



Caregiver burden, coping strategies, and quality of life among family caregivers of adult cancer patients: A multiple regression and mediation analysis in Southern Vietnam

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ABSTRACT

Objectives: This study aims to: (i) describe caregiver burden, coping strategies, and quality of life among family caregivers of adult cancer patients; (ii) explore the relationships among these variables using multiple regression analysis; and (iii) develop a model to improve family caregivers' quality of life based on the findings. **Methods:** A cross-sectional analytical design was employed. Data were collected from 380 family caregivers of adult cancer patients using standardized questionnaires: The Zarit Burden Inventory-22 (ZBI-22), The Brief Coping Orientation to Problems Experienced Inventory (Brief-COPE), and the Caregiver Quality of Life-Cancer (CQOL-C). Data were analyzed using multiple regression and mediation analyses to explore relationships between variables. **Results:** Caregiver burden, coping strategies, and quality of life were all reported at moderate levels, with overall mean scores of 2.93 ± 0.67 , 3.02 ± 0.48 , and 2.65 ± 0.49 , respectively. Quality of life showed a very strong negative correlation with caregiver burden ($r = -0.76$, $p < 0.001$) and a very strong positive correlation with coping strategies ($r = 0.86$, $p < 0.001$). Regression analysis revealed that caregiver burden and coping strategies explained 72.4% of the variance in family caregivers' quality of life. Path analysis within the GLM framework further indicated a significant indirect effect of coping strategies on quality of life mediated by caregiver burden ($\beta = 0.28$, $p < 0.001$). **Conclusion:** Family caregivers experienced a moderate level of burden and used coping strategies at a moderate level, resulting in a moderate quality of life. These findings emphasize the need for interventions aimed at reducing caregiver burden and strengthening adaptive coping to enhance caregivers' overall well-being.

Keywords: Caregiver burden, coping strategy, quality of life, family caregiver, path analysis, cancer.

INTRODUCTION

Cancer remains one of the leading causes of morbidity and mortality worldwide, with an estimated 20 million new cases and 9.7 million deaths reported in 2022,

imposing profound physical, emotional, and financial burdens on patients, families, and healthcare systems ¹. In low- and middle-income countries such as Vietnam, where oncology services are often under-resourced

and centralized, the responsibility of patient care is largely assumed by family members^{2, 3, 4}. Family caregivers provide essential physical assistance, emotional support, and financial contributions throughout treatment. However, these responsibilities frequently lead to caregiver burden, a multidimensional strain encompassing physical exhaustion, emotional distress, financial hardship, and disruption of social life^{4, 5, 6}.

Caregiver burden does not occur in isolation but interacts dynamically with how caregivers cope and their overall quality of life. Coping strategies, the cognitive and behavioral efforts used to manage stress, play a crucial role in shaping caregivers' responses to burden⁵. Adaptive coping (e.g., problem-solving, seeking social support, positive reframing) can alleviate perceived stress and promote resilience, whereas maladaptive coping (e.g., denial, avoidance) often exacerbates distress and diminishes well-being^{6, 7}. Over time, the ways caregivers cope with cancer-related stressors significantly influence their quality of life, a multidimensional construct reflecting physical, psychological, social, and environmental well-being⁵. In turn, poor quality of life may heighten caregiver burden and impair their capacity to provide effective care, creating a reciprocal relationship among burden, coping, and quality of life.

Given these interconnections, examining caregiver burden, coping strategies, and quality of life within a single study allows for a comprehensive understanding of how stress and adaptation processes unfold in family caregiving. This approach is particularly relevant in Vietnam, especially in the Mekong Delta, where strong cultural

expectations of filial responsibility intersect with economic and healthcare system challenges. Generating evidence on how caregivers experience burden, cope with stress, and maintain their quality of life is therefore crucial for informing nursing practice and health policy aimed at supporting caregivers and improving cancer care outcomes.

This study is guided by three theoretical perspectives: The Transactional Stress and Coping Theory of Lazarus and Folkman, which explains how caregivers' appraisal of cancer care demands and available resources influences stress outcomes; the Caregiver Stress Process Model of Pearlin, which highlights how background factors, stressors, and mediators such as coping and support shape caregiver burden and quality of life; and the Humanistic Nursing Theory of Paterson and Zderad, which emphasizes the relational and existential dimensions of caregiving, underscoring the need to recognize caregivers as individuals whose well-being is integral to humane patient care. Together, these frameworks provide a comprehensive lens: caregiver burden acts as both a stressor and mediator, coping strategies function as moderators, and quality of life emerges as the key outcome.

Against this backdrop, the present study investigates the relationships among caregiver burden, coping strategies, and quality of life among family caregivers of adult cancer patients in selected hospitals in Can Tho City, Southern Vietnam. Specifically, this study aims to: (i) to describe caregiver burden, coping strategies, and quality of life among family caregivers of adult cancer patients; (ii) to determine the relationships among caregiver burden, coping strategies, and quality of life using multiple regression

analysis; and (iii) to develop a model to improve family caregivers' quality of life based on these findings. The outcomes of this research are expected to inform nursing management, guide the design of caregiver support interventions, and contribute to healthcare policies that strengthen family caregiving in oncology settings.

RESEARCH METHODOLOGY

Participants:

Family caregivers of adult cancer patients in two selected government hospitals in Can Tho City, Southern Vietnam.

Inclusion Criteria: Family caregivers of adult cancer patients who: (a) had provided unpaid care to a cancer patient for at least six months; (b) had been the primary source of physical or emotional support during the patient's illness; and (c) were able to communicate in Vietnamese .

Exclusion Criteria: Participants were excluded if they: (a) were not present during the study period; (b) had a documented history of mental illness; or (c) were caring for a patient in an emergency condition at the time of data collection.

Research locale and period:

This study was conducted at Can Tho University of Medicine and Pharmacy Hospital and Can Tho Oncology Hospital in Vietnam. Data collection was carried out from March to June 2025.

Study design:

This study employed a cross-sectional analytical design.

Sample size and sampling technique:

Sample Size: A priori power analysis was conducted using G*Power software version 3.1.9.7 to determine the required

sample size for the study. The statistical test specified was an F-test for linear multiple regression (fixed model). The analysis was based on the following parameters: medium effect size ($f^2 = 0.15$), alpha error probability = 0.01, statistical power ($1 - \beta$) = 0.99, and number of predictors = 13. Results indicated a minimum required sample size of 302 participants. To account for a potential 15% attrition rate ⁸, the final target sample size was set at 347 .

Sampling Technique: A purposive sampling technique was employed. Family caregivers who met the inclusion criteria were recruited until the target sample size was reached during the data collection period.

Data collection and research instrument:

The data collection process involves utilizing a self-administered structured survey questionnaire. Participants were asked to complete the questionnaires, which required approximately 25 minutes, and return them directly to the data collector.

A four-part questionnaire was used to collect data on demographic profile, caregiver burden, coping strategies, and quality of life.

Part I: Demographic profile: This section collected sociodemographic characteristics of the participants, including age, sex, civil status, education, relation with patient, and time of caring per week.

Part II: Zarit Burden Inventory-22 (ZBI-22): The ZBI, originally developed by Zarit (1980) and revised to 22 items in 2001, was used to assess caregiver burden ⁹. Items 1 - 21 are rated on a 5-point Likert scale ranging from 1 (never) to 5 (nearly always), while the last item is rated from 1 (not at

all) to 5 (extremely). The ZBI-22 consists of five domains: burden in the relationship (6 items), emotional well-being (7 items), social and family life (4 items), finances (1 item), and loss of control over one's life (4 items). The caregiver burden levels were interpreted as follows: 1.00 - 1.80 = very low burden, 1.81 - 2.60 = low burden, 2.61 - 3.40 = moderate burden, 3.41 - 4.20 = high burden, and 4.21 - 5.00 = very high burden. In the present study, the Cronbach's alpha coefficient was 0.89.

Part III: The Brief Coping Orientation to Problems Experienced Inventory (Brief-COPE): Coping strategies were assessed using the Brief-COPE Inventory developed by Carver (1989)¹⁰. This 28-item instrument measures coping across three dimensions: (1) dysfunctional coping (denial, self-distraction, substance use, behavioral disengagement, self-blame, venting); (2) problem-focused adaptive coping (active coping, planning, instrumental support); and (3) emotion-focused adaptive coping (acceptance, emotional support, humor, positive reframing, religion). Each item is rated on a 4-point Likert scale ranging from 1 ("I have not been doing this at all") to 4 ("I have been doing this a lot"). The coping strategy levels were classified as 1.00 - 1.75 = have not done this at all, 1.76 - 2.50 = doing this a little bit, 2.51 - 3.25 = doing a medium amount, and 3.26 - 4.00 = doing this a lot. In this study, the Cronbach's alpha was 0.88.

Part IV: Caregiver Quality of Life - Cancer (CQOL-C): Caregiver quality of life was measured using the CQOL-C, developed by Weitzner (1999)¹¹. This 35-item scale assesses five domains: burden (10 items), disruptiveness (7 items), positive adaptation (7 items), financial concern (3

items), and others (8 items). Responses are rated on a 5-point Likert scale ranging from 1 (very much) to 5 (not at all). Higher scores indicate a higher quality of life. For the positive domain (from items 24 to 28), items 29 and 31, reverse scoring was applied. The QoL levels were classified as 1.00 - 1.80 = very low QoL, 1.81 - 2.60 = low QoL, 2.61 - 3.40 = moderate QoL, 3.41 - 4.20 = high QoL, and 4.21-5.00 = very high QoL. The CQOL-C demonstrated high internal consistency in this study, with a Cronbach's alpha of 0.91.

Translation and Pilot Testing:

All instruments were translated into Vietnamese using a forward-backward translation procedure to ensure both linguistic and conceptual equivalence. Two independent bilingual experts conducted the translation and back-translation after obtaining permission from the original developers¹². A pilot test was then conducted with 30 caregivers to evaluate clarity and reliability. Results demonstrated high internal consistency across all instruments (Cronbach's $\alpha > 0.80$).

Data analysis:

Data were entered and analyzed using Jamovi version 2.3.28. Descriptive statistics were used to summarize caregiver burden, coping strategies, and quality of life. Pearson's correlation coefficient was applied to examine associations between variables. Multiple regression analysis was performed to identify significant predictors. Mediation effects were examined using path analysis within the General Linear Model (GLM) framework, and standardized coefficients (β), standard errors (SE), and confidence intervals (CI) were reported. A p-value < 0.05 was considered statistically significant.

Ethical consideration: The study adhered to the ethical principles outlined in the Declaration of Helsinki. Ethical approval was granted by the Institutional Ethics Review Committee of Can Tho University of Medicine and Pharmacy (Approval No. 24.050.GV/PCT.HĐĐĐ). Before data collection, participants were fully informed about the purpose, procedures, potential risks, and anticipated benefits of the study. Written informed consent was obtained from all participants. Participation was voluntary, and caregivers were assured of their right to withdraw at any time without repercussions for the patient's medical care. All data were anonymized, securely stored, and accessed only by authorized members of the research team. The study was carefully designed to minimize any risk of physical or psychological harm. Sensitive questions were approached with caution, and emotional support was provided when needed. Study results will be disseminated transparently and made available to participants and relevant stakeholders upon request.

RESULTS

Table 1. Demographic profile of family caregivers in selected hospitals (n = 380)

	Profiles	Frequency (n)	Percentage (%)
Sex	Male	200	52.6
	Female	180	47.4
Civil status	Single	58	15.3
	Married	301	79.2
	Separated/Divorce/Widow	21	5.5
Highest education	High school	308	81.1
	Above high school	72	18.9
Relation with the patient	Wife/Husband	168	44.2
	Son/Daughter	152	40.0
	Father/Mother	11	2.9
	Other (Specify)	49	12.9
Time of caring per week	< 40 hours per week	217	57.1
	>= 40 hours per week	163	42.9
Age (in years)	Mean ± SD: 46.9 years ± 12.34; Min: 19; Max: 74		

A total of 387 family caregivers were initially recruited. However, seven questionnaires were excluded from the analysis due to incomplete responses. Hence, 380 valid responses were included in the final analysis. The respondents had a mean age of 46.9 years (SD = 12.34), ranging from 19 to 74 years. More than half were male (52.6%), and the majority were married (79.2%). Most caregivers (81.1%) reported high school as their highest

educational attainment, while 18.9% had completed college or higher. Regarding their relationship to the patient, 44.2% were spouses and 40.0% were sons or daughters, whereas only 2.9% were parents and 12.9% fell into other categories. Additionally, more than half of the participants (57.1%) reported providing care for fewer than 40 hours per week (see Table 1).

Table 2. The caregiver burden, coping strategy, and quality of life among family caregiver respondents (n = 380)

Variable	Mean (SD)	Descriptive Interpretation
Dimensions of Caregiver Burden		
Burden in the relationship	2.98 (0.73)	Moderate burden
Emotional well-being	2.94 (0.68)	Moderate burden
Social and family life	2.90 (0.74)	Moderate burden
Finances	3.46 (1.00)	High burden
Loss of control over one's life	2.72 (0.77)	Moderate burden
Overall Rating	2.93 (0.67)	Moderate burden
Dimensions of coping strategy		
Dysfunctional Coping Strategies	2.77 (0.59)	Often
Problem-Focused Adaptive Strategies	3.42 (0.58)	Always
Emotion-Focused Adaptive Strategies	3.09 (0.37)	Often
Overall Rating	3.02 (0.48)	Doing this a moderate amount
Dimensions of quality of life		
Burden	2.37 (0.40)	Low Quality of Life
Disruptiveness	3.01 (0.68)	Moderate Quality of Life
Positive adaption	2.80 (0.58)	Moderate Quality of Life
Financial concern	2.55 (0.67)	Low Quality of Life
Others	2.61 (0.62)	Moderate Quality of Life
Overall Rating	2.65 (0.49)	Moderate Quality of Life

The results showed that the overall caregiver burden was classified as “moderate”, with a mean score of 2.93 out of 5. In terms of specific domains, burden in the relationship (M = 2.98), emotional well-being (M = 2.94), social and family life (M = 2.90), and loss of control over one's life (M = 2.72) were all categorized as “moderate burden”. In contrast, financial burden was rated as “high burden” with the highest mean score (M = 3.46).

The overall mean score for coping strategies was 3.02 out of 4, indicating a moderate level. Among the dimensions, caregivers reported the highest use of problem-focused adaptive strategies (M = 3.42), followed by emotion-focused adaptive strategies (M = 3.09). Dysfunctional coping strategies were reported least frequently (M = 2.77).

The mean quality of life score was 2.65 out of 5, classified as “moderate”. Specifically, the burden and financial concern domains had the lowest scores (M = 2.37 and M = 2.55, respectively), indicating “low quality of life.” Meanwhile, disruptiveness (M = 3.01), positive adaptation (M = 2.80), and others (M = 2.61) were classified as “moderate” (see Table 2).

Table 3. Multiple regression analysis of quality of life with factors of caregiver burden and coping strategy (n = 380)

Predictors	R ²	Estimate	SE	β	t	p	Pearson’s r
(Constant)		71.43	5.89		12.14	< 0.001	
Caregiver burden (ZBI)	0.724	- 0.50	0.04	- 0.43	- 12.08	< 0.001	- 0.76
Coping strategies (Brief-COPE)		0.63	0.05	0.50	14.14	< 0.001	0.81

The multiple regression model explained 72.4% of the variance in caregivers’ quality of life (R² = 0.724). Caregiver burden was a significant negative predictor (β = - 0.43, r = - 0.76, p < 0.001), indicating that greater burden was strongly associated with lower quality of life. In contrast, coping strategies were a significant positive predictor (β = 0.50, r = 0.81, p < 0.001), suggesting that increased use of coping strategies was strongly related to higher quality of life.

Table 4. Path analysis model examining the relationships among coping strategies, caregiver burden, and the quality of life of family caregivers (n = 380)

Type	Effect	Estimate	SE	95% C.I.		β	z	p
				Lower	Upper			
Indirect	Coping strategy ⇒ Caregiver burden ⇒ QUALITY OF LIFE	0.352	0.0358	0.282	0.422	0.281	9.82	< 0.001
	Coping Strategy ⇒ Caregiver burden	- 0.709	0.0423	- 0.792	- 0.626	- 0.651	- 16.74	< 0.001
Component	Caregiver burden ⇒ QUALITY OF LIFE	- 0.497	0.0410	- 0.577	- 0.417	- 0.431	- 12.13	< 0.001

Type	Effect	Estimate	SE	95% C.I.		β	z	p
				Lower	Upper			
Direct	Coping strategy ⇒ QUALITY OF LIFE	0.632	0.0445	0.545	0.719	0.504	14.19	< 0.001
Total	Coping strategy ⇒ QUALITY OF LIFE	0.984	0.0399	0.906	1.062	0.785	24.69	< .001

The path analysis within the GLM framework revealed significant direct and indirect effects of coping strategy and caregiver burden on family caregivers' quality of life. The indirect effect of coping strategy on quality of life, mediated by caregiver burden, was statistically significant (Effect = 0.352, 95% CI [0.282, 0.422], $\beta = 0.281$, $p < 0.001$). A strong negative association was found between coping strategy and caregiver burden (Effect = - 0.709, 95% CI [- 0.792, - 0.626], $\beta = - 0.651$, $p < 0.001$). Caregiver burden also had a significant negative effect on quality of life (Effect = - 0.497, 95% CI [- 0.577, - 0.417], $\beta = - 0.431$, $p < 0.001$). The direct effect of coping strategy on quality of life was likewise significant (Effect = 0.632, 95% CI [0.545, 0.719], $\beta = 0.504$, $p < 0.001$). Overall, the total effect, combining both direct and indirect pathways, demonstrated a strong positive relationship between coping strategy and family caregivers' quality of life (Effect = 0.984, 95% CI [0.906, 1.062], $\beta = 0.785$, $p < 0.001$) (see Table 4 and Figure 1).

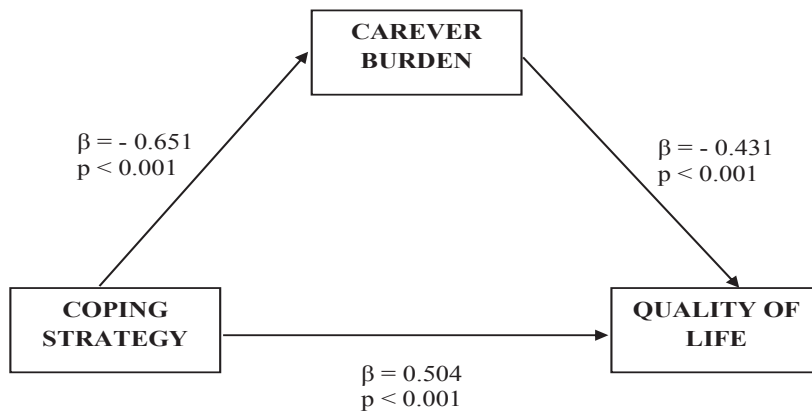


Figure 1. Path analysis model based on the caregiver burden and coping strategies on the family caregivers' quality of life

DISCUSSION

Demographic profile of family caregivers of cancer patients: The present study revealed that family caregivers had a mean age of 46.9 years (SD = 12.34), with the majority being male (52.6%), married

(79.2%), and having a high school education or below (81.1%). Most caregivers were either spouses (44.2%) or children (40.0%) of the patients, and more than half (57.1%) provided care for fewer than 40 hours per week.

Comparable demographic patterns have been observed in other studies. In Vietnam, Hien and Phuong (2023)¹³ reported that most caregivers were female, married, and either children or spouses of cancer patients. Similarly, Cui et al. (2024)⁶ found in China that caregivers were predominantly married and consisted mainly of adult children and spouses, while Akpan-Idiok et al. (2020)⁵ in Africa identified parents as the largest caregiver group.

Taken together, these findings suggest that caregiving for adult cancer patients is primarily undertaken by close family members, especially spouses and children, who are typically middle-aged and married. This consistency across cultural contexts reinforces the pivotal role of the family in cancer care and underscores the urgent need for culturally sensitive interventions that provide emotional, physical, and financial support to caregivers. Strengthening structured support systems and training programs may enhance caregivers' well-being and sustain the quality of care provided to patients.

The caregiver burden, coping strategy, and quality of life among family caregiver respondents: The findings of this study indicated that family caregivers of cancer patients experienced a moderate overall level of burden ($M = 2.93$, $SD = 0.67$), with financial burden reported as the most severe ($M = 3.46$, $SD = 1.00$). This highlights the economic impact of caregiving as the greatest source of stress, consistent with findings from other low- and middle-income countries such as Thailand and the Philippines, where high treatment costs and limited insurance coverage are common challenges¹⁴. In contrast, studies from Japan and the United States have shown lower financial burden levels,

likely due to more comprehensive health insurance and social welfare support¹⁵. Other dimensions, including relationship burden ($M = 2.98$, $SD = 0.73$) and emotional well-being ($M = 2.94$, $SD = 0.68$), were also rated at moderate levels, similar to reports from China and Korea, where caregivers experience comparable emotional strain¹⁶. However, lower emotional burden has been observed in Western countries, possibly due to greater access to respite and counseling services¹⁷.

In terms of coping strategies, the study revealed that Vietnamese cancer caregivers primarily relied on problem-focused adaptive approaches ($M = 3.42$, $SD = 0.58$), followed by emotion-focused adaptive strategies ($M = 3.09$, $SD = 0.37$), while dysfunctional strategies were less frequently used ($M = 2.77$, $SD = 0.59$). These findings showed that Vietnamese caregivers primarily relied on problem-focused and emotion-focused adaptive approaches, while dysfunctional strategies were less common. This pattern aligns with findings from other Asian settings, such as Malaysia, where active coping and acceptance are predominant¹⁸, but differs from Western caregivers, who tend to rely more on social and professional support¹⁷. These variations may reflect cultural values emphasizing family responsibility and limited formal caregiver support in many Asian contexts.

g. Regarding quality of life, caregivers reported a moderate overall level ($M = 2.65$, $SD = 0.49$), with the lowest scores associated with burden and financial concerns. This underscores caregiving demands and economic strain as major stressors. These findings are consistent with those of Hien and Phuong (2024) in Vietnam⁴, Cui et al. (2024) in China⁶, and Daniela et al.

(2022) in Colombia¹⁹, who also found that cancer caregivers tend to have a moderate quality of life, particularly affected by financial hardship. However, unlike studies conducted in China and Colombia, where emotional and social well-being were the most compromised domains, this study revealed that financial strain had the strongest negative influence on caregivers' quality of life. This difference highlights the distinctive impact of economic vulnerability and limited health insurance coverage in Vietnam, emphasizing the need for financial and social support interventions tailored to this context. Multiple regression analysis of quality of life with factors of caregiver burden and coping strategy

The multiple regression analysis demonstrated that the model explained a substantial proportion of the variance in caregivers' quality of life ($R^2 = 0.724$). Both caregiver burden and coping strategies emerged as significant predictors, but in opposite directions. Caregiver burden had a strong negative association with quality of life ($\beta = -0.43$, $r = -0.76$, $p < 0.001$), indicating that higher levels of burden consistently diminished quality of life. In contrast, coping strategies were found to have a significant positive association with quality of life ($\beta = 0.50$, $r = 0.81$, $p < 0.001$), suggesting that greater use of coping mechanisms enhanced caregivers' capacity to maintain life satisfaction despite the challenges of caregiving. These findings align with the existing literature. In Vietnam, Nguyen Thi Hien (2024) reported that higher caregiver burden was inversely correlated with poorer quality of life among family members of cancer patients⁴. Similarly, international studies conducted in Iran²⁰ and China²¹ demonstrated that burden strongly predicted poorer mental health and reduced quality of life.

On the other hand, the positive role of coping strategies observed in this study is consistent with Lazarus and Folkman's Stress and Coping Theory (1984), which highlights that adaptive coping can buffer stress and improve psychosocial outcomes. However, a noteworthy and unexpected finding in the present study was that both positive and negative coping strategies were positively associated with quality of life, which stands in contrast to the majority of previous evidence. For example, Amonoo (2023) reported that approach-oriented coping was significantly associated with better quality of life ($p = 0.002$)²², while avoidant coping was strongly related to poorer quality of life ($p < 0.001$). In another study, a higher level of the coping style "expression of negative emotions" was also linked to worse quality of life ($p < 0.005$)²³.

One plausible explanation for this divergence is that, in the specific context of caregiving for cancer patients, a role often characterized by prolonged exposure to intense physical, emotional, and financial stress, certain negative coping strategies such as denial, self-blame, or behavioral disengagement may serve as temporary psychological defense mechanisms. Although generally maladaptive in the long term, these strategies may provide immediate emotional relief, thereby helping caregivers maintain a certain level of perceived quality of life. Another possible factor is the use of the Brief-COPE instrument, which contains several subscales that are context-dependent or may be interpreted as neutral in certain cultural settings, potentially influencing the classification of coping behaviors as positive or negative.

Therefore, further longitudinal or in-depth qualitative studies are warranted to clarify the nuanced role of specific coping

strategies among family caregivers of cancer patients. Such investigations would help determine whether the observed positive associations of negative coping with quality of life represent a cultural adaptation, a methodological artifact, or a temporary coping benefit that diminishes over time. Taken together, these findings underscore the importance of nursing interventions aimed not only at reducing caregiver burden, particularly financial and emotional stress, but also at strengthening effective coping skills through education, counseling, and peer support programs.

Path analysis model examining the relationships among coping strategies, caregiver burden, and the quality of life of family caregivers: Table 4 and Figure 1 present the direct, indirect, and total effects of coping strategies on the quality of life among family caregivers of adult cancer patients in selected hospitals in Can Tho City, Southern Vietnam. The total effect was 0.984, comprising a direct effect of 0.632 ($\beta = 0.504$, 95% CI [0.545 – 0.719], $p < 0.001$) and an indirect effect of 0.352 ($\beta = 0.281$, 95% CI [0.282 – 0.422], $p < 0.001$). These findings suggest that coping strategies influence quality of life both directly and indirectly, with caregiver burden serving as a partial mediator that accounted for 35.8% of the total effect. The remaining 64.2% represents the direct contribution of coping strategies to quality of life.

Previous research has consistently demonstrated significant relationships among coping strategies, caregiver burden, and quality of life in the context of cancer caregiving. Amonoo et al. (2023) reported that approach-oriented coping strategies were positively associated with quality of life ($\beta = 4.041$, $SE = 1.568$, $p = 0.011$)²². In contrast, caregiver burden has been shown to

negatively affect quality of life ($\beta = -0.43$, $p < 0.001$)²⁰. Moreover, several studies have documented the impact of coping strategies on caregiver burden. For instance, a study conducted in China found that positive reframing ($\beta = -0.41$, 95% CI [-0.60, -0.22]) and acceptance ($\beta = -0.11$, 95% CI [-0.23, -0.01]) were associated with reduced caregiver burden, whereas self-distraction ($\beta = 0.36$, 95% CI [0.23, 0.50]) was linked to increased burden²⁴. Evidence from other contexts also supports the mediating role of caregiver burden. For example, Niu et al. (2023) demonstrated that caregiver burden mediated the relationship between caregiver competence and health-related quality of life among family caregivers of disabled older adults, with a total effect of 0.980, a direct effect of 0.645, and an indirect effect of 0.335²⁵.

The present path analysis within the GLM framework confirms that coping strategies have a significant positive direct effect on quality of life, while also exerting an indirect effect by alleviating caregiver burden. The mediating pathway explained more than one-third of the total influence, highlighting the interconnected nature of coping behaviors, emotional well-being, and overall quality of life. These findings underscore the importance of nursing interventions that not only strengthen adaptive coping strategies but also target the reduction of caregiver burden to enhance the well-being of family caregivers of adult cancer patients.

LIMITATIONS

This study has several limitations. First, it was conducted in selected hospitals, which may restrict the generalizability of the findings to other healthcare settings. Second, reliance on self-reported data may

have introduced recall or social desirability bias. Third, the cross-sectional design limits causal interpretation and does not capture the long-term effects of caregiver burden and coping strategies. Finally, important contextual factors such as disease stage and available support systems were not fully considered. Future longitudinal and multi-center studies are recommended to address these limitations.

CONCLUSIONS AND RECOMMENDATIONS: This study demonstrates that family caregivers of adult cancer patients in Southern Vietnam experience a moderate level of caregiving burden, with financial strain emerging as the most critical challenge. Although problem-focused coping strategies were predominantly employed, overall quality of life remained negatively affected by caregiving demands and economic stressors. Regression and path analyses confirmed that caregiver burden significantly undermines quality of life, while coping strategies exert both direct and indirect positive effects, with caregiver burden serving as a partial mediator. These findings highlight the importance of strengthening adaptive coping skills and addressing systemic barriers such as financial hardship. Nursing interventions that integrate psychosocial support, caregiver education, and financial assistance are essential to reduce caregiver burden and promote well-being.

Nursing practices should focus on reducing caregiver burden and strengthening adaptive coping through structured counseling, targeted education, and peer-support programs. Policymakers are encouraged to address financial strain by expanding health insurance and caregiver assistance schemes, as economic hardship was identified as a major determinant of reduced quality of life.

Future research should extend to diverse healthcare settings and apply longitudinal and interventional designs to clarify causal pathways and evaluate culturally tailored caregiver support interventions.

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