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The relationship between stress, social support, and quality of life among spouses of patients at the end-of-life stage in Thailand: A correlational study

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Abstract

Background: Non-communicable diseases have become a leading global health challenge, with mortality rates steadily rising. Insufficient patient care can worsen chronic illness, often placing significant caregiving responsibilities on the patient's spouse. In some cases, spouses may need to leave their jobs to provide full-time care, especially during the end-of-life stage. Spousal caregivers often face emotionally distressing circumstances while caring for their loved ones, which can lead to elevated stress levels. However, research indicates that adequate social support can improve caregivers' quality of life, reducing some of the burdens associated with end-of-life care.

Objectives: This study aimed to assess and analyze the relationships between stress, social support, and quality of life experienced by spousal caregivers in Thailand, guided by Lazarus and Folkman's (1984) Stress and Coping Theory.

Methods: A correlational descriptive study design was used. The study was conducted with 84 spouses of patients in the end-of-life stage at a university hospital between October 2021 and March 2022. Data were collected using a questionnaire covering stress, social support, and quality of life and analyzed using Pearson's Product Moment and Spearman Rank Correlation Coefficients.

Results: The majority of spouses were women aged between 31 and 83 years (Mean = 61.24, SD = 10.42). The mean stress level was 6.40 (SD = 1.62), the mean social support was 55.07 (SD = 9.06), and the mean quality of life was 94.69 (SD = 10.04). There was no significant correlation between social support and stress (r = -0.098, p = 0.373). However, stress was negatively correlated with quality of life (r = -0.299, p = 0.006), and social support was positively related to quality of life (r = 0.219, p = 0.045).

Conclusion: Spousal caregivers of patients at the end-of-life stage experienced varying levels of stress, social support, and quality of life. While no significant relationship was found between social support and stress, stress negatively impacted quality of life, while higher social support was associated with improved quality of life. Healthcare providers, especially nurses, should assess and address the stress, social support, and overall well-being of spousal caregivers to enhance their quality of life.

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Background

Palliative care is an approach to improving the quality of life for patients and their families facing life-threatening illnesses (World Health Organization [WHO], 2020). This care focuses on reducing pain and symptoms while offering comprehensive support throughout the end-of-life process. Patients in this stage often experience pain, fatigue, and breathing difficulties (Lindeza et al., 2024) and may depend on medical devices. The primary goal during this period is symptom management, which seeks to reduce discomfort and provide holistic care until death (Akkadechanunt, 2017). Since this phase often extends beyond hospitalization, patients typically require continued care at home. Frequently, the spouse becomes the primary caregiver once the patient is discharged from the hospital. This transition can be overwhelming, as the spouse must learn to manage new responsibilities, often leading to significant stress.

When a family member faces a critical illness and requires hospitalization, other family members must adjust their roles to cope. If this adaptation is difficult, it can cause stress and complications (Lindeza et al., 2024). Such stress can affect a family's physical, mental, social, and financial well-being (Yongpattanajit et al., 2020). However, stress can be significantly reduced when a spouse has effective coping strategies and decision-making skills (Lazarus & Folkman, 1984). According to Lazarus and Folkman (1984) stress theory, spouses are uniquely positioned to offer the most valuable support in managing stress. Liu (2021) also emphasized that Chinese spouses, in particular, often experience poor mental health, highlighting the urgent need for mental health services to alleviate symptoms, encourage self-care, improve emotional stress management, and strengthen social support networks. Facilitating discussions on stress and providing effective coping strategies are crucial for improving the overall quality of life of caregivers.

International studies on end-of-life caregiving have primarily focused on the patient, with less attention given to the challenges faced by caregivers, especially spouses. These challenges often include a lack of knowledge, limited confidence in self-care, insufficient time for caregiving, and confusion about the care process. Williams and Addis (2021) noted that caregivers, particularly women, face additional physical burdens when taking on caregiving responsibilities. Women who frequently balance caregiving with domestic tasks and childcare experience heightened stress due to financial worries and a lack of social or healthcare support. Koçak et al. (2022) shows that female caregivers bear a heavier burden than male caregivers, exacerbating their psychological and social challenges. Furthermore, Donison et al. (2022) pointed out that inadequate support for caregivers results in poorer quality of care for the patient, leading to increased suffering for both the caregiver and the patient. These findings are echoed in Valero-Cantero et al. (2022), which found that caregivers often face reduced healthcare benefits themselves, further increasing their stress and diminishing their quality of life.

Research on caregiving for patients with relatives in Thailand has shown that prolonged caregiving creates significant stress. The demands of patient treatment and care increase the caregiver's workload, leading to reduced incomes, higher costs, and negative impacts on their health and sleep. This stress often results in fatigue, reducing caregivers' ability to manage effectively, ultimately leading to a lower quality of life. In a study by Yongpattanajit et al. (2020) of 83 end-of-life caregivers, it was found that caregivers were particularly stressed about their physical condition, which in turn caused psychological stress for relatives, families, and society. When stressed, caregivers sought support sources to help alleviate their burdens. A study by Choupolsat et al. (2018) on 90 caregivers of dementia patients found that while caregivers received moderate social support (mean = 76.21, range = 15-105), their health was still affected by caregiving responsibilities. Increased care burdens led to more stress and insufficient rest, further deteriorating the caregiver’s health. Similarly, Prakobkit et al. (2014) found that spouses of breast cancer patients who had a strong relationship before the illness experienced a better quality of life during treatment. However, when stress occurred, caregivers sought anxiety management strategies and support to address the problem and improve their quality of life. Despite these findings, most research continues to focus on caregiving within hospital settings, leaving a gap in understanding caregiving in home environments. These studies consistently show that caregivers, particularly spouses, face significant physical, psychological, and social challenges that impact their overall well-being. Tailored interventions to reduce stress and enhance social support for caregivers are needed.

Across both international and Thai research, it has been consistently observed that spouses of end-of-life patients experience substantial stress due to caregiving responsibilities. This stress is often compounded by a lack of social support, negatively affecting the caregiver’s quality of life. Spouses must adapt to new caregiving roles, which increases their psychological and physical burden. As the number of end-of-life patients continues to grow, there is an increasing need for research to examine the relationship between caregiver stress, social support, and quality of life, especially for spouses in Thailand. Addressing these gaps, this study explores the relationship between stress, social support, and quality of life among spouses of end-of-life patients. The findings can inform nursing interventions by assessing the stress levels experienced by caregivers, the types and sources of social support available, and the overall quality of life of these caregivers. Such interventions would provide strategies to reduce stress, improve social support, and ultimately enhance the quality of life for spouses caring for end-of-life patients.

Our study aimed to assess and analyze the relationships between stress, social support, and quality of life experienced by spousal caregivers of end-of-life patients in Thailand.

Theoretical Framework

This study employed the Stress and Coping Theory, proposed by Lazarus and Folkman (1984), as a theoretical framework to explore the stress, coping mechanisms, and quality of life among spousal caregivers of end-of-life patients. The theory emphasizes the dynamic interaction between individuals and their environment, where individuals assess situations as positive or negative. When a situation is perceived negatively, it generates stress, prompting an initial appraisal of the potential impact or loss caused by the stressor. A secondary appraisal follows, in which individuals assess available resources and support, as well as the severity of the stressor. The process of appraising stress is influenced by situational factors, such as the characteristics, certainty, and intensity of the situation, as well as personal factors, including individual involvement, beliefs, and cognitive styles.

Lazarus and Folkman (1984) categorize coping strategies into two main types: 1) problem-focused coping, which involves directly addressing the stressor, and 2) emotion-focused coping, which aims to regulate emotional responses. This framework is particularly relevant to understanding the experiences of spouses or partners of end-of-life patients who face significant stressors, including the patient's illness, fatigue, and dependence on medical equipment. These stressors, combined with the demands of caregiving and other family or work obligations, can deeply affect caregivers' emotional and psychological well-being.

When caregivers perceive these demands as manageable and are able to have available social support, they may cope effectively and maintain a satisfactory quality of life. However, when stress levels are high and social support is insufficient, caregivers' quality of life may be significantly impacted. The objectives of this study align with the Stress and Coping Theory by assessing the stress levels, social support, and quality of life experienced by spousal caregivers of end-of-life patients. Furthermore, the study analyzes the relationships between stress and quality of life, social support and quality of life, and stress and social support among caregivers.

By applying this theoretical framework, the study aims to gain insight into how caregivers' coping strategies, influenced by their stress levels and social support, affect their overall well-being. Future research can build upon these findings by examining specific coping strategies and evaluating interventions designed to enhance social support, ultimately improving caregivers' and patients' outcomes.

Methods

Study Design

This research utilized a correlative descriptive study design to examine the relationships among stress, social support, and quality of life in spouses of patients in the end-of-life stage.

Samples/Participants

The target population for this study consisted of spouses of end-of-life patients receiving care from a palliative care team at a university hospital. A purposive sampling method was employed to select participants based on specific criteria. The inclusion criteria for participation were as follows: 1) Spouses of patients in the end-of-life stage, aged 18 years or older, regardless of gender. For spouses aged 60 and older, a cognitive impairment assessment was conducted using the Six-Item Cognitive Impairment Test (6CIT) (Areeue & Youngcharoen, 2020). A score of 0-7 out of a possible 28 indicated no cognitive impairment; 2) Spousal caregivers must be aware that their partner is in the end-of-life stage; 3) Participants should have a minimum caregiving experience of at least 2 weeks; 4) Participants should be able to communicate effectively in Thai, both verbally and in comprehension; 5) Stress screening must indicate a stress level of ≥4.

To determine the required sample size, G*Power version 3.1.9.4 was used, setting α at 0.05 and aiming for 80% power. The literature review suggested an effect size ranging from 0.30 to 0.47 for the correlation between stress and coping strategies (Opasrattanakorn et al., 2015) and between social support and quality of life in post-surgical breast cancer patients (Prakobkit et al., 2014). For the purpose of this study, an effect size of 0.30 was selected for calculations. One-sided hypotheses were employed, as prior reviews indicated consistent directional relationships between stress and related factors internationally and within Thailand. Given the limited number of multidisciplinary studies in Thailand and the potential impact of multicenter settings on the relationships between stress, social support, and quality of life among spousal caregivers, a cautious approach was taken. Consequently, the study included 84 participants, which was deemed sufficient to achieve the research objectives.

Instruments

This study used research tools, including a cognitive impairment screening instrument for participants aged 60 and older and an assessment tool for stress levels.

1. Screening Instruments for Data Collection:

1.1 Thai Version of the 6-Item Cognitive Impairment Test (6CIT): originally developed by Brooke and Bullock (1999), the 6CIT was translated into Thai through a rigorous process of translation and back-translation to ensure validity and reliability. The initial translation was performed by bilingual experts, followed by back-translation into the original language by a separate team. Any discrepancies were resolved through expert consensus. A validation study by Areeue and Youngcharoen (2020) confirmed the tool's suitability for use in Thailand. A pilot test with 10 participants further ensured its clarity and cultural appropriateness. The 6CIT is a widely recognized tool for screening cognitive impairment in elderly populations. In this study, participants were eligible if their 6CIT score was ≤ 7. The questionnaire comprises six concise, easily understandable questions assessing cognitive function across three dimensions. Scores range from 0 to 7, indicating no cognitive impairment, and 8 to 28, indicating cognitive impairment.

1.2 Visual Analog Scale (VAS) for Stress Level Assessment: The Visual Analog Scale (VAS) was used to measure the stress levels of spousal caregivers. This instrument was a horizontal line, approximately 10 centimeters long, with numbers and labels indicating the minimum and maximum stress levels. The leftmost end represented the lowest stress level (score 0), and the rightmost end represented the highest stress level (score 10). Participants marked a vertical line across the scale to indicate their perceived stress level. A score of 4 or higher was considered significant. The Thai translation of this tool was completed by Launrujisawat and Jetiyanuwat (2015).

2. Research Instruments for Data Collection:

2.1 Demographic Inventory of Spousal Caregivers: The researchers developed this inventory based on a literature review. It captured various variables related to spousal caregivers, including gender, age, income, highest level of education, number of children, presence of underlying health conditions, duration of caregiving, number of family members under the caregiver's care, perceived benefits of caregiving, impact of caregiving on personal health, and any health problems caused by caregiving responsibilities.

2.2 Demographic Inventory of Patients: Developed by the researchers based on a literature review, this inventory gathered personal and medical information about the patients, including gender, age, religion, marital status, education level, occupation, family monthly income, and medical expense coverage.

2.3 Social Support Questionnaire Part II (SSQ Part II): originally developed by Schaefer et al. (1981), aimed to measure the perceived social support of spousal caregivers. The principal investigator obtained permission from the original authors to use the instrument. The Thai translation process included forward and back translation, with reviews by three experts to ensure cultural relevance and clarity, resulting in a content validity index of .90. The questionnaire consists of five items across three domains of social support: two items on emotional support, two on material and service support, and one on informational support. Respondents were asked to report the quantity of support they received from family members, close individuals (such as relatives, neighbors, or colleagues), and healthcare providers (such as doctors and nurses). In this study, the reliability of the SSQ Part II was tested on 84 participants, yielding a Cronbach's alpha coefficient of 0.87.

2.4 WHOQOL-BREF-THAI: The WHOQOL-BREF-THAI, a shortened version of the World Health Organization Quality of Life questionnaire, was used to assess the quality of life of spousal caregivers. Permission was obtained from the original authors to translate the tool into Thai, which was completed by Mahatnirunkul et al. (2002). The questionnaire comprises 26 items across four domains: 1) Physical, 2) Psychological, 3) Social Relationships, and 4) Environment. The translation process involved iterative linguistic reviews and cultural adaptations to ensure the tool's clarity and relevance in the Thai context. The reliability of the Thai version of the WHOQOL-BREF was tested with a Cronbach's alpha coefficient of 0.84 in the original study and 0.87 in this research, based on a sample of 84 participants.

Data Collection

Data collection for this study was conducted after obtaining permission from the Human Research Ethics Committee. Data collection took place from October 2021 to March 2022. Participants were selected from spouses of patients who met the inclusion criteria under the supervision of the head nurse. The researchers introduced themselves to the participants, explained the objectives of the study, and invited them to take part in the data collection process. Upon agreement, the researchers obtained the participants' informed consent signatures.

The data collection procedure was then carried out as follows: For spouses aged 60 or older, cognitive impairment screening was first administered. Next, participants completed the stress level assessment. Following this, they filled out a series of questionnaires, including the demographic inventory, the social support questionnaire, and the quality-of-life questionnaire, specifically designed for spousal caregivers of end-of-life patients. Throughout the process, participants were encouraged to ask for clarification or address any concerns they might have. For participants who were unable to read or write in Thai or had vision impairments, the researchers read the questionnaire items aloud and recorded the participants' verbal responses. To ensure comfort and reduce anxiety, research assistants were available to offer caregiving support during the completion of the questionnaires. Once the data collection was completed, all documents were securely stored in envelopes to ensure confidentiality.

Data Analysis

Data collected from participants were analyzed using the SPSS/pc+ (Statistical Package for the Social Sciences) version 26 for Windows, following established statistical research methodology. The demographic data of both spousal caregivers and end-of-life patients were analyzed using frequency, percentage, rank, mean, and standard deviation. Data related to stress, social support, and quality of life were analyzed using mean and standard deviation. Information regarding the disease, treatment of patients, and the supportive needs of spousal caregivers was analyzed through frequency distribution, percentage, mean, and standard deviation. When the data met statistical assumptions, the correlation between stress, social support, and quality of life among spousal caregivers was examined using Pearson's product-moment correlation coefficient. In cases where the data did not meet these assumptions, the Spearman rank correlation coefficient was applied.

Ethical Considerations

This research was approved by the Human Research Ethics Committee of the Faculty of Medicine at Ramathibodi Hospital, Mahidol University, Thailand, under approval number (COA.MURA2021/591) on 19 July 2021. Potential participants were identified and invited to voluntarily consent to participate in the study. All collected data were kept confidential and anonymous, with identification numbers assigned to participants. The study ensured participants' confidentiality and their right to withdraw at any time, with the assurance that their decision would not affect their treatment or care.

Results

General Characteristics of Spousal Caregivers of Patients at the End-of-Life Stage

The study found that the majority of spousal caregiver participants were female (63.10%), with ages ranging from 31 to 83 years (Mean = 61.24, SD = 10.42 years) and predominantly Buddhist (98.80%). Among participants aged over 60, 51 were screened using the 6CIT cognitive test, and all passed. Regarding education, the highest level achieved by most participants was a bachelor's degree or higher (36.90%). The majority of spousal caregivers were housewives or househusbands (59.52%), followed by shopkeepers or vendors (19.02%). Most caregivers (69%) exclusively cared for their spouse, while 31% cared for additional individuals. Over half of the spousal caregivers had underlying health conditions (58.33%), primarily hypertension (27.38%) and diabetes mellitus (9.52%). Caregiving responsibilities led to various physical symptoms, including muscle, back, and waist pain (46.43%), headache or dizziness (32.14%), and sleep deprivation (28.57%). Psychological symptoms included stress (5.95%) and anxiety (5.95%). Nearly half of the participants reported insufficient income to meet their needs (47.62%).

Financial support was most commonly provided as assistance with living expenses (71.43%). Support from healthcare personnel was minimal, with only 2.38% receiving home healthcare visits. However, caregiving activity support was prevalent, with 77.38% receiving food assistance and 75.00% receiving help with caregiving tasks. A small number of participants (2.38%) received resource support for childcare, as summarized in **Table 1**.

Table 1 Demographic data of spousal caregivers, characteristics of illness, symptoms, and resource support for spousal caregivers

Spousal Caregivers' Characteristics	***f***	**%**
Gender		
Female	53	63.10
Male	31	36.90
Age	Mean = 61.24, SD = 10.42 (Min – Max = 31 - 83 years)	
Religion		
Buddhism	83	98.80
Islam	1	1.20
Highest level of education		
Primary school	24	28.57
Secondary school	29	34.53
Bachelor's and higher	31	36.90
Occupation		
Househusband/Housewife	50	59.52
Shopkeeper/vendor	16	19.02
Government officer/ Authority officer	7	8.33
Employee	7	8.33
Agriculturist	4	4.80
Number of family members in caregiving		
End-of-life spousal patients only	58	69.00
End-of-life spousal patient and other family members	26	31.00
Underlying disease prevalence among spousal caregivers		
Having underlying disease	49	58.33
Having no underlying disease	35	41.67
Hypertension	23	27.38
Diabetes Mellitus	8	9.52
Physical *		
Muscle pain/ back pain/ waist pain	39	46.43
Headache/dizziness	27	32.14
Sleep deprivation	24	28.57
Psychological *		
Stress	5	5.95
Anxiety	5	5.95
Adequacy of family income		
Inadequate income	40	47.62
Adequate income	30	35.71
Adequate income with saving	14	16. 67
Social support		
Financial*		
Living expense	60	71.43
Healthcare personnel*		
Healthcare home visits	2	2.38
Patient caring assistance*		
Food providing	65	77.38
Caregiving role assistance	63	75.00
Other activities assistance*		
Child caring assistance	2	2.38

Note: * Respondents can choose more than one choice

Characteristics of Demographic Data and Health Status of End-of-Life Patients

The study revealed that most end-of-life patients were male (63.10%), while females accounted for 36.90%. Patients' ages ranged from 40 to 85 years, with a mean age of 62.4 years (SD = 9.78). Nearly half of the patients (40.50%) had attained a bachelor's degree or higher. Regarding occupation, the majority were housewives or househusbands (58.33%), followed by employees (13.10%). The primary healthcare benefits utilized by patients were Civil Servant Benefits (58.33%) and Universal Coverage (29.76%). The main symptoms leading to hospital admission were pain (55.95%) and dyspnea (35.71%). The most common primary diagnosis among patients was lung cancer (60.71%), followed by cancers of the gastrointestinal system (58.33%).

Almost all patients in this study sought medical services for pain management through analgesic prescriptions (94.04%), and a significant proportion received follow-up care for dyspnea (61.90%). Many patients required medical devices, such as analgesic syringes (91.70%), oxygen tubes (66.70%), and enteral feeding tubes (29.80%). Palliative care interventions included intravenous feeding (100%), intravenous infusion (100%), and a No-CPR order (100%), as summarized in **Table 2**.

Table 2 Characteristics of demographic data and health status of end-of-life patients (*n* = 84)

Demographic and Health Characteristics of End-of-Life Patients	*f*	%
Gender		
Male	53	63.10
Female	31	36.90
Age	Mean = 62.4, SD = 9.78 (Min – Max = 40 - 85 years)	
Education level		
Primary school	19	22.60
Secondary school	31	36.90
Bachelor's degree and higher	34	40.50
Occupation		
Househusband/housewife	49	58.33
Employee	11	13. 10
Government/Authority officer	10	11.90
Shopkeeper/vendor	9	10. 72
Agriculturist	5	5.95
Healthcare benefit		
Original affiliation/Civil servant benefit	49	58.33
Universal coverage	25	29.76
Social security scheme	7	8.31
Self-support	3	3.60
Symptoms leading to hospitalization*		
Pain	47	55.95
Dyspnea	30	35.71
Diagnosis*		
CA lung	51	60.71
Gastrointestinal system	49	58.33
Medical therapy in current illness*		
Analgesic drug	79	94.04
Dyspnea follow-up	52	61.90
Antibiotic	13	15.50
Fluid and mineral infusion	13	15.50
Medical equipment used*		
Analgesic drug syringe	77	91.70
Oxygenation	56	66.70
Enteral tube feeding	25	29.80
Palliative care therapy to improve patient's quality of life*		
Intravenous feeding	84	100.00
Intravenous infusion of fluid/blood	84	100.00
NO Cardiopulmonary resuscitation	84	100.00

Note: * Respondents can choose more than one choice

Characteristics of Support Needed by Spousal Caregivers of End-of-Life Patients

Most spousal caregivers primarily required support in caregiving-related activities. This included assistance with discharge care (20.23%) and efforts to alleviate patients' suffering (11.90%). In the economic dimension, caregivers frequently sought help with living expenses (36.90%). Within the healthcare personnel support, a substantial proportion of caregivers (57.14%) expressed the need for support in managing symptomatic treatment, as detailed in **Table 3**.

Table 3 Support needed by end-of-life patients' spousal caregivers

Support Needed	*f*	%
Caring dimension*		
Discharge care support	17	20.23
Help minimize patients' suffering	10	11.90
Expense dimension*		
Cost of living	31	36.90
Healthcare personnel support*		
Symptomatic treatment	48	57.14
Providing caring information	11	13.09

Note: * Respondents can choose more than one choice

Characteristics of Stress, Critical Stressors for Spousal Caregivers, and Outcomes of Stress

Table 4 shows that participants experienced moderate stress levels (Mean = 6.40, SD = 1.62). All caregivers (100%) identified patients' symptoms and suffering as the primary stressors, followed by concerns about disease progression (14.28%). Financial burdens (9.52%) and caregiving challenges during the COVID-19 no-visit policy (4.76%) were also significant stressors. Physical effects included sleep deprivation (83.33%) and headaches (15.47%), while psychological impacts included anxiety (33.33%), lack of concentration, and agitation (16.66%).

Table 4 Stress characteristics, the critical stressors for spousal caregivers, and the outcomes of stress

Characteristics	***f***	**%**
Stress	Mean = 6.40, SD = 1.62 (min-max = 4-10)	
The most severe stressor of spousal caregivers concerning end-of-life patients		
Stressors concerning patient's disease and illness*		
Patient's symptoms and suffering	84	100.00
Disease and prognosis	12	14.28
Stressor concerning caregiving role*		
Medical and living expenses	8	9.52
Inpatient caregiving (Due to COVID-19 no-visit policy)	4	4.76
Stress outcome in spousal caregivers*		
Physical*		
Sleep deprivation	70	83.33
Headache	13	15.47
Psychological*		
Anxiety	28	33.33
Agitation	14	16.66

Note: * Respondents can choose more than one choice

Social Support and Quality of Life of Spousal Caregivers of End-of-Life Patients

Table 5 shows that spousal caregivers reported a high overall social support score (Mean = 55.07, SD = 9.06) from relatives (Mean = 22.88, SD = 3.52), intimate partners (Mean = 14.58, SD = 4.76), and healthcare personnel (Mean = 17.60, SD = 4.24). Caregivers' overall quality of life was moderate (Mean = 94.69, SD = 10.04), with the highest scores in the physical dimension (Mean = 22.82, SD = 3.68) and psychological dimension (Mean = 22.01, SD = 2.79). The relationship dimension scored 12.29 (SD = 2.04), and the environmental dimension scored 31.48 (SD = 3.39).

Table 5 Social support and quality of life of end-of-life patients' spousal caregivers (*n* = 84)

Variables	**Possible range**	**Actual range**	**Mean**	**SD**
Overall social support	15 - 75	28 - 75	55.07	9.06
Relatives	5 - 25	11 - 25	22.88	3.52
Intimate persons	5 - 25	5 - 25	14.58	4.76
Healthcare personnel	5 - 25	7 - 25	17.60	4.24
The overall quality of life	26 - 130	59 - 125	94.69	10.04
Physical dimension	7 - 35	14 - 34	22.82	3.68
Psychological dimension	6 - 30	16 – 28	22.01	2.79
Relationship dimension	3 - 15	6 - 15	12.29	2.04
Environmental dimension	8 - 40	18 - 40	31.48	3.39

Correlation between Stress, Social Support, and Quality of Life

Table 6 shows a significant negative correlation between stress and overall quality of life (*r* = -0.299, *p* = 0.006) and a positive correlation between overall social support and quality of life (*r* = 0.219, *p* = 0.045). Social support from healthcare personnel positively correlated with overall quality of life (*r* = 0.269, *p* = 0.013) and the psychological dimension of quality of life (*r* = 0.297, *p* = 0.006). Social support strongly correlated with the relationship dimension of quality of life, particularly from relatives (*r* = 0.375, *p* <0.001), intimate partners (*r* = 0.532, *p* <0.001), and healthcare personnel (*r* = 0.534, *p* <0.001).

Table 6 Correlation between stress, social support, and quality of life among spouses of patients at the end-of-life stage (*n* = 84)

Items	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
1. Stress	1									
2. Overall social support	-0.098	1								
3. Relatives	0.113	0.524**	1							
4. Intimate person	-0.138	0.719**	0.093	1						
5. Healthcare personnel	-0.144	0.775**	0.348**	0.271*	1					
6. Overall quality of life	-0.299**	0.219*	-0.002	0.139	0.269*	1				
7. Physical dimension	-0.211	$0.042^{\S}$	-0.194	0.028	$0.177^{\S}$	0.813**	1			
8. Psychological dimension	-0.307**	0.166	0.068	-0.018	0.297**	0.842**	0.586**	1		
9. Relationship dimension	-0.079	0.659**	0.375**	0.532**	0.534**	0.345**	0.020	0.284**	1	
10. Environmental dimension	-0.005	0.191	-0.053	0.210	0.189	0.701**	0.448**	0.480**	0.222*	1

Note: * <0.05 \| **<0.01 \| §Analyzed by Pearson's Correlation

Discussion

Principal Findings

The mean stress level reported by spousal caregivers in this study was 6.40 out of a possible score of 10. This finding is consistent with the study by Yoosamran et al. (2020), which examined stress in relatives of patients receiving palliative care and found that 63.09% of relatives experienced moderate stress. Similarly, Yongpattanajit et al. (2020) reported that spousal caregivers of end-of-life patients also exhibited moderate levels of stress. The stress experienced by spousal caregivers can be attributed to several factors associated with end-of-life situations, including health concerns, illness, and economic challenges. Caregivers often face stress related to the symptoms and suffering of their loved ones, the disease prognosis, medical expenses, and daily living expenses.

Moreover, spousal caregivers endure not only the stress of caregiving but also the emotional burden of impending loss, which may exacerbate their stress compared to other caregiver groups. The knowledge that a beloved spouse is nearing the end of life can lead to heightened anxiety and grief. This result is congruent with the stress-coping theory of Lazarus and Folkman (1984), which emphasizes the role of emotional and cognitive responses in coping with stressors.

This study assessed the social support available to spousal caregivers of end-of-life patients from three primary resources: family members, intimate partners, and healthcare personnel. The evaluation focused on three components of social support: informational support, emotional support, and material and service support. The results indicated that spousal caregivers received high social support, with scores ranging from 28 to 75 and an average score of 55.07. Among the sources of support, family members were identified as the primary providers, likely due to the strong bonds of love and connection that exist among them.

Furthermore, spousal caregivers reported receiving various forms of financial assistance, including support for living expenses and life insurance premiums and patient care resources such as food assistance, respite caregiving, and transportation support. This aligns with findings by Donison et al. (2022), which indicate that the spouses of cancer patients still require support and guidance regarding physical health conditions, financial expenses, and treatment information from the healthcare team. Additionally, Khatta et al. (2018) found that a moderate level of social support positively influenced the caregiving behaviors of caregivers.

The quality of life of spousal caregivers for end-of-life patients was assessed across four dimensions: physical, psychological, relational, and environmental. The findings revealed that spousal caregivers exhibited moderate to high overall quality of life, with an average of 94.69 (range: 56–125). This aligns with the results of Faramee (2024), who studied caregivers of terminal cancer patients. According to Lazarus and Folkman (1984) stress and coping theory, caregivers' quality of life can be influenced by their appraisal of caregiving situations. When caregivers perceive their responsibilities as stressful, they employ various coping strategies based on available resources and social support. Specifically, the average for the physical dimension of quality of life was 22.82. Many spousal caregivers reported experiencing physical symptoms during their caregiving, including muscle, back/waist pain (46.43%) and headaches/dizziness (32.14%). In contrast, psychological, relational, and environmental assessments indicated a high quality of life in these areas. This may suggest that caregivers in this study learned to manage their caregiving roles effectively, enabling them to cope with associated challenges.

The study also found a significant negative correlation between stress and quality of life. Caregivers often experienced stress as they adapted to their additional roles, which complicated their daily lives and caregiving tasks. Consequently, spousal caregivers face stress across various dimensions, including physical, economic, psychological, and spiritual (Tangchitsumran et al., 2023). The perception of caregiving as a stressful experience adversely affected their quality of life. However, caregivers sought support from social resources such as family, intimate partners, and healthcare personnel, contributing to an enhanced quality of life (Aoyama et al., 2021). This knowledge likely motivated caregivers to familiarize themselves with treatment regimens and palliative care, leading to higher quality-of-life scores. Additionally, caregivers cultivated a harmonious and supportive caregiving environment, engaging in daily activities together with their spouses to foster happiness, unity, and a sense of responsibility within their families. They also engaged in discussions regarding family management with good mutual understanding.

Furthermore, the study revealed a significant positive correlation between social support and quality of life. Caregivers had access to robust social support resources, including family, intimate partners, and healthcare personnel. The mean social support score was 55.07 out of a possible 75, reflecting a high level of perceived support. This finding is consistent with Tangchitsumran et al. (2023), who observed that individuals with strong social support networks tended to report higher quality of life. The types of social support received by spousal caregivers included financial assistance, patient care support, medical follow-up aid, caregiver role replacement, transportation assistance, food provisions, burden sharing, and support for religious activities, such as visits to temples. Healthcare personnel provided critical support, offering caregiving consultation and information. This aligns with findings from Koçak et al. (2022), which indicated that caregivers receiving information support from healthcare professionals demonstrated improved adaptation. This study's spousal caregivers reported sufficient social support, including financial, healthcare, patient care, and burden-sharing assistance, which positively correlated with quality of life (Jeon & Jun, 2024).

Spouses play a crucial role as social support resources. Strong spousal relationships can foster love, understanding, patience, forgiveness, and effective communication, enhancing problem-solving capabilities and boosting self-esteem. Previous studies indicate that caregivers who managed to balance their professional responsibilities with caregiving roles employed effective time management strategies. However, the demands of caregiving for end-of-life patients often overwhelm them, limiting opportunities for recreation and personal activities. Many caregivers also experienced financial constraints, particularly among those with low incomes, such as agricultural workers, which further intensified their burden (Puangkam et al., 2020). Conversely, spousal caregivers in this study benefited from support from family members, including siblings and spouses, who helped facilitate discussions and problem-solving strategies.

Interestingly, the study found no correlation between stress and social support among spousal caregivers, contradicting the initial hypothesis. While spousal caregivers reported moderate stress levels, they also experienced high levels of social support. Despite this, the correlation analysis revealed no significant relationship between stress and overall social support. Caregivers in this study acknowledged that social support was crucial in mitigating stress by helping them better appraise and manage their circumstances. The moderate stress levels among caregivers may be attributed to their high levels of social support, which is a critical factor in reducing stress (Liu, 2021). Additionally, the spousal caregivers in this study had an average monthly income exceeding 20,000 Thai Baht and educational attainment at the Bachelor's degree level or higher. They received support in various forms, including financial assistance, healthcare support, patient care aid, and shared responsibilities. This aligns with findings by Schaefer et al. (1981), who reported that caregivers receiving diverse forms of support experienced increased encouragement and self-esteem and reduced stress (Choupolsat et al., 2018).

This study's findings support Lazarus and Folkman's Stress and Coping Theory. Spousal caregivers face moderate to high-stress levels while caring for their partners in end-of-life situations. However, they benefit from robust social support systems, which significantly enhance their quality of life. The study also identified negative correlations between stress and quality of life and positive correlations between social support and quality of life, further affirming the relevance of the Stress and Coping Theory in understanding the experiences of spousal caregivers.

Limitations

This study has several limitations. The cross-sectional design restricts the ability to establish causal relationships between stress, social support, and quality of life. Additionally, the use of purposive sampling focused on spousal caregivers of terminally ill cancer patients limits the generalizability of the findings to caregivers of patients with other end-of-life diseases, whose caregiving contexts may differ. Self-reported data may introduce biases and unaccounted confounding factors such as illness severity or prior caregiver experience could influence the results. Furthermore, the study assessed social support from family, partners, and healthcare personnel, excluding other potential support sources. Future research should include longitudinal studies and diverse caregiver populations and explore additional support systems to understand caregiving experiences comprehensively.

Implications to Nursing Practice

This study has important implications for nursing practice. Nurses should be aware of the high levels of stress experienced by spousal caregivers of terminally ill patients and provide proactive, tailored support to alleviate this burden. Offering caregivers comprehensive information about the patient's condition, treatment options, and available resources is crucial. Additionally, regular assessments of caregiver stress should be conducted to provide timely interventions and reduce the negative impacts on their quality of life. Nurses can also facilitate access to emotional, financial, and healthcare-related support and encourage caregivers to use social support systems to manage stress and enhance coping. Training nurses to offer compassionate communication and strategies for stress management could significantly improve caregivers' well-being and caregiving effectiveness.

Conclusion

This study found that spousal caregivers of terminally ill cancer patients experienced moderate stress levels but received significant social support, primarily from family members, contributing to a moderate to high overall quality of life. A significant negative correlation was found between stress and quality of life, while social support was positively associated with quality of life. The role of healthcare personnel in supporting caregivers was also highlighted, assisting them in managing caregiving duties and emotional challenges during end-of-life care. These findings also emphasize the critical role of nursing support in alleviating caregiver stress and enhancing their well-being through education, emotional support, and resource access.

Declaration of Conflicting Interest

There are no conflicts of interest to declare.

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Authors' Contributions

RT contributed conceptual framework and design, manuscript writing, data collection, data analysis, and interpretation. TJ contributed conceptual framework and design, data analysis, manuscript writing, interpretation, and discussion. BS contributed conceptual framework and design, data analysis, manuscript writing, interpretation, and discussion.

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Data Availability

The datasets analyzed for the current study results are available from the first and corresponding authors upon reasonable request.

Declaration of Use of AI in Scientific Writing

There is nothing to declare.

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