Development and Psychometric Testing of Quality Relationship Scale for Family Caregivers of People with Cancers

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Abstract: A quality relationship between caregiver and care-receiver is an essential issue since it not only motivates the family to take on a caregiving role but also impacts all caregiving processes. Before this study there was no Thai instrument that measured this concept. This study aimed to develop the Thai Quality Relationship Scale for Family Caregivers of People with Cancer and test its psychometric properties. This paper focuses on the testing of the scale. The conceptual model and content domains were derived from a comprehensive literature review and semi-structured interviews. The instrument was verified for content validity by three experts and examined for clarity by 15 family caregivers. The construct validity of the revised scale was tested by exploratory factor analysis with 220 family caregivers of persons with cancer from the central part of Thailand.

Results revealed that the scale was composed of four factors and accounted for 54% of variances, including feeling of love, concern about disease and treatment, sympathy for suffering, and concern with daily activities. The Cronbach's alpha coefficient of the total items was 0.87, and each factor was in an acceptable range. This instrument has good construct validity and reliability and would help measure quality relationships for family caregivers of people with cancer in Thailand. Future research is needed to confirm its adequate validity and reliability in other groups of family caregivers. Nurses can use this tool and the newly proposed conceptual structure of quality relationships to assess, design, and test nursing intervention to support family caregivers to continue providing good care for their care-receivers.

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Introduction and Literature Review

Having family members diagnosed with cancer is a stressful event and considerably affects the patient and family members. In addition, family members have a primary role in taking care of

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family members diagnosed with cancer.[1] Cancer is increasingly considered a chronic disease because the prognosis of the disease has improved to more than 5 years of survival.[2] Cancer care during the long-term survivorship phase includes the need to meet patients' complex care demands, communication with the various medical health care teams, family and friends, and management of daily activities.[3] People with cancer (PWC) differ from those with another chronic disease because they have to face particular physical, psychological,[4] social, and spiritual problems, as their condition is often life-threatening.[5] They are also faced with surgery, chemotherapy, and radiotherapy treatments that affect activities of daily living, and communicating with other people in the family and society. These problems affect not only the patient but also the family caregiver. A study found that family caregivers for PWC have to face stress and difficulties, with physical and mental problems from the effects of cancer and the consequences of treatments.[6]

The nature of entering into the role of family caregiver stems from individuals' motivation and awareness of their role and responsibility, expectations of society, traditions, culture, or self-decision to enter the caregiver's role, on the basis of love, attachment, and past relationships between caregivers and patients.[7] The caregiver-patient relationship may improve or deteriorate during the caregiving process.[8] The quality of relationship is significant to the quality of care.[9] This concept was defined in terms of intimacy,[10] mutuality,[11] and reciprocity.[12] Broadly defined, a quality relationship is a characteristic of the interpersonal relationship between people. The concept of relationship extends beyond interpersonal aspects to encompass perceptions of the competent delivery of appropriate care and feelings of trust, familiarity, comfort, and security. The aspects of a quality relationship were defined as overall satisfaction,[13] closeness,[14] degree of relationship progress/seriousness, and trust. Mutuality, a component of a quality relationship, is most widely investigated in dyadic research owing to its ties to communication, reciprocity, and social capital. The defining attributes of family caregiver-receiver mutuality include positive relationship quality, reciprocity, and shared experience.[15]

In family caregiver research, a quality relationship is an essential factor that has been reported. It is deeply embedded in a dyad's history, and evidence suggests that a quality relationship affects caregiver and patient outcomes.[16] With lower relationship quality with their care-recipient before caring, caregivers often experience lower self-esteem and self-reported physical health over time, more significant depression, lower quality of life,[17] stress and burden.[18] A good relationship might slow the decline of cognitive and functional capacity and delay nursing home admission.[19] Most of the studies in this area were developed from western concepts and research among family caregivers and various types of disease. However, there is a lack of psychometric evidence of quality relationship scales in family caregivers within the cancer population. Diseases and disorders vary substantially in severity, symptom profile, age of onset, prognosis, and impact. The validity and reliability of the quality relationship scale may not be equal across all types of disease.[15] In Thailand, the concept of quality relationships has been used to study caregivers of people with stroke.[20] Some of the studies translated tools for quality relationships based on the mutuality concept developed from studies in the US, which might not be relevant to the Thai social context.[21] This is due to the unique nature of Thai culture as distinct to other societies, where the population is dominantly Buddhist, with strong family relationships and traditions inherited regarding the care of family members that build close relationships among family members.

In Thai culture, the role of caregiver for relatives may differ from those in western societies. According to research by Kejkornkaew et al.,[22] investigating the process of quality relationships and meaning as perceived by caregivers who care for people with head and neck cancer, the process of a family's quality relationship starts from deciding to become a caregiver for relatives, which primarily builds on specific reasons including love, sympathy, commitment to care and obligation. In addition, Thai people's perceived quality relationships differ from the meaning and component of quality relationships developed in Western research[22] as in the concept of mutuality, intimacy, reciprocal relationship or reciprocity. Thus, a new tool to measure a quality relationship in the Thai context was necessary. This tool will benefit the promotion of quality relationships between family caregivers and PWC in practice and future research in this area to improve the quality of life of both family caregivers and PWC.

Study Aim

To develop and test psychometric properties of the Thai Quality Relationships Scale for Family Caregivers of Persons with Cancer (TQRS-FC)

Methods

Design: This methodological research had two phases: phase I, the development of the TQRS-FC, and phase II, psychometric testing. The findings reported here are limited to the processes and findings from the tool's psychometric testing, not the tool's development.

Prior to the psychometric testing, this instrument was developed using a qualitative approach to define the domains and generate items from in-depth interviews with family caregivers with PWC. This study used the TREND Statement Checklist of items for guiding the report writing.

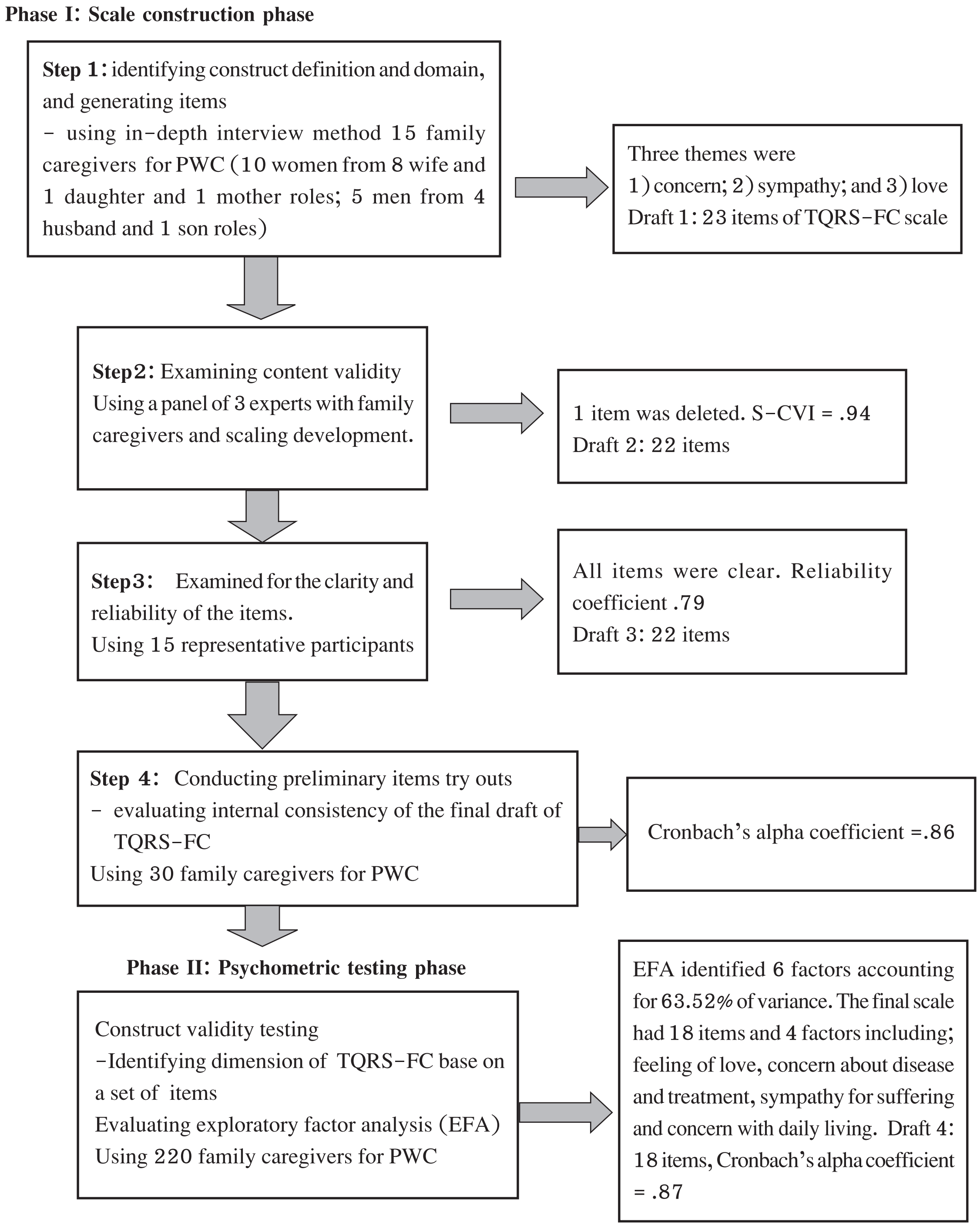
Sample and setting: Family caregivers of PWC were the population in this study. The sample was enrolled from a university hospital, two cancer specialist hospitals, and a cancer institute in Thailand. Purposive sampling was used to select family caregivers, using the following inclusion criteria: >18 years; speaking and communicating in Thai; serving as the primary caregiver and providing day-to-day care to a care-receiver at home; not suffering from a life-threatening illness; not financially reimbursed for caregiving activities; being a caregiver for a minimum of six weeks; and willing to participate in this research. The participant details are presented in each step of the scale development process.

Ethical considerations: The study received approval from the Committee on Human Rights Related to Research Involving Human Subjects, Faculty of Medicine Ramathibodi Hospital, Mahidol University (MURA2019/38), two cancer specialist hospitals (MTH 2019_05, LEC 6012), and a cancer institution (No. 284_2019_00T 614). The study objective, procedures, and rights, including the right to withdraw from the study at any time, were declared individually to all participants. They were allowed to ask questions before signing the consent form. The protection of confidentiality and anonymity of participants and data was assured throughout the study.

The process of instrument development:

Phase I: Scale construction began with steps 1-4 to develop the TQRS-FC and phase II to test psychometric properties of the newly developed instrument. The processes are illustrated in **Figure 1.**

Phase I: TQRS-FC scale construction phase consisted of 4 steps. For the scale construction phase, the participants were purposively recruited based on inclusion criteria. They were different groups of participants from different hospitals, 15 participants for qualitative in-depth interviews, 15 participants for the clarity and reliability of the items, and 30 participants for the pilot study.[23]



Phase I: Scale construction phase

Step 1: identifying construct definition and domain, and generating items
- using in-depth interview method 15 family caregivers for PWC (10 women from 8 wife and 1 daughter and 1 mother roles; 5 men from 4 husband and 1 son roles)

Three themes were 1) concern; 2) sympathy; and 3) love
Draft 1: 23 items of TQRS-FC scale

Step2: Examining content validity
Using a panel of 3 experts with family caregivers and scaling development.

1 item was deleted. S-CVI = .94
Draft 2: 22 items

Step3: Examined for the clarity and reliability of the items.
Using 15 representative participants

All items were clear. Reliability coefficient .79
Draft 3: 22 items

Step 4: Conducting preliminary items try outs
- evaluating internal consistency of the final draft of TQRS-FC
Using 30 family caregivers for PWC

Cronbach's alpha coefficient =.86

Phase II: Psychometric testing phase

Construct validity testing
-Identifying dimension of TQRS-FC base on a set of items
Evaluating exploratory factor analysis (EFA)
Using 220 family caregivers for PWC

EFA identified 6 factors accounting for 63.52% of variance. The final scale had 18 items and 4 factors including; feeling of love, concern about disease and treatment, sympathy for suffering and concern with daily living. Draft 4: 18 items, Cronbach's alpha coefficient = .87

Figure I The process of Developing the TQRS-FC

Step 1: Scale development. The participants were asked questions regarding their perspectives on quality relationships with their care receivers using qualitative in-depth interviews. Each participant was interviewed for 30-60 minutes in a private area. After finishing the interviews, field notes were used for data analysis. The verbatim reports from in-depth interviews were analyzed using content analysis. There were three interpretive steps.[24] The meaning of quality relationship, sub-categories and themes were summarized and confirmed by the interview participants. These were composed of three themes: love, sympathy, and concern and 23 items were generated in draft 1.

Step 2: Content validity assessment. Draft 1 was examined for content validity by three experts with experience in family caregiving research and practice. The TQRS-FC was revised based on the experts' comments. The item content validity index (I-CVI) was .67-1.00, and the content validity index for scale (S-CVI) was .94. One redundant item with the same meaning as other items was discarded. The final version (draft 2) had 22 items.

Step 3: Assessing the clarity and readability. Draft 2 of the TQRS-FC was examined for the clarity and readability of items by 15 participants, and they were asked to comment on words or phrases, understandability, or anything unclear to them. Based on all of the participants, the clarity of wording, length of TQRS-FC was understandable and appropriate. Therefore, all of the 22 items remained (draft 3).

Step 4: Conducting preliminary items try-outs. The TQRS-FC was tested to assess internal consistency utilizing Cronbach's alpha coefficient. This process involved 30 family caregivers of PWC, with the same criteria as the study population. The initial internal consistency reliability testing of the 22 items showed a Cronbach's alpha coefficient of .86, and the item means were ranged from 2.43 to 3.87.

Phase II: The second phase involved testing the psychometric properties of the TQRS-FC. Construct validity testing employed exploratory factor analysis (EFA) to identify the possible components in the scale. The sample size was calculated using five participants per item.[26] Thus, 22 items multiplied by five required at least 110 participants. An additional 30% of participants was added to compensate for incomplete responses and respondents with palliative care. Therefore, the sample size of family caregivers with PWC was estimated at >200 participants and used for the EFA,[26, 27] respectively.

Data collection: After receiving research approval, the principal investigator (PI) contacted a nurse who introduced participants who met the inclusion criteria and were willing to participate in this study. All participants signed the informed consent, and most of them took approximately 10-15 minutes to complete the questionnaires. Data collection from January 2019 to December 2020.

Data Analysis: The Statistical Package for the Social Sciences (SPSS for Windows version 19.0) was utilized for descriptive statistics, reliability analysis and EFA. The purpose of utilizing EFA in this study was to explore and identify essential factors representing the TQRS-FC. In the EFA process, questionnaires were distributed to 220 participants, and 100% were returned. Testing of the scale's psychometric properties was undertaken to identify dimensions of the TQRS-FC based on a set of items. Subsequently, draft 3 with 22 items was tested by EFA to identify dimensions of TQRS-FC. The assumptions of EFA were examined, including the Kaiser-Mayer-Olkin measure of sampling adequacy test (KMO), Bartlett's test of sphericity, and bivariate distributions among variables. The KMO value was .84, which is considered to be sufficient for the relationship between the items. Bartlett's test of 22 items was statistically significant ($\chi^2 = 1893.33$, df=231, $p < .001$). The initial factor analysis (PCA) and varimax rotation were performed to summarize the underlying dimensions. The criteria for analyzing and interpreting items were an eigenvalue greater than 1.00 and items loading above .30 on each factor.[28] Examining the scree plot to determine which slope begins to flatten yielded six as the best starting point, as shown in **Figure 2**. The cumulative percentage of variance was in the accepted value range between 50 and 60%.[27]

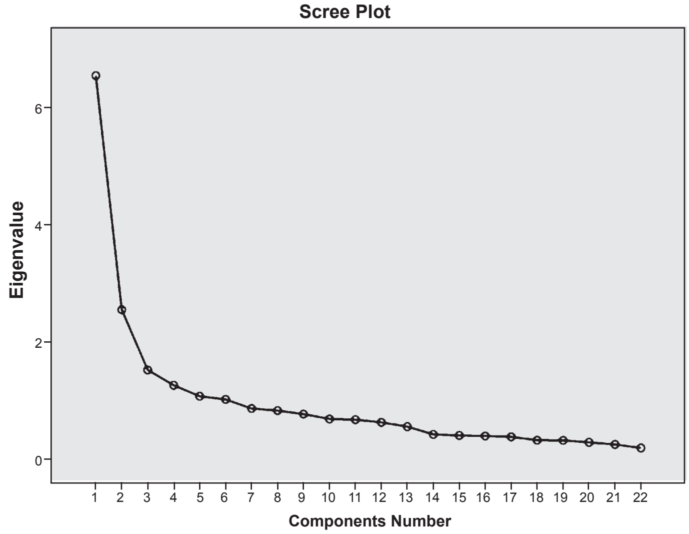


Figure 2 Scree plot for principal components analysis of the TQRS-FC scale

Results

Among 220 participants, the average age of caregivers was 48.79 years (SD =13.41), ranging from 19-76 years. The majority were female (77.7%) with the relationship with the patient being the wife (33.6%) and daughter (20.9%), and most were married (70.5%). Buddhism was predominant among caregivers (95.9%). Participants who did not work during their caregiving role represented 50.9%. For the characteristics of PWC, they were male (55.5%) and female (44.5%) with an average age of 53.39 years (SD = 11.59). Various types of cancer were found in this study, including head and neck (30.45%), colon (15.54 %), cervix (11.36%), liver (9.54%), and others. The majority of PWC were at stage 4 (45.9%) of cancer and received various treatments, including surgery, chemotherapy, radiation, combined surgery and radiation, surgery and chemotherapy, chemotherapy and radiation, and a combination of all treatments.

The results of EFA indicated that the TQRS-FC had six factors, each representing an underlying dimension of the instrument. These six factors accounted for 63.52% of the total variance, with the communality ranging from .40 to .81. However, the cut point factor loading was above .30, with 21 items with factor loadings greater than .50. The finding from EFA initially suggested 22 items with factor loadings greater than or equal to .30 (**Table 1**). According to Hair,[28] each factor should have at least three observed variables. Therefore, two factors with two items, i.e., factors 4 and 5, were excluded since they seemed redundant in the concern about the disease, treatment, and sympathy for suffering. **Table 2** shows the name of four factors, love, concern about disease and treatment, sympathy for suffering and concern with daily living; the number of items in each factor; factor loading range; and explanation of variance. The internal consistency of 18 items in four factors of TQRS-FC revealed in Cronbach's alpha coefficient of .87 ranging from .63 to .87. The Cronbach's alpha coefficients for each factor were .83 (love), .76 (concern about disease and treatment), .79 (sympathy for suffering), and .63 concern with daily living, and factor loading scores ranging .39-.84 as presented in **Table 2.**

Table 1 Factor, items, statement, eigenvalue, factor loading, and percent of variance (n = 220)

Items No.	Factors and item statements	Eigenvalue	Variance Explained (%)	Factor loading
Factor 1: Love (5 items)		6.56	29.84	.47-.83
21	To what extent do you want to provide the best care for the patient?			.83
22	To what extent do you feel love for the patient?			.82
19	To what extent do you feel like comforting the patient?			.72
16	To what extent do you feel attachment to the patient?			.71
20	To what extent do you provide care for the patient?			.53
Factor 2: Concern about disease and treatment (5 items)		2.56	11.52	.35-.75
4	To what extent do you feel concerned about the symptoms of the patient?			.75
5	To what extent do you feel concerned about the cancer treatments of the patient?			.74
7	To what extent do you feel concerned about the side effects of treatments of the patient?			.64
8	To what extent do you feel concerned about the stress from illness of the patient?			.63
6	To what extent do you feel concerned about the death of the patient?			.55
Factor 3: Sympathy for suffering (5 items)		1.50	6.83	.52-.84
10	To what extent do you feel sympathy for the patient being suffered from illness?			.84
11	To what extent do you feel sympathy for the patient being experienced of pain from cancer?			.77
9	To what extent do you feel sympathy for the patient being diagnosed with cancer?			.60
15	To what extent do you feel sympathy for a patient being suffered from the side effects of cancer treatments?			.53
12	To what extent do you feel sympathy for the patient who will die of cancer?			.52
Factor 4: Understanding (2 items)		1.26	5.74	.69-.70
17	To what extent do you feel understand the patient's need?			.697
18	To what extent do you feel sympathy for a patient?			.69
Factor 5: Sympathy for patients (2 items)		1.08	4.91	.67-.83
13	To what extent do you feel sympathy for the patient without someone to take care?			.83
14	To what extent do you feel sympathy for the patient being unable to self-feed?			.67
Factor6: Concern with daily living (3 items)		1.03	4.66	.39-.81
1	To what extent do you feel concerned about the patient's self-care?			.81
2	To what extent do you feel concerned about the patient's diet?			.65
3	To what extent do you feel concerned about the patient being unable to self-manage to the bathroom?			.39

Table 2 The result of EFA of TQRS-FC and reliability of each factor (n = 220)

Items	Contents	Factor loadings				Communality (h^2)
		Factor 1	Factor 2	Factor 3	Factor 4	
Factor 1 Love: 5 items						
22	To what extent do you feel loved for the patient?	.82				.741
21	To what extent do you want to provide the best care for the patient?	.83				.726
19	To what extent do you feel like comforting the patient?	.72				.692
16	To what extent do you feel attached to the patient?	.71				.660
20	To what extent do you provide care for the patient?	.53				.564
Factor 2 Concern about disease and treatment: 5 items						
4	To what extent do you feel concerned about the symptoms of the patient?		.75			.623
5	To what extent do you feel concerned about the cancer treatments of the patient?		.74			.652
7	To what extent do you feel concerned about the side effects of treatments of the patient?		.64			.525
8	To what extent do you feel concerned about the stress from illness of the patient?		.65			.495
6	To what extent do you feel concerned about the death of the patient?		.55			.512
Factor 3 Sympathy for suffering: 5 items						
10	To what extent do you feel sympathy for the patient being suffered from illness?			.84		.812
11	To what extent do you feel sympathy for the patient being experienced of pain from cancer?			.77		.756
9	To what extent do you feel sympathy for the patient being diagnosed with cancer?			.60		.524
15	To what extent do you feel sympathy for a patient being suffered from the side effects of cancer treatments?			.53		.630
12	To what extent do you feel sympathy for the patient who will die of cancer?			.50		.589
Factor 4 Concern with daily living: 3 items						
1	To what extent do you feel concerned about the patient's self-care?				0.81	.723
2	To what extent do you feel concerned about the patient's diet?				0.65	.577
3	To what extent do you feel concerned about the patient being unable to self-manage to the bathroom?				0.39	.405
	Variance Explained (%)	29.73	11.59	6.92	5.74	
	Eigenvalue	6.54	2.55	1.52	1.26	
	Number of items in each factor	5	5	5	3	
	Cronbach's alpha of each item	.83	.78	.79	.62	

Discussion

The TQRS-FC is a newly developed tool to measure the quality relationships among Thai family caregivers PWC. The existing conceptual structure of the TQRS-FC consists of four factors, love, concern about disease and treatment, sympathy for suffering and concern with daily living. The final version of TQRS-FC consists of 18 items, rated by the participants from 0 (not at all), 1 (a little), 2 (sometimes), 3 (a lot), to 4 (the most) on a 5-point scale. The scale had a Cronbach's alpha coefficient >.80, indicating that the composed items had internal consistency reliability.[28] This tool may be more suitable for Thai people than those based on concepts developed in different cultures in the West. The item, the caregiver feels sympathy for the patient suffering from an illness, had the highest score (.84). It may be due to the caregivers' attitude toward cancer was suffering disease[22] and Buddhist beliefs predominant among caregivers (95.9%) in this study. Caregivers wanting to provide the best care for the patient was the second item that reported a high score (.83). Consistent with previous studies, a caregiver with a good quality relationship has the best caregiver needs or desires.[22] The lowest score of the items was the caregiver feeling concerned about the patient being able to self-manage to the bathroom (.39). It might be that most of PWC could go to the bathroom by themselves, and they did not need any help from their caregivers. Therefore, the caregiver's feelings give a low score for this task.

Compared to a previous study based on the mutuality concept,[11] only the feeling of love was similar to the current study's findings. The majority of TQRS-FC did not find the characteristics of shared pleasurable, shared values and reciprocity. The TQRS-FC in this study differs from the intimacy concept composed of cohesion, closeness, and supportive climate, although most of the caregivers in this study were spouses. This result is similar to most of the Thai research that studied caregivers' experiences.[29] The intimacy concept has not been reported in quality relationship in Thai caregiving context. Furthermore, this measurement differs from a measure of the reciprocity that involves warmth and regard, intrinsic rewards of giving, love, affection, and balance within family caregiving.[30]

In comparison, each factor with other measurements used to measure the quality relationship between caregiver and care-receiver, the factor called "love" represented the family caregiver's feeling to dealing with their care-receiver as it was the most powerful contributing factor to the quality relationship of Thai family caregivers with PWC. The specific components of a quality relationship may vary across different ethnic and cultural groups. However, the expression of love, affection and care are common to many cultures.[31] As mentioned in the literature review, love is a subjective feeling[32] that usually involves other conceptualizations of a quality relationship, such as mutuality, intimacy, and reciprocity.[11,33,34] Our finding indicates that Thai family caregivers provide care for their care-receivers based on their feelings of love. The love factor builds on the desire to do the best in giving care, feelings of love, comforting, bonding, and caring for the patient. The love factor in this measurement represented the feelings of love that differ from love in another measurement, such as mutuality and reciprocity. Furthermore, it may be the feelings of caregiver commitment to care for their relative, rather than the feelings of their spending time and laughing together in mutuality measurement.[11]

In the Thai caregiving context, love is a pivotal component that impacts caregivers' continuing to care for their care-receiver.[35] The second factor, called "concern about disease and treatment," was also an influential contributing factor to the quality relationship of Thai family caregivers and PWC. Every item in this domain reflects the feelings of concern with cancer diseases, such as their symptoms, treatments, side effects, the stress of their care-receivers, and death. With the advance of cancer disease and imminent death during the caregiving process, family caregivers had to face all the effects of this disease, including the signs and symptoms; and deal with stress from caring for the PWC and feelings of loss when taking care of suffering. This factor differs from other measurements that measure the quality of relationship in family caregivers,[11] as caring for a cancer person is a particular situation that causes family caregivers to feel concerned. Managing family relationships within the caregiving situation is central to caregiver concern and efforts to maintain the dignity, self-identify, and emotional well-being of the care-receiver.[36]

Sympathy for suffering was the third influential contributing factor to the quality relationship of Thai family caregivers and PWC. All items reflect the feelings of sympathy for PWC being suffering from illness and symptoms of cancer disease and pain, suffering from side effects of treatments, and dying of cancer. Sympathy is a crucial dimension of the quality of social relationships when an individual is ready to feel sympathy for a person in distress and is the motivation that benefits the need of others.[37] However, the study by Sinclair et al.[38] indicated that most participants described the sympathy feeling for PWC as an unwanted and misguided pity-based response that was readily given and seemed to focus more on alleviating the observer's distress toward people suffering rather than the distress. The feeling of sympathy refers to the caregiver's feeling toward the care-receiver's suffering from cancer as it is similarly defined as an affective response consisting of sad feelings and understanding of another's situation.[39]

Similar results were found in the study of Kejkornkeaw et al.[22] reporting that the feeling of sympathy is one among the characteristics of the quality relationship that most caregivers experienced toward their care-receivers with cancer and suffering from the disease, and thus felt sad for their care-receivers.[22] Based on Thai social norms and Buddhist instruction, sympathy is a guide for caregivers' desire to help and support giving and taking others when they need it, especially those who take care of one's family.[40] Studies in Thai caregivers suggested that most caregivers take care of their care-receivers because of sympathy.[35]

Concern with daily living was the fourth influential contributing factor to the quality relationship of Thai family caregivers and PWC. This factor refers to the caregiver's concern about daily activities care for patients with cancer, including self-care, diet and being unable to self-manage to the bathroom. This factor is separate from the second factor that reveals the feeling of concern about cancer disease. Concern with daily living activities refers to those activities caregivers undertake in response to the illness, including assisting the patient with activities of daily living. This concern is essential to motivate caregivers' direct action to help maintain and improve patients' physical health.

The TQRS-FC is a specific instrument that can reflect the essential aspects of quality relationships of Thai family caregivers and PWC. These characteristics of the factors and items did not exist in prior studies.[15,22] However, a prior study[22] and the present study reported the same two factors and two different factors. The prior study explored the quality relationships in family caregivers with head and neck cancer, and found that quality relationships consisted of four domains: love, sympathy, caring, and connectedness. In this study, "love" and "sympathy" factors were found. "concern about disease and treatment" as well as "concern with daily living" might motivate caregivers to give caring for PWC, but connectedness factors were not reported.[22]

Limitations

This study has some limitations. The data focused only on the perspective of family caregivers, not from that of the PWCs. In addition, the participants mainly consisted of family caregivers of PWC; thus, application to other populations of Thai caregivers is limited. Another limitation is that only exploratory factor analysis was used to determine construct validity. Therefore, further development and refinement of this TQRS-FC is still needed. Other tests of validity, such as convergence validity and known-group technique, should be employed.

Conclusion and Implications for Nursing Practice

Despite limitations, this new TQRS-FC tool demonstrates some surface validity and acceptable reliability. It also contributes to better understanding the unique characteristics of the quality relationship of family caregivers of PWC in the Thai context. This TQRS-FC needs further refinement and testing with other samples before being implemented into nursing practice. However, the tool has good potential to help nurses to understand the conceptual structure of quality relationships for supporting family caregivers and to continue providing good care for their care-receivers.

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References

1. Nemati S, Rassouli M, Ilkhani M, Baghestani AR. Perceptions of family caregivers of cancer patients about the challenges of caregiving: a qualitative study. Scand J Caring Sci. 2018;32(1):309-16. doi:10.1111/scs.12463.
2. Kim Y, Carver CS. Unmet needs of family cancer caregivers predict quality of life in long-term cancer survivorship. J Cancer Surviv. 2019;13(5):749-58. doi:10.1007/s11764-019-00794-6.
3. Kim Y, Carver CS, Ting A. Family caregivers' unmet needs in long-term cancer survivorship. Semin Oncol Nurs. 2019;35(4):380-3. doi:10.1016/j.soncn.2019.06.012.
4. Mahumud RA, Alam K, Dunn J, Gow J. The burden of chronic diseases among Australian cancer patients: evidence from a longitudinal exploration, 2007-2017. PLoS One. 2020;15(2):e0228744. doi:10.1371/journal.pone.0228744.
5. Lee GL, Ramaswamy A. Physical, psychological, social, and spiritual aspects of end-of-life trajectory among patients with advanced cancer: a phenomenological inquiry. Death Stud. 2020;44(5):292-302. doi:10.1080/07481187.2018.1541944.
6. Ullgren H, Tsitsi T, Papastavrou E, Charalambous A. How family caregivers of cancer patients manage symptoms at home: a systematic review. Int J Nurs Stud. 2018;85:68-79. doi:10.1016/j.ijnurstu.2018.05.004.
7. Greenwood N, Smith R. Motivations for being informal carers of people living with dementia: a systematic review of qualitative literature. BMC Geriatr. 2019;19(1):169. doi:10.1186/s12877-019-1185-0.
8. Towle RM, Low LL, Tan SB, Hendrix C. Quality improvement study on early recognition and intervention of caregiver burden in a tertiary hospital. BMJ Open Quality. 2020;9(3):e000873. doi:10.1136/bmjoq-2019-000873.
9. Bassola B, Cilluffo S, Lusignani M. Going inside the relationship between caregiver and care-receiver with amyotrophic lateral sclerosis in Italy, a grounded theory study. Health Soc Care Community. 2021;29(4):1083-90. doi:10.1111/hsc.13142.
10. Morris LW, Morris RG, Britton PG. The relationship between marital intimacy, perceived strain and depression in spouse caregivers of dementia sufferers. Br J Med Psychol. 1988;61(Pt 3):231-6. http://www.ncbi.nlm.nih.gov/pubmed/3179245
11. Archbold PG, Stewart BJ, Greenlick MR, Harvath T. Mutuality and preparedness as predictors of caregiver role strain. Res Nurs Health. 1990;13(6):375-84. doi:10.1002/nur.4770130605.

12. Kelly EP, Agne JL, Meara A, Pawlik TM. Reciprocity within patient-physician and patient-spouse/caregiver dyads: insights into patient-centered care. Support Care Cancer. 2019;27(4):1237-44.
13. Kelmer G, Rhoades GK, Stanley S, Markman HJ. Relationship quality, commitment, and stability in long-distance relationships. Fam Process. 2013;52(2): 257-70.
14. Collins NL, Read SJ. Adult attachment, working models, and relationship quality in dating couples. J Pers Soc Psychol. 1990;58(4):644. http://psycnet.apa.org/journals/psp/58/4/644/
15. Streck BP, Wardell DW, Wood GL. Family caregiver-receiver mutuality: a concept analysis. Adv Nur Sci. 2020;43(2): E71-E9. doi:10.1097/ans.0000000000000302.
16. Hooker SA, Schmiege SJ, Trivedi RB, Amoyal NR, Bekelman DB. Mutuality and heart failure self-care in patients and their informal caregivers. Eur J Cardiovasc Nurs. 2018;17(2):102-13. doi:10.1177/14745151 17730184.
17. Enright J, O'Connell ME, Branger C, Kirk A, Morgan D. Identity, relationship quality, and subjective burden in caregivers of persons with dementia. Dementia (London). 2020;19(6):1855-71. doi:10.1177/147130121 8808607.
18. Bouchard K, Greenman PS, Pipe A, Johnson SM, Tulloch H. Reducing caregiver distress and cardiovascular risk: a focus on caregiver-patient relationship quality. Can J Cardiol. 2019;35(10):1409-11. doi:10.1016/j.cjca.2019.05.007.
19. Edwards HB, Ijaz S, Whiting PF, Leach V, Richards A, Cullum SJ, et al. quality of family relationships and outcomes of dementia: a systematic review. BMJ Open. 2018;8(1): e015538. doi:10.1136/bmjopen-2016-015538.
20. Samartkit N, Kasemkitvattana S, Thosingha O, Vorapongsathorn T. Caregiver role strain and rewards: caring for Thais with a traumatic brain injury. Pac Rim Int J Nurs Res. 2010; 14(4):297-314.
21. Wirojratana V. Development of the Thai family care inventory [dissertation]. [Portland]: Oregon Health & Science University; 2002.
22. Kejkornkaew S, Sirapo-ngam Y, Monkong S, Junda T, Wallhagen MI. A grounded theory study of the quality relationships between family caregivers and persons with head and neck cancer. Pac Rim Int J Nurs Res. 2016;20(2): 161-73.
23. Johanson GA, Brooks GP. Initial scale development: sample size for pilot studies. Educ Psychol Meas. 2010;70(3): 394-400.
24. Castleberry A, Nolen A. Thematic analysis of qualitative research data: is it as easy as it sounds? Currents in pharmacy teaching and learning. 2018;10(6):807-15.
25. Tabachnick BG, Fidell, LS. Principal components and factor analysis. In: Tabachnick BG, Fidell LS, editors. Using multivariate statistics. 5th ed. Boston: Pearson Education; 2007. pp. 607-75.
26. Kyriazos TA. Applied psychometrics: sample size and sample power considerations in factor analysis (EFA, CFA) and SEM in general. Psychology. 2018;9(08):2207-30.
27. Hair J, Black B, Anderson R. Multivariate data analysis. 7th ed. Pearson Prentice Hall: Upper Saddle River,NJ; 2010.
28. Boateng GO, Neilands TB, Frongillo EA, Melgar-Quiñonez HR, Young SL. Best practices for developing and validating scales for health, social, and behavioral research: a Primer. Front Public Health. 2018;6:149. doi:10.3389/fpubh. 2018.00149.
29. Kitrungrote L, Wonghongkul T, Chanprasit C, Suttharangsee W, Cohen MZ. Experiences of caregivers of spouses with head and neck cancer undergoing radiation therapy. Pacific Rim Int J Nurs Res. 2008;12(3):207-19.
30. Kelly EP, Agne JL, Meara A, Pawlik TM. Reciprocity within patient-physician and patient-spouse/caregiver dyads: insights into patient-centered care. Support Care Cancer. 2019;27(4):1237-44. doi:10.1007/s00520-018-4482-9.
31. Qiu X, Sit JWH, Koo FK. The influence of Chinese culture on family caregivers of stroke survivors: a qualitative study. J Clin Nurs. 2018;27(1-2):e309-19. doi:10.1111/jocn.13947.
32. Raffagnino R, Puddu L. Love styles in couple relationships: a literature review. Open Journal of Social Sciences. 2018; 6(12):307-30. doi:10.4236/jss.2018.612027.
33. Cornelius-White JHD, Kanamori Y, Murphy D, Tickle E. Mutuality in psychotherapy: a meta-analysis and meta-synthesis. J Psychother Integr. 2018;28(4):489-504. doi:10.1037/int0000134.
34. Stead A, White J. Loss of Intimacy: a cost of caregiving in aphasia. Top Lang Disord. 2019;39(1):55-70. doi:10. 1097/tld.0000000000000175.

35. Thampanichawat W. Maintaining love and hope: caregiving for Thai children with HIV infection. J Assoc Nurses AIDS Care. 2008;19(3):200-10. doi:10.1016/j.jana.2007.12.001.
36. Cartwright JC, Archbold PG, Stewart BJ, Limandri B. Enrichment processes in family caregiving to frail elders. ANS Adv Nurs Sci. 1994;17(1):31-43. doi:10.1097/00012272-199409000-00006.
37. Colasante T, Gao X, Malti T. Aware and tuned to care: children with better distress recognition and higher sympathy anticipate more guilt after harming others. Br J Dev Psychol. 2019;37(4):600-10. doi:10.1111/bjdp.12305.
38. Sinclair S, Beamer K, Hack TF, McClement S, Raffin Bouchal S, Chochinov HM, et al. sympathy, empathy, and compassion: a grounded theory study of palliative care patients' understandings, experiences, and preferences. Palliat Med. 2017;31(5):437-47. doi:10.1177/0269216316663499.
39. Thompson NM, Uusberg A, Gross JJ, Chakrabarti B. Empathy and emotion regulation: an integrative account. Prog Brain Res. 2019;247:273-304. doi:10.1016/bs.pbr.2019.03.024.
40. Sethabouppha H, Kane C. Caring for the seriously mentally ill in Thailand: Buddhist family caregiving. Arch Psychiatr Nurs. 2005;19(2):44-57.

การพัฒนาเครื่องมือประเมินสัมพันธภาพที่มีคุณภาพของญาติผู้ดูแลผู้ป่วยมะเร็ง

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บทคัดย่อ: สัมพันธภาพที่มีคุณภาพของญาติผู้ดูแลเป็นสิ่งที่สำคัญเนื่องจากไม่เพียงแต่เป็นแรงจูงใจในการเข้ามารับบทบาทการเป็นญาติผู้ดูแลเท่านั้นแต่ยังส่งผลต่อกระบวนการดูแลทั้งหมดด้วย สำหรับประเทศไทยยังไม่มีเครื่องมือสำหรับประเมินแนวคิดนี้ การศึกษาครั้งนี้จึงมีวัตถุประสงค์เพื่อพัฒนาและทดสอบคุณสมบัติทางจิตวิทยาของแบบประเมินสัมพันธภาพที่มีคุณภาพในญาติผู้ดูแลผู้ป่วย กรอบแนวคิดของเครื่องมือได้มาจากการทบทวนวรรณกรรมและการสัมภาษณ์เชิงลึก องค์ประกอบของเครื่องมือได้รับการตรวจสอบความถูกต้องของเนื้อหาโดยผู้เชี่ยวชาญ 3 ท่านและตรวจสอบความชัดเจนโดยญาติผู้ดูแลผู้ป่วยมะเร็ง 15 ท่าน การตรวจสอบความตรงเชิงโครงสร้างของเครื่องมือโดยใช้การวิเคราะห์องค์ประกอบเชิงสำรวจในกลุ่มตัวอย่างในผู้ดูแลผู้ป่วยมะเร็งในพื้นที่ภาคกลางของประเทศไทยจำนวน 220 คน

ผลการวิเคราะห์องค์ประกอบเชิงสำรวจพบว่า เครื่องมือประกอบด้วย 4 องค์ประกอบ อธิบายความแปรปรวนได้ร้อยละ 54 ได้แก่ ความรู้สึกรัก ความห่วงใยในโรค การรักษา ความรู้สึกสงสารในความทรมาน และความรู้สึกกังวลเป็นห่วงเรื่องการดูแลตนเองในกิจวัตรประจำวัน เครื่องมือมีค่าสัมประสิทธิ์แอลฟาของครอนบาค .87 และแต่ละองค์ประกอบอยู่ในช่วงที่ยอมรับได้ ดังนั้นเครื่องมือนี้จึงมีความถูกต้องและเชื่อถือได้ สามารถนำไปใช้ประโยชน์ ในการประเมินสัมพันธภาพที่มีคุณภาพของญาติผู้ดูแลผู้ป่วยมะเร็งประเทศไทย อย่างไรก็ตาม การวิจัยในอนาคตควรยืนยันความถูกต้องและความน่าเชื่อถือที่เพียงพอในกลุ่มผู้ดูแลครอบครัวอื่น ๆ พยาบาลสามารถใช้เครื่องมือนี้และเสนอโครงสร้างแนวความคิดใหม่เกี่ยวกับความสัมพันธ์ที่มีคุณภาพเพื่อประเมิน ออกแบบ และนำไปปฏิบัติทางการพยาบาลเพื่อสนับสนุนญาติผู้ดูแลให้สามารถให้การดูแลผู้ป่วยที่ดีต่อไป

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