still exerts a direct negative effect on quality of life independent of resilience. These findings are consistent with emerging empirical evidence supporting resilience as a key mediating mechanism in caregiving research. Song et al. (2025), for example, reported that resilience partially mediated the relationship between caregiver burden and both mental and physical components of quality of life among caregivers of gastrointestinal cancer patients. Similarly, Ji et al. (2025) found complex mediational pathways involving caregiver burden, resilience, and social support, underscoring the dynamic interplay among psychosocial resources in shaping caregiver outcomes. The current study extends this literature by reaffirming the mediating role of resilience in a broader sample of caregivers of cancer patients. Conceptually, this mediation effect aligns with positive psychology and stress-buffering frameworks, which posit that personal strengths and adaptive capacities can attenuate the negative impact of stressors on health outcomes. Resilience may operate by enhancing caregivers' ability to reinterpret stressful situations, regulate negative emotions, maintain hope, and mobilize internal and external resources. Through these mechanisms, resilience reduces the extent to which caregiving burden translates into diminished quality of life.

5.4. Implications for Practice and Intervention

The findings of this study have important practical implications for caregiver support and intervention programs. Identifying resilience as a mediating factor highlights its potential as a modifiable target for psychosocial interventions. While caregiving burden may be difficult to eliminate—particularly in the context of advanced or long-term cancer care—resilience can be strengthened through structured interventions. Programs focusing on stress management, cognitive-behavioral coping strategies, mindfulness, emotional regulation, and social support enhancement have shown promise in increasing resilience and improving quality of life among caregivers (Mollaei et al., 2024). Additionally, interventions that incorporate family-level resilience components, such as improving communication, problem-solving skills, and utilization of social and healthcare resources, may further amplify the protective effects of resilience. As suggested by Cui et al. (2024), family resilience can interact with individual resilience to buffer against caregiving stress, emphasizing the importance of holistic, family-centered approaches in oncology care.

6. Conclusion

The present study examined the mediating role of resilience in the relationship between burden of care and quality of life among caregivers of cancer patients. Consistent with the study objectives, the findings demonstrated that caregiving burden was significantly and negatively associated with caregivers' quality of life, confirming that increased caregiving demands adversely affect caregivers' overall well-being. Resilience was found to be positively associated with quality of life and negatively associated with burden of care, highlighting its role as an important psychological resource for caregivers. Most importantly, the results revealed that resilience partially mediated the relationship between burden of care and quality of life. This indicates that while caregiving burden directly contributes to poorer quality of life, higher levels of resilience can reduce the magnitude of this negative effect. Caregivers with greater resilience appear better equipped to adapt to caregiving stressors, manage emotional challenges, and maintain a relatively better quality of life despite high caregiving demands. These findings underscore the protective function of resilience in cancer caregiving contexts and emphasize the need to move beyond burden reduction alone when addressing caregiver well-being. Interventions aimed at enhancing resilience—such as coping skills training, stress management programs, and psychosocial support—may serve as effective strategies to buffer the detrimental effects of caregiving burden and improve caregivers' quality of life. Although the cross-sectional nature of the study limits causal inferences, the results provide valuable empirical support for resilience-focused approaches in caregiver support programs. Future longitudinal and intervention-based studies are recommended to further clarify causal pathways and to evaluate the effectiveness of resilience-building interventions for caregivers of cancer patients.

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