

Factors Influencing Quality of Life among Family Caregivers of Patients with Advanced Cancer: A Causal Model

Warunee Meecharoen, Yupapin Sirapo-ngam, Supreeda Monkong, Pisamai Oratai, Laurel L. Northouse

Abstract: A decrease in the quality of life among family caregivers of advanced cancer patients negatively influences the quality of care provided. Thus, evaluating caregiver quality of life and related factors is very significant because it can guide nurses to maintain health status and ability of caregivers to provide caring for their loved one. This study, based on the Stress Process Model, examined causal relationships among caregiver's age, education, income, caregiver burden, family hardiness, coping, social support, and quality of life among family caregivers of patients with advanced cancer. A sample of 275 caregivers was recruited from two tertiary hospitals in the Central Region of Thailand. Data were collected via six questionnaires including a demographic data questionnaire, the *Zarit Burden Interview*, the *Family Hardiness Index*, the *Jalowiec Coping Scale*, the *Social Support Questionnaire*, and the *Ferrans and Powers Quality of Life Index Cancer Version-III* and analyzed through use of descriptive statistics and path analysis.

The final model of factors influencing quality of life among family caregivers of patients with advanced cancer fitted the empirical data and explained 45% of the variance in caregiver quality of life. The results also indicated caregiver age, social support and family hardiness had significant direct positive effects on caregiver quality of life; whereas, burden had a significant negative direct effect on this, and an indirect effect through social support and family hardiness. The findings suggest that nurses should develop a program focused on reducing burden, enhancing caregivers' support and family hardiness, and helping them to maintain their quality of life. However studies to evaluate this program are needed test this causal model in other populations in Thailand.

Pacific Rim Int J Nurs Res 2013 ; 17(4) 304-316

Keywords: family caregiver; advanced cancer; quality of life; social support; caregiver burden, causal model.

Introduction

Cancer affects not only the quality of life (QOL) of patients who have the disease but also that of their family caregivers.^{1,2} Caregiving for advanced cancer is a demanding and overwhelming process that impacts all aspects of a caregiver's life.³ Family caregivers of patients with advanced cancer had poorer QOL than caregivers of the patients in the acute survivorship phase⁴ and caregivers are often unprepared to provide care for patients at home.⁵ They also receive only minimal attention from most healthcare providers

Correspondence to: Warunee Meecharoen, RN, PhD (Candidate) Ramathibodi School of Nursing, Mahidol University, Bangkok, Thailand
e-mail: warunee_mee@yahoo.com

Yupapin Sirapo-ngam, RN, DSN Associate Professor, Ramathibodi School of Nursing, Faculty of Medicine Ramathibodi Hospital, Mahidol University, Bangkok, Thailand

Supreeda Monkong, RN, PhD Assistant Professor, Ramathibodi School of Nursing, Faculty of Medicine Ramathibodi Hospital, Mahidol University, Bangkok, Thailand

Pisamai Oratai, RN, PhD Assistant Professor, Ramathibodi School of Nursing, Faculty of Medicine Ramathibodi Hospital, Mahidol University, Bangkok, Thailand

Laurel L. Northouse, PhD, FAAN Professor, School of Nursing, University of Michigan, Ann Arbor, the United States

who are focused primarily upon the patients' needs.³ Caregivers are a vulnerable and at-risk population that remains neglected by the health care system.⁶ Previous studies have found that caregivers of patients with advanced cancer had poor to moderate level of QOL.^{1,3,7} Family caregivers need help from other people and health care providers to maintain their own well-being and to be able to maintain their role as family caregivers. If health care providers do not address the QOL concerns of family caregivers, they will be at risk of health problems or become "hidden patients".⁸

There are several interventions to maintain or improve caregiver QOL in the Western context⁹, but this has not been investigated in Thailand. Moreover, little information is available about factors influencing QOL in Thai caregivers. Even though studies in Western cultures indicated that social and cultural factors play an important role in people's perceptions of their health and QOL, such studies may not be relevant to Thai caregivers. The relationship between socio-cultural factors and QOL among Thai family caregivers of patients with advanced cancer has not been reported. Therefore, the purposes of this study were to validate a causal model displaying the relationship between the selected factors and caregiver QOL in the Thai context. It is expected that findings from this study will provide new nursing knowledge about QOL of Thai caregivers and related factors. Moreover, the findings from this study will help determine if factors that predict caregiver QOL in Western culture are the same as those in Thai culture. This knowledge will provide future directions for nurse researchers who are conducting family-focused research in cancer and for nurses caring for these families in clinical practice. The information obtained will also help guide future intervention research designed to improve the QOL of caregivers and cancer patients.

Conceptual Framework and Literature Review

The theoretical framework was derived from the Stress Process Model (SPM) developed by Pearlin, Mullan, Semple, and Skaff¹⁰ and review of the literature. The SPM provides structure to examine predictors of caregiver outcomes that occur from one phase of the illness trajectory to another.⁶ Providing care to patients with advanced cancer involves several interrelated factors. Each factors taken alone may be stressful, but when combined they can become unmanageable and result in low QOL for caregivers. There are four core components of this Model including: 1) background and context, 2) stressors, 3) moderating resources, and 4) outcomes.

Background and context refer to the characteristics of the caregiver and care recipient (socio-demographic characteristics), the context within which the care is provided (caregiving history), family and network composition, and program availability. In this study, there was a focus on the characteristics of the caregivers. The literature revealed that caregiver age,¹¹⁻¹³ education,¹¹ and income^{1,14} were correlated with QOL among family caregivers of patients with advanced cancer.

Pearlin *et al.*¹⁰ considered that SPM *stressors* were conditions that threaten, thwart efforts, and defeat the dreams of people, and those experiences that challenge a caregiver's ability to adjust to the demands of care giving. From the literature, caregiver burden was examined as a stressor in prior study with cancer caregivers. Findings from these studies indicated that caregivers who perceived a high level of caregiver burden had poorer QOL than those who perceived a low level.^{15,16}

Family hardiness, coping, and social support are the *moderating resources* of SPM, that have the capacity to hinder, prevent, or cushion the development of the stress process and its outcomes; moreover, these provide a buffering effect to stressors through direct and indirect pathways.¹⁷

Factors Influencing Quality of Life among Family Caregivers

The *outcomes of stress* refer to its consequences. In this study, the focus was on caregiver QOL as an outcome because QOL is a salient aspect of well-being for individuals with chronic illness, and in particular caregivers of patients with advanced cancer. Additionally, QOL is an outcome of caregiver experience and also an important outcome to help maintain the health status. Hence, evaluating caregiver QOL provides information to understand how family caregivers react to their roles.²

In summary, the hypothesized Model of Factors Influencing Quality of Life among Family Caregivers

of Patients with Advance Cancer is shown in **Figure 1**. Caregiver's age, education, income, and caregiver burden were considered antecedents, while social support, coping, and family hardiness were viewed as moderators, and caregiver's QOL was seen as an outcome variable.

Aim: The aim of this study was to test an hypothesized causal model depicting the relationships between caregiver age, education, income, burden, family hardiness, coping, social support, to influence QOL.

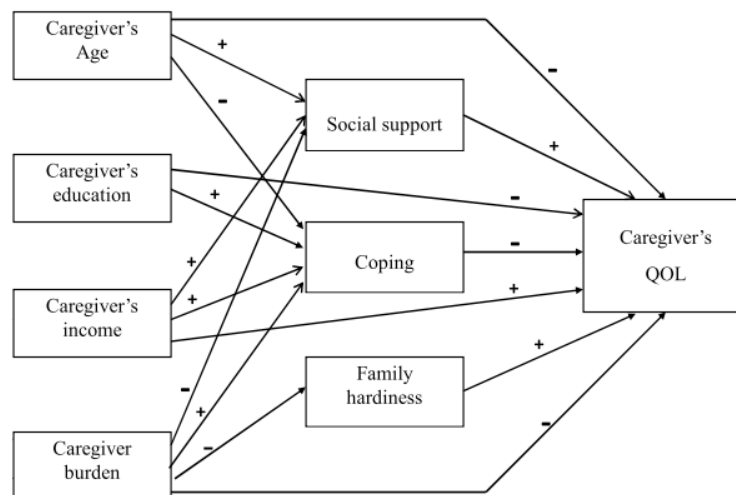


Figure 1: Hypothesized Model of Factors Influencing Quality of Life among Family Caregivers of Patients with Advanced Cancer

Method

Design: This study used a cross-sectional, correlational design.

Sample: The sample consisted of family caregivers of patients with advanced cancer, recruited from two tertiary hospitals under the jurisdiction of the Ministry of Public Health in the Central region of Thailand. The sample size was calculated with regard to maximum likelihood estimation (ten participants per an estimated parameter). An additional 20% of

participants was calculated to compensate for expected attrition, thus the estimated sample size was 275. Convenience sampling was used to obtain potential participants who were recruited using the following inclusion criteria: ≥ 18 years old; identified by the patient or themselves as a primary family caregiver for a patient with advanced cancer and receiving palliative care; providing care for at least three months; mentally and physically able to participate in the study; and able to speak, read and understand Thai

Ethical considerations: Approval to conduct the study was obtained from the Committee on Human Rights Related to Research Involving Human Subjects of the Faculty of Medicine, Ramathibodi Hospital, Mahidol University and the two tertiary hospitals, used as study sites, under the jurisdiction of the Ministry of Public Health in Thailand. All potential participants were informed about: the purpose and processes of the study; confidentiality and anonymity issues; and the right to withdraw from the study at any time without repercussions. All those willing to participate were asked to sign a consent form prior to data collection.

Instruments: Data were collected through the use of seven instruments: two demographic questionnaires; the *Zarit Burden Interview* (ZBI), the *Family Hardiness Index* (FHI), the *Jalowiec Coping Scale*, (JCS), the *Social Support Questionnaire* (SQQ), and the *Ferrans and Powers Quality of Life Index Cancer Version-III* (QLI-CVIII). Permissions to use these tools were obtained from the original developers of the instruments in English, and those who had translated the measurements into Thai.

The two demographic questionnaires, developed by the first author, collected information from caregivers and patients. The caregivers' questionnaire focused on characteristics of: age, gender, marital status, educational level, working status, monthly income, religion, health status, relationship to patient, duration and length of caregiving, number of members in family, caregiving for other family members, and availability of a secondary caregiver. Information obtained regarding demographic characteristics of advanced cancer patients comprised: age, gender, marital status, medical payments, educational level, religion, cancer site, time since diagnosis, stage of cancer, and type of treatment.

The ZBI developed by Zarit, Reever, and Bach-Peterson¹⁸ was used to measure the variable of caregiver burden. It was translated into a Thai version by the MAPI research Institute¹⁹ and has two dimensions: personal strain (12 items) and role strain

(6 items). Participants are requested to respond on a 5-point Likert scale with 0 = Never to 4 = Nearly always. Example items are "Do you feel that your relative asks for more help than he/she needs?" and "Do you feel embarrassed over your relative's behavior?". A total burden score is obtained by adding the scores for 18 items with a range of 0-72. Higher scores indicate greater caregiver burden.

The FHI was developed by McCubbin Thompson, and McCubbin²⁰ and modified into Thai version by Niyomthai, Putwatana, and Panpakee²¹. It is used to measure the construct of family hardiness and is composed of three domains: commitment (8 items), challenge (6 items), and control (6 items). Participants are requested to respond on a 4-point Likert scale: False (0), Mostly false (1), Mostly true (2), and True (3). Example items are: "We have a sense of being strong even when we face big problems" and "We listen to each other's problems, hurts, and fears". The total score for FHI ranges from 0-60. A high score indicates a high level of family hardiness.

The JCS was developed by Jalowiec²² and translated into Thai by Suthayakorn.²³ It is used to measure coping strategies of family caregivers and consists of three domains: Confrontive coping (13 items), Emotive coping (9 items), and Palliative coping (14 items). Participants are requested to respond on a 5-point Likert scale with 1 = Never used to 5 = Almost always used. Example items are: "Activity/exercise", "Worry" and "Optimism". A total coping score is obtained by adding raw scores for all items within a range of 36-180. The greater the score, the more frequent the coping strategies used.

The SSQ was originally developed by Schaefer et al.²⁴ and modified into Thai by Kaveevivitchai.²⁵ It measures support from three sources: family members, friends, and health care providers. Each source is comprised of five items including three types of support: one item for informational support, two for emotional support, and two for tangible support. Examples of items are "Providing you information and

guidance during your caregiving that you found helpful” and “Boosting your spirits when you feel low during your caregiving”. Scoring is done using a 5-point rating scale from 0= Never received support to 4=Almost always received support. The score for each support source is 0–20 and the total score ranges 0–60. A high score indicates higher perceived social support.

The QLI CV-III was originally developed by Ferrans and Powers²⁶ and modified into Thai by the first author and used the same wording of the Thai QLI cardiac version²⁷. It is used to measure QOL among family caregivers of patients with advanced cancer and consists of 66 items in two sections: one that measures satisfaction with various domains of life, and the other that measures the importance of each domain. Both sections have 33 items which are divided into four subscales: Health/Function, Socioeconomic, Psycho/Spiritual, and Family QOL. Example items are “Your health?” “Your health care?”, and “The amount of pain that you have?”. Scoring is done on a 6-point Likert scale ranging from 1=very dissatisfied to 6=very satisfied for the satisfaction items, and from 1 = very unimportant to 6 = very important for the importance items. The score ranges from 0–30. High scores indicate higher QOL.

The steps for calculating the overall QOL scores were explained as follows:²⁸

- 1) Recode satisfaction scores: To center the scale on zero, subtract 3.5 from satisfaction response for each item.
- 2) Weight satisfaction responses with the paired importance responses: Multiply the recoded satisfaction response by the raw importance response for each pair of satisfaction and importance items.
- 3) Obtain preliminary sum for the overall (total) score: Add together the weighted responses obtained in step 2 for all of the items.
- 4) Obtain final overall (total) QLI score: To prevent bias due to missing data, divide each sum obtained in step 3 by the number of items answered

by that individual (At this point the possible range for scores is -15 to +15). Next, to eliminate negative numbers for the final score, add 15 to every score. This will produce the final overall (total) QLI score. Moreover, the computer syntax for SPSS was provided for calculation of the four subscales and total scale of QLI.

A pilot study for testing the instruments’ reliability and feasibility was performed using 28 family caregivers who met the inclusion criteria, but were not included in the actual study. The Cronbach’s alpha coefficients of the ZBI, FHI, JCS, SQQ, and QLI-CVIII were .91, .75, .89, .92, and .97, respectively. Moreover, the construct reliability of five instruments including ZBI, FHI, JCS, SQQ, and QLI-CVIII in Thai version was tested through confirmatory factor analysis and employed through LISREL 8.80 (Student Edition) in this study. The findings of measurement model assessment indicated that most of model indicators (observed variables) represented the major variables (latent variables): caregiver burden, family hardiness, coping, social support, and QOL.

Procedure: Data were collected October 2011–May 2012. Participants were recruited by screening the stage of cancer directly from the patients’ charts by a screening nurse and the first researcher. Next, the researcher contacted primary caregivers of advanced cancer patients in the clinic to introduce herself to them, explain the objectives of the study, and inform them of the protection of human subjects. Some caregivers were interviewed in the clinic and others preferred to answer the questionnaires by self-report. These caregivers were given the questionnaires with an envelope and stamp, so they could return the questionnaires to the researcher by mail.

Potential participants numbering 379 and meeting the inclusion criteria were approached within the two settings; 117 caregivers agreed to be interviewed, whilst another 262 agreed to complete the self-administered questionnaires. However, 103 of the latter did not return the questionnaires by mail.

Some caregivers felt it was inconvenient to answer the questionnaires and others did not provide the reasons. There was also one caregiver whose total raw score on the caregiver burden was zero, hence, this participant was excluded from the data analysis. A total of 275 caregivers participated in the study and completed all of the questionnaires (enrollment rate 73.1%); 100 (36.36%) were from a tertiary hospital and 175 (63.64%) were from a cancer center.

Data Analysis: Data were analyzed through use of descriptive statistics, Pearson's correlation coefficient and path analysis. Path analysis was used to test the hypothesized model through the Linear Structural Relationship (LISREL) program. The robust maximum likelihood (RML) method of parameter estimation was employed because the study variables did not have a normal distribution.²⁹

Results

Characteristics of participants: Caregivers ranged in age from 19–74 years (mean=47.14, *SD*=13.02) and > half were adult age from 40–60 years, and comprised 213 females (77.5%) and 62 males (22.5%). The majority were married (83.6%). The number of formal years of education ranged from 0–19 (median=6.00). Over 50% had finished primary school (52.7%) and were agriculturalists and laborers (53.1%). Their monthly income ranged from 0–200,000 baht (mean=11,694.29, *SD*=16,493.51). The majority (98.9%) were Buddhists, whereas 1.1% was Christian and Muslim.

Most caregivers (61.1%) had no health problems, whereas 38.9% had at least one health problem such as diabetes mellitus, hypertension, or asthma. Over 50% of caregivers were spouses. The duration of caregiving ranged from 3–106 months (median=8.00). Most (80.7%) cared for the patients < two years. The majority (64.4%) reported that the length of time they provided care was over a 24-hour

period. Moreover, 61.8% of caregivers stayed with 3–5 family members. Fifty-six percent of the caregivers cared for only the patients and did not have to provide care for other family members, and 57.1% had a secondary caregiver to assist them.

Characteristics of patients: The 275 patients with advanced cancer had an average age of 59.32 years (range = 23–90). Most were middle adults (age range of 40–60 years, 47.6%) or later adulthood (> 60 years, 47.6%). They comprised 155 males (56.4%) and 120 females (43.6%). The majority (78.9%) were married, while 9.8% were divorced and 11.3% had another status. Formal years of education ranged from 0–18 years (median=4.00). Most had finished primary school (70.5%) and paid for their treatments by using the Thai universal coverage card (65.5%). The three most common cancer sites were lung (25.8%), colon and stomach (21.1%), and head and neck (16.7%), respectively. Most patients (77.1%) were at Stage IV of their cancer, and had been diagnosed with cancer <2 years (76.4%). Moreover, 58.5% were receiving chemotherapy, and 22.9% receiving radiotherapy at the time of data collection.

Caregiver burden: The total scores of caregiver burden ranged from 1–55 (mean=16.81, *SD*=10.25). The mean total score of caregiver burden was low (a range of 14.41–28.80). Furthermore, it was noticed that some participants did not perceive caregiver burden both from personal and role strain subscales because the minimum raw scores of actual range were zero. Additional analysis revealed that the number of the caregivers who perceived both personal strain and role strain totalled 230, those perceiving only personal strain were 43, whilst only two perceived only role strain.

Family hardiness: The total scores of family hardiness ranged from 24–59. The mean total score of the family hardiness was at a high level (mean=45.29, *SD*=6.38, a range of 36.01–48.00).

Factors Influencing Quality of Life among Family Caregivers

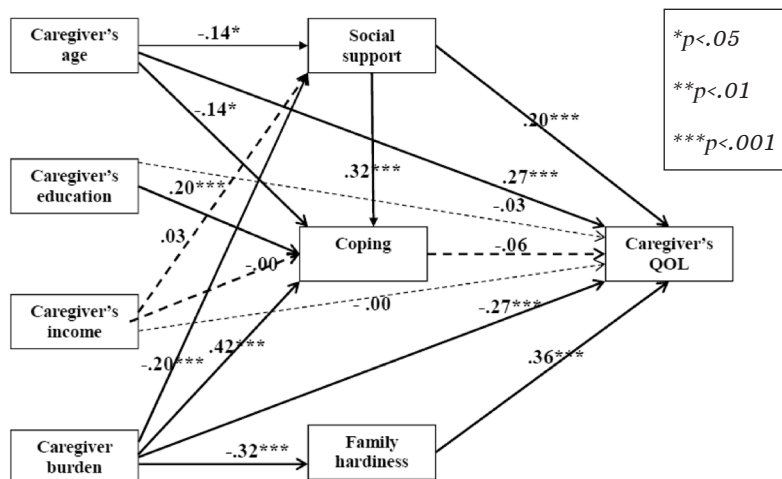
Coping: The total scores of coping ranged from 57–141 (mean=91.90, SD=18.25). A mean total score of the caregiver coping was at a low level (range of 64.81–93.60). The caregivers in this study used all three coping strategies because the actual range of the raw scores in all coping strategies was higher than the minimum score of the possible ranges. The finding also revealed that the use of confrontive coping (mean=.38, SD=.07) and palliative coping (mean=.35, SD=.04) was similar.

Social support: The total scores of social support ranged from 2–59 (mean=29.99, SD=12.10). A mean total score of the social support was at a moderate level (a range of 24.01–36.00). The sources of social support that the caregivers perceived accordingly from highest to the lowest were family members (mean=12.41, SD=4.60), friends (mean=9.64, SD=4.47), and health care professionals (mean=7.98, SD=5.47). In this study, it was also noticed that some caregivers did not perceive support from every source because the minimum actual range of the raw scores of each source was zero. Additional analysis revealed that one caregiver did not perceive support from family members; five did not perceive

support from friends; and 47 did not perceive support from health care providers.

Caregiver QOL: The total scores of caregiver QOL ranged from 7.80–28.92 (mean=21.95, SD=3.82). The mean total QOL score was at a high level (a range of 20.01–30.00). Moreover, the subscales of QOL which the caregivers perceived, from highest to lowest, were: family (mean=23.40, SD=4.80); psychological/spiritual (mean=22.10, SD=4.48); health and functioning (mean=21.86, SD=4.47); and social and economic (mean=21.58, SD=4.29).

Model Testing: The final Model fitted nicely with the data at $\chi^2 = 4.83$, $df = 13$, $\chi^2/df = 0.37$, $p = 0.98$, RMSEA = 0.00, GFI = .97, AGFI = .91 (**Figure 2**). The findings revealed social support ($\chi=.20, p<.001$), family hardiness ($\beta=.37, p<.001$), caregiver age ($\beta=.27, p<.001$), and caregiver burden ($\chi=-.27, p<.001$) had significant direct effects on caregiver QOL. Caregiver burden had a significant indirect effect on caregiver QOL through social support ($\beta= -.19, p<.001$), and family hardiness ($\beta=-.32, p<.001$). The causal effects of the variables on caregiver QOL are displayed in **Table 1** in terms of direct, indirect and total effects.



$\chi^2 = 4.83$, $df = 13$, $\chi^2/df = 0.37$, $p = 0.98$, RMSEA = 0.00, GFI = .97, AGFI = .91

Figure 2: A Modified Model of Factors Influencing Quality of Life among Family Caregivers of Patients with Advanced Cancer

Table 1 Direct Effect, Indirect Effect and Total Effect of Study Variables in the Final Model

Causal Variables	The Final Model		
	DE	IE	TE
Social support-caregiver's QOL	.20**	-.02	.18**
Coping- caregiver's QOL	-.07 ^{ns}	-	-.07 ^{ns}
Family hardiness- caregiver's QOL	.37***	-	.37***
Social support -Coping	.32***	-	.32***
Caregiver's age- Social support	-.15**	-	-.15**
Caregiver's age -Coping	-.14*	-.05*	-.19*
Caregiver's age -QOL	.27***	-.02 ^{ns}	.25***
Caregiver's education-Coping	.20***	-	.20***
Caregiver's education - caregiver's QOL	-.04 ^{ns}	-.01 ^{ns}	-.05 ^{ns}
Caregiver's income- Social support	.07 ^{ns}	-	.07 ^{ns}
Caregiver's income -Coping	.00 ^{ns}	.02 ^{ns}	.02 ^{ns}
Caregiver's income - caregiver's QOL	.00 ^{ns}	.01 ^{ns}	.01 ^{ns}
Caregiver burden- Social support	-.19***	-	-.19***
Caregiver burden -Coping	.42***	-.06**	.36***
Caregiver burden - Family hardiness	-.32***	-	-.32***
Caregiver burden - caregiver's QOL	-.27***	-.18***	-.45***

Note: **p* < .05, ***p* < .01, ****p* < .001, ns = not significant, DE = Direct Effect, IE = Indirect Effect, TE = Total Effect

In conclusion, the findings partially supported the following three hypotheses: 1) social support and family hardiness had significant direct effects on caregiver QOL; 2) caregiver age had a significant direct effect on caregiver QOL; and 3) caregiver burden was mediated by family hardiness, and social support to increase caregiver QOL. However, there were two hypotheses that were not supported in this study in that caregiver age and caregiver income did not have significant direct and indirect effects on caregiver QOL.

Discussion

Findings of this study revealed that most caregivers were females and spouses which were congruent with previous studies^{30, 31} and the report of the National Family Caregivers Association³² in the United States in that approximately 66% of family caregivers are women. In Thai context, women are always expected to provide care to a loved one in their family because Thai people believe that caregiving is a natural occurrence for women.³³ Assumption

University confirmed this, reporting that 68.7% of Thai women are responsible for the health care of family members.³⁴ Females are still the primary caregivers worldwide including in Thailand., and the burden of care for patients at home falls mainly on female family caregivers.

Contrary to previous studies^{15,16}, the caregivers in this study perceived a low level of caregiver burden. This finding was consistent with a study of dementia in Thai caregivers where most of caregivers had little or no burden.³⁵ In Thai culture, religion and traditional ways of life play major roles in the commitment to taking care of family members. Caregivers who are Buddhist especially believe that caregiving is a way to repay their past deeds, to gain merit, and to return gratitude to their relatives. Thai caregiving for a loved one with illness was as an integral part of a caregiver's life. They never perceive the act of caring for their loved one as a burden³⁵. On the other hand, in the Western culture people are typically more independent than people in Asian countries. When people in the Western culture take on the role as a primary caregiver, they may suffer more because they are not familiar with the new roles of caregivers. This is highlighted in our findings in that our caregivers reported low burden because caregiving is a normal duty of family members in Thai culture.

Most of the participants were Buddhist, people who were working, and had no health problems. Those reasons may contribute the finding that Thai caregivers perceived a high level of QOL. This finding is contrary to previous studies in the USA and other countries in which caregivers, perceived a low or moderate score.^{1,3,7} Buddhism helps patients with cancer and their family to understand the reality of life under the law of karma and such understanding helps them to remain calm when they face difficulties.³⁶ The methods to cure or reduce sufferings are not only medicines and other physical treatments, but also Dhamma and mind practice (that is, practicing meditation, practicing the Buddhist Noble Eightfold

Path). The caregivers may practice Dhamma regularly and do everything to help themselves and their loved ones to live with wisdom and to maintain healthy bodies and minds. This may explain our result that caregivers in this study perceived a high level of QOL

Findings of the finalized Model of Factors Influencing QOL among Family Caregivers of Patients with Advanced Cancer revealed that caregiver age, social support, and family hardiness had significant positive direct effects on caregiver QOL. Moreover, caregiver burden had a significant negative direct effect on caregiver QOL. Older caregivers who reported lower burden, greater social support and family hardiness perceived higher QOL. This finding was congruent with previous studies^{14, 37} in that the caregivers who were older had significantly higher physical QOL scores than those who were younger. Conversely, several studies revealed that older caregivers reported lower QOL.¹¹⁻¹³. This can be explained in that older caregivers may have more experience adapting to change in their lives and solving their problems³⁸ and that older caregivers reported better psychosocial adjustment than younger caregivers.³⁹ Our caregivers may have understood the change of their lives more than those who were younger. They may think that caring for cancer patients was a responsibility which they could manage and so the older caregiver in this study reported a high QOL.

This study's findings are consistent with several previous studies which revealed that social support and family hardiness had significant positive direct effects on caregiver QOL.^{7,40} Conversely, Kershaw *et al.*¹² found that baseline social support did not predict QOL among spouses of patients with prostate cancer because they may have different support needs at different phases of survivorship. When discussing the Stress Process Model, Pearlin *et al.* stated that social support and family hardiness were moderating resources which played important roles in protecting people from the consequences of their stressful situations. If individuals report greater social support and family hardiness, they

will perceive higher positive or lower negative outcomes of their stressful experiences. The caregivers in this study perceived moderate social support and high family hardiness, and subsequently, they reported high QOL. Moreover, social support and family hardiness were significant factors influencing caregiver QOL in the Thai context. Thus, social support and family hardiness need to be promoted in order to maintain a high level of QOL among family caregivers of patients with advanced cancer.

Another finding in this study was that caregiver burden had a significant negative direct effect on caregiver QOL, and a significant indirect effect on caregiver QOL through social support, and family hardiness. Caregivers who perceived a lower burden also perceived higher social support and higher family hardiness, and they then reported higher QOL. This finding is consistent with the results of a study of Song *et al.*¹⁴ in that caregiver burden had a negative influence on the health-related QOL and mental health among the family caregivers of patients with terminal cancer in the USA. Several previous studies^{15,16 40} revealed that caregivers who perceived high level of caregiver burden had poorer QOL than those who perceived a low level of caregiver burden. Caregivers who perceived higher caregiver burden report an absence of financial support or lower available support.^{15,41} and greater use of coping⁴². Additionally, Chronister, Chan, Sasson-Gelman, and Chiu⁴³ studied the association of stress-coping variables QOL among caregivers of individuals with traumatic brain injury, and found that social support mediated the relationship between perceived burden and QOL.

We found that social support had a positive direct effect on coping. This means that the caregivers who perceived higher social support, used a greater number of coping strategies. This finding confirmed the theoretical framework that social support was an antecedent of coping and is congruent with previous studies that revealed that social support influenced on coping.⁴⁴ For example, Rafiyah, Suttharangsee, and Sangchan⁴⁵ examined the relationship between coping

and social support of family caregivers caring for persons with schizophrenia. They found that there was a significant positive correlation between social support and confrontive coping. Our findings differ from previous studies among Thai caregivers of cancer patients⁷ which found that social support was not correlated with coping. Thus, this study found similar results to previous studies in the Western context but different to previous Thai studies.

Conclusions, Limitations and

Recommendations

The results of this study provide information regarding factors influencing QOL among Thai family caregivers of advanced cancer patients and can help guide development of an intervention program for this population. Based on our findings we suggest that nurses should develop a program for family caregivers of patients with advanced cancer that focuses on reducing their caregiver burden, enhancing family hardiness and social support, and helping them maintain a high level of QOL, especially in the first two years of caregiving. Regular assessment of caregiver burden is particularly salient for nurse in clinical settings because in cases of high burden, nurses need to help caregivers to find more support to decrease their burden.

This study has both strengths and limitations. The limitations are that the study used convenience sampling, which limits the generalizability of the findings, and also two methods of data collection which could have affected the internal validity of the study. Although, this study was based on the Stress Process Model and used path analysis to test a causal model of factors influencing caregiver QOL, it also used a cross-sectional design which hinders causal findings. Future studies need to consider the use of a longitudinal design to address causal relationships among caregiver age, caregiver burden, social support, family hardiness, and QOL of family caregivers of patients with advanced cancer.

Acknowledgement

The authors wish to acknowledge Thailand Nursing and Midwifery Council for providing funding for this research and the participants who contributed their time and effort.

References

1. Kim Y, Given BA. Quality of life of family caregivers of cancer survivors: Across the trajectory of the illness. *Cancer*. 2008;112(11):2556-68.
2. Yesilbalkan OU, Ozkutuk N, Ardahan M. Comparison quality of life of Turkish cancer patients and their family caregivers. *Asian Pacific J Cancer Prev*. 2010;11:1575-9.
3. Ferrell B, Grant, M., Otis-Green, S., Juarez, G., Hurria, A., Bhatia, S., *et al.* . Improving quality of life and quality of care for oncology family caregivers. 2011 [cited 2011 March 4]; Available from: <http://www.citoofofhope.org/education/health-professional-education/nursing-education/family-care-giver-project/Pages/default.aspx>.
4. Northouse LL, Mood DW, Montie JE, Sandler HM, Forman JD, Hussain M, *et al.* Living with prostate cancer: Patients' and spouses' psychosocial status and quality of life. *J Clin Oncol*. 2007;25(27):4171-7.
5. National Cancer Institute. Family caregivers in cancer: Roles and challenges. 2012 [cited 2012 September 24]; Available from:<http://www.cancer.gov/cancertopics/pdq/supportivecare/caregivers/healthprofessional/page1/AllPages>.
6. Blum K, Sherman DW. Understanding the Experience of Caregivers: A Focus on Transitions. *Seminars in Oncol Nurs*. 2010;26(4):243-58.
7. Meecharoen W, Northouse LL, Sirapo-ngam Y, Monkong S. Family caregivers for cancer patients in Thailand: An integrative review. *Sage Open*. [doi: 10.1177/2158244013500280]. 2013:1-10.
8. Bakar OC, Yusoff EH, Omar A. Psychiatric morbidity and quality of life among family caregivers of hospice patients with cancer: a home based community preliminary study *ASEAN J Psy*. 2008;9(2):78-84.
9. Northouse LL, Katapodi MC, Song L, Zhang L, Mood DW. Interventions with family caregivers of cancer patients: Meta-analysis of randomized trials. *CA: A Cancer J Clin*. 2010;60(5):317-39.
10. Pearlin LI, Mullan JT, Semple SJ, Skaff MM. Caregiving and the stress process: an overview of concepts and their measures. *Gerontologist*. 1990;30:583-94.
11. Alptekin S, Gonullu G, Yucel I, Yaris F. Characteristics and quality of life analysis of caregivers of cancer patients. *Med Oncol*. [doi 10.1007/s12032-009-9256-2]. 2009.
12. Kershaw TS, Mood DW, Newth G, Ronis DL, Sanda MG, Vaishampayan U, *et al.* Longitudinal analysis of a model to predict quality of life in prostate cancer patients and their spouses. *Annals of behavioral medicine : a publication of the Society of Behavioral Medicine*. 2008 10/1/2009.
13. Rivera-Navarro J, Benito-León J, Oreja-Guevara C, Pardo J, Dib WB, Orts E, *et al.* Burden and health-related quality of life of Spanish caregivers of persons with multiple sclerosis. *Multiple Sclerosis*. 2009;15(11):1347-55.
14. Song L, Northouse LL, Braun TM, Zhang L, Cimprich B, Ronis DL, *et al.* Assessing longitudinal quality of life in prostate cancer patients and their spouses: a multilevel modeling approach. *Qual Life Res*. [doi 10.1007/s11136-010-9753-y]. 2010 June 14, 2012.
15. Chen S-C, Tsai M-C, Liu C-L, Yu W-P, Liao C-T, Chang JT-C. Support needs of patients with oral cancer and burden to their family caregivers. *Cancer Nurs*. 2009;32(6):473-81.
16. Papastavrou E, Charalambous A, Tsangari H. Exploring the other side of cancer care: The informal caregiver. *Eur J Oncol Nurs*. 2009;13:128-36.
17. Pearlin LI. The stress process revisited. In: Aneshensel CS, Phelan JC, editors. *Handbook of the Sociology of Mental Health*. New York: Kluwer Academic/Plenum Publishers; 1999. p. 395-415.
18. Zarit SH, Reever KE, Bach-Peterson J. Relatives of the impaired elderly: Correlates of feelings of burden. *Gerontologist*. 1980;20(6):649-55.
19. Mapi Research Institute. ZBI-22-Thailand/Thai-Version 2009. [cited 2011 June 16]; Available from: <http://www.mapi-trust.org/ressources/questionnairetranslations>.
20. McCubbin MA, McCubbin HI, Thompson AI. FHL: Family Hardiness Index. In: McCubbin HI, Thompson AI, McCubbin MA, editors. *Family Assessment : Resiliency, Coping and Adaptation : Inventories for Research and Practice*. Madison: University of Wisconsin; 1996. p. 239-305.
21. Niyomthai N, Putwatana P, Panpakee O. Caregiving duration, family life events, family hardiness, and well-being of family caregivers of stroke survivors. *Thai J Nurs Res*. 2003;7(2):93-103.

22. Jalowiec A, Murphy SP, Powers MJ. Psychometric assessment of the Jalowiec Coping scale. *Nurs Res.* 1984;33(3):157-61.
23. Suthayakorn N. Relationship between family coping behavior and confidence in dependent care of stroke patients [thesis]. Bangkok: Mahidol University; 1988.
24. Schaefer C, Coyne JC, Lazarus RS. The health-related functions of social support. *JBehav Med.* 1981;4(4):381-406.
25. Kawewiwitchai J. Relationship among selected factors, uncertainly in illness, social support and adaptation in Breast Cancer Women receiving chemotherapy [Thesis]. Bangkok: Mahidol University; 1993.
26. Ferrans CE, Powers M. Ferrans and Powers Quality of Life Index Cancer Version- III. [cited 2011 Jan17]; Available from: <http://www.uic.edu/orgs/qli/questionnaires//pdf/cancerversionIII/cancerenglish.pdf>.
27. Ferrans CE. Questionnaires and scoring: Directions for downloading. [cited 2011 Jan17]; Available from: <http://www.uic.edu/orgs/qli/questionnaires/questionnairehome.htm>.
28. Ferrans CE, Powers M. Reliability and validity. Chicago: University of Illinois at Chicago; 2011 [cited 2011 March 4, 2011]; Available from: <http://www.uic.edu/orgs/qli/reliability/reliabilityhome.htm>.
29. Schumacker RE, Lomax RG. *A Beginner's Guide to Structural Equation Modeling*. New York: Taylor and Francis Group, LLC; 2010.
30. Stenberg U, Ruland CM, Miaskowski C. Review of the literature on the effects of caring for a patient with cancer. *Psychooncology.* 2010;19:1013-25.
31. Waldron EA, Janke EA, Bechtel CF, Ramirez M, Cohen A. A systematic review of psychosocial interventions to improve cancer caregiver quality of life. *Psychooncology.* [10.1002/pon.3118]. 2012.
32. National Family Caregiver Association. Caregiving statistics: Caregiving population 2012: Available from: http://www.thefamilycaregiver.org/who_are_family_caregivers/care_giving_statistics.cfm#1.
33. Adulyanont W. Woman's role in the health management of them and their family. Bangkok: Thai Health Promotion Foundation; 2012 [cited 2012 August 9]; Available from: http://www.thaihealth.or.th/healthcontent/news_thaihealth.
34. Assumption University. Women: the heart of social health2012: Available from: http://www.abacpoll.au.edu/in_news/2555/iqnews/2012_08/C-120812004087.pdf.
35. Ondee P, Panitrat R, Pongthavornkamol K, Senanarong V, Harvath TA, Nittayasudhi D. Factors predicting Depression among caregivers of persons with dementia. *Pacific Rim Int J Nurs Res.* 2013;17(2):167-80.
36. Lundberg PC, Trichorb K. Thai Buddhist patients with cancer undergoing radiation therapy: Feelings, coping, and satisfaction with nurse-provided education and support. *Cancer Nurs.* 2001;24(3):469-75.
37. Wong DFK, Lam AYK, Chan SK, Chan SF. Quality of life of caregivers with relatives suffering from mental illness in Hong Kong: roles of caregiver characteristics, caregiving burdens, and satisfaction with psychiatric services2012; 10: Available from: <http://www.hqlo.com/content/10/1/15>.
38. Pechphichatecheern W. *Best Nursing Practice in Cancer Care*. Songkha: Charnmuang Publisher; 2011.
39. Kim Y, Spillers RL, Hall DL. Quality of life of family caregivers 5 years after a relative's cancer diagnosis: follow-up of the national quality of life survey for caregivers. *Psychooncology.* 2012 May 15, 2012;21(3):273-81.
40. Wagner CD, Bigatti SM, Stormiolo AM. Quality of life of husbands of women with breast cancer. *Psychooncology.* 2006;15:109-20.
41. Yusuf AJ, Adamu A, Nuhu FT. Caregiver burden among poor caregivers of patients with cancer in an urban African setting. *Psychooncology.* 2010;20(8):902-5.
42. Pearce MJ, Singer JL, Prigerson HG. Religious coping among caregivers of terminally ill cancer patients: Main effects and psychosocial mediators. *JHealth Psychol.* 2006;11(5):743-59.
43. Chronister J, Chan F, Sasson-Gelman EJ, Chiu CY. The association of stress-coping variables to quality of life among caregivers of individuals with traumatic brain injury. *Neuro Rehabilitation.* 2010;27(1):49-62.
44. Bigatti SM, Wagner CD, Lydon-Lam JR, Steiner JL, Miller KD. Depression in husbands of breast cancer patients: relationships to coping and social support. *Support Care Cancer* [doi 10.1007/s00520-010-0835-8]. 2011; 19: Available from: http://download.springer.com/static/pdf/159/art%253A10.1007%252F%00520-010-0835-8.pdf?auth66=1351151900_cb73532f285a4ac161015716ad403da0&ext=.pdf.
45. Rafiyah I, Suttharangsee W, Sangchan H. Social support and coping of Indonesian family caregivers caring for persons with schizophrenia. *Nurse Media J Nurs.* 2011;1(2):159-69.

ปัจจัยที่มีอิทธิพลต่อคุณภาพชีวิตของญาติผู้ดูแลผู้ป่วยมะเร็งระยะลุกลาม: แบบจำลองเชิงสาเหตุ

วารุณี มีเจริญ, ยุพาพิน ศิริโพธิ์งาม, สุปรีดา มั่นคง, พิศสมัย อรทัย, Laurel L Northouse

บทคัดย่อ: วัตถุประสงค์ของการวิจัยครั้งนี้เพื่อศึกษาความสัมพันธ์เชิงสาเหตุของอายุ ระดับการศึกษา รายได้ ภาระในการดูแล ความเข้มแข็งของครอบครัว วิธีการเผชิญความเครียด แรงสนับสนุนทางสังคม และคุณภาพชีวิตของญาติผู้ดูแลผู้ป่วยมะเร็งระยะลุกลาม กรอบแนวคิดที่ใช้พัฒนามาจาก stress process model และการทบทวนวรรณกรรม กลุ่มตัวอย่างคือญาติผู้ดูแลผู้ป่วยมะเร็งระยะลุกลาม จำนวน 275 คน ที่มารับบริการ ณ โรงพยาบาลระดับตติยภูมิ ในสังกัดกระทรวงสาธารณสุข จำนวน 2 แห่ง เก็บรวบรวมข้อมูลโดยใช้แบบสอบถามจำนวน 6 ชุด คือข้อมูลส่วนบุคคล แบบสอบถามภาระในการดูแล ดัชนีความเข้มแข็งของครอบครัว การเผชิญปัญหา แรงสนับสนุนทางสังคม และดัชนีคุณภาพชีวิต วิเคราะห์ข้อมูลโดยใช้สถิติขั้นพื้นฐาน และการวิเคราะห์อิทธิพลเชิงสาเหตุ

ผลการศึกษา พบว่า แบบจำลองสุดท้ายที่ปรับมีความสอดคล้องกับข้อมูลเชิงประจักษ์ และสามารถทำนายความผันแปรของคุณภาพชีวิตของญาติผู้ดูแลผู้ป่วยมะเร็งระยะลุกลามได้ 45% โดยอายุ แรงสนับสนุนทางสังคมและความเข้มแข็งของครอบครัวมีอิทธิพลโดยตรงทางบวกต่อคุณภาพชีวิต ภาระในการดูแลมีอิทธิพลโดยตรงทางลบต่อคุณภาพชีวิต และมีอิทธิพลทางอ้อมต่อคุณภาพชีวิตผ่านแรงสนับสนุนทางสังคม และความเข้มแข็งของครอบครัว ผลการวิจัยชี้ให้เห็นว่าในการจัดโปรแกรมการดูแลสำหรับญาติผู้ดูแลผู้ป่วยมะเร็งระยะลุกลามควรจัดโปรแกรมที่มุ่งส่งเสริมให้ญาติผู้ดูแลได้รับการสนับสนุนทางสังคมและมีความเข้มแข็งของครอบครัวเพิ่มขึ้น ลดภาระในการดูแล และคงไว้ซึ่งการมีคุณภาพชีวิตในระดับสูงในช่วงสองปีแรกของการดูแล นอกจากนี้ควรจะมีการศึกษาวิจัยในระยะยาวหรืองานวิจัยเชิงทดลองต่อไปในอนาคต

Pacific Rim Int J Nurs Res 2013 ; 17(4) 304-316

คำสำคัญ: ญาติผู้ดูแล; มะเร็งระยะลุกลาม; คุณภาพชีวิต; แรงสนับสนุนทางสังคม; ภาระในการดูแล

ติดต่อที่ : วารุณี มีเจริญ, RN, PhD (Candidate) โรงเรียนพยาบาลรามาธิบดี คณะแพทยศาสตร์โรงพยาบาลรามาธิบดี มหาวิทยาลัยมหิดล
e-mail: warunee_mee@yahoo.com
ยุพาพิน ศิริโพธิ์งาม, RN, DSN,รองศาสตราจารย์ โรงเรียนพยาบาลรามาธิบดี คณะแพทยศาสตร์โรงพยาบาลรามาธิบดี มหาวิทยาลัยมหิดล
สุปรีดา มั่นคง, RN, PhD. ผู้ช่วยศาสตราจารย์ โรงเรียนพยาบาลรามาธิบดี คณะแพทยศาสตร์โรงพยาบาลรามาธิบดี มหาวิทยาลัยมหิดล
พิศสมัย อรทัย, RN, PhD. ผู้ช่วยศาสตราจารย์ โรงเรียนพยาบาลรามาธิบดี คณะแพทยศาสตร์โรงพยาบาลรามาธิบดี มหาวิทยาลัยมหิดล
Laurel L. Northouse, PhD, FAAN Professor, School of Nursing, University of Michigan, Ann Arbor, the United States