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ORIGINAL RESEARCH

The Correlation Between Caregivers Burden and Quality of Life Among Family Caregivers of Stroke Survivors: The Mediating Role of Resilience

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Purpose: This study aimed to investigate the mediation effects of resilience in the correlation between burden and Quality of Life (QoL) among Family Caregivers (FCs) of stroke survivors.

Patients and Methods: This cross-sectional study was conducted using outpatient services. The study sample included 134 FCs from stroke survivors. Demographic and clinical information were obtained using medical records and questionnaires. The Connor-Davidson Resilience Scale (CD-RISC) was used to measure FCs' resilience. Caregiver Burden (CB) scale was used to measure FCs burden. The WHOQOL-BREF was used to measure the QoL of the FCs. Path analysis was used to determine the mediating effect of resilience on CB and QoL. To address the influence of resilience, path coefficients were divided into direct and indirect effects.

Results: The results of the path analysis between the CD-RISC and CB scale were significant at 0.01. The same was true for the path between the CD-RISC and WHOQOL-BREF ($p< 0.01$). The path coefficients were divided into direct and indirect effects to address the influence of resilience on CB and QoL. The findings showed that resilience negatively correlated with the FCs burden ($\beta = -0.279$; 95% CI, − 0.383–0.175) and explained a 17.2% variance in the burden ($R^2 = 0.172$, $p < 0.001$). QoL also negatively predicted the CB ($\beta = -0.279$; 95% CI, 0.025–0.279) and positively predicted resilience ($\beta = 0.152$; 95% CI, −0.365–0.193). The CB and resilience accounted for 34.7% of the variance in QoL ($R^2 = 0.347$, $p < 0.001$). The indirect effect of CB on QoL mediated by resilience was −0.042 and the direct effect of burden on QoL was −0.321.

Conclusion: Resilience negatively mediated the correlation between CB and QoL of FCs of stroke survivors. Addressing resilience interventions in palliative care could alleviate this burden and improve the QoL of stroke survivors.

Keywords: burden, resilience, quality of life, family caregivers, stroke

Introduction

According to World Stroke Organization in 2019, there were 3.3 million stroke cases worldwide that end up in death each year.[1] Stroke can significantly impact the disability in Activities of Daily Living (ADL), alter roles and functions within the family, lead to changes in social interactions, and result in reduced employment opportunities.[2,3] Family caregivers (FCs) have roles and responsibilities in taking care of the member of the family who suffers from stroke. Several studies have elucidated that the scope of Caregiver Burden (CB) encompasses the strain experienced by individuals caring for a disabled family member.[4,5] Although the FCs of stroke survivors experience stress and burden while caring for the patient, providing care for a sick family member is considered normal.[4] As FCs of stroke survivors, several consequential impacts are observed. Specifically, FCs attending to stroke patients with functional disabilities experience a 3.7-fold increase in risk of burden compared to those caring for stroke patients without such disabilities.[5] In addition, another study found that FCs of stroke survivors with emotional and cognitive problems were reported to have high levels of burden.[6] Thus, burdens would have negative impacts such as Quality of Life (QoL) and physical and psychological health deterioration.[7]

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Previous studies have underscored the necessity of resilience among FCs when confronting stressful conditions or bearing the burdens associated with caring for ill family members. Resilience is defined as the capacity to adapt successfully to disturbances that threaten function and development. Furthermore, a caregiver's resilience is closely associated with emotional intelligence and mental health.[8] Resilience also increased positive emotions and reduced negative emotions and feelings of overload among caregivers.[8] A previous systematic review indicated that a caregiver's resilient coping style can mitigate the risk of stress and burden, thereby facilitating adaptation during caring for ill family members.[9] Resilience exhibited by FCs plays a pivotal role in achieving effective adaptation to manage life's pressures.[10] Having resilience in the family organizing process would build family connections, adaptability, and family resources.[11,12] Thus, resilience is necessary for the adaptation of high-risk care due to stroke.[10]

Since the quality of life of both stroke patients and their families has become the goal of palliative care,[13,14] it is imperative that QoL receives focused attention. This entails a thorough review of studies on QoL, particularly those investigating methods to improve it. Many studies have shown that burden is correlated with QoL. Burden arises from the tasks of FCs in caring for stroke patients, economic difficulties, and changes in family roles. Such burdens precipitate symptoms of stress, anxiety, and sleep disturbances among FCs, consequently diminishing their QoL.[15,16] In the context of resilience theory, resilience is needed under stressors and burden conditions, exerting a positive influence.[11] Previous research has proven the role of resilience as a mediator in the correlation between CB and QoL among FCs of the cancer population.[17] Similarly, resilience serves as a mediator between the burden experienced by FCs of stroke survivors and the depressive symptoms observed in patients.[18]

Considering the importance of resilience in supporting FCs to achieve an optimal QoL, research examining the resilience of FCs and the correlation between CB and QoL is needed. To our knowledge, no published studies have examined the influence of FC resilience on CB and QoL among stroke survivors. Addressing this gap, the current study aimed to investigate the influence of resilience on the correlation between CB and QoL among FCs of stroke survivors. In this context, this study sought to address the following questions.

- What is the level of resilience among FCs of stroke survivors?
- Is there a correlation between resilience, CB and QoL in FCs of stroke survivors?
- Does resilience influence CB and QoL of FCs among stroke survivors?

Materials and Methods

Design

This descriptive cross-sectional study was conducted between May and July 2020. This manuscript was prepared following the STROBE (Strengthening the reporting of observational studies in epidemiology) Checklist.

Participants

To calculate the required sample size, we used G*Power 3.1.7. Studies of these three variables are rare. Therefore, this study used Cohen's f^2 0.15, a power set of 0.95, and a significance at the level of 0.05. So, the minimum sample was 107 samples. In this study, 134 participants were involved using purposive sampling. The inclusion criteria were as follows: relatives of patients aged >18 years, a minimum of two hours of involvement in caring per day, and caring for patients for at least three months. In total, 145 eligible participants were contacted. An appointment was set for data collection from participants' residences. Eleven participants were excluded from the study due to cancelled appointments and unverified residential locations. Consequently, this may have introduced potential bias, diminishing the representativeness of the study population. All FCs who met the inclusion criteria were included in this study. Upon providing their informed consent, participants proceeded to complete the assessment form.

Procedures

The participants were recruited from two Health Community Services in Indonesia. Once potential participants were identified and deemed eligible, the researcher (S˙ ID) explained all the study procedures, provided a copy of the written consent form, and made an appointment. As this study was conducted in humans, the procedures were performed following the ethical standards of the Declaration of Helsinki. The data were collected from FCs residences instead of Health Community Services to make FCs more comfortable Data were collected using the FCs Characteristics Form, Connor-Davidson Resilience Scale (CD-RISC), Caregiver Burden (CB) scale, and WHOQOL-BREF through face-to-face interviews with the researcher. Data collection from each participant required approximately 30 minutes.

Data Collection

An FC characteristic form was created to assess the participants' sociodemographic information. The Connor-Davidson Resilience Scale (CD-RISC) is a measure of resilience.[19] It comprises of 25 items, each rated on a scale ranging from 0 to 4 points, with higher scores reflecting greater resilience. The scale assesses five components: 1) personal competence, high standards, and tenacity; 2) trust in one's instincts, tolerance of negative affect, and strengthening the effects of stress; 3) positive acceptance of change and secure relationships; 4) control; and 5) spiritual influence. It showed good internal consistency (Cronbach's alpha value of 0.89) and test–retest reliability, with an intraclass correlation coefficient of 0.87. It also presents good convergent validity with the Kobasa hardiness measure[20] and divergent validity with the Cohen stress measure.[21] The Cronbach's α in this study was 0.857 among 134 FCs of stroke survivors involved.

Caregiver Burden (CB) scale using a 22-item scale[22] that was developed in Sweden. The CB scale was divided into five components as a result of the previous factor analysis: general strain, isolation, disappointment, emotional involvement, and environment. The items are scored from 1 to 4 (never, rarely, sometimes, and always, respectively) and cover questions about caregivers' health, feelings of psychological well-being, relationships, social networks, physical workload, and environmental aspects. The total burden index consists of the average of all 22 items with higher scores indicating a greater level of burden. The validity and internal consistency were tested among 150 family caregivers to 83 patients with dementia and 67 patients with stroke showing good agreement with Cronbach alpha values of about 0.70–0.87 for the five components.[22] The Cronbach's α in this study was 0.933.

The WHOQOL-BREF measures caregivers' QoL.[23] The Indonesia version of this scale has been validated.[24] Responses to each item of this 26-item self-report are recorded on a scale ranging from 0 (never) to 4 (always). This scale assesses four components: physical health, psychological and social relationships, and environment. The total score, computed by summing the individual item scores, ranged from 0 to 140. Higher scores indicate better QoL. Cronbach's α of the Indonesian version of this scale was 0.88,[24] and 0.885 in our study.

Analysis

The sociodemographic characteristics of the participants were examined by calculating their frequencies and percentages. The Shapiro–Wilk test was used to examine whether the assumption of normality was met and, consequently, to ensure the appropriateness of the parametric analyses. The variables were normally distributed; therefore, parametric analysis was used. The associations and interrelations among CB, resilience, and QoL were examined using Pearson's correlation analysis as measured both total and domains score. We also investigate the mediating effect of resilience, both directly and indirectly, in the correlation between burden and QoL as measured by total score. Unstandardized indirect effects for each variable and 95% confidence intervals (CIs) were also computed. For all analyses, the level of statistical significance was set at $p < 0.05$. All analyses were performed using IBM SPSS (version 29.0; IBM Corp., Armonk, NY, USA).

Ethical Considerations

Ethical approval for this study was obtained from the ethical board of the Faculty of Medicine, Universitas Diponegoro (No.77/EC/KEPK/FK-UNDIP/IV/2022). Necessary permissions were also obtained from the Health Ministry Office of Central Java, Indonesia, which regulates the Community Health Services in which this study was conducted. Furthermore, verbal and written informed consent was obtained from each participant before their inclusion in the sample, and anonymity was ensured. All written materials created during the study were used for research only.

Results

Sociodemographic Characteristics

The average age of the FCs was 50.4 ± 13.3 years. Of these, 61.2% (n = 82) were female, and 92.5% (n = 124) were married. Furthermore, 55.2% (n = 74) possessed at least a basic education degree, 54.5% (n = 74) had been providing care for more than 12 months, 38.8% (52) FCs were wives, 48.3% (62) reported an income above regional minimum wage, and 56.7% (76) belonged to nuclear families (Table 1).

Table 1 Characteristics of FCs (n=134)

Characteristics	**Mean**	**SD**
Age	50.4	±13.3
	N	**Frequency (%)**
Gender		
Female	82	61.2%
Male	52	38.8%
Marital Status		
Unmarried	10	7.5%
Married	124	92.5%
Education Level		
Basic Education	74	55.2%
High School and University	60	44.8%
Income		
No Income	38	28.4%
Lower than Regional Minimum Wage	34	25.4%
Higher Than Regional Minimum Wage	62	48.3%
Employment		
Unemployed	39	29.1%
Employed	95	70.9%
Relation to Stroke Survivor		
Wife	52	38.8%
Husband	36	26.9%
Daughter/Son	40	29.9%
Parent(s)	1	0.7%
Other (Brother or Sister)	5	3.7%
Duration of Care		
< 12 months	61	45.5%
≥ 12 months	73	54.5%

(*Continued*)

Table 1 (Continued).

Characteristics	Mean	SD
Type of Family		
Nuclear	76	56.7%
Extended	46	34.3%
Dyad	11	8.2%
Commuter	1	0.7%

FCs' Resilience, CB, and QoL

The FCs reported moderate levels of resilience (CD-RISC total scores: 76.74 ± 7.99, min-max = 51–93), and low levels of burden (CB scale total scores: 40.6 ± 11.89 min-max = 23–73). The FCs reported high levels of QoL (WHOQOL-BREF total scores: 92.4 ± 6.7, min-max = 64–113) (Table 2).

Table 2 FCs Burden, Resilience, and Quality of Life

	Mean	SD	Min-Max
CB scale Domain and Total Score			
General	16.5448	5.16730	8–28
Isolation	4.1493	1.58711	3–9
Disappointment	9.5448	3.31008	5–18
Emotion	4.1866	1.28126	3–9
Environment	6.1866	2.21807	3–12
Total	40.6119	11.89548	23–73
CD-RISC domain and total score			
Personal competence, high standards, and tenacity	12.3507	1.72665	8–16
Trust in one's instincts, tolerance of negative affect, and strengthening effects of stress	17.6716	2.21334	12–24
Positive acceptance of change and secure relationships	18.5970	2.53137	11–24
Control	14.4030	2.05605	9–20
Spiritual influences	13.7164	1.42276	9–16
Total	76.7388	7.99147	51–93
WHOQOL-BREF domain and total score			
Physical Health	22.9478	2.41648	15–29
Psychological Health	21.9179	1.47688	17–27
Social relationships	11.3582	1.13325	6–15
Environment	28.4925	4.07403	17–38
Total	92.4403	6.74622	64–113

The Interrelationships Among Resilience, CB and QoL

The total CD-RISC score was significantly and negatively correlated with the total CB scale (−0.378) and positively with WHOQOL-BREF scores (0.246). The majority of the CD-RISC domains were significantly and negatively correlated with the CB scale. Pearson's correlation coefficients ranged from 0.172 to 0.392 (all $p < 0.01$ or 0.05). Additionally, the CD-RISC domain scores were mostly significantly correlated with the environmental domain score of WHOQOL-BREF scores. Pearson's correlation coefficients ranged from 0.204–0.383 (all $p < 0.01$ or 0.05). The total CD-RISC score and domains of CD-RISC were not significantly correlated with the physical health, psychological health, and social relationship domains of QoL (Table 3).

The total CB scale was significantly and negatively correlated with the total WHOQOL-BREF (−0.566). The total CB scale and domains mostly correlated with social relationship and environment domains of WHOQOL-BREF scores. Pearson's correlation coefficients ranged from 0.352–0.706 (all $p < 0.01$ or 0.05) (Table 3).

The Influences of Resilience on CB and QoL

Path analysis was used to determine the mediation of resilience on CB and QoL of FCs of stroke survivors (Figure 1). As the normality of data was established, the maximum likelihood solution was used to formulate the model. The following standardized solutions to the specified measurement equations were produced using the maximum likelihood solution:

- Equation (1): resilience (CD-RISCS) = (– 0.41) burden (CB) + (0.05) error.
- Equation (2): resilience (CD-RISCS) = (0.18) QoL (CQOLC) + (0.06) error.
- QoL= (–0.49) burden + (0.18) resilience + (0.044) error

As shown in the path analysis model (Figure 1), all paths between the variables were significant. The path between the CD-RISCS and CB scale was significant at the 0.01 level. The same was true for the path between the CD-RISC and WHOQOL-BREF ($p< 0.01$). The path coefficients were divided into direct and indirect effects to address the influence of resilience on CB and QoL. The direct and indirect effects of resilience on the correlation between CB and QoL are shown in Table 4 and Table 5, respectively. This analysis supported the relationships proposed in the model. The findings showed that resilience negatively correlated with burden (β = −0.279; 95% CI, −0.383 – −0.1.75) and explained 17.2% of FCs burden ($R^2 = 0.172$, $P < 0.001$). QoL was also negatively predicted by the burden (β = −0.279; 95% CI, 0.025–0.279) and resilience (β = 0.152; 95% CI, −0.365–0.193). Burden and resilience explained 34.7% of the variance in QoL ($R^2 = 0.347$, $P < 0.001$) (Table 5). The indirect effect of burden on QoL mediated by resilience was −0.042 and the direct effect of burden on QoL was −0.321. Resilience mediated the correlation between burden and QoL (Table 5).

Discussion

This study aimed to assess resilience, CB, and QoL levels among FCs of stroke survivors, explore correlations between these variables, and examine the mediating role of resilience. Findings revealed moderate resilience, low caregiver burden, and high QoL. A significant negative correlation between resilience and CB, and a positive correlation between resilience and QoL were identified, alongside a negative correlation between CB and QoL. Importantly, resilience was found to mediate the relationship between CB and QoL, suggesting that enhancing resilience may alleviate the negative impact of CB on QoL.

In this study, resilience levels among FCs of stroke survivors were found to be moderate. This contrasts with findings from another study in West Sumatra Province, Indonesia, where FCs predominantly exhibited high resilience.[25] Interestingly, the latest study also unveiled that ethnicity plays a significant role in influencing resilience levels. The ethnic distinctions between the Javanese and the people of West Sumatra appear to contribute to this variance in resilience.[25] Furthermore, a study in China observed that resilience tends to be lower during the initial six months post-stroke onset, suggesting that families are still adapting to the new caregiving situation during this period. As such, resilience is in a state of development, highlighting the dynamic nature of coping mechanisms over time.[26] The phenomena differ from this study, where FCs vary from one month to more than one year in caring for stroke patients.

Table 3 Correlation of CB Scale, CD-RISC, and WHOQOL-BREF

	CB scale						**WHOQOL-BREF Score**				
	General	**Isolation**	**Disappointment**	**Emotion**	**Environment**	**Total**	**Physical Health**	**Psychological Health**	**Social Relationship**	**Environment**	**Total**
CD-RISC Score											
Personal competence	−0.302^{a}	−0.247^{b}	− 0.305^{a}	−0.122	−0.303^{a}	−0.327^{a}	0.052	0.074	0.052	0.348^{a}	0.261^{a}
Trust in one's instincts, tolerance of negative affect, and strengthening effects of stress	−0.059	−0.053	−0.181^{b}	−0.120	−0.052	−0.124	−0.076	0.116	−0.129	0.161	0.085
Positive acceptance of change and secure relationships	−0.364^{a}	−0.316^{a}	−0.392^{a}	−0.172^{b}	−0.379^{a}	0.389^{a}	−0.042	0.067	−0.059	0.340^{a}	0.204^{b}
Control	−0.350^{a}	−0.344^{a}	−0.377^{a}	−0.217^{b}	−0.323^{a}	−0.401^{a}	0.031	0.102	0.000	0.383^{a}	0.266^{b}
Spiritual influences	−0.133	0.092	−0.235	−0.203	−0.262^{b}	−0.189	−0.072	0.004	−0.094	0.243^{b}	0.093
Total	−0.319^{a}	−0.280^{b}	−0.392^{a}	−0.184^{b}	−0.343^{a}	−0.378^{a}	−0.030	0.122	−0.052	0.376^{a}	0.246^{b}
CB Scale											
General							−0.125	−0.049	−0.403^{a}	−0.519^{a}	−0.539^{a}
Isolation							−0.076	−0.001	−0.352^{a}	−0.599^{a}	−0.480^{a}
Disappointment							−0.050	−0.118	−0.395^{a}	−0.638^{a}	−0.530^{a}
Emotion							−0.082	−0.044	−0.057	−0.271^{b}	−0.196^{b}
Environment							0.002	−0.050	−0.353^{a}	−0.706^{a}	−0.532^{a}
Total							−0.085	−0.059	−0.401^{a}	−0.687^{a}	−0.566^{a}

Notes: Bold fonts are used for highlighting correlation coefficients with statistical significance. ^{a}Significant at. 01. ^{b}Significant at. 05.
Abbreviations: CD-RISC, Connor-Davidson Resilience Scale; WHOQOL-BREF, World Health Organization Quality of Life; CB Scale, Caregiver Burden Scale.

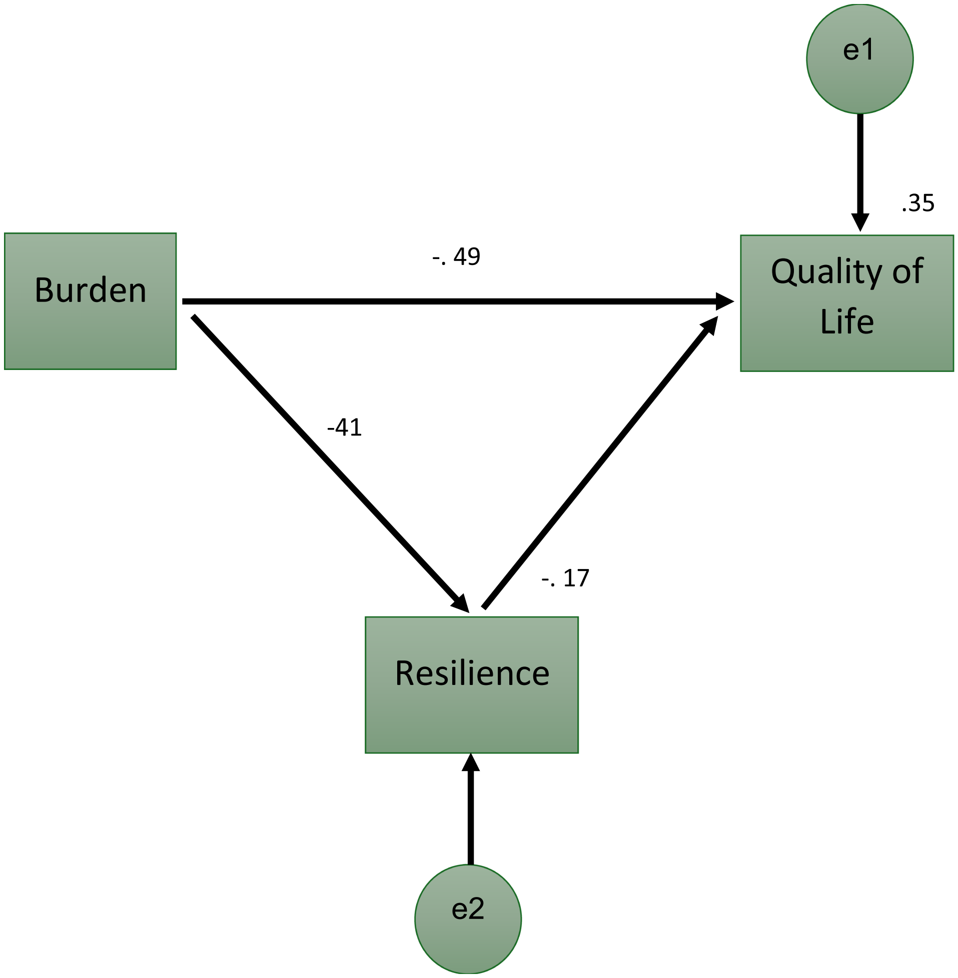

Figure 1 The Model of Mediating Effect of Resilience on the Correlation between Burden and QoL among FCs of Stroke Survivors.

This study identified that the burden experienced by FCs of stroke survivors was low, contrasting with findings from another study in Indonesia where FCs predominantly reported a moderate level of burden.[27] That Indonesian study was conducted in a hospital outpatient setting, focusing on patients who had recently been discharged. The differing results

Table 4 Estimate Regression Weights

Correlation of Variable		b	R^2	SE	t	*p*	CI 95%		Effect Size (f^2)
Burden	Resilience	−0.279	0.172	0.053	−5.257	0.000	−0.383	−0.175	0.208
Resilience	QoL	0.152	0.347	0.065	2.345	0.019	0.025	0.279	0.041
Burden	QoL	−0.279		0.044	−6.381	0.000	−0.365	−0.193	0.306

Table 5 Direct Effect, Indirect Effect, Total Effect, and Non-Causal Effect on Resilience, Burden, and QoL Among FCs Stroke Survivors

	Direct Effect	Indirect Effect	Total Effect	r	Non-Causal Effect
Burden → Resilience	−0.279	0	−0.279	0.589	0.868
Burden → Quality	−0.279	−0.042	−0.321	0.415	0.736

could be attributed to the fact that these caregivers had only recently encountered the challenges of caregiving, hence lacking the capacity to effectively manage the burden at that time.[27] Conversely, this study involved FCs who had been caring for stroke survivors over a longer period post-attack, suggesting that these caregivers had become more accustomed to the obstacles associated with caregiving and had improved their adaptation strategies for dealing with the burden. A study in Brazil also reported a moderate level of burden among FCs, with participants in a hospital setting, indicating that their capacity to cope with the burden had not yet developed.[28] Additionally, research conducted in Myanmar found that the burden on FCs ranged from moderate to severe levels,[29] further highlighting the variability in caregiving experiences and the impact of caregiving duration and setting on the perceived burden.

This study found that FCs of stroke survivors reported a high level of QoL, contrasting with studies from Brazil and Burma, where FCs' QoL was reported as moderate.[28,29] The difference may stem from the setting of the studies; in Burma and Brazil, research was hospital-based, focusing on FCs who were likely facing immediate healthcare challenges impacting their physical and psychological well-being. Conversely, this study, conducted within the community, suggests that FCs have had the opportunity to adapt physically, mentally, and socially to the challenges of caregiving. This adaptation process is indicative of their overall well-being and suggests that community-based FCs may navigate and overcome obstacles more effectively, contributing to higher QoL levels.[30]

This study reveals that resilience is crucial for FCs of stroke survivors, showing a negative correlation with CB. This aligns with findings from China, where resilience is similarly inversely related to CB. Caregiving is highlighted as a complex role, encompassing various challenges like social burden, responsibility, and emotional struggles, which significantly affect FCs' lives.[31] Resilience emerges as a key coping mechanism, enhancing welfare,[30] and mitigating burden.[8] Furthermore, resilience's benefits extend to improving recovery outcomes and reducing emotional distress, fostering a collaborative and supportive environment among caregivers.[32] It encourages an active lifestyle, a positive outlook, and mindfulness, underscoring the importance of resilience in managing caregiving challenges effectively.[31]

This study highlighted the positive correlation between resilience and QoL, echoing past findings on resilience's crucial role in boosting QoL for FCs of individuals with mental disorders.[15] Caregivers with greater resilience are better equipped to enhance their QoL, adeptly manage stressful situations, and not merely endure but also thrive, achieving a renewed equilibrium and positive development.[15] Resilience, viewed as a personal strength, impacts QoL across personal, family, and social levels. Particularly for dementia caregivers, engaging in self-care and leisure, especially during the disease's moderate phase, is vital for boosting resilience.[33] In Indonesia, resilience among FCs of stroke survivors is influenced by socioeconomic and ethnic factors, indicating the substantial effect of cultural and environmental contexts on resilience.[25] Conceptual studies suggest that enhancing family resilience can improve outcomes for all members facing caregiving challenges, thus elevating overall QoL. These insights underscore the need to support resilience through personal care, family involvement, and social networks to better caregiving experiences and outcomes, highlighting QoL improvements.[34]

This study identifies a significant correlation between CB and QoL, resonating with findings from prior research. Caregivers of stroke survivors, who often experience mental disorders, face a multifaceted burden that detrimentally impacts their QoL.[35] This burden encompasses a wide range of issues, including social responsibilities, advocacy challenges, emotional conflicts such as ambivalence and guilt, and difficulties in accepting the caregiving role, especially prevalent among families dealing with motor neuron diseases.[31] The caregiving role is inherently challenging, exerting adverse effects on various aspects of family caregivers' lives, including their physical, psychological, and social well-being.[6] These negative impacts elucidate the correlation between burden and QoL, given that QoL encompasses physical, psychological, social relationships, and environmental domains.[24] Further support for this correlation comes from studies highlighting the negative relationship between burden and multiple QoL domains, including environmental factors, overall QoL levels, and physical health.[28] Moreover, CB emerges as a pivotal factor in explaining QoL variations, with education and perceived social support also playing significant roles among family caregivers of stroke survivors.[29] Additionally, the negative interplay between caregivers' poor self-rated health, lower education levels, and QoL underscores the influence of both patient and caregiver factors—such as psychological, social, and physical functioning and caregiver health status—on the caregiving experience.[36]

The present findings emphasize the influence of resilience on the association between burden and QoL. Moreover, the findings suggest that FCs have a moderate level of resilience, which is correlated with caregivers' burden and QoL. According to this concept, family resilience refers to the capacity of a family to withstand and rebound from adversity.

The fundamental premise of the family systems theory is that serious crises and persistent life challenges have an impact on the whole family, and, in turn, key family processes mediate adaptation for individual members, their relationships, and the family unit.[11] Resilience is essential for adapting the process to high-risk caregiving situations.[37]

Other research supports the notion that recognizing and cultivating resilience, along with its related psychological aspects, can help mitigate stress and burden while enhancing well-being. Families of caregivers confronting the burden of some circumstances benefit significantly from resilience through collective confidence, interconnectedness, positive life of view, resourcefulness, open communication patterns, and collaborative problem-solving.[37] Being resilient involves engaging actively, adopting a positive outlook on life, and embracing the present moment to manage the burden and adversity effectively.[31,37] Family resilience can lead to positive outcomes for all members, especially when navigating the challenges associated with caregiving.[34]

Other studies highlighted the critical role of resilience in facilitating coping mechanisms among patients. Higher resilience leads to healthier psychological adaptation. Adaptation can affect the readiness of FCs to deal with acute or chronic traumatic events from the impact of caring for stroke patients.[38] Resilience also indirectly impacts how FCs cope with and manage challenging clinical situations that require early identification and treatment of the emotional and physical needs of patients.[9] Adaptation also affect the readiness of FCs in caring for stroke patients.[38] Overall, systematic study synthesized that a resilient coping style is correlated with a high QoL, good mental health, and increased personal resources that helped improve the caregiving experience in chronic illness context and reduced CB.[9]

This study further demonstrates that resilience mediates the relationship between CB and QoL, a phenomenon also observed in research involving FCs of cancer patients. In these studies, resilience is identified as both a mediator and a risk factor for CB and QoL. Specifically, lower level of resilience among FCs are linked to increased burden and diminished QoL, whereas resilience serves as a protective factor against the negative impacts of CB on depressive symptoms.[17] One study highlighted the protective role of resilience in alleviating the negative influences of CB on depressive symptoms among stroke survivors' FCs.[18] The significant and negative influence of stroke-related CB on QoL underscores that the potential of enhancing FCs' resilience to alleviate their burden and, consequently, improve their QoL. The findings of this study, alongside others,[17,18] support the premise of family resilience theory, positing that resilience can foster positive outcomes.[11]

Burden and QoL were the focus of palliative care, yet efforts to address these issues often encounter obstacles.[14] The presence of resilience alongside CB and QoL suggests a viable pathway for reducing burden and improving QoL. The American Heart Association (AHA) recommends the promotion and implementation of patient-and family-centered care within the palliative care framework. Addressing the palliative care needs of patients and families throughout illness can complement the existing practices and improve the QoL of stroke patients, their families, and their care providers.[39] Resilience intervention in palliative care have the potential to lessen the burden and improve the QoL among FCs of stroke survivors.

This study is subject to certain limitations. This study did not investigate the factors that may influence resilience or QoL. Consequently, potential biases arising from other factors that could impact the mediation role of resilience in the relationship between burden and QoL remain unaddressed. Nevertheless, this study provides clarity in elucidating the mediating effect of resilience in the correlation between burden and QoL.

Implication

These findings have implications for patient and family care and future research. The results underscore the necessity for healthcare providers to acknowledge the importance of FCs' resilience, CB and QoL. These factors are intricately linked to the Quality of Care received by stroke survivors, which in turn, influences the psychological well-being of the patients. First, nurses should be sensitive to the burden experienced by FCs, including the burden of care, social obligations, responsibilities, advocacy, feelings of ambivalence, guilt, and the challenges associated with acceptance. Second, nurses must consider the resilience of FCs to alleviate their burden. Being resilient means becoming active, maintaining a positive perspective of life, and living for the moment. Enhancing resilience through tailored nursing interventions among FCs can serve as a psychological adaptation, enabling FCs to better cope with the demands of caregiving. Additionally, addressing the palliative care needs of patients and families throughout the course of illness can enhance existing care practices and improve the QoL of stroke survivors, their families, and particularly the FCs.[39] Given the pivotal role of resilience in the context of caregiving for stroke survivors, there is a compelling case for the development of nursing intervention studies focused on bolstering resilience among FCs. Such research could contribute to alleviating the burden and enhancing the QoL for both caregivers and patients.

Conclusion

Resilience exhibits a mediating effect on the correlation between CB and QoL of FCs among stroke survivors. The implementation of resilience-interventions within palliative care settings has the potential to significantly reduce the CB and enhance the QoL for these caregivers.

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Author Contributions

All authors made a significant contribution to the work reported, whether that is in the conception, study design, execution, acquisition of data, analysis and interpretation, or in all these areas; took part in drafting, revising or critically reviewing the article; gave final approval of the version to be published; have agreed on the journal to which the article has been submitted; and agree to be accountable for all aspects of the work.

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Disclosure

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