

**FACTORS PREDICTING HEALTH STATUS OF FAMILY
CAREGIVERS OF CANCER PATIENTS UNDERGOING
CHEMOTHERAPY**



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The present descriptive study aimed at investigating the effect of hope, preparedness, and worry from caring on health status of caregivers of cancer patients undergoing chemotherapy. The stress and coping theory of Lazarus & Folkman (1984) was used as a conceptual framework. The subjects consisted of 90 primary family caregivers who had taken care of patients after the patients had received chemotherapy at least once and who took the patients for treatment at the Chemotherapy and Blood Transfusion Unit, Siriraj Hospital and the National Cancer Institute from March to August, 2004. Data were collected by means of interviews based on the Demographic Characteristic Questionnaire, Herth Hope Index, Preparedness Questionnaire, Worry from Caring Questionnaire, and Short Form Health Survey. Data analysis included descriptive statistics, Pearson's product moment correlation, and multiple regression analysis.

The findings revealed that 66.7% of the caregiver subjects were female, their mean age was 43.50 years, and 44% were spouses of the patients. Also, 66.7% had an income of 10,000 baht per month on average, which was sufficient with savings. As regards health status, 43.4% had health problems prior to caregiving, and 38.9% developed health problems after caregiving. Moreover, the subjects had perceived hope (mean = 40.60; S.D. = 4.33), preparedness (mean = 23.46; S.D. = 4.70), and health status (mean = 2787.97; S.D. = 408.41) at a rather high level, whereas they had worry from caring (mean = 38.87; S.D. = 11.06) at a rather low level. In addition, it was found that worry from caring was negatively related to health status ($r = -.494, p < .001$) and could predict health status of caregivers in 24.5% the sample, while hope was positively associated with health status of caregivers ($r = .433, p < .001$) and could predict health status in an additional 10.2%. Finally, preparedness was positively related to health status of caregivers ($r = .320, p < .001$), but it could not predict caregivers' health status.

Based on these findings, it is recommended that nurses should assess health status of caregivers before they perform caregiver roles and receive advice on caregiving. This will prevent health deterioration due to caregiving, especially for those who have existing health problems. Furthermore, information and advice should be continuously provided to caregivers, and nurses should try to uplift their spirit and morale while giving them realistic hope in addition to offering knowledge and necessary skill training to ensure their readiness to care for the patients. Finally, other family members should be encouraged to cooperatively take care of the patients so that the primary caregivers' level of stress can be reduced and health problems can be prevented, enabling them to effectively continue playing their role of caregivers.

**KEY WORDS: HOPE/ PREPAREDNESS/ WORRY FROM CARING/
HEALTH STATUS/ FAMILY CAREGIVERS**

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ปัจจัยที่ทำนายภาวะสุขภาพของญาติผู้ดูแลผู้ป่วยมะเร็งที่ได้รับเคมีบำบัด

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บทคัดย่อ

การวิจัยเชิงบรรยายครั้งนี้มีวัตถุประสงค์เพื่อศึกษาอิทธิพลของความหวัง ความพร้อมในการดูแล และความวิตกกังวลในการดูแลต่อภาวะสุขภาพของญาติผู้ดูแลผู้ป่วยมะเร็งที่ได้รับเคมีบำบัด โดยใช้ทฤษฎีการเผชิญความเครียดของลาซารัสและโฟล์คแมน เป็นกรอบแนวคิดในการศึกษา กลุ่มตัวอย่างคือ ญาติผู้ดูแลหลักและมีประสบการณ์ในการดูแลผู้ป่วยมะเร็งที่ได้รับเคมีบำบัดอย่างน้อย 1 ครั้ง และเป็นผู้ที่พาผู้ป่วยมารับการตรวจรักษาที่หน่วยเคมีบำบัดโรงพยาบาลศิริราชและสถาบันมะเร็งแห่งชาติ ระหว่างเดือนมีนาคมถึงเดือนสิงหาคม พ.ศ. 2547 จำนวน 90 ราย เก็บข้อมูลโดยการสัมภาษณ์ เครื่องมือที่ใช้คือ แบบบันทึกข้อมูลส่วนบุคคล แบบวัดความหวังของเอิร์ท แบบวัดความพร้อมในการดูแลของสจีวิตและอาร์ชโบลด์ แบบวัดความวิตกกังวลจากการดูแลของสจีวิต อาร์ชโบลด์ และแลร์ และแบบวัดภาวะสุขภาพของแวร์และเซอร์โบลด์ วิเคราะห์ข้อมูลโดยใช้ค่าสถิติเชิงพรรณนา ค่าสัมประสิทธิ์สหสัมพันธ์ของเพียร์สัน และการวิเคราะห์ถดถอยพหุคูณแบบขั้นต้น

ผลการศึกษาพบว่ากลุ่มตัวอย่างส่วนใหญ่เป็นเพศหญิง (66.7%) มีอายุเฉลี่ย 43.50 ปี มีความสัมพันธ์กับผู้ป่วยในฐานะคู่สมรส (44.4%) รายได้ของครอบครัว 10,000 บาทต่อเดือน เพียงพอต่อการใช้จ่ายและมีเหลือเก็บ (66.7%) มีปัญหาสุขภาพก่อนการดูแลผู้ป่วย (43.3%) และในระหว่างการดูแล (38.9%) กลุ่มตัวอย่างมีการรับรู้ความหวัง (Mean = 40.60, S.D. = 4.33) ความพร้อมในการดูแล (Mean = 23.46, S.D. = 4.70) และภาวะสุขภาพ (Mean = 2787.97, S.D. = 408.41) ก่อนไปทางสูง ส่วนความวิตกกังวลในการดูแล (Mean = 38.87, S.D. = 11.06) ก่อนไปทางต่ำ ความวิตกกังวลในการดูแลมีความสัมพันธ์ทางลบกับภาวะสุขภาพ ($r = -.494, p < .001$) สามารถทำนายภาวะสุขภาพของญาติผู้ดูแลได้ร้อยละ 24.5 และความหวังมีความสัมพันธ์ทางบวกกับภาวะสุขภาพ ($r = .433, p < .001$) สามารถทำนายภาวะสุขภาพของญาติผู้ดูแลได้เพิ่มขึ้นร้อยละ 10.2 ส่วนความพร้อมในการดูแลมีความสัมพันธ์ทางบวกกับภาวะสุขภาพ ($r = .320, p < .001$) แต่ไม่สามารถทำนายภาวะสุขภาพของญาติผู้ดูแลได้

ผลการวิจัยเสนอแนะว่า พยาบาลควรมีการประเมินภาวะสุขภาพของญาติผู้ดูแลก่อนให้การดูแลและให้คำแนะนำในการดูแลตนเอง เพื่อป้องกันและลดการเกิดปัญหาสุขภาพในระหว่างดูแล โดยเฉพาะญาติผู้ดูแลในกลุ่มที่มีปัญหาสุขภาพก่อนให้การดูแล นอกจากนี้ควรมีการให้ข้อมูลและคำปรึกษาแก่ญาติผู้ดูแลอย่างต่อเนื่อง สนับสนุนให้กำลังใจ และให้ความหวังบนพื้นฐานของความเป็นจริง รวมทั้งการให้ความรู้และการฝึกทักษะที่จำเป็นเพื่อให้เกิดความพร้อมในการดูแลผู้ป่วย ตลอดจนส่งเสริมให้บุคคลในครอบครัวมีส่วนร่วมในการช่วยเหลือและดูแลผู้ป่วย เพื่อให้ญาติผู้ดูแลมีความเครียดลดลง และไม่มีปัญหาสุขภาพตามมา สามารถดำรงบทบาทของญาติผู้ดูแลได้ต่อไป

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CHAPTER I

INTRODUCTION

Background and significance of the study

Cancer is a significant health problem in the world (Stein, 1996). The World Health Organization (WHO) has estimated that every year there will be approximately nine millions new cancer patients (WHO Cancer Pain, 1999). At the 16th Asia Pacific Cancer Conference in the Philippines in November 2001, it was reported that in the year 2000 alone, new cancer patients all over the world reached ten millions per year. In addition, the statistics of the Siriraj Cancer Institute revealed that during 2001-2002, the number of new cancer patients increased from 3,866 to 3,981, and the statistics of the Chemotherapy and Blood Transfusion Unit of Siriraj Hospital indicated that the number of the patients who sought chemotherapy at the hospital from 2000 to 2003 were 1041, 1047, 981, and 1012, respectively. These statistics clearly show that cancer is a significant public health problem in the world, as its prevalence rate increases every year.

Even though medical advancements have resulted in new types of medication to treat cancer, and the survival rate in five years increased from 52% in 1980-1982 to 60% in 1986-1993 (Moore et al., 2000), the rate of complete recovery has not remarkably increased. One of the reasons is that cancer patients begin seeking treatment too late after the cancer has already spread (Leelanantakij, 1994). Chemotherapy is a popular form of treatment which treats the patients all over their body. It can kill the leftover cancer cells in the body, control the spread of the disease, and prolong the patients' life (Tortorice, 2000; Kasemkitwattana, 2003; Chiansilp, 2002). However, there are considerable side effects of chemotherapy including infection proneness, paleness, proneness to bleeding due to low blood cell count, hair loss, infection in the mouth cavity, nausea and vomiting, diarrhea, and chronic fatigue (Camp-Sorrell, 2000; Kasemkitwattana, 2003). These symptoms inhibit patients from taking complete care of themselves and make them require the care from others.

In the Ninth National Economic and Social Development Plan, the public healthcare policy emphasizes promoting citizens, communities, and families to take more charge of their own health. According to the plan, citizens are also encouraged to take more care of the sick family members, the length of stay in hospital is shortened, and hospitalization is changed to out-patient treatments and provision of care at home (Nijboer et al., 1998). These, coupled with medical advancements, mean that patients do not have to be hospitalized for chemotherapy. Instead, patients can seek chemotherapy as out-patients, making family members become caregivers of the cancer patients (Miaskowski, Kragness, Dibble and Wallhagen, 1997).

Besides this, changes in current healthcare systems with the use of healthcare card enable patients who cannot reimburse for the treatment to avoid paying a large amount of money for the treatment and for the expensive chemotherapy medication. However, caregivers still have to bear the burden of taking the patients to the hospital for appointments and treatments. Also, as the disease progresses and the side effects of chemotherapy become more severe, the patients' dependence on the caregivers inevitably increases. Caregivers have to devote most of their time taking care of the patients, helping them with daily living activities and taking them to see the doctor. This makes caregivers have less time to earn their livings, to do daily living activities, to participate in social activities, and to perform their own roles, leading to changes in relationships in the family. Caregivers may also experience conflicts with family members, feel that they do not have time for themselves having to constantly be by the patients' side, and lack time to take care of themselves. They may also experience the feelings of isolation, loneliness, exhaustion, and stress (Chan & Chang, 1999; Aranda & Hayman-White, 2001; Jensen & Given, 1991; Sirapo-ngam, 2003). All these can affect caregivers' immune system, reducing the efficiency of the system's functions and causing such physical symptoms as headache, cold, fatigue, stress, anxiety, insomnia, and loss of appetite (Maneewan, Sudjinda, Churaitasanee and Nilnakhara, 1994; Kasemkitwattana, Puwarawutphanich, Namphetch, Khamwicha 1996). If stress and symptoms caused by stress are left unattended and continue, the health condition of the caregivers will continuously be damaged. Finally, they will have limitation in their caregiving role and may no longer be able to provide care to the patients.

A review of literature revealed that there are both positive and negative factors that affect stress coping and health status of caregivers. As regards positive factors, hope resulting from optimism and positive expectation of the future enables caregivers to deal with sadness and loss of loved ones (Herth, 1989; Herth, 1990b; Lazarus & Folkman, 1984). It is considered a resource in coping and adaptation (Chapman & Pepler, 1998; Jallowiece & Powers, 1981; Stoner & Keamfer, 1985; Puwarawutpanich, 1995; Kasemkitwattana, 1989). Another influential factor is readiness to provide care to meet the patients' physical and emotional needs (Archbold, Stewart, Greenlick and Harvath, 1990; Rusinak & Murphy, 1995). Such readiness enables caregivers to be confident in their ability to manage care, as well as anxiety and stress resulting from caregiving (Kapachon, 2002; Schumacher, Stewart and Archbold, 1998; Srithares, 2003). It enables caregivers to appropriately cope with stress, using both problem-focused and emotion-focused coping strategies, resulting in good adaptation and good health status.

Hope refers to thinking, feelings, and behaviors which reflect positive anticipation of what is going to happen in the future (Hileman & Lackey, 1990). It increases individuals' mental stability and confidence to adapt to changes in life, and it is individuals' inner resource for coping to reduce stress (Dufault & Martocchio, 1985; Miller, 1983; Lazarus & Folkman, 1984; Puwarawutpanich, 1996; Kasemkitwattana, 1989; Hanucharoenkul, 2001). Moreover, hope enables individuals to persevere and tolerate difficulties and sufferings caused by stress as well as to cope with stress effectively (Herth, 1989; Herth, 1990). A study of Chapman & Pepler (1998) revealed that caregivers who experienced the feeling of hopelessness used emotion-focused coping, were unable to adjust to loss, were unable to handle the situation, lost self-control and self-confidence, felt isolated and lonely, and experienced anxiety, depression, and a high level of stress, all of which led to health problems.

Readiness to provide care is another factor which enables caregivers to feel confident in their ability to give care to the patients, making them have less role stress and anxiety (Archbold et al., 1990). It is a resource which facilitates caregivers' stress coping, resulting in caregivers' ability to adjust themselves and making them able to avoid health problems caused by caregiving duties (Archbold et al., 1990; Kopachon, 2002; Scherbring, 2002).

On the other hand, one of the negative factors is anxiety caused by caregiving duties. This reduces individuals' cognitive processes (Hanucharoenkul, 2001) affecting their ability to cope with stress and making them assess the caregiving situation in a more negative way. That is, they tend to assess the situation as stressful and threatening (Srithares, 2003). In addition, caregivers' concern and worry about cancer patients and the threat of loss can bring about chronic stress, again leading to health problems (Kasemkitwattana et al., 1996).

Worry from caring is an estimation of what has not yet happened but may happen in the future. It causes caregivers' fear of having to face with such situation such as fear of losing the patients, worry about what to do when the patients' symptoms worsen, and concern about their own inability to provide the best care (Natechang, 2002; Srithares, 2003). Some caregivers are concerned about the treatment the patients receive, the patients' and their own future, and future income and financial status (Loke, Liu, and Szeto, 2003). Worry from caring lessens the efficiency of the cognitive process and prevents the caregivers to make full use of the available resources, making them unable to cope with stress (Lazarus & Folkman, 1984). According to a study conducted by Srithares (2003), caregivers of patients with dementia had worry and difficulty providing care to the patients. Also, they had little knowledge about caregiving and were unable to cope with stress effectively, so they had to live with stress and endure physical symptoms including body ache, fatigue, exhaustion, strain, headache, loss of appetite, and weight loss, hence inability to provide the best of care.

Numerous researches have been conducted with cancer patients; however, only a small number of studies were conducted with caregivers of cancer patients. Instead, most studies investigated stress of caregivers of elderly people and patients with dementia, which comes with gradual pathological changes (Kopachon, 2002; Natechange, 2002; Navarat, 2002; Srithares, 2003). Nevertheless, cancer patients undergoing chemotherapy are different from patients with other chronic illnesses. For instance, they have to live with uncertain progression of the disease and treatment outcome. Also, they have to live with vagueness caused by unpredictability of the disease and constant changes during the treatment period. Relapses can take place anytime, and the patients may live for only a short period. Witnessing the suffering

conditions of the patients and living with the threat of loss, caregivers can develop a high level of stress (Herth, 1993; Oberst, Thomas, Gass, and Ward, 1989; Sinsawang, (1993); Kasemkitwattana et al., 1996; Cheewapoonphon, 1998). In fact, the stress caregivers of cancer patients have can be different from that of caregivers of dementia patients. As there is no conclusive empirical evidence regarding whether or not positive and negative factors affect caregivers' health status and how, the researcher was interested in studying factors regarding hope, preparedness, and worry from caring and their effects on the health status of caregivers of cancer patients undergoing chemotherapy. It was expected that findings of this study could prove helpful in assessing and predicting risks of health problems of caregivers of cancer patients so that guidelines can be developed to enable them to cope with stress more effectively and plans to provide healthcare to caregivers of cancer patients undergoing chemotherapy can be made.

Research conceptual framework

This study used the stress and coping theory of Lazarus and Folkman (1984) as a conceptual framework. According to Lazarus and Folkman, stress is a relationship between individuals and their environment. Individuals tend to make full use of available resources to adapt themselves. Whether the situation will be assessed as stressful or not depends on the estimation of balance between individuals' demand and resources. Individuals' decision is based on the cognitive appraisal which can be divided as follows:

1. Primary appraisal is an appraisal whether the situation is relevant to themselves or not and how. If it is not relevant or if it is benign positive, individuals will not develop stress. However, if it is relevant or negative, individuals will consider the event as a threat, harm or loss, or challenge, leading to stress.

2. Secondary appraisal is an appraisal of resources and options to deal with stress which can further be divided into the following:

1. Problem-focused coping is a stress coping technique which aims at making a change with oneself, bettering the situation, dealing with the source of stress, and analyzing ways to cope with stress realistically.

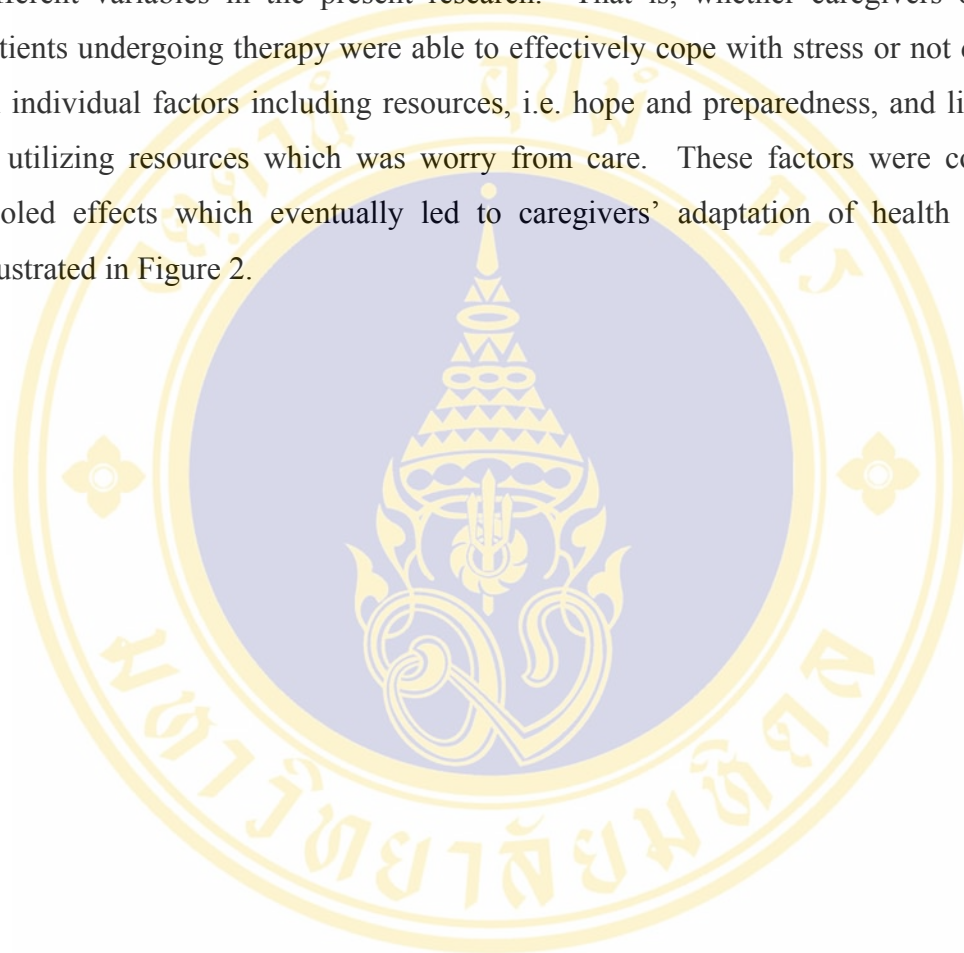
2. Emotion-focused coping is an adjustment of emotion or feeling to relieve the suffering such as denial, rejection, or blaming others so as to prevent stress to affect morale.

In general, individuals use both forms of coping to deal with stress to a certain extent. However, the effectiveness of coping depends partly on the different factors. These factors include individual factors of health and energy, positive beliefs, problem-solving skills, social skills, social support, and material resources, which enable individuals to deal with stress. On the other hand, environmental factors involve personal constraints, environmental constraints, and level of threat, which are obstacles preventing individuals from utilizing resources to deal with stress effectively (Lazarus & Folkman, 1984).

Taking care of patients undergoing chemotherapy at home is a situation which is regarded by caregivers as a stressful situation. This is because caregivers have to live with the risk to lose a loved one, as well as the responsibility to give care and to cover medical expenses. Whether caregivers are able to use both forms of coping to effectively deal with stress or not depends on their personal factors including hope and preparedness. If caregivers have hope that the patients will recover, have less suffering, or live longer, they may regard the caregiving situation as a challenge and have morale to fight and endure all the heartaches and hardships. They may also search for information and other forms of assistance to provide the best care to the patients (Somjit Hanucharoenkul, 2001; Lazarus & Folkman, 1984; Borneman & Ferrell, 2002). By the same token, preparedness is an inner resource which enables individuals to serve the physical, mental, and social needs of the patients. It will also make the caregivers have confidence to deal with the problems that may arise from caregiving duties. In short, both hope and preparedness enables caregivers to effectively deal with stress leading to good health outcomes.

In contrast, worry from care is a factor which threatens caregivers' feelings. Worry may be caused by the health status of the patients, or their suffering from the side effects of chemotherapy or others. Worry from care disturbs cognitive processes and individuals' ability to effectively deal with stress, bringing about health problems (Lazarus & Folkman, 1984), as shown in Figure 1.

Based on the conceptual framework, as well as an extensive review of related literature on caregiving and health status of caregivers, the researcher had applied the Conceptual-Theoretical-Empirical concept of Fawcett and Down (1992) to bridge the stress and coping concept in the stress theory of Lazarus and Folkman to study different variables in the present research. That is, whether caregivers of cancer patients undergoing therapy were able to effectively cope with stress or not depended on individual factors including resources, i.e. hope and preparedness, and limitations in utilizing resources which was worry from care. These factors were considered pooled effects which eventually led to caregivers' adaptation of health status as illustrated in Figure 2.



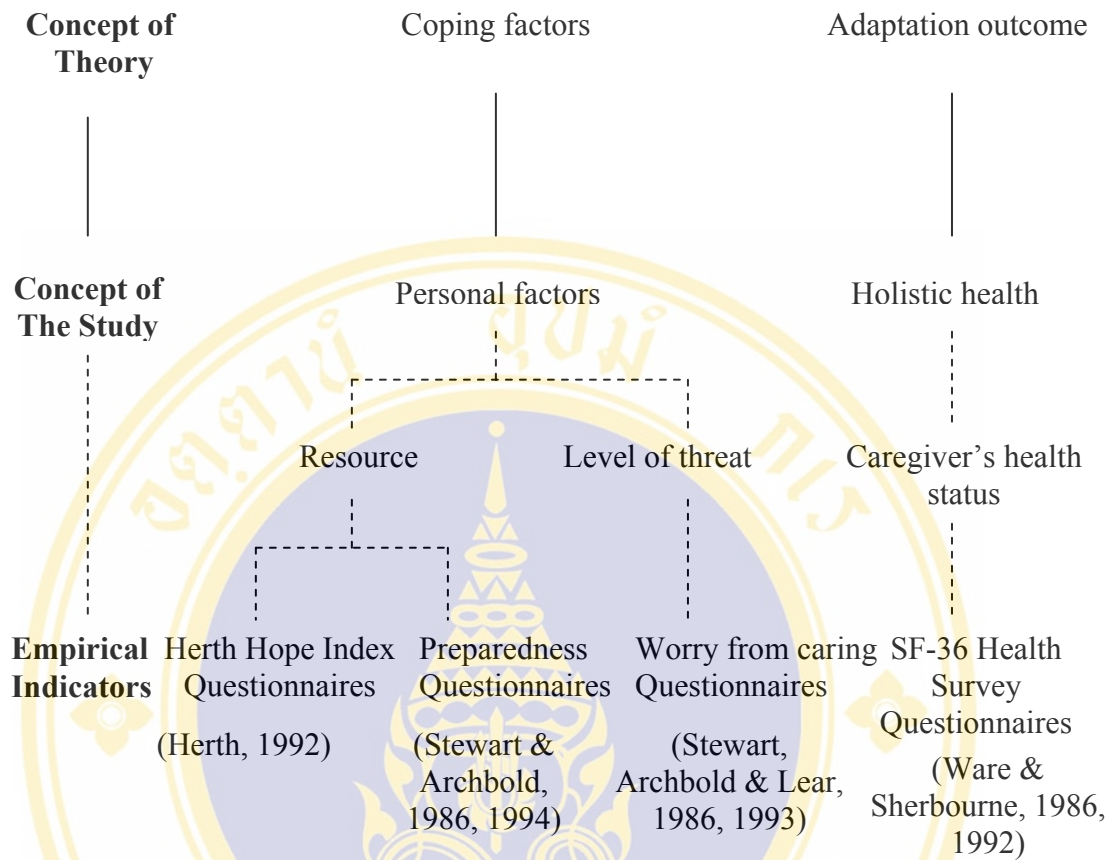


Figure 1: Conceptual-Theoretical-Empirical Structure of the Study (Applied from the Fawcett & Down' concept, 1992: 106)

Remarks: ----- : indicating connections between theoretical concept and indicators
 _____ : definitions connecting the pattern and theoretical concepts

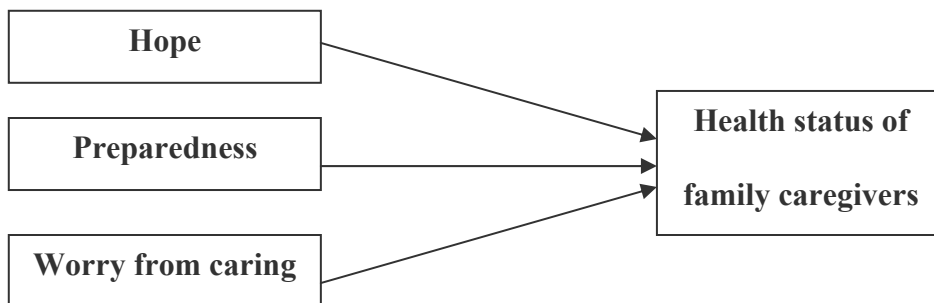


Figure 2: Theoretical Framework of the Study

Research questions

1. What are hope, preparedness, worry from caring, and health status of caregivers of cancer patients undergoing chemotherapy like?
2. Is there a relationship among hope, preparedness, and worry from caring and health status of caregivers of cancer patients undergoing chemotherapy?
3. Can hope, preparedness, and worry from caring predict health status of caregivers of cancer patients undergoing chemotherapy?

Purpose of the study

1. To study hope, preparedness, worry from caring, and health status of caregivers of patients undergoing chemotherapy.
2. To investigate the relationship among hope, preparedness, and worry from caring and health status of caregivers of cancer patients undergoing chemotherapy.
3. To determine the predictability of the effect of hope, preparedness, and worry from caring on health status of caregivers of cancer patients undergoing chemotherapy.

Research hypothesis

Hope, preparedness, and worry from caring can predict health status of caregivers of cancer patients undergoing chemotherapy.

Scope of the study

This study was conducted to investigate factors which can predict health status of caregivers of cancer patients undergoing chemotherapy. In this study, only the factors of hope, preparedness, and worry from caring were examined. Data were collected from primary caregivers with experiences providing care to cancer patients who had received at least one chemotherapy treatment and who accompanied the

patients to the Chemotherapy and Blood Transfusion Unit, the Out-Patient Unit of Siriraj Hospital and the National Cancer Institute from March 2004 onwards.

Expected outcomes and benefits

1. A new body of knowledge regarding factors predicting health status of caregivers of cancer patients undergoing chemotherapy will be generated.
2. The healthcare teams will have better understanding of the factors affecting health status of caregivers of cancer patients undergoing chemotherapy, and such understanding can be used as baseline information necessary in developing nursing patterns to plan for and promote health status of caregivers of cancer patients.
3. A guideline will be derived for the establishment of an information center or service resource center to provide assistance to caregivers of cancer patients undergoing chemotherapy enabling them to cope effectively and have appropriate adaptation.
4. Light may also be shed on other factors that may be related to caregivers of cancer patients undergoing chemotherapy that should be studied in further research.

Definition of terms

Hope means thinking, feelings, and behaviors of caregivers of cancer patients which reflect their confidence and belief that they will finally be able to attain what they are hoping for or what they want to see happen in the future. In this study, hope was assessed using the Herth Hope Index (Herth, 1992).

Preparedness refers to the perception of caregivers of cancer patients undergoing chemotherapy who perform caring activities in response to the patients' physical, mental, and emotional needs, including dealing with problems and stress caused by caregiving duties. In this study, preparedness was assessed by using the Preparedness Questionnaire designed by Stewart & Archbold (1986, 1994).

Worry from caring is defined as perception of difficulty caused by caregiving duties due to worry about cancer patients, caregivers themselves, and the future of the

whole family. In this study, worry from caring was assessed by using the Worry from Caring Questionnaire constructed by Stewart, Archbold, & Lear (1986, 1993).

Health status of caregivers refers to perceptions of caregivers of cancer patients related to their physical, mental, social, and functional health statuses. In this study, health status of caregivers was assessed by using the SF-36 Health Survey Questionnaire of Ware & Sherborne (1986, 1992).



CHAPTER II

LITERATURE REVIEW

The present research investigates the influence of worry from caring, preparedness, and hope on health status of caregivers of cancer patients undergoing chemotherapy based on the conceptual framework of Lazarus and Folkman. In this chapter, related research in the following topics is reviewed:

- Sickness caused by cancer
- Side effects of chemotherapy
- Patients' need of care
- Concepts of family caregivers
- Effects of caregiving on health status of caregivers of cancer patients undergoing chemotherapy
- Hope and Health status of caregivers
- Preparedness and Health status of caregivers
- Worry from caring and Health status of caregivers

Sickness caused by cancer

In general, the term 'cancer' is related to the idea of death. As such, patients tend to have different reactions toward their diagnosis. Some patients may be in denial and do not accept the fact that they are stricken with cancer. Others may have continuous sufferings from fear of death, not only during treatment but also after the completion of treatment and during periodical follow-ups, as they are worried that they may have to face relapses. One of the most common problems among cancer patients is depression, and this can lead to different behavioral problems such as insomnia, irritability, and loss of appetite. Thus, cancer patients need a tremendous amount of care and support from their family members, both physically and spiritually.

Chemotherapy is one popular form of treatment. The medication works to kill off cancerous cells by obstructing the functioning and spreading of cancerous cells. Chemotherapy is different from operation and radiation, as it is considered a systematic form of treatment, while the other two are not. Generally, chemotherapy inhibits the spread of cancer cells, as the medication disrupts the spreading of cancer cells in different ways, destroying and eventually killing off the cells (Kasemkitwattana, 2003; Chiansilp, 2002).

Objectives of chemotherapy

1. Palliative chemotherapy is used to relieve the symptoms during the later stages of cancer or after it has widely spread in the body. The outcome of the treatment depends on the type of cancer. Some types of cancer have a satisfactory response rate even after the diseases has spread such as testicular cancer and ovarian cancer. However, it does not work well with some other types. However, even when it cannot completely cure the patients, it can at least relieve the symptoms and prolong their lives.

2. Adjuvant chemotherapy is used after the patients have undergone an operation to cure some types of cancer which have a high likelihood of relapses such as breast cancer and sarcoma. Even though the cancerous tumor has been got rid of during the operation, micro metastasis may be left. It is believed that adjuvant chemotherapy can be used to control and destroy these micro metastases. The time when adjuvant chemotherapy should be administered varies depending on the type of cancer. For example, it should be administered within four weeks after the operation for breast cancer or six weeks for colon cancer.

3. Neoadjuvant chemotherapy or primary chemotherapy is generally used in patients before other forms of treatment are used. It is preferable for the patients whose cancer is at a later stage but it has not spread such as those who have a large cancerous tumor which cannot be completely got rid of by operation or radiation which would destroy cells in a large area of the body. The use of neoadjuvant is aimed at reducing the size of cancer so that the following operation or radiation can be more easily and effectively done.

Methods of chemotherapy

1. Intake of chemotherapy is an easy and convenient method of treatment. It is not as painful as injection, but it has certain limitations regarding absorption, digestion, and dosage. It cannot be administered in large doses if the patients experience nausea and vomiting, and this makes them receive the medication in a smaller amount than they should. Thus, it is difficult to control and follow the treatment plan, which can adversely affect the treatment outcome.

2. Injection into veins is the most popular method, and it can be done in a number of ways such as direct injection, slow dripping within a period ranging from one to 24 hours, continuous injections within a period of three to five days etc., depending on the type of the medication, effects and side effects, etc. For instance, cytosine which is used to treat leukemia will yield the best result only during the S stage or the 5FU stage, and if administered by means of continuous dripping for 4-5 days, it will suppress the bone marrow function less than when administered once a week.

3. Intramuscular injection cannot be used with the medicine which is highly effective in destroying tissues as it can kill the patients' muscles. The medicines which can be administered intramuscularly are cytosine, bleomycin, methotrexate, etc.

4. Direct injection into the spot where medication cannot reach through the bloodstream or the amount of medication reaching the cancerous tumor is not enough to kill cancer cells if the patients have chemotherapy intake or injection into the veins. This includes direct injection into the bone marrow, lung cavity, abdomen, or the artery to directly reach the cancerous tumors in liver cancer patients.

Even if chemotherapy can be used to eliminate or destroy micro metastasis to prevent relapses, to completely cure the patients, or to prolong the remission period, affecting the survival of the patients, it has numerous serious side effects which make the patients greatly suffer during chemotherapy treatment (Chiansilp, 2002).

Side effects of chemotherapy

Chemotherapy affects both normal and cancerous cells, and cells which have the faster rate of growing will be affected more than others such as those in the hematopoietic system, hair follicles, and digestive system. The side effects of destruction of cells most commonly found are as follows (Kasemkitwattana, 2003):

1. Blood system

1.1 The low white blood count due to suppression of bone marrow, called leucopenia. Neutrophil is the first agent to fight against intruding germs, and when it is lower than 500 cell/mm^3 , the patients can easily become infected. This generally occurs after the patients have received chemotherapy for seven to ten days.

1.2 Paleness. This is caused by the lowered red blood cells in the body due to leucopenia. Hemoglobin will be lower than 8 gm/dl , causing fatigue. This can be found in 80-96% of the patients (Richardson et al., 1998; Irvine et al., 1994) as the amount of hemoglobin which brings oxygen to tissues is lowered. Symptoms include exhaustion, difficulty breathing, headache, dizziness, low blood pressure, faster heartbeat, fatigue, and lack of energy, making the patients need bed rest.

1.3 Thrombocytopenia is a condition in which plasma in the blood stream is lowered due to leucopenia. The amount of plasma will be lower than $100,000 / \text{mm}^3$, making the patients prone to bleeding.

2. Skin system

2.1 Hair loss. Hair loss is caused as hair follicles are destroyed. Hair may fall out by itself or when the patients are combing their hair, and it may fall out in bunches, making the thinning of hair more obvious. This can also happen to other body hairs including legs, arms, eye brows, or eye lashes, etc. Hair loss is temporary; however, the newly grown hair will be different such as finer, softer, and its color may be changed.

2.2 Damaged tissue where chemotherapy is administered. Chemotherapy medication can leak from the veins and destroy the tissue in the area. In addition, the skin and nails will be darkened.

3. Digestive system

3.1 Stomatitis or infection in the mouth cavity. This happens as the tissue in the mouth cavity is destroyed. The severity, however, varies, ranging from mucosa to wounds, and some patients may also suffer fungi infection (Held, 1995). This can lead to loss of appetite, so they eat and drink less.

3.2 Nausea, vomiting, and diarrhea. These symptoms occur as normal cells in the digestive tract are destroyed. Nausea and vomiting can cause the most suffering feelings to the patients. The occurrence and duration of these symptoms vary depending on individual patients and types of chemotherapy. If the symptoms of diarrhea and vomiting persist, they can lead to loss of balance of water and minerals, exhaustion, and weight loss, eventually bringing on malnutrition (Laohavinij, 1998). The patients are also prone to infections, and eventually they may no longer be able to withstand chemotherapy treatment. They can suffer from depression, desperation, and hopelessness as well.

4. Heart and lung systems

Some chemotherapy medications can destroy normal cells of the heart muscles and the lungs, causing abnormal heartbeat or pulmonary fibrosis. These side effects are long-term.

5. Urinary system

Some chemotherapy medications can destroy normal cells of the kidneys, as they are excreted through the kidneys. The substances caused by the decomposition of cells and higher amount of uric acid can destroy the kidneys, and the acid can also cause bleeding and urinary tract infection.

6. Reproductive system

Many types of chemotherapy inhibit azospermia or amenorrhea (Sorrel, 1993), which can be either temporary or permanent depending on the age of the patients. If the patients are in the pre-menopausal period, the condition may be permanent. However, if they are still young, the chance to have regular menstruation after the treatment is high. Nevertheless, in male patients, reproductive cells may be destroyed during chemotherapy treatment, causing abnormal chromosomes, which can affect the children. For this reason, male patients in their reproductive stage should store their sperms in the sperm bank in case they want to have children after they are cured.

7. Neurological system

Some chemotherapy medicines destroy the peripheral neuropathy, causing loss of deep tendon reflex and paralytic ileus, which will disappear after the treatment is completed. Also, the patients may suffer from hearing impaired or hearing loss as the chemotherapy drug destroys the neurons of the ears.

Patients' need of care

As mentioned earlier, chemotherapy can greatly affect the patients in many ways including physical pains, loss of appetite, changes in sleep patterns, loss of self-care ability, and risk of complications, some of which can be lethal (Gale & Charette, 1995; Boonsong, 2002). The side effects occurring to some patients may be serious and unpredictable, causing the patients sufferings during the chemotherapy treatment. This may make them have negative attitudes toward chemotherapy (Richardson, 1996). Some may speculate that they will have to endure the same suffering the next time they have to undergo chemotherapy treatment (Richardson, Ream, and Barnett, 1998), and this can lead to different emotional reactions such as anger, fear, denial, regression, and the feeling of uncertainty in life (Chen, 2003; Hagopain, 1993; Lederberg & Massie, 1994), as well as desperation, hopelessness, and depression (Kamthornwatchara, 2001). These effects on the patients during chemotherapy treatment decrease the patients' ability to do activities and affect their body image; thus, they have an impact on the patients' physical, mental, emotional, and social well being, making them dependent on care and assistance from caregivers. Thus, caregivers are significant persons who can help the patients cope with stress during treatment and the sickness, giving them spiritual morale, hope, and positive attitudes toward treatment so as to be able to continue the treatment plan until the end (Jacklin & Ian, 2002).

Concepts of family caregivers

Family caregivers refer to family members or individuals who provide help to the patients at home, who are considered informal caregivers (Sirapo-ngam, 1996) and

who do not receive wages in return for their care (Barer & Johnson, 1990). In other words, they are family members of the patients including spouses, fathers, mothers, children, siblings, or relatives, who provide care to the patients at home or a residence in the community, not in a hospital.

Sirapo-ngam (1996) defines family caregivers based on the level of responsibility or care provided to the patients as follows:

1. Primary caregivers refer to the persons who are directly responsible for providing care to the patients—more continuously and consistently than others.

2. Secondary caregivers refer to the persons who provide care other cares rather than direct care to the patients such as helping with certain activities including arranging for transportation for treatment or substituting the primary caregivers when they are unavailable. Put another way, secondary caregivers provide care to the patients occasionally when primary caregivers are not available, but they do not do it continuously or consistently. In some cases, they are only primary caregivers' assistants. Some patients may have only primary caregivers, while others may have both primary and secondary caregivers.

A review of literature regarding caregivers of cancer patients in the Thai context revealed that most of the caregivers are female. To be more specific, most of the caregivers are the children of the patients, followed by those who are spouses and relatives (Kasemkitwattana, Puwarawutphanich, Namphetch, Khamwicha, 1996). In other countries, most of the caregivers are also female, but the largest group consists of spouses, followed by those who are children and siblings of the patients (Hileman & Lackey, 1990, Miaskowski, Kragness, Dibble and Wallhagen, 1997; Aranda & Hayman-White, 2001; Scherbring, 2002).

Effects of caregiving on health status of caregivers of cancer patients undergoing chemotherapy

Performing the role of caregivers who provide care to cancer patients undergoing chemotherapy at home is an experience that can cause stress. This is

because caregivers feel concerned with the health of the patients, anxious about treatment, and unable to predict the outcome of the treatment. They also have to witness the suffering of the patients without being able to help. In short, being a caregiver of cancer patients means prolonged stress, which can affect caregivers' health physically, mentally, and socially.

According to a review of related literature, as high as 95% of the caregivers experience problems with their sleep pattern. Most of them indicate that they do not want to use sleeping pills as they are worried that they may not be able to provide care to the patients at night (Carter & Chang, 2000). Thus, they have less time for rest and relaxation, as well as have no time to perform their own healthcare and to go see the doctor if they have health problems (Carey, Oberst, McCubbin, and Huges, 1991; McCorkle, Yost, Jepson, Malone, Baird, and Lusk, 1993; Perry & Rodes, 1989; Kasemkitwattana et al., 1996; Puwarawutpanich, 1994). They tend to encounter stress and exhaustion, which lead to other physical symptoms such as headache, cold, fatigue, insomnia, faster heartbeat, loss of appetite, (Kasemkitwattana et al., 1996; Chan & Chang, 1999), stomach ulcer, heart palpitation, loss of consciousness, high blood pressure, knee pain, body ache, and weight loss, which are caused by exhaustion, insufficient rest, and lower food intake (Cheewapoonphon, 1997; Chan & Chang, 1999; Matayamool, 2003). In brief, caregivers do not pay attention to their health as they feel that the patients' health problem is more important, so they ignore their own physical symptoms.

It can be concluded that being family caregivers of cancer patients can have obvious effects on caregivers' health status.

Hope and health status of caregivers

Having hope enables individuals to develop mental strength and confidence to face with the problems due to anticipation of and desire for a better situation in the future (Kamthornwatchara, 2001; Wattanakitkailert, 1999; Puwarawutpanich, 1995; Kasemkitwattana, 1989). Therefore, hope is a resource individuals use to cope with

stress when facing a situation that is threatening to their well-being. Borneman, Stahl, Ferrell, and Smith (2002) studied hope of 51 caregivers of patients with a later stage of cancer, with ten families also engaged in an in-depth interview. They found that family members hoped that the treatment would improve the patients' symptoms and make them less suffer or fully recover. Thus, it enabled to tolerate the caregiving situation well, looking at it as a challenge and being able to control the caregiving situation. In addition, they also discovered that hope was associated with preparedness ($r = 0.58, p < .0001$), thus lessening the effects of stress on their health. Even when the caregivers knew that the parting time was getting nearer, if they had hope, they would have future goals, making them able to withstand the situation and adjust themselves to the changes that are occurring to them, regardless of the fact that their hope was changing all the time. Hope was also found to be related to religious beliefs. These findings were congruent with the study of Chapman & Pepler (1998) which investigated stress coping, hope, and sadness among caregivers of cancer patients who provided care to them at home. The study findings showed that caregivers who had hope would use problem-focused forms of coping more than emotion-focused ones, while those who did not have hope tended to use emotion-focused forms of coping more, with the latter group experiencing loss of self-control, sadness, isolation, loneliness, and hopelessness, all of which could adversely affect the body's immune system and result in sicknesses if left untreated. Likewise, Herth (1993) found that caregivers of patients with terminal illness that caregivers of AIDS patients who had a low level of hope had more fatigue, insomnia, and other health problems than those who provided care to patients with other chronic illnesses.

Preparedness and health status of caregivers

Preparedness is caregivers' readiness to perform caregiving activities to respond to the patients' physical and emotional needs, as well as to handle the responsibilities and strain from care (Archbold, Stewart, Greenlick and Harvath, 1992). It is necessary for caregivers to prepare themselves to provide physical and

mental care to the patients, as well as to take care of themselves and to make use of resources available. When caregivers are more confident in their own ability to perform caregiving duties, such readiness can reduce role strain and stress (Archbold, Stewart, Greenlick and Harvath, 1990; Scherbring, 2002). A study of 59 family caregivers of cancer patients after hospital discharge conducted by Scherbring (2002) indicated that caregivers who were prepared to provide care to the patients had a lower level of stress caused by constant care. This is in agreement with the study of Archbold et al. (1990) on preparedness of 78 caregivers of elderly patients after hospital discharge which found that caregivers with a higher level of preparedness had lower levels of role stress, role strain, and overall stress. Furthermore, Kopachon (2002) conducted a study of 100 caregivers of dementia patients and found that preparedness was negatively associated with role strain ($r = -.361, p < .001$). Finally, Natechang (2002) examined stress of caregivers of dementia patients and found that role stress was negatively associated with health status ($r = -.220, p < .05$).

The findings from previous studies indicated that preparedness is negatively associated with role stress, and role stress is negatively associated with health status. Thus, preparedness should be associated with health status as well. Kneeshaw, Considine, and Jennings (1999) found that caregivers with lower levels of preparedness had more health problems than those who had higher levels of preparedness. For this reason, preparedness should be positively associated with health status of caregivers.

Worry from caring and health status of caregivers

Worry from caring is a speculation of what has not yet happened that causes fear. This is a threatening feeling that affects individuals' cognitive processes, making stress & coping and utilization of available resources ineffective (Lazarus & Folkman, 1984). A study of caregivers of cancer patients led to a conclusion that caregivers tend to have worry as soon as they learned of the patients' diagnosis. They are afraid of loss and of what has not happened but is somehow inevitable such as the progress of

the disease and the uncertainty about the future of both the patients and themselves (Kasemkitwattana et al., 1996). They can also be worried about expenses and transportation, which make them have less time to earn their living, resulting in financial problems (Cheewapoonphon, 1998). Moreover, as the caregivers are worried about the health status of the patients and do not want to leave the patients alone, they will have less time to participate in their own social activities or interact with others. As a consequence, they may be isolated, lonely, depressed, tired, exhausted, and sleepless (McCorkle et al., 1993; Kasemkitwattana et al., 1996: 87, Cheewapoonphon, 1998; Chan & Chang, 1999; Loke, Liu, and Szeto, 2003). In addition to this, witnessing the patients' suffering and being unable to help can cause the feeling of guilt—guilty for what they have done and have done for the patients, making the caregivers suffer, feeling uneasy, fearful, hopeless, and unable to deal with their own emotions (Miaskowski et al., 1997; Ferrel, Cohen, Rhiner, and Rozek, 1991; Yates, P., 1999; Kasemkitwattana et al., 1996).

The worry from caring can lead to caregivers' stress. A study of Sangboon (2002) conducted with 140 caregivers of dementia patients revealed that worry from caring was positively related to role stress ($r = .237, p < .01$). Similarly, Srithares (2003) carried out a study of 110 caregivers whose wives were stricken with dementia, most of whom were in their middle age and had their own health problems. The findings indicated that caregivers were worried about how long they would be able to provide care to the patients. Also, worry from caring was positively associated with role stress ($r = .332, p < .01$), and it was positively associated with caregivers' health problems both before and during caregiving duties ($r = .261, p < .01$; $r = .250, p < .01$). It was concluded that caregivers with a higher level of worry from caring had more health problems than those who had a lower level of worry from caring. This finding was in congruence with the finding of Natechang (2002) that worry from caring of caregivers of dementia patients was negatively associated with health status ($r = -.790, p < .001$).

Conclusion

Cancer is a disease which considerably threatens the patients' feelings. The outcome of the treatment is unpredictable, and the patients experience a lot of sufferings during chemotherapy treatment such as lessened ability to perform self-care, emotional changes, and depression. These changes make the patients dependent on help and support from family members. Performing the role of caregivers of cancer patients undergoing chemotherapy means caregivers have to witness the patients' sufferings caused by side effects of chemotherapy and to accept that they are unable to help. This, coupled with concern about the patients' health as well as fear of loss, makes caregivers suffered, exhausted, and stressed. As they also have less chance to perform self-care, caregivers' health status can be adversely affected. However, it is believed that hope and preparedness enable the caregivers to more effectively cope with stress, leading to search for information regarding provision of care and confidence in their ability to perform the caregiving duties. This can reduce the level of stress, and it can have positive effects on caregivers' health condition.

CHAPTER III

METHODOLOGY

This study was descriptive research which investigated the effects of worry from caring, hope, and preparedness on health status of caregivers of cancer patients undergoing chemotherapy. This chapter describes the research methodology used in this study.

Population and sampling

The population in this study was primary family caregivers who provided care to cancer patients undergoing chemotherapy. They provided care to cancer patients without receiving any monetary wages or anything in return. They were family members or relatives of the patients and they resided in the same house as the patients. They also took the patients to see the doctor for check-ups and chemotherapy treatment at the Out-Patient Unit of Siriraj Hospital and the National Cancer Institute.

The sample was selected based on the inclusion criteria as follows:

1. They were 18 years old or older;
2. They were primary caregivers of cancer patients who had undergone at least one chemotherapy;
3. Having at least a moderate level of stress as assessed by the visual analog scale with the scores of 4 to 10;
4. They provided care to the cancer patients regarding basic activities of daily living (ADL) in at least three aspects as well as instrumental activities of daily living (IADL) in at least two aspects.
5. In case the subjects were 60 years old or older, the cognitive assessment would be performed to assess whether their cognition and decision-making processes were normal or not, as they could affect the validity of the information given. They had to have normal thinking process as assessed by orientation to date, time, month,

and place. The score of at least five out of the total of six was required to conclude that the subjects had normal cognition and decision-making processes.

The sample size was calculated based on the formula of Thorndike (1978, cited in Vorapongsathorn, 1989) as follows:

$$\begin{aligned}\text{The sample size} &\geq (10 \times n) + 50 \text{ when } n = \text{number of independent variables} \\ &\geq (10 \times 3) + 50 \\ &\geq 80\end{aligned}$$

Thus, in this study, the sample size was 90.

Settings

The settings of the present study were the chemotherapy unit of Siriraj Hospital and the National Cancer Institute, which are tertiary hospitals located in Bangkok. These two institutes provide treatment to cancer patients at the chemotherapy unit, out-patient ward. Both provide similar treatments to the patients, making an appointment with them for chemotherapy; providing consultation to the patients and their caregivers regarding chemotherapy drugs, side effects, and self-care as soon as the treatments start; continuously following up the patients' conditions; and offering telephone consultation for patients and caregivers who could call for information during the service hours specified. The details of the services offered at both settings are as follows:

1. The Chemotherapy and Blood Transfusion Unit, out-patient unit, Siriraj Hospital, provides chemotherapy treatment to cancer patients from Mondays to Fridays, 8:00 a.m. to 8:00 p.m.

2. The National Cancer Institute offers chemotherapy treatments on Mondays, Wednesdays, and Thursdays, 8:00 a.m. to 4:00 p.m.

Research instrument

The research instruments used in this study consisted of three parts as follows:

Part I: The instruments used in subject selection

1. Visual analog scale was a self-administered scale developed by the researcher to assess the level of stress. The total scores ranged from 0 to 10, with the following interpretation:

0 point	meant	having no stress at all
1-3 points	mean t	having a low level of stress
4-6 points	meant	having a moderate level of stress
7-10 points	meant	having a high level of stress

2. The Modified Barthel ADL Index (Mahoney and Barthel in 1965) to serve as a measure for objective evaluation of activities of daily living consists of ten functional activities with cover eating, taking a shower, getting dressed, continence of bowels, controlling bladder, doing personal toilet, getting on and off toilet, walking on a level surface, propelling a wheelchair, ascending and descending stairs

3. The Instrumental Activities of Daily Living Scale (Lawton and Brody in 1969) consists of eight functional activities with cover taking the patients to the hospital for treatment, preparing food , doing household chores, cleaning clothes, using a telephone, preparing medication, shopping and handling finances (Luecknotte, 2000)

4. The Thai Mental State Exam (Train The Brain Forum Thailand in 1993) was used to assess the cognitive ability and decision making of elderly subjects to ensure the accuracy of the data. It assessed six aspects of orientation, registration, attention, calculation, language, and recall. But in this study used only part of orientation for assess perception to date, time, month, place and person (Siriraj Hospital, Gazette, 1993)

Part II: Demographic characteristics

1. Information regarding demographic characteristics of the caregivers included sex, age, marital status, religion, relationship with patients, educational background, profession, family income, duration of care, time spent on caregiving,

experience in caregiving, individuals providing assistance in care, reason for caregiving, health problems prior to caregiving, and level of stress during caregiving.

2. Information regarding demographic characteristics of the cancer patients included sex, age, religion, diagnosis, duration of illness, and level of dependency (See Appendix C).

Part III: Questionnaire

The questionnaires used in this study consisted of the Worry from Caring Questionnaire and the Preparedness Questionnaire designed by Archbold & Stewart (1991, 1993), which was continuously developed by qualitative research carried out with caregivers of elderly patients with chronic illnesses until it became standardized and the Short Form Health Survey constructed by Ware & Sherbourne (1986, 1992)

In addition, the Herth Hope Index (HHI) designed by Herth (1992) based on the concept of Dufault and Matocchio (1985) was also used.

These questionnaires were used with caregivers of elderly patients who were stricken with different chronic illnesses. After that, Cronbach's alpha coefficient was calculated to determine the questionnaires' reliability, as shown in the tables below.

Researcher	Instrument	Reliability
Herth (1992)	Herth Hope Index	0.79-0.86
Stewart & Archbold (1991, 1993) Sherbring (2002)	Preparedness Questionnaire	0.86-0.92
Stewart & Archbold (1991, 1993)	Worry from Caring Questionnaire	0.89-0.96
Ware & Sherbourne (1986, 1992)	Short Form Health Survey	0.78-0.83

In Thailand, these instruments had been used with different groups of caregivers of dementia patients, with the reliability as follows:

Researcher	Instrument	Reliability
Kanchana Siriwarasai (1993) Chantana Techakaru (1997) Jirawan Leelapattanapanich (1998) Sangnual Chiewprasit (2003)	Herth Hope Index	0.79-0.86
Chureerat Kopachon (2002) Wilaiporn Srithares (2003)	Preparedness Questionnaire	0.73-0.86
Kewalin Sangboon (2003) Saowaluck Natechang (2003) Wilaiporn Srithares (2003)	Worry from Caring Questionnaire	0.72-0.96
Saowaluck Natechang (2002) Wiparat Navarat (2002)	Short Form Health Survey	0.93-0.94

The Worry from Caring Questionnaire and the Herth Hope Index were translated from English to Thai by Saipin Kasemkitwattana and were then back-translated from Thai to English by Punchalee Wasanasomsithi, a language specialist. The Preparedness Questionnaire and the Short Form Health Survey were translated from English to Thai by Wirapan Wirojrat et al. (2002) and were back-translated into English by a bilingual linguist. These four questionnaires were then revised to suit the Thai context by comparing the items included in the questionnaires with the research findings in the Thai context. The details of the four questionnaires were as follows:

1. Herth Hope Index consisted of twelve items divided into items eliciting general hope and items eliciting specific hope in six dimensions: 1) the intelligence and time dimensions (items 1, 2, 6, 11, and 12), 2) the mental state and behavior dimensions (items 4, 7, 10, and 12), and 3) the attachment and surrounding situation dimensions (items 3, 5, 8, and 9). Ten items had positive meaning, while two items had negative meaning, arranged in a four-point Likert scale ranging from “strongly agree” to “strongly disagree.”

2. Preparedness Questionnaire measured the caregivers' perception of their readiness to perform caregiving activities to serve the needs of cancer patients undergoing chemotherapy. It was composed of eight items arranged in a five-point Likert scale ranging from "not at all" to "very much." The scores ranged from 0 (not at all) to 4 (very much). The total scores ranged from 0 to 32, with low scores indicating a low level of preparedness and vice versa.

3. Worry from Caring Questionnaire measured caregivers' perceived worry. It comprised 15 items ranged in a five-point Likert scale from "none" (5 points) to "a lot" (1 point). The total scores ranged from 15 to 75, with lower scores indicating a low level of worry from caring and vice versa.

4. The Short Form Health Survey (SF-36) was an instrument used to determine whether caregivers of cancer patients undergoing chemotherapy had any physical and mental problems caused by their caregiving duties and how much. It consisted of 36 items eliciting information regarding the two dimensions of health status—physical and mental dimensions. The items were arranged in a Likert scale. One item was a report on the overall health status in the past, and it was not calculated for scores. As for the other 35 items, one item concerned the comparison of the health status during the past three months and the health status at present, which was rated in a five-point scale of 0 (much worse than three months ago) to 4 (much better than three months ago). Ten items elicited information about restrictions in doing activities and daily living activities in a 3-point rating scale of 0 (a lot of restrictions) to 50 (some restrictions) to 100 (no restriction at all). As for the other 24 items, there were six items with positive meaning rated in a 5-point scale of "not at all" (0 point), "once in a while" (25 points), "sometimes" (50 points), "most of the time" (75 points), and "all the time" (100 points). The other 18 items were negative items with reverse scoring.

The total scores ranged from 0 to 3500, with low scores suggesting bad overall health status and high scores indicating good overall health status.

Validity and reliability of the instruments

1. As for the instruments' validity, the researcher asked three experts to validate the four questionnaires for content validity and language appropriateness.

The three experts consisted of two nursing instructors who were specialists in caregivers of patients with chronic illnesses and another nursing instructor who was a specialist in providing care to cancer patients. The questionnaires were then revised according to these experts' suggestions and comments.

2. As for the reliability of the instruments, the four questionnaires were tried out with 15 caregivers of cancer patients who shared similar characteristics with the subjects of the main study. Cronbach's Alpha Coefficient was then calculated with the following results:

Instrument	Cronbach's Alpha Coefficient (n = 15)	Cronbach' Alpha Coefficient (n = 90)
Herth Hope Index	0.74	0.79
Preparedness Questionnaire	0.85	0.83
Worry from Caring Questionnaire	0.82	0.85
Short Form Health Survey	0.92	0.91

Protection of human subjects

In carrying out the present study, the researcher had an awareness of research ethics. Thus, before data collection was proceeded, approval was sought from the Ethics Committee on Research Involving Human Subjects of each hospital. In addition, the researcher understood the impact which may occur with the informants. Thus, before collecting data from the subjects, the researcher explained the objectives of the research to them, emphasizing that they had the right to participate or refuse to participate in the study. They also had the right to withdraw their participation at any time during the study if they wished without having to give reasons for their decision, and their decision would not affect the treatment the patients were receiving in any way. After the subjects' rights were clearly explained to them, they were asked to sign an informed consent form before data collection began (See Appendix C).

Data collection

In the present study, the researcher collected data by herself. A letter from the School of Graduate Studies, Mahidol University, was sent to the dean of the Faculty of Medicine, Siriraj Hospital, and the director of the National Cancer Institute to ask for permission and cooperation in data collection. After permission was granted, the researcher approached the head of the chemotherapy units of both hospitals and asked for the name lists of the cancer patients who had already undergone chemotherapy at least once. Appointments for chemotherapy were made based on the registration of the patients, and the researchers then met with the caregivers of the patients to select the subjects based on the inclusion criteria previously set. After that, the researcher introduced herself, explained the objectives of the research, informed them of the protection of human subjects step-by-step, gave them a chance to ask questions to clarify their doubts, and asked them to sign an informed consent form after they agreed to participate in the study. In case the subjects agreed to participate in the study but refused to sign the form, their completion and submission of the questionnaires were then considered their consent to participate in the study.

If the subjects were able to read and write, the researcher gave them the questionnaires and explained how to fill out the questionnaires in detail. The subjects were given a chance to ask questions if they did not understand anything, and they were allowed to fill out the questionnaires freely, with the researcher waiting nearby in case they needed help. However, if the subjects were illiterate or they were unable to read due to eye problems, the researcher would then interview them based on the questionnaires, using the Demographic Characteristic Questionnaire, the Short Form Health Survey, the Herth Hope Index, the Preparedness Questionnaire, and the Worry from Caring Questionnaire, respectively. The interviewed lasted approximately 30 minutes. The researcher collected data after the patients had received an examination from the doctor and were waiting for chemotherapy treatment. At that time, the caregivers were asked to wait outside. The researcher selected this time so as to prevent the subjects from feeling concerned about the subjects. If the subjects agreed to participate in the study but were not ready to give information on that day, the researcher would make an appointment with them for the next treatment, or the

researcher would ask to visit them at home. Contact information including address and telephone number would be asked from the subjects so that appointments could be made in advance to ensure the subjects' convenience.

If the primary caregivers did not come to the hospitals with the patients, the researcher would ask for a telephone number from the persons who took the patients to the hospital. After that, the researcher would call the primary caregivers and asked for their cooperation. If they agreed to participate in the study, the researcher let the subjects choose when and where they wanted to meet—either during the next appointment at the hospital or at home. The researcher limited the number of the subjects to be interviewed each day at four to ensure the effectiveness of data collection. Data collection was conducted as follows:

Mondays through Fridays from 8:00 a.m. to 8:00 p.m. at the Chemotherapy and Blood Transfusion Unit, out-patient unit, Siriraj Hospital.

Mondays, Wednesdays, and Thursdays, from 8:00 a.m. to 4:00 p.m. at the National Cancer Institute.

Data analysis

Data were analyzed using a computer program as follows:

1. Frequency distribution and percentage were used to analyze the demographic characteristics of the cancer patients and their caregivers.
2. Range, mean, and standard deviation were used to analyze the data from the Herth Hope Index, Worry from Caring Questionnaire, Preparedness Questionnaire, and the Short Form Health Survey.
3. Pearson's product moment correlation coefficient was used to analyze all variables: worry from caring, hope, preparedness, and health status of caregivers of cancer patients.
4. Multiple regression coefficient was used, with the Stepwise multiple regression analysis with the significance level of .05, to analyze all predictive variables of worry from caring, hope, preparedness, and health status of caregivers of cancer patients.

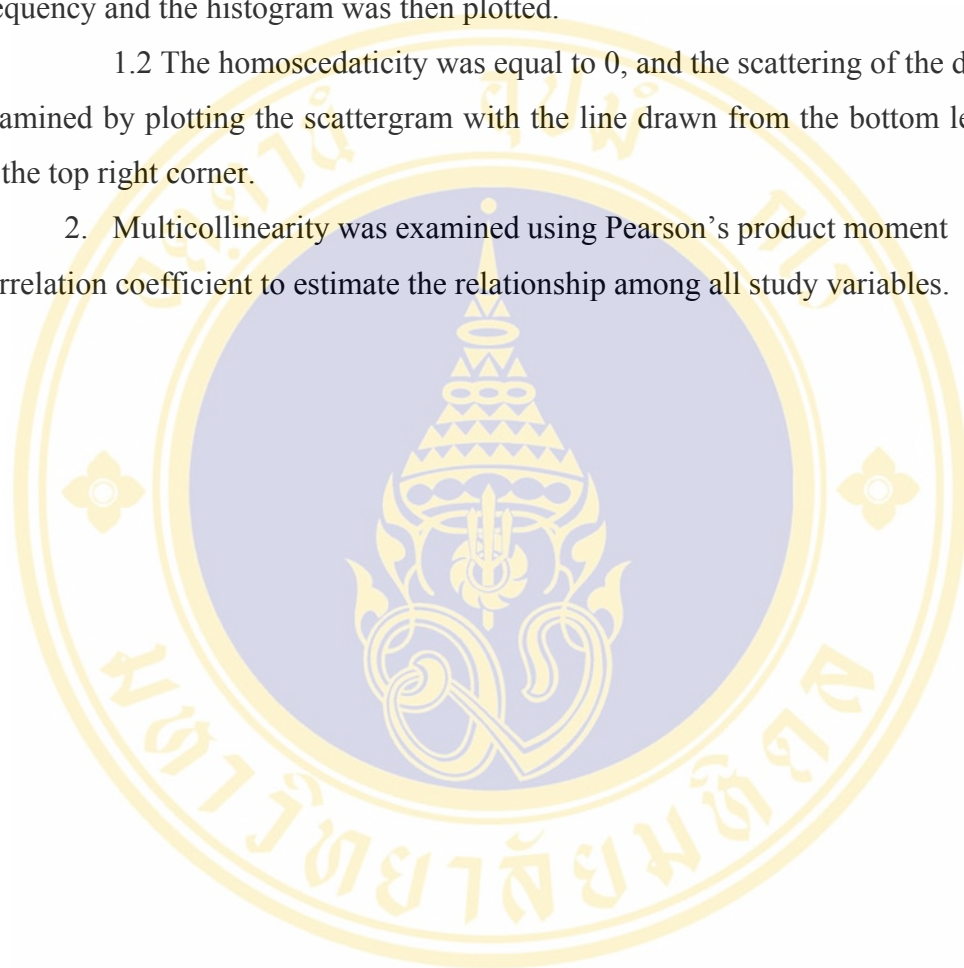
Before the analysis was carried out, the researcher tested the initial agreement of the multiple regression coefficient analysis as follows:

1. Analysis Residual

- 1.1 The data had normal distribution—each variable was analyzed based on frequency and the histogram was then plotted.

- 1.2 The homoscedasticity was equal to 0, and the scattering of the data was examined by plotting the scattergram with the line drawn from the bottom left corner to the top right corner.

2. Multicollinearity was examined using Pearson's product moment correlation coefficient to estimate the relationship among all study variables.



CHAPTER IV

RESULTS

The present study aimed at investigating the influence of hope, preparedness, and worry from caring on health status of 90 caregivers of cancer patients undergoing chemotherapy. The subjects were primary family caregivers who took the patients to receive chemotherapy at Chemotherapy and Blood Transfusion Unit, Siriraj Hospital and the National Cancer Institute. Out of 90, 89 subjects were interviewed by the researcher, while 1 subject completed questionnaires by themselves. In this chapter, the findings of the study are presented in the form of tables and descriptions.

1. Demographic information of caregivers

More than half, (or 66.7%) of the subjects were female. As for age, about the same numbers were between 40 and 60 years old and younger than 40 years old, accounting for 46.7% and 45.6% of the total subjects, respectively, with the mean age of 43.5 years. Almost all, (or 93.3%) were Buddhists, and about one-third, (or 32.2%) had an average income of 25,000 baht per month, while 27.8% earned between 5,001 and 10,000 baht. Approximately two-thirds, or 66.7%, had an adequate income with savings. Regarding educational background, 28.9% and 25.6% completed elementary and secondary education, respectively. In terms of relationship with the patients, 44.4% were spouses, and 32.2% were children of the patients. About three-quarters, (or 74.4%) were married, and 63.3% still worked to earn their living. Of those who worked, 40% had to work everyday, and 92.2% did not have work in the field of healthcare, as shown in Table 1

Table 1 Demographic information of caregivers (N = 90)

Information	Number	Percent	Information	Number	Percent
Sex		Family income (baht/month)			
Male	30	33.3	< 5,000	21	23.3
Female	60	66.7	5,001 – 10,000	25	27.8
			10,001 – 15,000	4	4.4
			15,001 – 20,000	10	11.1
Age (years)			20,001 – 25,000	1	1.1
< 40	41	45.6	> 25,000	29	32.2
40 – 60	42	46.7	Range 0 – 1,000,000 baht		
> 60	7	7.8	Mean = 35,555.56 baht		
Range 19 -76 years			Mode = 10,000 baht, S.D = 106,436.88		
Mean = 43.50					
S.D = 12.07					
			Sufficiency of income		
Religion			Not enough with loans	5	5.6
Buddhist	84	93.3	Enough with no savings	25	27.8
Muslim	3	3.3	Enough with savings	60	66.7
Christian	3	3.3			
			Relationships with patients		
Education level			Spouse	40	44.4
No formal education	1	1.1	Son/Daughter	29	32.2
Elementary level	26	28.9	Brother/Sister	11	12.2
High school level	23	25.6	Grandchild	6	6.7
Certificate/ Diploma	13	14.4	Parent	4	4.4
Bachelor's degree	20	22.2			
Mater's degree	7	7.8	Marital status		
			Single	19	21.1
			Married	67	74.4
			Widowed/Divorced/ Separated	4	4.4

Table 1 Demographic information of caregivers (N = 90) (Continued)

Information	Number	Percent	Information	Number	Percent
Occupational status			Working in the field health care		
Working	57	63.3	No	83	92.2
Not working	33	36.7	Yes	7	7.8
Everyday	36	40.0			
Some days	21	23.3			
Housewife	12	13.3			
Resigned for Caregiving	10	11.1			
Unemployed	6	6.7			
Retired	5	5.6			

2. Demographic information related to the caregiving situations

When it came to the duration of caregiving, more than half, or 54.4%, had provided care to the patients for the first six months, and the average duration of caregiving was 14.23 months. Close to half, or 43.3%, had health problems before beginning their caregiving duty, while 38.9% developed health problems after taking care of the patients. The first four most frequently found health problems were stress and anxiety, headache, weight loss, and insomnia. With regards to reasons for becoming caregivers, the largest group, or 47.8%, believed that it was their duty and responsibility. In addition, more than half, or 58.3%, had assistants who helped take care of the patients, with 45.6% had one assistant, and 67.8% did not have to take care of others except for the patients. Furthermore, 80% did not have family history of cancer, 82.2% did not have previous caregiving experience, and 66.7% had a moderate level of stress. About 84.4% of the subjects understood the goal of the treatment, whereas 42.2% and another 42.2% had perceived dependency of the patients at low

and moderate levels. Finally, 84.4% had a resource to seek for help during caregiving, and of these, 72.2% sought after advice on how to take care of cancer patients from the Chemotherapy Unit, as illustrated in Table 2.

Table 2 Information related to the caregiving situations (N = 90)

Information	Number	Percent	Information	Number	Percent
Duration of caregiving			Time spent with patient (hours/day)		
1 – 6 months	49	54.4	2 – 6	58	64.4
7 months – 1 year	19	21.1	6 – 10	8	8.9
> 1 year	22	24.4	11 – 15	14	15.6
Range 1 months - 12 years			> 15	10	11.1
Mean = 14.23 months; S.D = 20.63			Range 2 – 24 hours		
			Mean = 8.16 hours; S.D = 6.01		
Health problem status before caring			Health problem status during caring		
No	51	56.7	N0	55	61.1
Yes*	39	43.3	Yes**	35	38.9
Hypertension	5	5.6	Stress, Anxiety	15	16.7
Osteoporosis	5	5.6	Headache	6	6.7
Allergy	5	5.6	Weight loss	6	6.7
Gastric ulcer	5	5.6	Insomnia	4	4.4
Migraine	4	4.4	Gastric ulcer	3	3.3
Thyroid disease	3	3.3	Back pain	1	1.1
Myoma	3	3.3			
Back pain	2	2.2			
Anemia/Thalassemia	2	2.2			
Hyperlipidemia	2	2.2			
Hepatitis	2	2.2			
Diabetes mellitus	1	1.1			

Table 2 Information related to the caregiving situations (N = 90) (Continued)

Information	Number	Percent	Information	Number	Percent
The reason for caregiving			Caregiving assistant		
Duty & responsibility	43	47.8	No	42	46.7
Love & attachment & fear of being alone	32	35.6	Yes	48	53.3
No one else to take the caregiving role	11	12.2	1 person	41	45.6
Gratitude & thankfulness	4	4.4	>1person	7	7.7
			Daughter/ Son	19	21.1
			Sister/ Brother	14	15.6
			Wife/ Husband	10	11.1
			Parents	3	3.3
Other persons with caring responsibility			Grandchild	1	1.1
No	61	67.8	Previous experience with cancer - in family		
Yes	29	32.2	No	72	80.0
Daughter/ Son	25	27.8	Yes	18	20.0
Parents	4	4.4	Treatment outcomes		
Experience of caregiving			passed away	11	12.2
No	74	82.2	cured	5	5.5
Yes	16	17.8	receiving chemotherapy	2	2.2
Aging	9	10.1	Level of stress		
Heart disease	4	4.4	Moderate	60	66.7
Cancer	2	2.2	High	30	33.3
Stroke	1	1.1	Perceived level of dependency		
Perceived level of dependency			Moderate	60	66.7
Low	38	42.2	High	30	33.3
Moderate	38	42.2			
High	14	15.6			

Table 2 Information related to the caregiving situations (N = 90) (Continued)

Information	Number	Percent
Understanding goals of the current treatment		
No	14	5.6
Yes	76	84.4
To prevent recurrence	27	30.0
To completely cure	24	26.7
To reduce the size of tumor before surgery	15	16.7
To relieve symptoms	10	11.1
Resource		
Not having	14	15.6
Having ***	76	84.4
Physicians/ Nurses	65	72.2
Relatives with health care knowledge	10	11.1
Hotline	1	1.1

*Each caregiver had more than one health problem status before caring

**Each caregiver had more than one health problem status during caring

***Each caregiver had more than one resource for help seeking

3. Demographic information of cancer patients

The findings revealed that there were more female patients than male patients (67.8% and 32.2%, respectively). More than half of the patient subjects, (or 56.7%) ranged age from 40 to 60 years old, with the mean age of 53.42 years. Close to half, (or 48.9%) were diagnosed with breast cancer, while 16.7% and 14.4% had colorectal cancer and Non Hodgkins' lymphoma, respectively. More than three-quarters (or 78.9%) were first diagnosed with cancer, whereas 21.1% had recurrence. As regards progress of the disease, nearly one-third, (or 32.2%) were at stage 3 and 41.1% had co-morbidity. When it came to treatment, 46.7% had received chemotherapy twice, and

54.4% had been stricken with cancer for one to six months. Finally, concerning method of payment for treatment, 45.6% used the 30-baht universal coverage, as depicted in Table 3.

Table 3 Demographic information of cancer patients (N = 90)

Information	Number	Percent	Information	Number	Percent
Sex			Phase of cancer		
Male	29	32.2	Initial diagnosis	71	78.9
Female	61	67.8	Recurrence	19	21.1
Age (years)			Co-morbidity		
< 40	14	15.6	No	53	58.9
40 – 60	51	56.7	Yes*	37	41.1
> 60	25	27.8	Hypertension	10	11.1
Range 15 -87 years			Diabetes mellitus	10	11.1
Mean = 53.42; S.D = 12.94			Osteoporosis/ Back pain	4	4.4
Diagnosis			Thyroid	4	4.4
Breast cancer	44	48.9	Heart disease	3	3.3
Colorectal cancer	15	16.7	Allergy	2	2.2
NHL	13	14.4	Gastric ulcer	2	2.2
Lung cancer	9	10.0	Parkinsonism	2	2.2
Multiple myeloma	3	3.3	Stage of the disease		
CA stomach	2	2.2	Unknown	14	15.6
CA nasopharynx	2	2.2	Known	76	84.4
ALL	1	1.1	Stage I	1	1.1
CA Buccal mucosa	1	1.1	Stage II	22	24.4
			Stage III	29	32.2
			Stage IV	24	26.7

Table 3 Demographic information of cancer patients (N = 90) (Continued)

Information	Number	Percent	Information	Number	Percent
Duration of illness			Number of chemotherapy received		
1 – 6 months	49	54.4	1 time	4	4.4
7 months – 1 year	19	21.1	2 times	42	46.7
> 1 year	22	24.4	3 times	13	14.4
Range 1 month – 12 years			4 times	9	10.0
Mean = 14.23 months, S.D = 20.63			5 times	6	6.7
			6 times	9	10.0
			> 6 times	7	7.7
Method of payment					
Universal coverage (30 baht)	41	45.6			
Government welfare	27	30.0			
Own pocket	14	15.6			
Social welfare	8	8.9			

*Each patient had more than one co-morbidity disease

4. Descriptive information of hope, preparedness, worry from caring, and health status of caregivers

When mean and standard deviation of the study variables were calculated, it was found that most of the subjects had perceived hope, preparedness, and health status at a rather high level (mean = 40.60 and S.D. = 4.33 for hope; mean = 23.46 and S.D. = 4.70 for preparedness; and mean = 2787.97 and S.D. = 408.41 for health status). On the other hand, the subjects' perceived worry from caring was at a rather low level (mean = 38.87 and SD = 11.06), as shown in Table 4.

Table 4 Range, mean, and standard deviation of hope, preparedness, worry from caring, and health status of caregivers

Study variables	Possible Range	Actual Range	Mean	S.D.	Skewness
Hope	12-48	30-48	40.60	4.33	- 0.216
Preparedness	0-32	11-32	23.46	4.70	- 0.268
Worry from caring	15-75	17-63	38.87	11.06	0.358
Health Status of Caregivers	0-3500	1450-3400	2787.97	408.41	- 0.947

5. Relationship among hope, preparedness, worry from caring, and health status of caregivers

The Pearson's Product Moment Correlation Coefficient was analyzed. The findings revealed that hope and preparedness were positively related to health status of caregivers at a moderate level ($r = .433, p < .001$; $r = .320, p < .001$, respectively). However, worry from caring was negatively associated with health status of caregivers at a moderate level ($r = -.494, p < .001$). When considering the relationships among predictive variables, it was discovered that hope and preparedness had the highest level of relationship ($r = .599, p < .001$), while there was a negative relationship between hope and worry from caring ($r = -.249, p < .01$), as illustrated in Table 5.

Table 5 The Pearson's product moment correlation coefficient among study variables

Variables	1	2	3	4
1. Hope	1.000			
2. Preparedness	.599**	1.000		
3. Worry from caring	-.249*	-.063	1.000	
4. Health status of caregivers	.433**	.320**	-.494**	1.000

* $p < .01$, ** $p < .001$

6. Prediction of health status of caregivers

Stepwise multiple regression analysis was conducted to test the predictive power of health status of caregivers. The findings indicated that the first variable which was selected to enter the equation was worry from caring, which could predict health status of caregivers by 24.5% ($F_{(1,88)} = 28.483$, $p < .001$). The second variable which chosen to enter the equation was hope, which could predict health status of caregivers by another 10%. Therefore, worry from caring and hope could co-predict health status of caregivers by 34.7% ($F_{(1,87)} = 13.652$, $p < .001$), as shown in Table 6 below.

Table 6 Prediction of health status of caregivers

Predictor	R	R ²	R ² Change	F	b	Beta	t	P Value
Worry from Caring	.494	.245	.245	28.483	-15.231	-.412	-4.610	.000
Hope	.589	.347	.102	13.652	31.181	.330	3.695	.000

CHAPTER V

DISCUSSION

The present study aimed at investigating the factors influencing health status of caregivers of cancer patients undergoing chemotherapy based on the conceptual framework developed from the concept of stress and coping of Lazarus & Folkman (1984). According to the theory, worry from caring is a threat which affects the cognitive and coping processes of individuals. In general, individuals make use of available resources—hope and preparedness—in coping with stress, which, in turn, affects their adaptation, which is health status of caregivers. This chapter discusses the findings of the present study.

Demographic Information of Caregiver

More than half of the subjects were female, with the mean age of 43.5 years. This was similar to the findings of previous studies (Kopachon, 2002; Shumacher et al., 1993; Cheewapoonphol, 1998; Kasemkitwattana, Puwarawutphanich, Namphetch, Khamwicha, 1996; Maneewan, 1993; Sakunhongsophon, 1997). This is because society tends to expect females to take care of family members who are sick, while males are expected to work to earn the family's living, to pay for household expenses, or others which are not directly related to caregiving (Suwanno, 1998; Cheewapoonphol, 1998; Puwarawutphanich, 1994). In this study, the largest group of caregivers consisted of spouses of the patients. This is because 56.7% of the patients in this study were between 40 and 60 years old (with the mean age of 53.42 years) with a spouse, so the spouses were the ones who took care of them when they became sick. This finding supported the findings of Bacas et al, 2001; Loke, Liu, and Szeto, 2003; Carey, Oberst, McCubbin, and Huges, 1991; Scherbring, 2002; Navarat, 2002; Cheewapoonphol, 1998; Kasemkitwattana et al., 1996).

In addition, most of the subjects assessed the dependency level of the patients at low and moderate level equaling (42.2%). This may be because 64.4% of the

subjects were diagnosed with cancer for the first time, and they had received chemotherapy only once or twice. Therefore, they had not yet endured severe side effects of chemotherapy, which is more likely to emerge after the second chemotherapy onwards (Thongprasert, 1993). As a result, most of the patients in this study were still able to take care of themselves and did not need a considerable amount of care from their caregivers. This was evidenced in the caregivers' perceived level of dependency which was either at a low or at a moderate level. According to the study findings, close to two-thirds, (or 64.4%) of the caregivers spent only two to six hours per day taking care of the patients. In addition, 54.4% of the subjects had just begun taking care of the patients for one to six months (see Table 2), which was the initial period of the treatment and caregiving. Also, the caregivers in this study did not have to provide care to the patients all the time, but they were able to take time off to rest and relax. Consequently, they did not experience a high level of stress. It was found that 66.7% of the subjects had only a moderate level of stress. This finding disagreed with the findings of Cheewapoonphol (1998) and Sakunhongsophon (1997) which found that the patients demanded a high level of care and the caregivers had to continuously provide care to the patients all day, making them suffer from a high level of stress from caring.

Moreover, as regards health status, close to half, or 43.3%, of the subjects, had health problems prior to caregiving including high blood pressure, osteoporosis, allergy, ulcer, and migraine, respectively. Kasemkitwattana et al. (1996), Cheewapoonphol (1998), and Sakunhongsophon (1997) had similar findings. One plausible explanation is that most of the subjects were in their middle age, so they could not avoid physical deterioration, which inevitably limit their ability to take care of the patients. It is worth noting here that one interesting finding was that 38.9% of the subjects developed health problems during caregiving which included stress, anxiety, headache, weight loss, and insomnia (See Table 2). This finding was in congruence with the findings of Carter & Chang (2000) and Kasemkitwattana et al. (1996). Thus, it is possible that if these caregivers did not receive appropriate and in time assistant, they possibly become more adverse consequences health problems in the future.

As regards economic status of the subjects, it was discovered that 66.7% of the subjects had the mean income of 10,000 baht or more per month, and they reported that their income is sufficient for use and savings. Likewise, Kasemkitwattana et al. (1996) found that 50.45% of the caregivers of cancer patients had sufficient income with savings. In this study, 63.3% of the subjects still worked to earn their living, while only 11.1% had to quit their job to become caregivers, which was a small proportion when compared to the findings of previous studies (Toseland et al., 1995; Cheewapoonphol, 1998; Natechang, 2003; Kopachon, 2002; Navarat, 2002; Srithares, 2003), thus making them able to assess their family income as sufficient for use and savings. Besides this, 45.6% of the subjects used the 30-baht general coverage health care service to pay for medical expense, so they did not have to suffer economic problems.

Demographic Information of Cancer Patients

In the present study, 67.8% of the subjects were female. Of the total number of subjects, 48.9% were stricken with breast cancer, 16.7% colon cancer, 14.4% lymphoma cancer, and 10% lung cancer, which was similar to the findings of previous studies (Carey et al., 1991; Kozachik et al., 2001; Kurtz et al., 1995; Shumacher et al., 1993; Sakunhongsoophon, 1997). According to the statistics on incidence of cancer in Thailand, the top four types of cancer found among Thai population were liver cancer and pancreas cancer, followed by lung cancer and pharyngeal cancer, pelvic cancer, and breast cancer (Chooprapawan, 2000). In this study, more than half of the patients were female, and this may explain why breast cancer was found most frequently among them.

When considering the age of the patients, it was found that a little more than half, or 56.7%, were between 40 and 60 years of age, with the mean age of 53.42 years. This finding was congruent with the findings of Chooprapawan (2000) which indicated that most cancer patients, both males and females, were 45 years old or older. This finding also supported the findings of previous studies (Carey et al., 1991; Kozachik et al., 2001; Kurtz et al., 1995; Schumacher et al., 1993; Sakunhongsoophon, 1997; Sangarhit, 2003; Chinsawangwattanakul, 1995). In addition, it was found that

more than three-fourths of the subjects, (or 78.9%) were diagnosed with cancer for the first time, similar to previous studies (Kurtz et al., 1995; Schumacher et al., 1993). Also, most of the subjects had cancer in Stage II or higher as Stage II cancer is generally clearly manifested, pushing the patients to seek medical help (Sangarhit, 2003; Soiwong, 1995; Pruegsasri, 2003; Wanchai, 1996).

In this study, it was found that almost half of the patients (41.1%) had co-morbidity including high blood pressure, diabetes mellitus, and osteoporosis. This may be because the patients were in their middle-age, so they had to deal with health problems caused by physical deterioration. This may make them dependent on the care provided by caregivers, thus increasing their level of dependency. Kasemkitwattana & Tulyadhorn (1995) and Kenchaiwong (1996) had similar findings.

Hope

The finding revealed that the caregivers' perceived hope was at a rather high level (mean = 40.60; S.D. = 4.33; Skewness = -0.216), indicating that the subjects had a rather high level of hope. This may be because more than three-quarters of the subjects were diagnosed with cancer for the first time, and one-quarter were in Stages I and II with a favorable prognosis and a high likelihood to fully recover. In general, the five-year survival rate of breast cancer patients and colon cancer patients undergoing surgery together with chemotherapy was as high as 80% (Laohavinij, 2002), especially breast cancer patients who have more chances for full recovery when compared to other types of cancer (Bhothisuwan, 2002). In addition to that mentioned above, more than half of the subjects (56.7%) understood the goal of the treatment that it was to prevent recurrence and to cure, and they had received information services provided by the Chemotherapy Unit of both hospitals to all cancer patients and their caregivers when chemotherapy started. As a consequence, the ambiguity of the stressor and the existing anxiety of the subjects decreased, and they were more confident to undergo the treatment. Moreover, close to half of the subjects, (or 44.4%) had college education or higher. Education enables individuals to seek for knowledge and information about the disease from textbooks, newspapers, journals, and the Internet, making them better understand the treatment and reducing their anxiety. For

this reason, the subjects assessed the situation they were facing positively. This supported the findings of previous studies (Antonovsky, 1982; Rusinak & Murphy, 1995; Sherbring, 2002; Sakunhongsophon, 1997; Lazarus & Folkman, 1984; Hanucharoenkul, 2001) that education gives the subjects hope and morale to overcome the obstacles (Herth, 1993). Moreover, the majority of the subjects in this study (66.7%) were well to do, so they were able to choose medical services where they pleased as well as to buy supplementary diets and other materials to provide the best care possible to the patients if they believed that those would enable the patients to fully recover (Herth, 1992; Montgomery et al., 1985; Kasemkitwattana et al., 1996). Therefore, the caregivers in this study had a rather high level of hope.

Preparedness

The findings of this study indicated that the mean perceived preparedness was at a rather high level (mean = 23.46; S.D. = 4.70; Skewness = -0.268), meaning that the subjects had preparedness to take care of the patients at a rather high level. This may be because the majority of the subjects were in their middle-age, which is a time when they are ready to adjust to different situations in life and when they learn how to take responsibility. In addition, more than half of the subjects (56.7%) did not have health problems prior to caregiving, so they felt that they were ready to provide care to the patients. Similarly, Bull et al. (1995) and Kneeshaw, Considine, and Jennings (1999) found that caregivers who do not have prior health problems are more ready to take care of the patients than those who have health problems. This means that health status prior caregiving can reflect preparedness. Furthermore, 17.8% of the caregivers had previous experience taking care of chronic patients, so they were ready to deal with the caregiving situation. In addition to this, the Chemotherapy Units of both hospitals had services providing information and advice to caregivers and cancer patients who can make a phone call to ask for information or assistance anytime during office hours. Thus, both caregivers and cancer patients in this study had a useful resource which helped increase their preparedness (Archbold, Stewart, Greenlick and Harvath, 1990). Besides, it was found that the caregivers in this study who received information and advice had a better understanding of the treatment and

its goal, so they had a positive expectation of the treatment plan, making them develop a rather high level of hope and motivation to take care of the patients and feeling that they were ready to perform caregiving (Borneman, Stahl, Ferrell, and Smith, 2002; Hileman & Lackey, 1990). It was found that hope was positively related to preparedness ($r = .599$, $p < .001$), meaning that the higher the hope, the more ready the caregivers were.

Worry from Caring

The findings of the present study revealed that the mean of worry from caring was rather low (mean = 38.87; S.D. = 11.06; Skewness = 0.358). This meant that the caregivers had a rather low level of worry from caring. One possible explanation is that the caregivers had a rather high level of hope, and it was found that hope was negatively related to worry from caring ($r = -.249$, $p < .01$). In other words, the higher the hope, the less the subjects had worried from caring. This may be because hope made them assess their future in a positive manner, have morale, feel that the problems they were facing could be solved, and dare to seek help from others (Dufault & Martocchio, 1985). This made their perception of different situations clearer and reduced their worry from caring (Chan & Chang, 1999; Hileman & Lackey, 1990; Kristjanson & Ashcroft, 1994; Loke et al., 2003).

However, it was also discovered that most of the subjects were still rather worried about the health of the patients (Mean = 3.48; S.D. = 1.15). Also, they were worried about the safety of the patients (mean = 3.01; S.D. = 1.04), concerned with what they should do if the condition of the patients worsened (mean = 3.23; S.D. = 1.21), and were afraid to lose the patients (mean = 3.17; S.D. = 1.42). These findings supported the findings of previous studies (Miaskowski, Kragness, Dibble and Wallhagen, 1997; Natechang, 2002; Srithares, 2003). This may be because most of the caregivers in this study were spouses of the patients, so they had a rather high level of love, affection, and attachment with the patients. As a result, they were still worried about the patients' condition even though they rather clearly understood the situation, treatment plan, and treatment outcomes.

Health Status of Caregivers

The findings suggested that the mean of health status of caregivers of cancer patients undergoing therapy was rather high (mean = 2787.97; S.D. = 408.41; Skewness = -0.947). To be more exact, the caregiver subjects assessed their health condition that it was the same as what it was like in the previous three months. It may be explained that the patients had a low or moderate dependency level, and the subjects spent only two to six hours per day taking care of the patients. Also, the patients' need of care lasted only for a few days after chemotherapy. Therefore, the caregivers did not have to provide close and constant care to the patients. In addition, more than half of the caregivers in this study (54.4%) had been providing care to the patients for only the first six months after the diagnosis (see Table 2), and the care was not constant. Furthermore, more than half of the caregivers (53.3%) had someone who helped with their caregiving duty. Consequently, they had time to take a break and had a chance to do rest and relaxation activities as well as attend social functions just like they used to, so their stress from caring was at a low level, which, in turn, meant that their health status would not be so considerably affected. Thus, the caregiver subjects assessed their perceived health status at a rather good level.

However, the findings also indicated that as much as 38.9% of the subjects had health problems which reflected their stress during caregiving including stress, anxiety, insomnia, and weight loss, which was congruent with other studies (Maneevan, 1993; Cheewapoonphol, 1998; Kasemkitwattana et al., 1996; Sakunhongsophon, 1997; Navarat, 2002). As clearly evidenced, stress was negatively related to health status ($r = -.295$, $p < .01$). Thus, it pointed out that stress was negatively associated with health status, especially among those who were at risk. Put another way, the higher level of stress individuals had, the worse the patients' health condition, especially those who had previous health problems (43.3%). In this study, these conditions included high blood pressure, osteoporoses, allergy, ulcer, and migraine. The subjects were then considered a high-risk group with limitations in their caregiving duties, especially if they did not receive appropriate advice.

Factors Influencing Health Status of Caregivers

According to the findings of the study, worry from caring was negatively associated with health status of caregivers of cancer patients undergoing therapy ($r = -.494, p < .001$), and it could predict health status of caregivers by 24.5%. Thus, the research hypothesis was supported. This means that the more worry the subjects had, the more likely they would develop health problems. Thus, it could be seen that worry and concern about the patients' health was negatively correlated with the health status of the subjects ($r = -.374, p < .01$). Even though the subjects understood the treatment goal already, but due to the love and affection they had for the patients, they would feel helpless when they had to witness the subjects' suffering caused by chemotherapy and they were unable to help. The caregivers could experience worry and anxiety, which could directly affect their health status. In this study, the top five conditions experienced by caregivers were stress, headache, insomnia, loss of appetite, and weight loss. Such findings yielded support to previous studies conducted by Anderson, 1988; Anderson et al., 1995; Aranda & Hayman-White, 2001; Carter & Chang, 2000; Chan & Chang, 1999; Kristjanson & Ashcroft, 1994; Loeys & Catherine, 1991; Natechang, 2002; Robinson-Smith & Mahoney, 1995; Schotte op Paris et al., 1998; Srithares, 2003; Kasemkitwattana et al., 1996). Such worry from care weakens the immune system in the body of caregivers, leading to sickness. If caregivers do not receive proper treatment and develop chronic stress, their health can be destroyed continuously.

In addition, hope was found to be positively associated with health status of caregivers ($r = .433, p < .001$) and could predict health status by another 10.2%. As a result, the research hypothesis was supported. The higher the hope, the better the health status of caregivers. This is because body and mind are related. Hope, which is a good mental condition, would send signals to the neurological system in the limbic part of the brain, which, in turn, perceives the emotion which is caused by hope. Then, the brain is stimulated, and the perception signals are transferred to the hypothalamus and the pituitary gland, reducing in the balanced production of cortisol hormone, and this makes the immune system in the body work effectively and efficiently. The improved immune system results in a better health of individuals

(Miller, 1985; Simonton et al., 1978; Wattanakitkralert, 1999; Puwarawuthipanich, 1995; Kasemkitwattana, 1989). Also, hope enables caregivers to be ready for the problems, making them feel that the problems they have are manageable. Moreover, they have motivation to seek for help, to have favorable expectation of the future, and to feel ready to take care of both the patients and themselves to ensure good health (Dufault & Martocchion, 1985; Kasemkitwattana, 1989). Thus, it could be concluded that hope has the influence on health status of caregivers.

Besides, The findings revealed that preparedness was related to health status ($r = .320, p < .001$), but it could not predict the health status of the subjects. Thus, the hypothesis was not supported. This meant that the degree of preparedness of the subjects did not affect their health status. One plausible explanation is that two-thirds of the subjects (66.7%) had a good financial status which facilitated their caregiving and their daily living. In addition, more than half (56.7%) did not have any illness before beginning their caregiving duties. Thus, they seemed to have a rather high level of preparedness, as shown by the finding. However, this finding was not consistent with the finding of Kneeshaw et al. (1999) which found that caregivers with a lower level of preparedness had more health problems than those who had a higher level of preparedness. In addition, it was also found that preparedness was associated with hope at a moderate level ($r = .599, p < .001$). Thus, when the influence of the hope variable was eliminated, preparedness was not related to health status and was unable to predict health status of caregivers. It is worth noting that as hope and preparedness were associated with health status, as hope made the caregivers increase preparedness to make the patients recover, the interaction between the two variables should be further investigated.

Conclusion

The findings indicated that worry from care and hope could co-predict health status of caregivers by 34.7%. As preparedness was associated with caregivers' health status, it could not predict health status of caregivers. Thus, the research hypothesis was only partially supported. Besides, the findings lent support to Lazarus and Folkman's stress and coping theory that individuals' resources, i.e. hope, is a

supporting factor which enables caregivers to effectively deal with stress, preventing health problems from affecting them. On the other hand, worry from care is a threatening factor in stress and coping, making coping ineffective and adversely affecting caregivers' health status.



CHAPTER VI

CONCLUSION

The present study aimed at investigating the effect of hope, preparedness, and worry from caring on health status of caregivers of cancer patients undergoing chemotherapy. The stress and coping theory of Lazarus and Folkman (1984) was used as a conceptual framework of the study. The subjects were 90 primary caregivers who provided care to cancer patients at home without receiving any monetary rewards or wages in return. Also, the subjects had to have experience taking care of the patients after they had received chemotherapy for at least once, and they were the ones who took the patients to receive treatment at the Chemotherapy and Blood Transfusion Unit, Siriraj Hospital and the National Cancer Institute from March to August 2004. The instruments used in the data collection consisted of the demographic characteristic questionnaire, the herth hope index questionnaire (reliability = 0.79), the preparedness questionnaire (reliability = 0.83), the worry from caring questionnaire (reliability = 0.85), and the SF-36 health survey questionnaire (reliability = 0.91). The researcher interviewed 89 subjects, while one subject complete the self-administered questionnaire. Data analysis included descriptive statistics, Pearson's product moment correlation coefficient, and stepwise multiple regression.

The Summary of the Study

The findings revealed that more than half of the caregiver subjects (66.7%) were female, and they ranged in age from 19 to 76 years, with the mean age of 43.50 years. Almost all, or 93.3%, were Buddhists, and 70% completed at least secondary education. Close to half, or 44%, of the subjects were spouses and more than half, (or 63.3%) worked to earn their living. Only 11.1% quit their job to perform caregiving. In addition, 66.7% of the subjects had an average income of 10,000 baht per month, which was sufficient for savings. As regards caregiving, the subjects had provided care to the patients from one month to 12 years, with the mean duration of 14.23

months. They spent two to 24 hours taking care of the patients in one day, with the mean of 8.16 hours. Furthermore, 43.3% of the caregivers had health problems before beginning caregiving, and the top four conditions they suffered from were high blood pressure, osteoporosis, allergy, and stomach ulcer. During caregiving, more than one-third, (or 38.8%) of the subjects, developed health problems including stress, anxiety, headache, insomnia, and weight loss. Also, more than half, (or 53.3%) had somebody who helped them take care of the patients, and 21% of the assistants were children of the caregivers. As regards reason for caregiving, about half, (or 47.8%) indicated that it was their duty and responsibility, and 67.8% stated that they did not have to take care of anybody else. The subjects assessed the patient's level of dependency as low or moderate (42% in both groups), and they themselves had a moderate level of stress (66.7%). Finally, about three-quarters, (or 72.2%) had resources from which they could seek help.

When considering the patient subjects, it was discovered that more than half (56.7%) were between 40 and 60 years old, with the mean age of 53.42 years. More than half of the subjects (54.4%) had been diagnosed with cancer from one to six months. As regards their diagnosis, 48.9% had breast cancer, 16.7% had colon cancer, and 14.4% had cancer of the lymph node. More than three-quarters (78.9%) were first diagnosed with cancer, and 84.4% knew the stage of cancer they were having. In fact, about one-third (32.2%) were in Stage III. Moreover, 41.1% of the patients had comorbidity, the most frequently found of which were high blood pressure, diabetes mellitus, osteoporosis, and back pain. Finally, 46.7% of the subjects had received chemotherapy twice.

Most of the subjects had perceived hope (mean = 40.60; S.D. = 4.33), preparedness (mean = 23.46; S.D. = 4.70), and health status (mean = 2787.97; S.D. = 408.41) at a rather high level, whereas worry from caring was at a low level (mean = 38.87; S.D. = 11.06).

When it came to the relationship among the study variables, it was discovered that worry from caring was negatively related to health status of caregivers ($r = -.494$, $p < .001$), while hope and preparedness were positively related to health status of caregivers ($r = .433$, $p < .001$ and $r = .320$, $p < .001$, respectively). Furthermore, the findings suggested that worry from caring could predict health status of caregivers by

24.5%, and hope could predict health status of caregivers by another 10.2%, equal to 34.7% in total. However, even though preparedness could not predict health status of caregivers, the relationship between preparedness and health status of caregivers was still found.

Implications and Recommendations

The findings of the present study indicated that some caregivers had previous health problems before beginning their caregiving duty, whereas others obviously developed health problems because of stress. Therefore, these caregivers constitute a risk group which should receive close attention. In addition to this, as worry from caring and hope could predict health status of caregivers, and as preparedness was related to health status of caregivers, reducing worry and promoting realistic hope while increasing caregivers' preparedness should help decrease health problems of caregivers. Based on these findings, the following implications and recommendations are made:

Implications for Nursing Practice

1. Nurses should assess health status of caregivers of cancer patients so that plans could be made to prevent or reduce their health risks, especially those in the high-risk groups. Knowledge on self-care and stress coping should be disseminated, and other family members should be encouraged to provide continuous care to the patients.

2. Nurses and healthcare team members involved should devise a pattern to continuously provide information and advice to caregivers. This is because caregivers' worry from caring may remain even though they have received information and advice; especially worry about the health condition of the patients. Thus, healthcare team members should provide caregivers with opportunity to ask about the patients' conditions, in person and over the telephone, give them spiritual support, and promote realistic hope. They should also offer knowledge and skill training which will prepare caregivers to take better care of the patients, thus reducing

caregivers' stress and health problems and enabling them to continue their caregiving duty.

Implications for Nursing Education

Graduate programs should emphasize advanced practice nursing which aims at equipping the nursing students with the knowledge and skills necessary to criticize and assess health problems of caregivers. Research should be carried out, and research findings should be applied in actual nursing practice to promote health status of caregivers and reduce caregivers' risks of health problems.

Implications for Future Research

1. Other factors or variables which may affect health status of caregivers of cancer patients should be further investigated including sense of coherence, family harmony, etc.

2. The findings of the present study could be used in developing a health promoting program to maintain good health of caregivers, reduce their anxiety, and instill hope and preparedness. An experimental study should also be carried out to determine the effectiveness of the program as well.

3. A study should be conducted to follow up caregivers' health status by comparing those who already had previous health problems with those who had no such problems before beginning their caregiving duties to shed light on caregivers' health status in the long run and to better understand other factors that may also affect caregivers' health.

4. A study should also be carried out to test the interaction between hope and preparedness and how it affects caregivers' health status.

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APPENDIX A

List of Experts Consulted on Validation of the Questionnaire

The contents of hope, preparedness, worry from caring, and the SF-36 health survey were validated by three experts as follows.

1. Asst. Prof. Yupapin Sirapo-ngam

Department of Nursing, Faculty of Medicine, Ramathibodi Hospital

2. Asst. Prof. Orasa Panpakdee

Department of Nursing, Faculty of Medicine, Ramathibodi Hospital

3. Asst. Prof. Chuchuen Cheewapoonphon

Department of Medical Nursing, Faculty of Nursing, Siriraj Hospital

APPENDIX B

Questionnaires

เครื่องมือที่ใช้ในการวิจัย

ส่วนที่ 1 แบบบันทึกข้อมูลส่วนบุคคลทั่วไป

คำชี้แจง โปรดทำเครื่องหมาย ✓ ลงในช่อง หรือเติมคำลงในช่องว่าง
ข้อมูลส่วนบุคคลของญาติผู้ดูแล

1. เพศ

- ชาย หญิง

2. อายุ.....ปี

3. สถานภาพสมรส

- โสด คู่
 หม้าย หย่า
 แยกกันอยู่

4. ศาสนา

- พุทธ คริสต์
 อิสลาม อื่นๆ (ระบุ)

5. ระดับการศึกษา

- ไม่ได้เรียนหนังสือ อนุปริญญาหรือประกาศนียบัตร
 ประถมศึกษา ปริญญาตรี
 มัธยม สูงกว่าปริญญาตรี

6. ขณะนี้ท่านทำงานหรือไม่

- ทำ อาชีพ (ระบุ).....
 ทำเป็นบางวัน ทำเป็นงานประจำ
 ไม่ได้ทำ
ว่างงาน เกษียณแล้ว
กำลังหางานทำ หยุดทำงานเพราะต้องดูแลผู้ป่วย
 อื่นๆ.....

7. งานของท่านมีความเกี่ยวข้องกับงานด้านสุขภาพหรือด้านสาธารณสุขหรือไม่

- ไม่มี
 มี ระบุ.....

8. รายได้ของครอบครัว.....บาท/เดือน

9. ความเพียงพอของรายได้

- ไม่เพียงพอ และมีหนี้สิน
 เพียงพอ ไม่เหลือเก็บ
 เพียงพอ และมีเหลือเก็บ

10. ความสัมพันธ์กับผู้ป่วย

- ภรรยา สามี ลูกสาว
 ลูกชาย ลูกสะใภ้ หลาน
 อื่นๆ ระบุ.....

11. ระยะเวลาที่เริ่มดูแลผู้ป่วยจนถึงปัจจุบัน.....ปี.....เดือน

12. ระยะเวลาในการดูแลผู้ป่วยต่อวัน.....ชั่วโมง

13. ระดับการพึ่งพาของผู้ป่วย

- น้อย ปานกลาง มาก

14. ประสบการณ์การดูแลผู้ป่วยมาก่อน

- ไม่มี มี (ระบุ).....

15. ผู้ช่วยเหลือในการดูแลที่บ้าน

- ไม่มี มี (ระบุ)..... (ใคร, จำนวน, ช่วยเหลืออะไรบ้าง)

16. นอกเหนือจากการดูแลผู้ป่วย ท่านต้องดูแลคนอื่นๆด้วยหรือไม่

- ไม่มี มี (ระบุ).....

17. ก่อนให้การดูแลผู้ป่วย มีผู้อื่นในครอบครัวเป็นมะเร็งหรือไม่

- ไม่มี
 มี
 รักษาหายขาด
 อยู่ระหว่างการรักษาด้วย
 รังสีรักษา
 เคมีบำบัด
 ผ่าตัด

- เสียชีวิตแล้ว
- ไม่ใช่
- ใช่

18. ท่านทราบวัตถุประสงค์ของการรักษาด้วยเคมีบำบัดครั้งนี้หรือไม่

- ไม่ทราบ
- ทราบ
- ป้องกันโรคกลับคืนใหม่
- รักษาเพื่อให้หาย
- รักษาเพื่อลดขนาดและระยะของโรค ก่อนการผ่าตัด
- รักษาเพื่อบรรเทาอาการ เพิ่มระยะการอยู่รอด กรณีที่ตอบสนองต่อการรักษา

19. มีแหล่งที่จะติดต่อขอความช่วยเหลือหรือช่วยแก้ปัญหา

- โทรศัพท์ติดต่อแพทย์, พยาบาลผู้ดูแล
- สายด่วนสุขภาพ
- ญาติที่มีความรู้ด้านการดูแลสุขภาพ
- อื่นๆ

20. ปัญหาสุขภาพที่ท่านมีอยู่ก่อนดูแลผู้ป่วย

- ไม่มี มี (ระบุ).....

21. ปัญหาสุขภาพที่เกิดขึ้นในระหว่างการดูแลผู้ป่วย

- ไม่มี มี (ระบุ).....

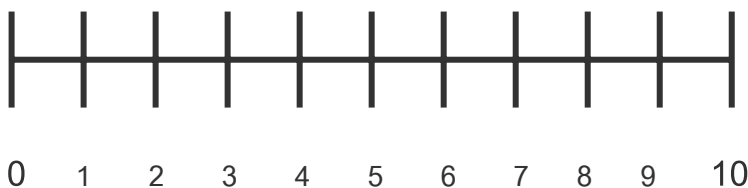
22. เหตุผลในการดูแลผู้ป่วย.....

23. ในการดูแลผู้ป่วยระหว่างได้รับเคมีบำบัด ท่านมีความเครียดในระหว่างการดูแลหรือไม่

ถ้ามีความเครียดที่เกิดขึ้นมีมากน้อยระดับใด โดยที่ระดับ 0 หมายถึง **ไม่มีความเครียดเลย**

ในขณะที่ระดับ 10 หมายถึง **มีความเครียดสูงสุด**

โปรดทำเครื่องหมายวงกลมรอบตัวเลขตามระดับความเครียดของท่าน



ข้อมูลส่วนบุคคลของผู้ป่วย

ส่วนที่ 1 ได้จากแฟ้มประวัติผู้ป่วย

คำชี้แจง โปรดทำเครื่องหมาย ✓ ลงในช่อง □ หรือเติมคำลงในช่องว่าง

1. เพศ

ชาย หญิง

2. อายุ.....ปี

3. การวินิจฉัยโรค.....

4. ชนิดของยาเคมีบำบัดที่ได้รับ.....

5. ครั้งที่ของการได้รับยา.....

6. โรคที่พบร่วมกับการเจ็บป่วยครั้งนี้

โรคความดันโลหิตสูง

โรคเบาหวาน

โรคหัวใจ

โรคไขมันในเลือดสูง

อื่นๆ (ระบุ).....

7. ระยะเวลาการเจ็บป่วยเป็นมะเร็ง.....

ส่วนที่ 2 ได้จากการสัมภาษณ์ญาติผู้ดูแล

คำชี้แจง โปรดทำเครื่องหมาย ✓ ลงในช่อง □ หรือเติมคำลงในช่องว่าง

1. ค่าใช้จ่ายในการรักษา

จ่ายเอง

เบิกจากต้นสังกัด

บัตรประกันสุขภาพถ้วนหน้า

ประกันสังคม

ประกันชีวิต

สังคมสงเคราะห์

อื่นๆ (ระบุ).....

SF-36 health survey

แบบวัดภาวะสุขภาพ

จากการดูแลผู้ป่วยโรคมะเร็ง พบว่ามีผลต่อภาวะสุขภาพของผู้ดูแลทั้งทางด้านร่างกาย อารมณ์ และจิตใจ ขอให้ท่านอ่านคำถามต่อไปนี้แล้วพิจารณาว่าภาวะสุขภาพของท่านเป็นอย่างไร โปรดทำเครื่องหมาย ✓ ลงในช่องที่ตรงกับภาวะสุขภาพของท่านมากที่สุด

1. โดยทั่วไปสุขภาพของท่านเป็นอย่างไร

- ดีมากที่สุด
- ดี
- แย่
- ดีมาก
- พอใช้

2. ภาวะสุขภาพของท่านในปัจจุบันเป็นอย่างไรเมื่อเทียบกับ 3 เดือนที่แล้ว

- ดีมากกว่า 3 เดือนที่แล้วมาก
- เหมือน 3 เดือนที่แล้ว
- แย่กว่า 3 เดือนที่แล้วมาก
- ก่อนข้างดีกว่า 3 เดือนที่แล้ว
- ก่อนข้างแยกว่า 3 เดือนที่แล้ว

ข้อความต่อไปนี้ ถ้ามเกี่ยวกับกิจกรรมประจำวันของท่าน ขอให้ท่านพิจารณาว่าภาวะสุขภาพของท่านในปัจจุบัน มีความจำกัดในการทำกิจกรรมต่อไปนี้หรือไม่ ถ้าใช่ มีความจำกัดมากน้อยเพียงใด โปรดทำเครื่องหมาย ✓ ลงในช่องที่ตรงกับระดับความจำกัดของท่าน

กิจกรรม	มีความจำกัดมาก	มีความจำกัดน้อย	ไม่มีความจำกัดเลย
3.กิจกรรมที่ออกแรงมาก เช่น การวิ่ง การยกของหนัก การเล่นกีฬาอย่างหนัก			
.....			
.....			
.....			
.....			
.....			
.....			
12. อาบน้ำหรือแต่งตัว			

อ่านข้อความต่อไปนี้แล้วพิจารณาว่าในระหว่าง 1 เดือนที่ผ่านมา ท่านมีปัญหาเกี่ยวกับการทำงานหรือการปฏิบัติกิจวัตรประจำวันซึ่งเป็นผลมาจากสุขภาพด้านร่างกายของท่านหรือไม่ ถ้ามีบ่อยครั้งเพียงใด โปรดทำเครื่องหมาย ✓ ลงในช่องที่ตรงกับระดับปัญหาของท่าน

กิจกรรม	ตลอดเวลา	เป็นส่วนใหญ่	เป็นบางครั้ง	นานๆ ครั้ง	ไม่เลย
13.ลดปริมาณเวลาในการทำงานหรือกิจกรรมอื่นๆ					
.....					
.....					
16.มีความยากลำบากที่จะทำงานหรือกิจกรรมอื่นๆ (เช่น ต้องใช้ความพยายามมากขึ้นกว่าเดิม)					

อ่านข้อความต่อไปนี้แล้วพิจารณาว่าในระหว่าง 1 เดือนที่ผ่านมา ท่านมีปัญหาเกี่ยวกับการทำงานหรือการปฏิบัติกิจวัตรประจำวันซึ่งเป็นผลมาจากสุขภาพด้านอารมณ์ของท่าน เช่น รู้สึกซึมเศร้าหรือกังวลหรือไม่ ถ้ามีบ่อยครั้งเพียงใด โปรดทำเครื่องหมาย ✓ ลงในช่องที่ตรงกับระดับปัญหาของท่าน

กิจกรรม	ตลอดเวลา	เป็นส่วนใหญ่	เป็นบางครั้ง	นานๆ ครั้ง	ไม่เลย
17. ลดปริมาณเวลาในการทำงานหรือกิจกรรมอื่นๆลง					
.....					
19. มีความระมัดระวังน้อยลงในการทำงานหรือกิจกรรมอื่นๆ					

20. ในระหว่าง 1 เดือนที่ผ่านมา ปัญหาภาวะสุขภาพทางร่างกายและอารมณ์ของท่านเป็นอุปสรรคต่อการเข้าร่วมกิจกรรมตามปกติกับครอบครัว เพื่อน เพื่อนบ้าน หรืออื่นๆมากน้อยเพียงใด

- ไม่เลย
- เล็กน้อย
- ปานกลาง
- ค่อนข้างมาก
- มากที่สุด

21.....

22.....

ขอให้ท่านอ่านข้อความต่อไปนี้ซึ่งถามเกี่ยวกับความรู้สึกของท่าน และสิ่งที่เกิดขึ้นระหว่าง 1 เดือนที่ผ่านมา โปรดทำเครื่องหมาย ✓ ลงในช่องที่ตรงกับความรู้สึกของท่านให้มากที่สุด

ท่านมีความรู้สึกต่อสิ่งต่อไปนี้บ่อยครั้งเพียงใด	ตลอดเวลา	เป็น ส่วนมาก	เป็น บางครั้ง	นานๆ ครั้ง	ไม่เลย
23. ท่านรู้สึกมีชีวิตชีวา					
.....					
.....					
31. ท่านรู้สึกอ่อนเพลีย					

32. ในระหว่าง 1 เดือนที่ผ่านมา ปัญหาทางภาวะสุขภาพทางร่างกาย และอารมณ์ของท่านเป็นอุปสรรคในการทำกิจกรรมทางด้านสังคม เช่น ไปเยี่ยมเพื่อนญาติ มากน้อยเพียงใด

- ตลอดเวลา
- เป็นส่วนมาก
- เป็นบางครั้ง
- นานๆครั้ง
- ไม่เลย

ขอให้ท่านอ่านข้อความต่อไปนี้แล้วพิจารณาว่าตรงกับตัวท่านเองเพียงใด โปรดทำเครื่องหมาย ✓ ลงในช่องที่ตรงกับความรู้สึกของท่านให้มากที่สุด

ข้อความ	ตรงกับตัวท่านมากที่สุด	ตรงกับตัวท่านเป็นส่วนใหญ่	ไม่แน่ใจ	ตรงกับตัวท่านน้อย	ไม่ตรงกับตัวท่าน
33. ท่านเจ็บป่วยง่ายกว่าคนทั่วไป					
.....					
.....					
36. สุขภาพของท่านดีเยี่ยม					

Preparedness

แบบวัดความพร้อมในการดูแล

จากการดูแลผู้ป่วยโรคมะเร็ง เป็นงานที่ญาติผู้ดูแลต้องมีความพร้อมในหลายๆด้านในการให้การดูแล ข้อคำถามต่อไปนี้เป็นเรื่องเกี่ยวกับความพร้อมในการดูแล ว่าญาติผู้ดูแลมีความพร้อมในการดูแลแต่ละเรื่องมากน้อยเพียงใด ในแต่ละข้อคำถามไม่มีคำตอบที่ถูกหรือผิด ขอให้ท่านตอบตรงตามความเป็นจริงที่เกิดขึ้นกับท่าน โปรดทำเครื่องหมาย ✓ ลงในช่องที่ตรงกับระดับความรู้สึกรู้สึกของท่านมากที่สุด

ข้อความ	ไม่มีเลย	มีเล็กน้อย	มีค่อนข้างมาก	มีมาก	มีมากที่สุด
1.ท่านคิดว่าท่านมีความพร้อมในการดูแลด้านร่างกายของผู้ป่วยมากน้อยเพียงใด เช่น การอาบน้ำ การพุง					
2.ท่านคิดว่าท่านมีความพร้อมในการดูแลด้านอารมณ์ของผู้ป่วยมากน้อยเพียงใด					
.....					
.....					
.....					
.....					
.....					
8.โดยรวม ท่านคิดว่าท่านมีความพร้อมในการดูแลผู้ป่วยมากน้อยเพียงใด					

Worry from caring

แบบวัดความวิตกกังวลจากการดูแล

จากการดูแลผู้ป่วยโรคมะเร็ง ข้อคำถามต่อไปนี้เป็นเรื่องเกี่ยวกับความคิด หรือความรู้สึก ของญาติผู้ดูแลว่ามีวิตกกังวลจากการดูแลแต่ละเรื่องมากน้อยเพียงใด ในแต่ละข้อคำถามไม่มีคำตอบ ที่ถูกหรือผิด ขอให้ท่านตอบตรงตามความเป็นจริงที่เกิดขึ้นกับท่าน โปรดทำเครื่องหมาย ✓ ลงใน ช่องที่ตรงกับระดับความรู้สึกของท่านมากที่สุด

ข้อความ	ไม่มีเลย	มีเล็กน้อย	มีบ้าง	มีค่อนข้างมาก	มีมากที่สุด
1.ท่านกังวลเกี่ยวกับสุขภาพของผู้ป่วย					
2.ท่านกังวลเกี่ยวกับสภาพอารมณ์ของผู้ป่วย					
.....					
.....					
.....					
.....					
.....					
14.ท่านกังวลเกี่ยวกับการที่ผู้ป่วยเปลี่ยนไปไม่เหมือนคน เดิมที่ท่านเคยรู้จัก					
15.ท่านกังวลว่าความพิการของผู้ป่วยจะเป็นอย่างถาวร					

APPENDIX C

Consent form

หนังสือแสดงเจตนายินยอมเข้าร่วมโครงการวิจัยทางการแพทย์

วันที่.....เดือน.....พ.ศ.....

ข้าพเจ้า (นาย, นาง, นางสาว).....อายุ.....ปี อาศัยอยู่บ้านเลขที่.....
ถนน.....ตำบล.....อำเภอ.....จังหวัด.....โทรศัพท์.....โทรสาร.....

ขอแสดงเจตนายินยอมเข้าร่วมโครงการวิจัยเรื่อง ปัจจัยที่ทำนายภาวะสุขภาพของญาติผู้ดูแลผู้ป่วย
มะเร็งที่บ้าน ของ นางสาววารุณี พลิกบัว นักศึกษาหลักสูตรพยาบาลศาสตรมหาบัณฑิต สาขาการ
พยาบาลผู้ใหญ่ คณะพยาบาลศาสตร์ มหาวิทยาลัยมหิดล

โดยข้าพเจ้าได้รับทราบเกี่ยวกับรายละเอียดของโครงการจากผู้วิจัยว่า

การวิจัยครั้งนี้จะมีประโยชน์อย่างยิ่งในการนำผลการวิจัยไปใช้เป็นแนวทางในการวางแผน
พัฒนารูปแบบการพยาบาล เพื่อนำไปสู่การวางแผน ส่งเสริมภาวะสุขภาพของท่านและพัฒนาองค์
ความรู้เกี่ยวกับภาวะสุขภาพของญาติผู้ดูแลผู้ป่วยมะเร็ง รวมทั้งเป็นแนวทางในการจัดตั้งศูนย์การให้
ข้อมูลหรือแหล่งบริการ เพื่อให้ความช่วยเหลือญาติผู้ดูแลผู้ป่วยมะเร็ง ในการเผชิญกับสถานการณ์
และการปรับตัวได้อย่างเหมาะสม รวมถึงเป็นแนวทางในการศึกษาวิจัยประเด็นอื่นที่เกี่ยวข้องกับ
ญาติผู้ดูแลผู้ป่วยมะเร็งต่อไป

รวมทั้งได้รับทราบข้อมูลเกี่ยวกับความเสี่ยงหรือผลข้างเคียงที่อาจเกิดขึ้นว่า การวิจัยครั้งนี้
ไม่มีความเสี่ยงหรือผลข้างเคียงใดๆ ที่ผู้เข้าร่วมวิจัยจะได้รับและไม่ขัดต่อแผนการรักษาของแพทย์
อย่างไรก็ตาม ในการสัมภาษณ์ข้อคำถามของแบบสัมภาษณ์เป็นการสอบถามความรู้สึกและความ
คิดเห็นของท่านต่อการดูแลผู้ป่วย ผู้วิจัยได้ตระหนักถึงความรู้สึกต่างๆที่อาจเกิดขึ้นได้ในขณะตอบ
แบบสอบถาม จึงได้มีการชี้แจงให้ท่านทราบและเข้าใจก่อนทำการสัมภาษณ์ ว่าในทุกข้อคำถามไม่
มีคำตอบที่ถูกหรือผิด และถ้าข้อใดท่านรู้สึกไม่สบายใจและไม่ต้องการตอบ หรือต้องการหยุด ท่าน
สามารถปฏิเสธหรือยกเลิกการตอบแบบสัมภาษณ์ได้ตลอดเวลา โดยไม่มีผลกระทบต่อการรักษา
หรือการดูแลที่ผู้ป่วยได้รับแต่อย่างใด

รายละเอียดและขั้นตอนที่ผู้เข้าร่วมโครงการวิจัยจะได้รับการปฏิบัติ

ถ้าท่านยินดีเข้าร่วมในการศึกษาจะได้รับแบบสัมภาษณ์และแบบสอบถามจำนวน 6 ชุด
ซึ่งสอบถามข้อมูลทั่วไปของผู้ป่วยและท่าน ภาวะสุขภาพ ความหวัง ความพร้อมในการดูแล และ

ความวิตกกังวลจากการดูแลของท่าน โดยใช้เวลาประมาณ 30 นาที ในช่วงที่ท่านพาผู้ป่วยมารับยา เคมีบำบัดและการตรวจตามนัดที่โรงพยาบาล หรือการสัมภาษณ์ที่บ้าน ตามความสมัครใจและความสะดวกของท่าน

การติดต่อกับผู้วิจัยในกรณีที่มีปัญหา (ตลอด 24 ชั่วโมง) โทรศัพท์ 06-1693217

หากข้าพเจ้าได้รับผลข้างเคียงหรือฤทธิ์ที่ไม่พึงประสงค์หรืออันตรายจากการวิจัย ข้าพเจ้า จะได้รับการปฏิบัติ/การชดเชย ซึ่งการวิจัยครั้งนี้ไม่มีความเสี่ยงหรือผลข้างเคียงใดๆ ที่ข้าพเจ้าและผู้ป่วยจะได้รับและไม่ขัดต่อการรักษาของแพทย์

หากผู้วิจัยมีข้อมูลเพิ่มเติมทั้งด้านประโยชน์และโทษที่เกี่ยวข้องกับการวิจัยนี้ ผู้วิจัยจะแจ้งให้ข้าพเจ้า ทราบอย่างรวดเร็ว โดยไม่ปิดบัง

ข้าพเจ้ามีสิทธิ์ที่จะขอการเข้าร่วมโครงการวิจัยโดยไม่ต้องแจ้งให้ทราบล่วงหน้า โดยการงดการเข้าร่วมการวิจัยครั้งนี้ จะไม่มีผลกระทบต่อ การได้รับบริการหรือการรักษาที่ข้าพเจ้าและผู้ป่วย จะได้รับแต่ประการใด

ข้าพเจ้าได้รับทราบข้อมูลของโครงการวิจัยข้างต้น ตลอดจนข้อดี ข้อเสีย ที่จะได้รับจากการเข้าร่วมโครงการวิจัยในครั้งนี้ และข้าพเจ้ายินดีที่จะเข้าร่วมในโครงการดังกล่าว โดยขอให้ผู้วิจัยงดการเปิดเผยชื่อ ประวัติ ตลอดจนข้อมูลที่เกี่ยวข้องกับข้าพเจ้า แก่ผู้อื่นได้รับทราบ

ลงชื่อ..... ผู้ให้ความยินยอม/ผู้แทน

() โดยชอบธรรม (ระบุความเกี่ยวข้อง)

ลงชื่อ..... พยาน

()

ลงชื่อ..... พยาน

()

APPENDIX D

Permission letters for data collection



บันทึกข้อความ

ส่วนราชการ คณะแพทยศาสตร์ศิริราชพยาบาล มหาวิทยาลัยมหิดล โทร. 0 2419-7000 ต่อ 6485-6

ที่ ศร 0517.07/ **6966** **วันที่** ๒ พฤษภาคม 2547

เรื่อง ยินดีให้ความอนุเคราะห์ข้อมูลประกอบการทำวิจัย

เรียน คณบดีคณะพยาบาลศาสตร์ มหาวิทยาลัยมหิดล

ตามที่ นางสาววรุณี พลิกบัว นักศึกษาหลักสูตรพยาบาลศาสตรมหาบัณฑิต สาขาการพยาบาลผู้ใหญ่ คณะพยาบาลศาสตร์ มหาวิทยาลัยมหิดล ซึ่งอยู่ระหว่างการทำวิจัยเรื่อง "ปัจจัยที่ทำนายภาวะสุขภาพของญาติผู้ดูแลผู้ป่วยมะเร็งที่บ้าน" และในการนี้ใคร่ขอความอนุเคราะห์เก็บข้อมูลจากญาติผู้ดูแลผู้ป่วยมะเร็งที่พำนักมาใช้บริการที่หน่วยเคมีบำบัดและให้เลือด ตึกผู้ป่วยนอก ชั้น 7 โรงพยาบาลศิริราช ความละเอียดดังแจ้งแล้วนั้น

คณะแพทยศาสตร์ศิริราชพยาบาล มหาวิทยาลัยมหิดล พิจารณาแล้วยินดียินยอมให้ นางสาววรุณี พลิกบัว ทำการเก็บข้อมูลตามที่ขอความอนุเคราะห์มา ทั้งนี้ ได้แนบผลการพิจารณาด้านจริยธรรมการวิจัยในคนของคณะแพทยศาสตร์ศิริราชพยาบาล เมื่อวันที่ 30 เมษายน 2547 มาพร้อมนี้

จึงเรียนมาเพื่อโปรดทราบ

(รองศาสตราจารย์นายแพทย์สรนิต ศิลธรรม)
รองคณบดีฝ่ายบริหาร คณะแพทยศาสตร์ศิริราชพยาบาล
ปฏิบัติราชการแทนคณบดี

สำเนาเรียน รองคณบดีฝ่ายวิจัย, ผู้อำนวยการโรงพยาบาลศิริราช, หัวหน้าภาควิชาอายุรศาสตร์, ประธานคณะกรรมการจริยธรรมฯ

ส่งมอบโดย
เลขที่รับ	637
วันที่	3 พ.ค. 2547
เวลา	10.43
ผู้รับ



บันทึกข้อความ

ส่วนราชการ สำนักงานคณะกรรมการจริยธรรมการวิจัยในคน ตึกอตุลยเดชวิกรม ชั้น ๕ โทร.๖๔๐๕-๖

ที่ ศธ. ๐๕๑๗.๐๗/ ๖๗๖๕ วันที่ ๓๐ เมษายน ๒๕๔๗

เรื่อง แจ้งผลการพิจารณาโครงการวิจัย

เรียน นางสาวารุณี พลิกบัว

ตามที่ท่านได้ส่งโครงการวิจัยเรื่อง "ปัจจัยที่ทํานายภาวะสุขภาพของญาติผู้ดูแลผู้ป่วยมะเร็งที่บ้าน" ซึ่งท่านเป็นหัวหน้าโครงการเพื่อขอรับการพิจารณาด้านจริยธรรม และคณะกรรมการจริยธรรมการวิจัยในคน ได้พิจารณาด้านจริยธรรมของโครงการดังกล่าวเมื่อวันที่ ๒ เมษายน ๒๕๔๗ แล้วมีมติรับรองในหลักการ แต่ขอให้ท่านแก้ไขเพิ่มเติม

และท่านได้แก้ไขตามคำชี้แจงของคณะกรรมการฯ แล้วนั้น

คณะกรรมการฯ ได้พิจารณาโครงการที่ได้แก้ไขแล้วและมีมติรับรอง พร้อมนี้ได้ส่งเอกสารมาด้วย

(ศาสตราจารย์แพทย์หญิงสุมาลี นิรมานนิตย์)
ประธานคณะกรรมการจริยธรรมการวิจัยในคน

๒ ถนนพหลโยธิน บางกอกน้อย กรุงเทพฯ ๑๐๗๐๐
 โทร. (๐๖-๒) ๔๑๑-๔๑๒๘, ๔๑๑-๓๒๕๓
 โทรสาร. (๐๖-๒) ๔๑๒-๑๓๑๑



2 PRANOK Rd., BANGKOKNOI, BANGKOK 10700
 TEL. (06-2) 411-1429, 411-3253
 FAX : (06-2) 412-1371

Faculty of Medicine Siriraj Hospital
 Mahidol University

The Ethical Committee on Research Involving Human Subject
 Faculty of Medicine Siriraj Hospital, Mahidol University

No.97/2004

Protocol Title	Factors predicting health status of family caregivers of cancer patients undergoing
Protocol Number	---
Principal Investigator	Miss Warunee Phligbua
Name of Department	Nursing of Department

The aforementioned project and informed consent have been reviewed and approved by the Ethical Committee, Faculty of Medicine Siriraj Hospital, Mahidol University, based on the Declaration of Helsinki on April 29, 2004

Signature of Chairman

(Prof. Sumalee Nimmannit)

Signature of Dean

(Clin. Prof. Piyasakol Sakolsatayadorn)

เอกสารรับรองคณะกรรมการจริยธรรมการวิจัยในคน
คณะแพทยศาสตร์ศิริราชพยาบาล

เลขที่ 97/2004

ชื่อโครงการ	ปัจจัยที่ทำนายภาวะสุขภาพของญาติผู้ดูแลผู้ป่วยมะเร็งที่บ้าน
ชื่อหัวหน้าโครงการ	นางสาววรุณี พลิกบัว
เลขที่โครงการ/รหัส	---
สังกัดหน่วยงาน	คณะพยาบาลศาสตร์
เอกสารที่รับรอง	- โครงการวิจัย - หนังสือยินยอมและสมัครใจเข้าร่วมโครงการโดยได้รับการอธิบาย

ได้ผ่านการพิจารณาและรับรองโดยคณะกรรมการจริยธรรมการวิจัยในคนเมื่อวันที่ 29 เมษายน 2547

ลงนาม
(ศาสตราจารย์แพทย์หญิงสมาลี นิมนานนิตย์)
ประธานคณะกรรมการจริยธรรมการวิจัยในคน

ลงนาม
(ศาสตราจารย์คลินิกนายแพทย์ปิยะสกล สกลสัตยาทร)
คณบดี คณะแพทยศาสตร์ศิริราชพยาบาล

เอกสารแนบโครงการฯ/ชุด 3



ที่ สท 0314/21004

สถาบันมะเร็งแห่งชาติ กรมการแพทย์
268/1 ถนนพระราม 6 เขตราชเทวี
กรุงเทพฯ 10400

4 ธันวาคม 2546

เรื่อง แจ้งผลการพิจารณาโครงการวิจัย

เรียน ประธานคณะกรรมการบริหารหลักสูตรพยาบาลศาสตรมหาบัณฑิต

ตามหนังสือที่ 0517.05(พย.ม.)/722 ลงวันที่ 31 ตุลาคม 2546 แจ้งว่า นางสาววราณี พลิกบัว นักศึกษาหลักสูตรพยาบาลศาสตรมหาบัณฑิต สาขาการพยาบาลผู้ใหญ่ คณะพยาบาลศาสตร์ มหาวิทยาลัยมหิดล กำลังทำวิจัยเรื่อง "ปัจจัยที่ทำนายภาวะสุขภาพของญาติผู้ดูแลผู้ป่วยมะเร็งที่บ้าน" มีความประสงค์ขอเข้าทำการเก็บรวบรวมข้อมูล ณ สถาบันมะเร็งแห่งชาติ นั้น

สถาบันมะเร็งแห่งชาติ ได้พิจารณาแล้ว อนุญาตให้ผู้วิจัยเข้าดำเนินการวิจัยได้ โดยขอให้ผู้วิจัยปฏิบัติตามข้อเสนอแนะจากคณะกรรมการวิจัยของสถาบันฯ และเมื่อผู้วิจัยทำการวิจัยเสร็จเรียบร้อยแล้ว ขอให้จัดส่งรายงานฉบับสมบูรณ์ให้แก่สถาบันมะเร็งแห่งชาติ จำนวน 1 เล่ม เพื่อสถาบันมะเร็งแห่งชาติจะเก็บไว้ สำหรับเป็นข้อมูลทางวิชาการต่อไป

จึงเรียนมาเพื่อโปรดทราบ และดำเนินการต่อไปด้วย จะเป็นพระคุณ

ขอแสดงความนับถือ

(นายธีรฤดี คูหะเปรมะ)

ผู้อำนวยการสถาบันมะเร็งแห่งชาติ

กลุ่มงานวิจัยและค้นคว้า
โทรศัพท์ (02) 2460061 ต่อ 1410, 1416
โทรสาร (02) 2465145

- ทงช
- สำนึกเรือน Manjan Aduisan
- สำนึกนิตี สมว. นังหงษา
- เชื้ออสิวมักส์ดง

พจนีย์ พงษ์กุล

12 ธ.ค. 2546

APPENDIX E

More Results

สรุปผลการวิจัย เรียงลำดับตามความมากน้อยของค่าเฉลี่ยรายข้อและรายด้าน

1. ภาวะสุขภาพของญาติผู้ดูแล

1.1 ด้านร่างกาย

ข้อ	ข้อความ	ค่าเฉลี่ย
12	อาบน้ำหรือแต่งตัว	98.33**
7	เดินขึ้นบันได 1 ชั้น	98.33
5	หิ้วของจากการจ่ายตลาด	97.22
4	กิจกรรมที่ออกแรงปานกลาง	96.67
6	เดินขึ้นบันไดมากกว่า 1 ชั้น	95.56
11	เดินร้อยเมตร	95.56
10	เดินหลายร้อยเมตร	92.22
9	เดินมากกว่าหนึ่งกิโลกรัม	88.89
16	มีความยากลำบากในการทำงานเนื่องจากปัญหาด้านร่างกาย	88.33
33	เจ็บป่วยง่ายกว่าคนทั่วไป	88.06
15	ทำงานหรือทำกิจกรรมบางอย่างไม่ได้เนื่องจากปัญหาด้านร่างกาย	87.50
22	การเจ็บปวดนั้นกระทบต่อการทำงานตามปกติ	85.83
14	ทำงานได้น้อยกว่าที่อยากทำเนื่องจากปัญหาด้านร่างกาย	82.78
8	งอตัว คูกเข่า หรือก้มตัว	82.22
21	การเจ็บปวดของร่างกายในระหว่าง 1 เดือนที่ผ่านมา	82.22
34	มีความรู้สึกว่าคุณภาพดีเหมือนคนอื่นที่รู้จัก	81.39
35	มีความรู้สึกว่าคุณภาพแย่ง	80.67
13	ลดปริมาณเวลาในการทำงานเนื่องจากปัญหาด้านร่างกาย	80.00
3	กิจกรรมที่ออกแรงมาก	75.56
36	มีความรู้สึกว่าคุณภาพดีเยี่ยม	66.94
1	โดยทั่วไปสุขภาพของท่านเป็นอย่างไร	44.17*

** ค่าเฉลี่ยสูงสุด

* ค่าเฉลี่ยต่ำสุด

1.2 ด้านจิตใจ

ข้อ	ข้อความ	ค่าเฉลี่ย
19	มีความระมัดระวังลดลงในการทำงานเนื่องจากปัญหาด้านอารมณ์	85.83**
18	ทำงานได้น้อยกว่าที่อยากทำเนื่องจากปัญหาด้านอารมณ์	81.94
20	ปัญหาสุขภาพทางร่างกายและอารมณ์เป็นอุปสรรคต่อการเข้าร่วมกิจกรรม	81.67
29	รู้สึกหมดแรง	77.22
17	ลดปริมาณเวลาในการทำงานลงเนื่องจากปัญหาด้านอารมณ์	76.39
32	ปัญหาสุขภาพร่างกายและอารมณ์เป็นอุปสรรคในการทำกิจกรรมทางสังคม	75.28
25	รู้สึกหดหู่ใจไม่มีสิ่งใดทำให้จิตใจดีขึ้น	73.61
28	รู้สึกท้อแท้ใจและซึมเศร้า	68.89
27	มีผลกระทัดเป็นอย่างมาก	67.50
31	รู้สึกอ่อนเพลีย	66.39
30	รู้สึกมีความสุข	65.56
26	มีความรู้สึกสงบและเป็นสุข	62.22
23	รู้สึกมีชีวิตชีวา	60.00
24	รู้สึกกังวลเป็นอย่างมาก	57.02*

** ค่าเฉลี่ยสูงสุด

* ค่าเฉลี่ยต่ำสุด

ข้อ 2. สุขภาพของท่านเป็นอย่างไรเมื่อเทียบกับ 3 เดือนที่แล้ว

สุขภาพดีมากกว่า 3 เดือนที่แล้วมาก ร้อยละ 3.3

สุขภาพค่อนข้างดีกว่า 3 เดือนที่แล้ว ร้อยละ 7.8

สุขภาพเหมือน 3 เดือนที่แล้ว ร้อยละ 64.4

สุขภาพค่อนข้างแย่กว่า 3 เดือนที่แล้ว ร้อยละ 20

สุขภาพแย่กว่า 3 เดือนที่แล้วมาก ร้อยละ 4.4

2. ความหวัง

ข้อ	ข้อความ	ค่าเฉลี่ย
12	รู้สึกว่าชีวิตมีคุณค่าและมีความหมาย	3.58**
9	สามารถเป็นทั้งผู้ให้และผู้รับความรักจากผู้อื่น	3.54
4	รู้สึกว่าชีวิตนี้ยังมีความหวัง	3.50
1	มองชีวิตในแง่ดี	3.49
11	เชื่อว่าในแต่ละวันมีความเป็นไปได้ที่จะมีสิ่งที่ดีเกิดขึ้น	3.48
8	ในส่วนลึกแล้วเป็นคนที่เข้มแข็ง	3.46
2	มีเป้าหมายในชีวิต	3.42
5	มีความศรัทธาในบางสิ่งบางอย่าง ซึ่งทำให้สบายใจ	3.38
3	รู้สึกโดดเดี่ยวและเดียวดาย	3.37
10	รู้สึกว่าชีวิตของท่านมีทิศทางที่จะดำเนินไป	3.30
7	ยังมีความสุขและความสนุกสนานในชีวิตได้	3.29
6	รู้สึกกลัวในสิ่งที่ยังไม่เกิดขึ้น	2.80*

** ค่าเฉลี่ยสูงสุด

* ค่าเฉลี่ยต่ำสุด

3. ความพร้อมในการดูแล

ข้อ	ข้อความ	ค่าเฉลี่ย
6	มีความพร้อมในการจัดการกับเหตุการณ์ฉุกเฉินที่เกิดขึ้นกับผู้ป่วย	3.20**
1	มีความพร้อมในการดูแลด้านร่างกายของผู้ป่วย	3.12
8	โดยรวมมีความพร้อมในการดูแลผู้ป่วย	3.06
7	มีความพร้อมในการขอความช่วยเหลือและขอข้อมูลที่จำเป็น	3.04
3	มีความพร้อมที่จะหาข้อมูลเกี่ยวกับการบริการผู้ป่วย	2.90
5	มีความพร้อมในการดูแลผู้ป่วยให้เกิดความพึงพอใจทั้งตัวท่านเองและผู้ป่วย	2.78
4	มีความพร้อมในการจัดการกับความเครียดที่เกิดขึ้นในระหว่างดูแลผู้ป่วย	2.71
2	มีความพร้อมในการดูแลด้านอารมณ์ของผู้ป่วย	2.64*

** ค่าเฉลี่ยสูงสุด

* ค่าเฉลี่ยต่ำสุด

4. ความวิตกกังวลจากการดูแล

ข้อ	ข้อความ	ค่าเฉลี่ย
1	กังวลเกี่ยวกับสุขภาพของผู้ป่วย	3.48**
6	กังวลว่าจะทำอะไรหากผู้ป่วยมีอาการเลวลง	3.23
13	กังวลว่าอาการของผู้ป่วยจะเลวลงหรือจากไป	3.17
7	กังวลที่ต้องทิ้งผู้ป่วยไว้คนเดียวหรือฝากไว้กับผู้อื่น ถ้าจำเป็นต้องออกไปทำธุระนอกบ้าน	3.13
2	กังวลเกี่ยวกับสภาพอารมณ์ของผู้ป่วย	3.03
5	กังวลเกี่ยวกับความปลอดภัยของผู้ป่วย	3.01
9	กังวลว่าใครจะดูแลผู้ป่วยถ้าตนเองเป็นอะไรไป	3.00
15	กังวลว่าความพิการของผู้ป่วยจะเป็นอย่างถาวร	2.57
8	กังวลเกี่ยวกับอนาคตของตัวเอง	2.37
14	กังวลเกี่ยวกับการที่ผู้ป่วยเปลี่ยนไปไม่เหมือนคนเดิมที่เคยรู้จัก	2.31
4	กังวลไม่รู้ว่าจะดูแลผู้ป่วยไปได้อีกนานเท่าไรเนื่องจากสุขภาพของตนเองไม่ดี	2.24
10	กังวลเกี่ยวกับการตัดสินใจที่จะเอาผู้ป่วยไปอยู่ที่อื่น	2.16
3	กังวลเกี่ยวกับการเงินที่จะใช้ในการรักษาผู้ป่วย	2.07
11	กังวลว่าคำแนะนำหรือการดูแลผู้ป่วยที่ได้รับจะไม่เพียงพอสำหรับดูแลผู้ป่วย	1.59
12	กังวลว่าการดูแลผู้ป่วย ทำให้ไม่มีเวลาหรือละเลยการดูแลสมาชิกอื่นในครอบครัว	1.51*

** ค่าเฉลี่ยสูงสุด

* ค่าเฉลี่ย

APPENDIX F

Testing Assumptions of Multiple Regression Analysis

The testing assumptions were tested before using Multiple Regression Analysis included linearity, normality, homoscedasticity, and multicollinearity. The resulted for each assumption were presented as follows:

1. Linearity and normality

If the relationships are linear and dependent variable is normally distributed for each value of dependent variable, then the distribution of the residuals should be approximately normal. This can be assessed by using a histogram of the standardized residuals. (Munro, 1997) It has been shown that a histogram of the standardized residuals was approximately normal and was presented as follow:

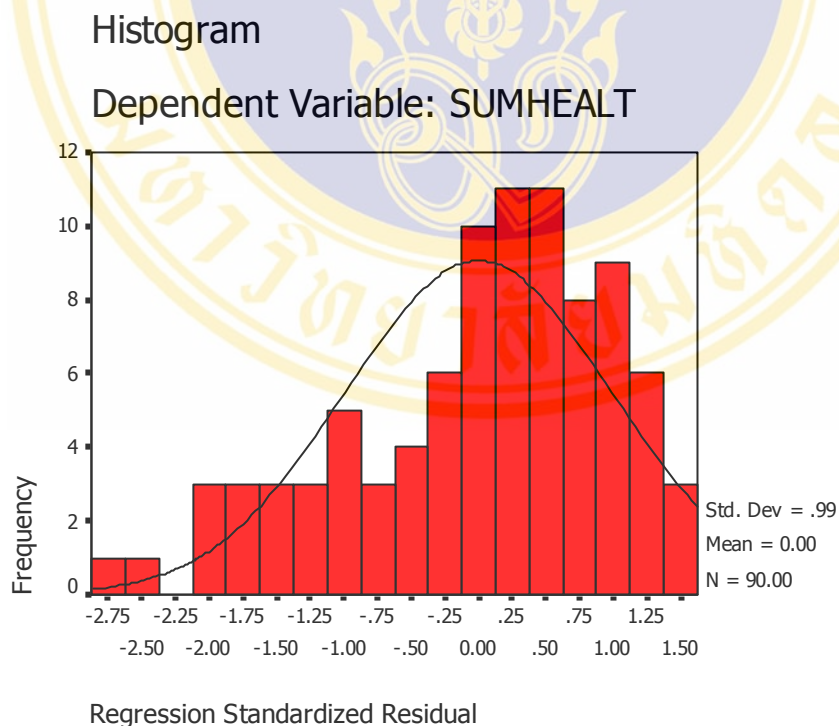


Figure 3 Histogram of Residual

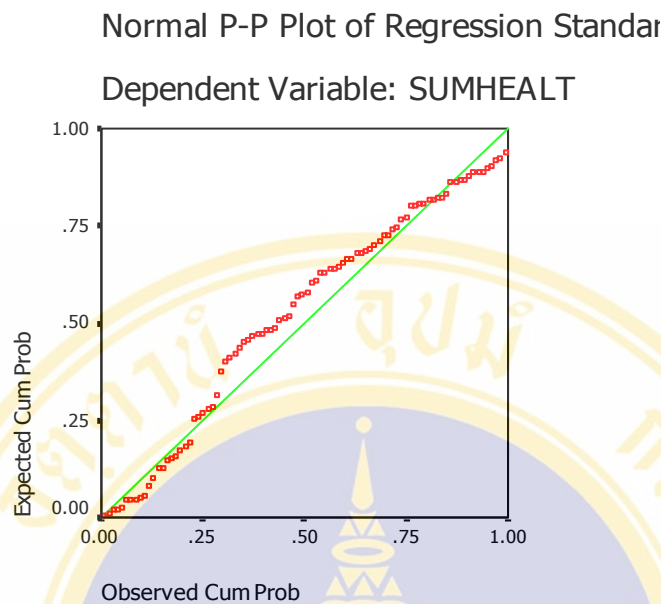


Figure 4 Normal Probability Plot of Regression Standardized Residual

2. Homocedasticity

To check this assumption, the residual was plotted against the predicted values and against the independent variables. When standardized predicted values were plotted against observed values, the data would form a straight line from lower left corner to upper right corner was approximately straight was presented as follow:

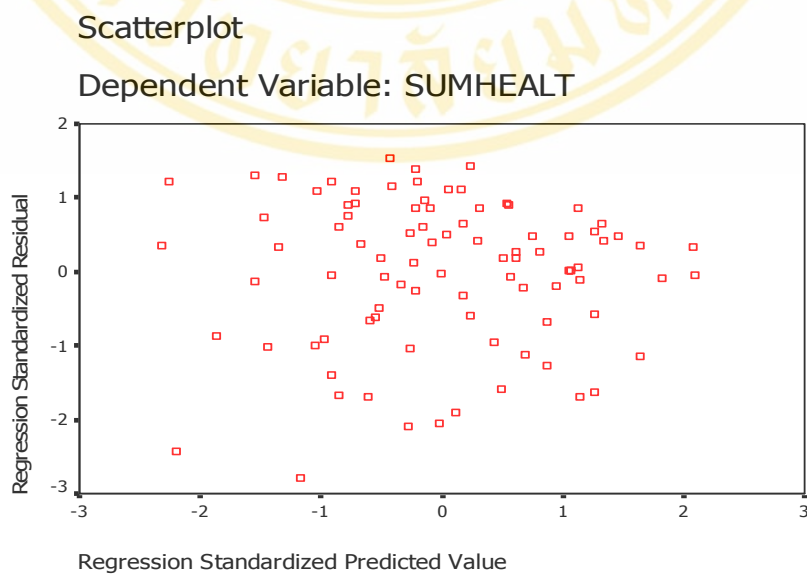
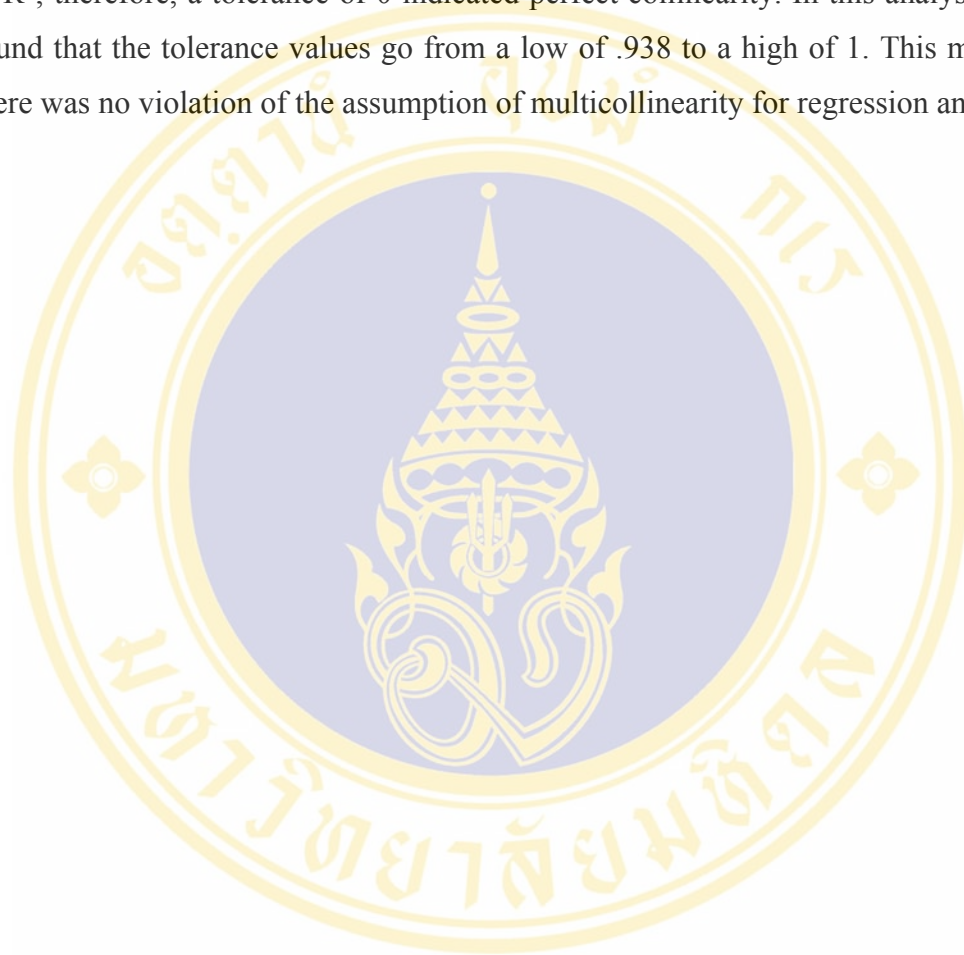


Figure 5 Plot of Residual Against the Predicted Valued of Health Status of Caregiver and Independent Variables.

3. Multicollinearity

The tolerance of a variable is use as a measure of colinearity. It is the proportion of the variance in a variable that is not accounted for by the other independent variables (Norusis,1996a cite in Munro, 1997). The tolerance is simply $1-R^2$; therefore, a tolerance of 0 indicated perfect collinearity. In this analysis, it was found that the tolerance values go from a low of .938 to a high of 1. This meant that there was no violation of the assumption of multicollinearity for regression analysis.



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