THE RELATIONSHIP OF INTERNAL COPING RESOURCES AND MENTAL HEALTH PROBLEMS IN EARLY BREAST CANCER PATIENTS

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THE RELATIONSHIP OF INTERNAL COPING RESOURCES AND MENTAL HEALTH PROBLEMS IN EARLY BREAST CANCER PATIENTS

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ABSTRACT

This study was a descriptive research aimed at investigating the relationships of internal coping resources and mental health problems in early breast cancer patients. The Stress, Appraisal and Coping Model (Lazarus & Folkman, 1984) was used in this study.

The samples were aged between 36-59 years old and had been diagnosed with stage 1 or 2 breast cancer with a duration of illness within 6 months after diagnosis. All 90 cases had received both mastectomy and chemotherapy and had come for treatment at the chemotherapy unit of the Udornthani Cancer Center, Udornthani Hospital and Khonkaen Hospital. Data was collected by 4 instruments : General Information Questionnaire, Sense of Coherence Questionnaire (SOC-13), Herth Hope Index (HHI) and Thai General Health Questionnaire (Thai GHQ-28). The results of reliability of SOC-13, HHI and Thai GHQ-28 were .77, .81, .90, respectively. Statistical analysis was performed in terms of frequency, percentage, mean, standard deviation and Spearman rank correlation.

The findings revealed that the samples had mental health problems at a rate of 44.44% (N=40, Mean = 10.48, S.D. = 3.68). The group with mental health problems had a moderate sense of coherence (Mean = 52.80 , SD= 9.71), and a rather high hope level (Mean = 37.43, S.D. = 3.71), in this group, the sense of coherence had a significantly negative correlation with mental health problems at a moderate level (r_s = -.447, $p<.05$), however, hope had no significant correlation with mental health problems (r_s = .044, $p>.05$).

Based on the findings of this study, nurses should enhance a sense of coherence in breast cancer patients and use the concept of sense of coherence to develop intervention programs for maintaining normal mental health and preventing mental health problems.

KEY WORDS: INTERNAL COPING RESOURCES / SENSE OF COHERENCE / HOPE / MENTAL HEALTH PROBLEMS / EARLY BREAST CANCER PATIENTS

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ความสัมพันธ์ระหว่างแหล่งประโยชน์ภายในตนเองในการเผชิญความเครียดกับปัญหาสุขภาพจิตในผู้ป่วยมะเร็งเต้านมระยะเริ่มแรก (THE RELATIONSHIP OF INTERNAL COPING RESOURCES AND MENTAL HEALTH PROBLEM IN EARLY BREAST CANCER PATIENTS)

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บทคัดย่อ

การศึกษาครั้งนี้เป็นการวิจัยเชิงบรรยายเพื่อศึกษาความสัมพันธ์ระหว่างแหล่งประโยชน์ภายในตนเองในการเผชิญความเครียดกับปัญหาสุขภาพจิตในผู้ป่วยมะเร็งเต้านมระยะเริ่มแรก โดยประยุกต์ใช้แนวคิดความเครียด การประเมินความเครียด และการเผชิญความเครียดของลาซารัสและโฟล์คแมน (Stress, Appraisal and Coping) (Lazarus & Folkman, 1984)

กลุ่มตัวอย่างเป็นผู้ป่วยมะเร็งเต้านมที่ได้รับการวินิจฉัยว่าอยู่ในระยะที่ 1 และ 2 รับการรักษาด้วยการผ่าตัดร่วมกับเคมีบำบัด ระยะเวลาการเจ็บป่วยภายใน 6 เดือนหลังทราบผลการวินิจฉัย อายุระหว่าง 36-59 ปี จำนวน 90 คน ที่มารับการรักษา ณ หน่วยเคมีบำบัด ของ ศูนย์มะเร็งอุดรธานี โรงพยาบาลอุดรธานี และโรงพยาบาลขอนแก่น เก็บรวบรวม ข้อมูลโดยการสัมภาษณ์ตามแบบสอบถาม 4 ชุด ได้แก่ แบบสอบถามข้อมูลทั่วไปส่วนบุคคล แบบสอบถามความเข้มแข็งในการมองโลก (SOC-13) ดัชนีชี้วัดความหวัง (HHI) และแบบสอบถามสุขภาพทั่วไปของคนไทย (Thai GHQ-28) ทดสอบความเชื่อมั่นของเครื่องมือด้วยการหาค่าสัมประสิทธิ์อัลฟ่าของครอนบาค ได้ค่าความเชื่อมั่นของเครื่องมือเท่ากับ .77, .81 และ .90 ตามลำดับ วิเคราะห์ข้อมูลโดยแจกแจงความถี่ คำนวณค่าร้อยละ ค่าเฉลี่ย ค่าเบี่ยงเบนมาตรฐาน และค่าสัมประสิทธิ์สหสัมพันธ์สเปียร์แมน

ผลการศึกษาพบว่า กลุ่มตัวอย่างมีปัญหาสุขภาพจิต ร้อยละ 44.44 (N = 40, Mean = 10.48, S.D. = 3.68) กลุ่มตัวอย่างที่มีปัญหาสุขภาพจิตมีความเข้มแข็งในการมองโลกอยู่ในระดับปานกลาง (Mean = 52.80, S.D. = 9.71) มีความหวังอยู่ในระดับค่อนไปทางสูง (Mean = 37.43 , S.D. = 3.71) ความเข้มแข็งในการมองโลกมีความสัมพันธ์ทางลบในระดับปานกลางกับปัญหาสุขภาพจิตอย่างมีนัยสำคัญทางสถิติ (ρ = -.447, α <.05) แต่ความหวังมีความสัมพันธ์กับปัญหาสุขภาพจิตอย่างไม่มีนัยสำคัญทางสถิติ (ρ = .044, α >.05)

จากผลการวิจัยครั้งนี้มีข้อเสนอแนะว่า พยาบาลควรส่งเสริมความเข้มแข็งในการมองโลกในผู้ป่วยมะเร็งเต้านมด้วยการนำแนวคิดดังกล่าวมาพัฒนาเป็นโปรแกรมบำบัด เพื่อให้สามารถดำรงภาวะสุขภาพจิตที่ปกติไว้ได้ และไม่เกิดปัญหาสุขภาพจิต

90 หน้า

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CHAPTER I
INTRODUCTION

Background and Significance of the Problem

Breast cancer is a serious chronic illness that threatens lives wherein the pathology and adverse effects of treatment can cause discomfort and suffering in both physical and psychological aspects, affecting daily lives and altering livelihoods. Breast cancer, therefore, is regarded as a significant public health problem in many countries. In the year 2000, there were 10 million cancer patients worldwide. Of these numbers, 1.05 million were breast cancer patients which ranked in the second compared with lung cancer (Muttaruk, 2002).

The illness has psychological impacts since the patients' doubts that they might have breast cancer caused in high levels of anxiety (Tait,1996 ; Drageset & Lindstrøm, 2003). These patients experienced increasing stress and at higher than normal levels (Dekeyser, Wainstock, Rose, Converse & Dooley,1998). When the diagnostic results indicated that they had breast cancer, some patients were in shock, and did not believe in the results which may have resulted in increasing stress levels, depression, insomnia and attention deficit (Alter, 1995). Some patients may consider death and fear of incurability, fear that hospital expenses will be wasteful, and fear of increased dependence on others or lost self-esteem. Moreover, the illness had impacts on interactions with the society in both family and at work. The patients felt afraid of discrimination, thus, they concealed their illness and isolated themselves from society (Chunleskul, 1998). With regard to work, the patients may change jobs, be laid off or not receive promotion (Freddette, 1995), thus, greatly influencing their economic status. Low economic status led to high anxiety (Hanucharurnkul, 2000).

Therefore, breast cancer patients have been identified as one of the chronic physically ill groups at risk for easy occurrence of mental health problems (Leuboonthawatchai, 2002 ; Jukaphan, 2001). Due to the impact of the illness on physical, psychological and social aspects as mentioned above, if the person cannot

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cope, stress will be increased and lead to mental disorders, especially in patients who recently been informed that they have breast cancer and need to have a mastectomy, surgery that causes loss of self-image and pain. Moreover, these patients have to be treated in combination with chemotherapy, radiotherapy or hormone therapy to prevent metastasis of the cancer. The adverse effects from these therapies cause physical discomfort. It has been found that early breast cancer has a tendency to go hand-in-hand with psychological abnormalities such as depression (Ford, Lewis & Fallowfield, 1995 ; Gallagher, Parle & Cairns, 2002). However, having been informed of their diagnosis and receiving treatment for more than 6 months, it has been found that symptoms of depression are reduced (Ferrell, Grant, Funk, Oits-Green & Garcia, 1998). In addition, breast cancer is often found in women who are over 35 years old (Rattanataratorn, 1998). At this age, women are working and play a significant role in family economics in addition to their role of caregivers for family members. It can be seen that women at this age have many responsibilities. Thus, the illness and responsibility of multiple roles impacted their mental health and daily lives (Phuwarawuttipanich, Sasitornwetchakul, & Weeranun, 1998 ; Rattananon, 2002 ; Meifen, 1997). At the same time, it was found that some breast cancer patients were able to cope and adapt to the conditions of their illness as they maintained a good quality of life and well-being (Bower et al., 2000 ; Dirksen & Erickson, 2002). One of the indicators revealing coping ability is mental health.

Therefore, whether breast cancer patients will have good mental health and good quality of life or not, should be related to certain factors such as treatment methods, symptom distress, chronic health problems, neuroticism and body image, wherein both internal and external resources include hope, self-efficacy, family hardiness and social support (Bower et al.,2002 ; Heidrich, Egan, Hengudomsub, & Randolph, 2006 ; Okamura, Yamawaki, Akechi, Taniguchi & Uchitomi, 2005 ; Northouse et al., 2002),

From the literature review related to breast cancer in Thailand, it was found that there had been various studies in breast cancer patients such as factors in quality of life, adaptation, coping behaviors, self-care and relationships among relevant factors, i.e. image, marital relations, social support and uncertainty in illness.

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However, there were few studies on mental health and factors correlating with the mental health of breast cancer patients.

Previous studies in other countries have found that cancer patients who had external coping resources including sufficient resources for social support which would cause patients to have sufficient information in deciding upon treatment, having courage and feelings of strength as they confronted their illness with confidence, were able to adapt, reduced their mental stress and had good quality of life (Degner, Hack,O'Neil & Kristjanson, 2003 ; Sammarco, 2001 ; Kornbith et al., 2001). In Thailand, it has been found that social support is related to adaptation and spiritual well-being in breast cancer patients and other cancer patients (Kaweewiwitchai, 1993 ; Kritpracha, 1995 ; Chanabadeerung, 2002 ; Kongchum, 1996 ; Klueinak, 1997 ; Mungkietsakul, 2000 ; Noipiang, 2002). Furthermore, social support helps chronically ill patients to manage stress, thus tending to reduce depression in these patients as well (Duangduen, 2004) as well-being in their lives (Chiewprasit, 2003).

In addition to social support, which is an external coping resources for individuals, the following internal coping resources may help breast cancer patients confront with stress as well : sense of coherence and hope due to the fact that studies in other countries have found that cancer patients with a high sense of coherence and high hope show ability to confront their problems and adapt to their conditions.

Sense of coherence can help patients understand and finds ways of managing their illness. Previous studies on breast cancer patients have shown that sense of coherence is positively related to quality of life and well-being. Furthermore, this factor can predict psychological well-beling (Post-White et al., 1996 ; Richardson Gibson & Parker, 2003 ; Forsberg, Bjorvell & Cedermark, 1996). In studies of chronically ill patients, it has also been found that sense of coherence is negatively related to depression (Buchi et al., 1998 ; Schnyder, Buchi, Morgeli, Sensky & Klaghofer, 1999). The aforementioned study was conducted abroad. In Thailand, there was a study on sense of coherence related to health-promoting behavior in corectal cancer patients (Suteerawut, 2001) and the studies on sense of coherence in patients with other chronic diseases such as chronic obstructive pulmonary disease, elderly patients with osteoarthritis, hemiplegic patients and myocardial infarction patients in which it was found that sense of coherence was positively related to coping adaptation,

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quality of life and well-being (Sucamvang, 1997 ; Taechakaruha, 1997 ; Siriwarasai, 1993 ; Udompattanakorn,1996).

Hope is another internal coping resource that can help chronically ill patients who are discouraged or in despair in carrying on with their lives to proceed with lives of meaning and value to the final stages of their illness or the ends of their lives. For example, studies in breast cancer and other cancer patient groups in abroad have found that sense of coherence is positively related to coping behavior, mental adjustment and adaptation. Furthermore is has a positive relationship and is able to predict the pshychological well-being of patients (Felder, 2004 ; Gibson, 2003 ; Richardson Gibson & Parker, 2003). There are few studies on hope in cancer patients in Thailand. The studies have found that hope is positively related to coping behavior and adaptation in patients (Pakdeechit, 1992 ; Parnumasmonton, 1991). Studies on hope in patients afflicted by other chronic diseases which have found that hope is negatively related to depression in elderly patients after heart surgery (Vitchittragoonthavorn, 2002), enabling patients to continue well-being in myocardial infarction patients and head injury patients (Taechakaruha, 1997; Chieswprasit, 2003).

From the aforementioned topics, it can be seen that individual resources affect patient's ability to confront stress and adapt to their conditions. For these reasons, the researcher is interested in studying the factors that are related to mental health problems in breast cancer patients which is an adaptational outcome for individuals. This researcher, therefore, has chosen the study the following 2 internal coping resource factors : sense of coherence and hope to determine whether or not these factors are related to the mental health problems of breast cancer patients, if so, to what extent they are related because studies in Thailand have found that sense of coherence and hope are related the coping, adaptation and adaptational outcomes in various groups of chronically ill patients. It is the expectation of the researcher, therefore, that both of these factors will be related to the following adaptational outcomes associated with mental health conditions patients with breast cancer, which is another chronic disease as well. Furthermore, studies on internal coping resources and adaptational outcomes remain few. As for external coping resources such as social support, there have been numerous studies which have shown that social support is positively related to the adaptation and adaptational outcome of cancer patients as

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previously mentioned above. From these studies, it has been found that social supports were consistently associated with adaptational outcome. Therefore, the researcher has not explored social support in the present study.

This study focused only on cancer patients at stages I or II, which was the initial phase of having breast cancer in which the patients had to confront an unexpected serious illness requiring mastectomy, which constitutes the partial or complete removal of the symbol of their womanhood, with heavy impact on the mental conditions of patients. Furthermore, they had to be treated with chemotherapy which had many side effects causing suffering, especially during the first 6 months of the illness, thus making this time a crisis period for the adaptation of patients because not only had to deal with their ill conditions, but they were also of working ages (36-59 yrs.), and had responsibilities toward their families. Thus, the patients had to adapt to their symptoms, treatment plans, self-care, adjusting roles and responsibilities, or adjusting living patterns during the treatment period.

The above-mentioned reasons are the origin on this study of the relationship between internal coping resources i.e. sense of coherence, hope, and mental health problems in early breast cancer patients.

Research Questions

Are sense of coherence and hope related to the mental health problems of early breast cancer patients?

Research Objectives

To investigate the relationships between sense of coherence, hope, and mental health problems in early breast cancer patients.

Conceptual Framework

This study purposed to describe the relationships between sense of coherence, hope and mental health in early breast cancer patients with a conceptual framework that was based on the Stress Appraisal and coping Model proposed by Lazarus & Folkman (1984).

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According to Lazarus & Folkman, The concepts of stress appraisal and coping consist of the following 4 concepts : 1) stress 2) stress appraisal 3) coping and 4) adaptational outcomes.

Stress is an interaction between the person and environment, which has impact on the safety of that person resulting in the use of available resources to manage the situation. Furthermore, it is an interaction between a person and environment in which the person makes appraisal of the situation and then stress appraisal.

Stress appraisal is a cognitive appraisal of the person by considering the meaning or importance of a confronted situation. Stress appraisal can be divided into 3 steps as follows:

Primary appraisal - the person will appraise and make a decision about the importance of the situation. The appraisal will reveal 3 aspects including irrelevant situations, beneficial or positive situations and stressful situations. In stressful situations, the person may appraise the situation as stressful in 3 types: 1) harm and loss; 2) threat; and 3) challenge.

Secondary appraisal - when the person judges the situation as stressful, he/she will utilize resources and options for managing the threat as well as appraising the consequences of applying stress coping strategies. The primary and secondary appraisal will interact in determining stress level

Reappraisal - the individual finally reappraises the situation and the coping when he/she receives additional information. The person will appraise from the feedback or by using past experiences for positive changes in managing a currently dangerous or threatening situation.

Coping is an effort of the person in both thinking and action in order to manage stressful situation. It is divided into two types: 1) problem – focused coping, which is a confrontation to correct the situation with a problem – solving process ; 2) emotion- focused coping, which is strategy to reduce or adjust the unhappy feeling from stress. The ways people actually cope depend on the coping resources that are available to them. Coping resources are composed of internal resources and external resources. The internal resources include health and energy, positive beliefs, problem-solving skills and social skills. The external resources include social support and

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material resources. The efficacy of coping depends on the relationship between stressful situations and available resources.

Adaptational Outcomes are a result of adaptational processes. The adaptational outcome can be attributed as good social function, morality and quality of health. If the person appraises a situation as a stressful event and/or does not have sufficient personal and environment resources, the result will be a failure to cope wherein maladaptation may result in the form of poor social function, low morals, dissatisfaction in life, and physical health problems.

Consideration of the concept of Lazarus & Folkman (1984), it can be clearly seen that breast cancer constitutes a stressful situation in the lives of women which breast cancer patients will assess with uncertainty which stems from the perception that cancer-related illness is dangerous or life-threatening resulting in suffering and the physical discomforts of the disease, the side-effects of treatment, treatment methods, treatment expenses in traveling to receive treatment and changes in daily routines. The occurring assessment and perception of breast cancer patients leads to a variety of stress management strategies which are obtained from both internal and external coping resources in order to achieve a good adaptational outcome i.e. patients will be able maintain physical and psychological equilibrium. Internal coping resources can be counted as no less important than external coping resources because, even though individuals may possess external coping resources for support and assistance, people who lack internal coping resources will be able to fully utilize social resources which will cause individuals to be unable to adapt to their fullest capacity and resulting in tendencies toward mental health problems.

In this study, the researcher chose to study only internal coping resources in confronting stress i.e. sense of coherence and hope to determine whether or not these factors were related to adaptational outcomes or not wherein adaptational outcome was assessed the mental health problems of patients.

Sense of coherence is an internal coping resource, which helps people to understand stressful situations, manage the stress appropriately, and live with value and meaning. A person’s sense of coherence is a feeling of confidence that their stressful situations are comprehensible and predictable; resources are available to them to meet the demands and challenges that are worthy of investment and engagement.

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(Antonovsky, 1993). Breast cancer patients who have sense of coherence will be able to perceive illness as comprehensible with an accurate understanding of their treatment. Then they can seek for available resources in order to manage the stressful situation and see relevance of adherence to treatment. This internal resource helps breast cancer patients maintain physical and mental health status.

Hope is an internal coping resource of person attributed as positive perception which encourages breast cancer patients toward confident feeling and expectation on the events that will occur in the future. Hope also affects coping with stressful situation in a positive reappraisal and positive correlations with spiritual perspective. Therefore, hope is an important component in supporting patients to cope with stress and living with meaningful, valuable lives at all stages of their disease by maintaining mental health status.

This study was based on the Stress Appraisal and Coping Model proposed by Lazarus & Folkman (1984) which conceptual framework believes that the internal coping resources of sense of coherence and hope affect adaptational outcomes through the coping process. The higher the level of sense of coherence, the greater the hope of breast cancer patients in effectively coping with stress and adaptation, which means low mental health problems.

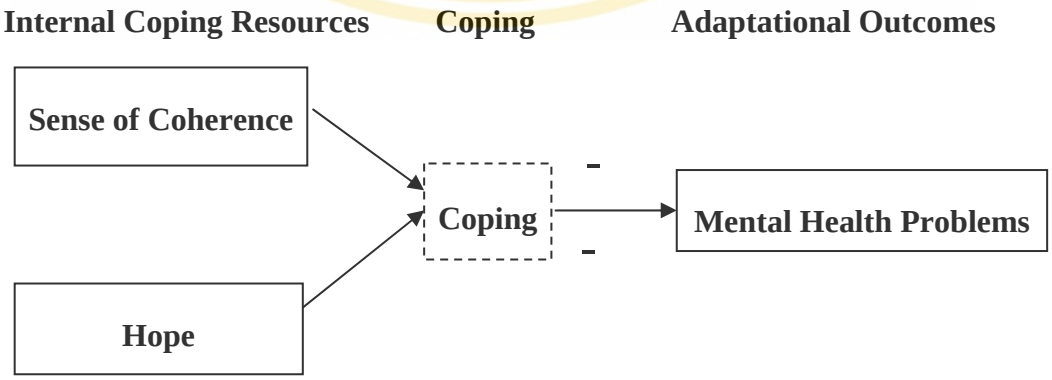

Figure 1: The Correlation conceptual framework of internal coping resources and mental health problems in early breast cancer patients

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Research Hypotheses

1. Sense of coherence has a negative correlation with mental health problems in early breast cancer patients.

2. Hope has a negative correlation mental health problems in early breast cancer patients.

Scope of the Study

This research purposed to study the internal coping resource factors that had correlations with the mental health problems of early breast cancer patients in stages I or II who came to receive treatment at the chemotherapy units of the Udornthani Cancer Center, Udornthani Hospital and Khonkaen Hospital.

Definition of terms

Sense of coherence is a perception of breast cancer patients regarding a situation or stimulant affect which is reflected in ability to understand and reasonably explain or manage the situation by their available resources with the worthiness to solve or manage the situation or stimulant. This is measured by responses to the Sense of Coherence Questionnaire of Antonovsky (1987) translated into Thai by Hanucharurnkul, Intarasombat & Puttawattana (1989).

Hope is feelings, thoughts and behaviors that show needs or achievements following the future expectations of breast cancer patients wherein the patients perceive that their needs can be met in the future with confidence and expectation of positive things, ready to proceed to attaining needs, and seeing the importance of dependency or attachment between self and other people or sacred things, which helps the patients to have strength to cope with complicated and difficult situations. This factor is measured by responses to the Herth Hope Index (Herth, 1992) translated into Thai by Pawapaiboon (2003).

Mental health problem is the status of mind, emotion and feeling of breast cancer patients which is affected by their illness and shown by normal or tendentiously abnormal mental health in 4 aspects including somatic symptoms, anxiety and insomnia, social function and severe depression as measured by responses to Thai General Health Questionnaire: Thai GHQ-28 of Nilchaikowit, sukying & Silpkit (1996).

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Expected outcome and benefits

It is the expectation of the researcher that the research findings will be a guideline for the development of a nursing intervention program in order to promote mental health and prevent mental health problems by promoting intrinsic coping resources to assist adaptation.

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CHAPTER II
LITERATURE REVIEW

This study examined the factors of internal coping resources related to the mental health problems of patients in the early stages of breast cancer in which the researcher reviewed related literature and research on the following topics:

1. Breast cancer
2. Mental health in breast cancer patients
3. Stress, stress appraisal and coping
4. Mental health
5. Sense of coherence
6. Hope
7. Relationship between sense of coherence and mental health problems in breast cancer patients
8. Relationship between hope and mental health problems in breast cancer patients

Breast cancer

Breast cancer is a cancer often found in women caused from an abnormality of cells by increasing expansion, invasion and metastasis. It can disturb physical functioning systems, thus causing pain and distress to patients. Therefore, patients have to receive long-term treatment and be a greater risk for recurrence.

Risk factors for breast cancer

The causes of breast cancer are not clear. However, current knowledge provides understanding that there are many factors related to risks for breast cancer. Breast cancer is mostly found in women, especially women over 35 years of age or who have had diseases related to the breast or breast cancer. These patients may have a family history of breast cancer. Furthermore, certain kinds of food (such as high fat

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food, meat or milk), alcohol consumption, overdoses of hormones or radiation or lack of exercise increase the risks for breast cancer. In addition, it has been found that risk factors for breast cancer were associated with having the first menstrual period at a young age, late menopause and pregnancy after 30 years of age (Supaporn, Wongkiettikhajon, Wasanasiri, & Kasemmongkol, 2004; Muttaruk, 2002 ; Burnte, 2001; Donegan & Spratt, 2002; Henry & Thompson, 2005).

Symptoms and complications

Approximately 80-90 percent of the patients came to hospital after having accidentally found a mass in the breast with characteristics including hardness and jagged edges, retraction signs, edema, peaud skin or pig skin, axillary node involvement and nipple discharge which may be clear, mixed with fresh blood or a thick white or grey fluid. Tenderness when pressing on the mass is an indication of late stage of cancer and if accompanied by ulcerations, the cancer is in the final stages and cannot be treated (Nhupet, 2001).

Metastasis of breast cancer to other organs causes various complications including bone metastases, pleural and lung metastases, central nervous system metastases, spinal compression, liver metastases, pleural effusions, pericardial effusions, skin metastases, brain metastases, lymphedema and hypercalemia (Balon & Wehrwein, 2000 ; Henry & Thompson, 2005)

Stages of breast cancer

The stages of the disease constitute one indicator of the survival rate of these patients and are important for identifying appropriate treatments. If breast cancer patients come to the hospital for breast examination and treatments in the early stages, the treatments will be effective, the surviving rate longer and the recurrence less than in patients with metastasis. The American Joint Committee on Cancer (AJCC) divided the phases of breast cancer into 5 stages using the criteria of TNM Classification (Chiansin, et al., 2004) as follows:

TMN staging system for breast cancer

Primary Tumor (T)

TX Primary tumor cannot be assessed

T0 No evidence of primary tumor

Tis Carcinoma in situ

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T1 Tumor 2 cm or less in greatest dimension

T2 Tumor more than 2 cm, but not more than 5 cm in greatest dimension

T3 Tumor more than 5 cm in greatest dimension

T4 Tumor of any size with direct extension to (a) chest wall or (b) skin

Regional Lymph Nodes (N)

Clinical

NX Regional lymph nodes cannot be assessed

N0 No regional lymph node metastasis

N1 Metastasis to movable ipsilateral axillary lymph node(s)

N2 Metastasis to ipsilateral axillary lymph node(s) fixed or matted, or in clinically apparent ipsilateral internal mammary nodes in the absensce of clinically evident axillary lymph node metastasis

N3 Metastasis in ipsilateral infraclavicular lymph node(s) with or without axillary lymph node involvement, or in clinically apparent ipsilateral internal mammary lymph node(s) and in the presence of clinically evident axillary lymph node metastasis ; or metastasis in ipsilateral supraclavicular lymph node(s) with or without axillary or internal mammary lymph node involvement

Pathologic (pN)a

pNX Regional lymph nodes cannot be assessed

pN0 No regional lymph node metastasis histologically, no additional examination for isolated tumor cells

pN1 Metastasis in 1 to 3 axillary lymph nodes, and / or in internal mammary nodes with micro scopic disease detected by sentinel lymph node dissection but not clinically apparent

pN2 Metastasis in 4 to 9 axillary lymph nodes, or in clinically apparent internal mammary lymph nodes in the absence of axillary lymph nodes metastsis

pN3 Metastasis in 10 or more axillary lymph nodes, or in infraclavicular lymph nodes, or in clinically apparent ipsilateral internal mammary lymph nodes in the presence of 1 or more positive axillary lymph nodes ; or in more than 3 axillary lymph nodes with clinically negative microscopic metastasis in internal mammary lymph nodes ; or in ipsilateral supraclavicular lymph nodes

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Distant Metastasis (M)

MX Distant metastasis cannot be assessed

M0 No distant metastasis

M1 Distant metastasis

Stage grouping

Stage 0		Tis	N0	M0	Noninvasive cancer
Stage I		T1	N0	M0	Early cancer
Stage II	IIA	T0-1	N1	M0	
		T2	N0	M0	Early cancer
	IIB	T2	N1	M0	
		T3	N0	M0	Early cancer
Stage III	IIIA	T0-2	N2	M0	
		T3	N1-2	M0	Locally advanced cancer
	IIIB	T4	N0-2	M0	Locally advanced cancer
	IIIC	Any T	N3	M0	Locally advanced cancer
Stage IV		Any T	Any N	M1	Metastasis

Breast cancer treatments

Many treatments used for breast cancer include mastectomy, chemotherapy, radiotherapy and hormone therapy. From these treatments, it can be concluded that there are 2 main treatment principles including 1) locoregional treatments such as a mastectomy and/or radiotherapy and 2) systemic treatments such as chemotherapy and/or hormone therapy (Supaporn, et al., 2004 ; Chiansin, Jariyalessak, Chaiwerawattana & Khuhaprema, 2004). The treatments can be divided according to the following stages:

Treatments of early invasive breast cancer

Early stage breast cancer patients are curable at a rate of nearly 100 percent, and live longer, especially in patients who have a tumor with a diameter of less than 1 cm. These patients will be treated by a mastectomy in order to remove the tumor. After the mastectomy, they will receive radiotherapy in cases where the tumor is greater than 5 cms, inoperable, has metastases to the axillary lymph nodes, particularly to 4 glands or over. For the patients who have a tumor of less than 1 cm and no metastasis to the axillary lymph nodes, it is not necessary to use systemic

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adjuvant therapy. If the patients have a tumor greater than 1 cm or metastasis to the axillary lymph nodes, chemotherapy and/ or hormone therapy must be considered.

Treatments of locally advanced breast cancer

Patients in the locally advanced stage have a high rate of recurrence for breast cancer with both a regional tumor and metastasis and also have low survival rates. For patients who receive only locoregional treatment, it has been found that 80 percent will later have metastasis. These patients should receive preoperative chemotherapy followed by radiotherapy. After that, chemotherapy and hormone therapy will be considered. If the patients have no responses to initial chemotherapy, they will received more chemotherapy and / or radiotherapy. If the patients have good responses on the treatments, they will be provided mastectomy, radiotherapy and chemotherapy, respectively. However, when continued chemotherapy fails to yield results, further treatments will be considered on a case per case basis.

Treatments of metastatic breast cancer and recurrent breast cancer

In the final stages, cancer will metastasize to other organs and become incurable. For the recurrent stage, it indicates that the disease is widespread. The treatment at this stage is a systemic treatment by using chemotherapy and/or hormone therapy. Mastectomy is a local control for local recurrence. Then, other treatments will be used as appropriate. For treating symptoms accompanying metastases, physical, psychological and social supportive treatments will be used for extension and good quality of life.

Breast Cancer Treatment Methods

Treatment selection is depended on many factors and also the decisions made by the patient and physician together. For the most part, treatments for breast cancer are mixed methods. One method of treatment may not be able to control the symptoms or prevent the metastases or recurrence of breast cancer. In this study, only mastectomy and chemotherapy will be reviewed.

Mastectomy

Mastectomy has many methods wherein the breast may be completely removed, or only the lumps may be removed in order to kept the breast in tact. One widely used method is modified radical mastectomy (MRM = Total mastectomy + Axillary lymph node dissection). Patients with MRM can have the option of

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immediate or delayed breast reconstruction by using fatty tissues or abdominal muscle. Another method is called breast conserving therapy (BCT = Wide local excision + Axillary lymph node dissection + Radiotherapy). If patients with BCT have local recurrence of breast cancer, however, total mastectomy or lumpectomy may be considered. Many complications can occurr following mastectomy including hemorrhage, pneumothorax, infection, necrosis, limitation of arm motion, numbness, pain or weakness of the arm, seroma and lymphedema (Supaporn et al., 2004; Henry & Thompson, 2005).

Chemotherapy

Chemotherapy is an additional treatment for breast cancer. The treatment objectives of using chemotherapy are to increase the curable rate, increase the duration of being free from the disease and the survival duration by using antineoplastics in order to destroy or control cancer cells. Chemotherapy is used to treat breast cancer in both patients who have and do not have metastasis to the lymph nodes. Although the patients will receive benefits from chemotherapy, they can be distressed by its side effects.

There are many groups of antineoplastics which respond to breast cancer and have varying toxic effects. Thus, it is necessary to select appropriate medications for each case. In general, the period of giving antineoplastics will take approximately 4-6 months. Current antineoplastics that are standard treatment for breast cancer are as follows (Supaporn et al., 2004):

FAC (fluorourecil, doxorubicin, cyclophosphamide) 4-6 cycles
AC (doxorubicin, cyclophosphamide) 4 cycles
AC (doxorubicin, cyclophosphamide) 4 cycles followed by paclitaxel 4 cycles
CEF (cyclophosphamide, epirubicin, fluorourecil) 6 cycles
CMF (cyclophosphamide, methotrexate, 5-fluorourecil) 6 cycles (preferably oral)
A (doxorubicin) 4 cycles followed by CMF 8 cycles

Antineoplastics can cause various side effects including nausea, vomitting, loss of appetite, diarrhea, low white blood cells, weak skin, sensitivity to the sun, skin rashes, alopecia, myalgia, cystitis, renal failure, dizziness, unclear speech, swayed walking, abnormal heart function, drug allergy etc. If the side effects

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are severe, doses will need to be adjusted in the next treatment. (Winijsorn, Thongsuchot, & Kumthaweeporn, 2005 ; Mc Coy, 2003).

Nursing care for breast cancer patients

This topic will cover only nursing care provided for breast cancer patients who have received mastectomy and chemotherapy as follows:

Nursing care for mastectomy patients

Readiness preparation before mastectomy is very important for the patients. Nurses should inform the patients about the physical changes in image they will experience after the mastectomy, providing advice about self practice before and after the mastectomy, giving encouragement, allowing the patients to express feelings, and giving the patients time to consider and make decisions. Moreover, when the patients have made the decision to receive the mastectomy, they should be prepared for readiness and advised regarding physical deficiencies. The nurses should provide continual care to the patients, collecting data for finding problems, developing nursing care plans periodically and also developing a discharge plan (Kijrungrot, 1998 ; Chinnoros, 1992)

After mastectomy, patients often have problems related to the shoulder and arm such as pain, lymphedema, limitation of shoulder motion and weakness or numbness of the arm. These complications are obstacles for doing daily activities. Physical rehabilitation, therefore, is important for reducing complications. Thus, nurses should help patients as follows: preparing readiness for the patients in self-care by giving advice about the problems that may occur after mastectomy, providing knowledge and suggestions about physical exercise, changing and practicing appropriate positions, avoiding use of the arm and practices for preventing and reducing complications such as respiratory and circulation problems, lymphedema, imbalance of positions, muscle tension and contraction of neck muscles and limitation of shoulder and arm motion. The nurses should advise the patients to exercise continual and appropriate use of the arm after mastectomy. In addition, the nurses should help the patients in terms of psychological and social aspects by talking, providing knowledge and advice, giving the patient opportunity to express their feelings and participate in making decisions for self-care (Chinnoros,1992; Supaporn, et al., 2004).

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Nursing care for breast cancer chemotherapy patients

Nurses have the role of preparing the physical and psychological readiness of the patients before, during and after chemotherapy. The nurses must help the patients to be able to observe their symptoms and encourage their relatives to participate in caring for the patients. The nursing care is as follows (Nupetch , 1998; Winijsorn, et al., 2005 ; Hanucharurnkul, 2002 ; Mc Coy, 2003)

Before administering chemotherapy, nurses must prepare physical readiness for the patients by performing general physical examinations and following up on necessary laboratory tests. Furthermore, psychosocial status and perception of the patients on current conditions as well as previous and current treatments should be assessed for the information to be used to plan care for the patients. In addition, nurses should provide information and knowledge about the treatment plan with chemotherapy, side effects and self practice for the patients and family members to reduce their anxiety and promote correct practice.

During chemotherapy, the patients may have abnormal symptoms from toxic effects or allergy to the antineoplastics. Nurses need to keep a close watch on these symptoms. Moreover, nurses should prepare medications and equipment for assitstance in case of emergency, continually reporting to the physician about the patients' conditions. In addition, nurses should advise the patients about self care while receiving the chemotherapy, observing abnormal symptoms and immediately reporting to nurses for help to alleviate the symptoms.

After receiving the chemotherapy, although the patients can perform normal daily activities, they still require special care and altered health behaviors in order to be appropriate. Nurses have to provide knowledge and suggestions about taking useful and adequate nutrition and fluids, sufficient sleep, regular exercise, personal hygiene, sexual relations, observation of abnormal symptoms, avoiding crowds or infectious patient areas, taking medication according to the physician's order, using appropriate stress relaxation and the importance of follow up. Nurses should also suggest support resources and telephone numbers in cases of emergency or for when the patients need counseling.

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Mental health in breast cancer patients

Mental health problems in breast cancer patients

Breast cancer is a severe disease and life-threatening for women because it can metastasize to other organs of the body. Furthermore, although the symptoms can be controlled by treatment, the patients can have recurrence. In addition, there is no assurance that patients will be cured of the cancer, or how long they will live. The patients, therefore, have negative perceptions and meanings of cancer and treatments as frightening, incurable, life-threatening and leading to death (Chunpuang, 1991 ; Kritpracha, 1995 ; Chunleskul, 1998 ; Denton, 1996). The feelings of uncertainty surrounding this illness occur commonly with breast cancer patients at every stage of the illness (Noipiang, 2002).

Women who doubt that they may have breast cancer and come to see the doctor for an examination will have quite high anxiety about the chance of having breast cancer which is a frightening and life-threatening situation (Tait, 1996 ; Drageset & Lindsrøm, 2003) found that the psychological stress that occurred in the women who suspected breast cancer was at a moderate level and higher than in normal people (DeKeyser, et al.,1998). This anxiety was decreased when the women knew diagnostic results for certain. The patients will have anxiety again while the illness is proceeding (Burnet, 2001). In the early stages of breast cancer, different patients have differeing emotional responses to the illness. The patients see the illness as causing stress. Some patients may feel shock; think of death; be afraid incurability, suffering, expenses, being taken advantage of by others and being detested by people around them; depending on others; losing all enthusiasm; losing self-esteem; sluggishness; losing their senses; and wanting to disappear from the situation (Chunleskul, 1998), all of which cause anxiety and depression at a rate of 20-30 percent (Burnet, 2001), which is manifested in the crisis that the patients have to confront once they know the diagnostic results. This period is a time when the patients need time for adaptation in order to be able to live as normally as possible.

The treatments help the patients to have a chance of being cured from the disease and longer survival. However, during the treatments, the patients have to suffer discomfort from side effects of the treatments, thus resulting in different responses to the illness. In cases of mastectomy, the patients felt loss of image and

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received suffering in living (Block & Matasserin - Jacobson, 1993 cited in Noipiang, 2002). Although the patients had already had the mastectomy, they were still afraid of the consequences after the treatment such as incurability, pain and death (Phuwarawuttipanich et al., 1998). In chemotherapy, the patients had to confront suffering and discomfort from the side effects of the medications. The symptoms that were most often found included nausea and vomiting, while other symptoms were loss of appetite, fatigue, and hair loss (Barnicle, 1996 ; Leksawat, Saenmanowong, Chumpradit & Hansiriwattanakit, 2000) that makes patients loss of self-control and inability to control life situations, all of which might be causes for anxiety and depression (Burnet, 2001). In addition, radiotherapy can cause side effects such as dark skin, itching, pain and fatigue which will improve after terminating the treatment. Terminating radiotherapy made the patients search for confidence about the treatment results and, thus, resulted in the occurrence of anxiety (Barnicle, 1996).

Many breast cancer patients who had already received treatment were afraid of recurrence, feeling loss, anger, depression and feelings toward self-changeably. These feelings might be associated with the continued treatments and chronic problems of treatment (Burnet, 2001). Recurrence can make the patients feel frightened, have uncertain feelings about the future and increase emotional tension even though the patients had received these treatments over a period of several years (Schmale, 1976 cited in Mahol & Caperson, 1997; Mast, 1998 cited in Sammarco, 2001).

The patients with locally advanced breast cancer will have psychological tension symptoms shown as depression, grief and hopelessness. These symptoms may be associated with increasing pain, levels dependency (self or others) and inability (Burnet, 2001). The advanced stage to the end stage of the illness can make the patients distressed with physical illness and confrontation with the fear of death for the remainder of their lives (Kumthornwatchara, 2001). These conditions advance gradually, and the prognosis is not good. Furthermore the manifestation of depression, pain, delirium and loss of self-control can lead to suicidal thoughts (Alter, 1995).

Breast cancer not only has impact on the psychological aspects of the patients but also has impact on social interactions in both family and at work. The patients may feel afraid of being detested by other people; thus, they cover up their illness and

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withdraw from society (Chunleskul, 1998). The patients who receive less social support or have interpersonal interaction problems will also isolate themselves from society. In addition, the patients may change their work, be laid off from work, not receive any job promotion (Freddette, 1995), which will have a great impact on the patients' economic status and poor economic status will lead to high levels of anxiety (Hanucharurnkul, 2002).

The study of Meyerowitz (1980 cited in Kornstein & Clayton, 2002) found that breast cancer had impact on the patients in 3 aspects: 1) psychological distress, 2) changing life patterns and 3) fear and anxiety. Moreover, it was found that up to 47 percent of cancer patients were suspected of having mental disorders. In addition, De Vitta et al. (2001) found that cancer patients were diagnosed with psychiatric disorders as follows: 68 percent of the patients had adjustment disorder with depression, anxiety or mood disorder, 13 percent had major depression, 8 percent had organic mental disorder, 7 percent had personality disorder and 4 percent had anxiety disorder.

When the patients have to cope with stress due to illness with breast cancer, they will have differing behavioral responses to the illness. Some studies found that the patients had used various coping strategies together, most of which were strategies focused on solving the problems that occurred (Freddette, 1995; Guifang, 1996; Meifen, 1997; Zabalegui, 1999). After the patients had been informed of their diagnosis of breast cancer, they would increasingly fight with the illness as time passed by (Kritpracha, 1995). The patients at the final stages would use problem-solving strategies in response to problems rather than resolving distressing emotions (Senee, 1993). The behaviors mentioned would help patients to maintain their roles and adapt to living with their condition, consequentially resulting in life satisfaction and happiness.

It is evident that chronic physical illness affects the mental conditions of patients, causing them to have poor mental health condtions and putting them at greater risk for mental illness (Sogawa, 2002 ; WHO, 2003). Some patients, however, can accept and adapt themselves for a good quality of life. (Kritpracha, 1995 ; Kongchum, 1996 ; Phuwarawutpanich, et al., 1998; Rattananon, et al., 2002 ; Meifen, 1997).

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Nursing Care for Breast Cancer Patients in Coping with Stress

Illness has impact on the mental health and emotions of the patients as they are confronted with stressful life situations at that time. Patients exhibit various changes of behaviors and emotions, and nurses should have knowledge and understanding about the patients' behaviors, helping them to be able to cope with stress and adapt themselves appropriately.

After patients have been notified of their diagnostic results by physicians, they may be in shock and not believe that it is real. Then, they may feel confused and anxious. Thus, nurses should build good relationships with patients, gaining the patients' trust and encouraging them to express their feelings and reduce their stress. Nurses should show the patients that they understand the patients' feelings and accept the changing behaviors, mental health conditions and emotions of the patients. Nurses should help the patients to accept and understand their conditions and their roles. Once the patients become somewhat accustomed to their illness, they may be able to learn and accept their conditions to balance their lives. Nurses should provide information and essential knowledge to the patients and their relatives. Moreover, nurses should provide counseling when the patients and their relatives need it, encouraging the patients to participate in self care and promoting appropriate strategies for coping with stress. Nurses should also give encouragement and support to the patients to promote self-esteem. The patients should be helped to convert threatening stress into vigorous energy in coping with the illness and having hope for continuous living. In addition, families have an important role in helping and supporting the patients to cope with stress. This will make the patients not feel abandoned and enable them to confidently cope with the illness (Satayatham, 1998 ; Kitrungrot cited in Phanthusena, 1998 ; Hanucharurnkul, 2000).

Breast cancer is a disease marked by severity and uncertain prognosis. Patients who are diagnosed with the disease and receive treatments from the early stages will have a greater chance of being cured. However, patients who are diagnosed during metastasis will be at greater risk for recurrence even after they have received treatments, thus putting these patients in a position to confront their illness with feelings of uncertainty, thus affecting their mental, emotional and social conditions. This patient group should receive greater importance in terms of psychological and

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psychosocial care in addition to treatment aimed at physical well-being in order to lengthen the lives of patients. Therefore, a number of studies have been conducted to determine what factors can help promote or protect the mental health of breast cancer patients.

Stress, stress appraisal and coping

The stress, stress appraisal and coping concepts of Lazarus and Folkman (1984) discuss the adaptational process of persons when coping with stress leading to adaptational outcomes in individual situations. The concepts consists of the following 4 concepts: 1) stress 2) stress appraisal, 3) coping, and 4) adaptational outcomes.

Stress

Every experiences stress in daily living as stress cannot be avoided because each person experiences development and living in ever-changing situations. Stress is defined as a stimulus causing stress or a response to stressful situation. Lazarus and Folkman define stress as a relationship between person and environment, which has impact on the safety of that person and prompts the person to use available resources to manage the situation.

Stress appraisal

Stress appraisal is a cognitive appraisal of the person by considering the meaning or importance of a confronted situation. Stress appraisal can be divided into 3 steps as follows:

Primary appraisal: the person will appraise and make a decision about the importance and severity of the situation. The appraisal will be revealed in terms of the following 3 aspects: 1) irrelevant: the person appraises that stress does not have any advantages or disadvantages for him/her; 2) benign positive: stress has advantages for the person and, when the outcomes show a positive tendency, promote happiness for that person; and 3) stressful: the person may appraise the situation as stressful in 3 aspects: harm and loss, threat and challenge.

Secondary appraisal: the person appraises the situation as either threatening or challenging, the management of the situation is the next thing to be done by appraising whether it can be managed or not, and which parts can be managed. The person appraises the resources and options for managing the situation.

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This appraisal may not necessarily occur afterwards, but can occur at the same time as the primary appraisal.

Reappraisal: the person has appraised and made another decision about the situation after receiving additional information by following the above appraisal steps. The person will reappraise from feedback or past experiences for positive changes in managing the currently dangerous or threatening situation.

Coping

Coping is both cognitive and active effort in order to manage a stressful situation in an ever-changing process that cannot identify which method is more effective depending on the context. The person begins to use the coping process by predicting about situations before they occur. Stress appraisal by cognitive process is continuously used in prediction, both during and after the coping period. Coping can be divided into 2 styles as follows:

1. Emotional-focused coping : managing or changing to reduce a stressful emotion in order to prevent stress and destroyed self-morale. The person usually selects this coping style when appraisal shows that he/she cannot solve the problem. The methods used in this coping include avoidance or distant retreat from the situation, denial of reality and effort to look at the situation in a positive way.

2. Problem-focused coping : is trying to solve the cause of the problem directly by considering the advantages and disadvantages of each problem-solving option, deciding to select appropriate choices and beginning to solve the problem. The problem solving may be the management of the problem in terms of self or environment i.e. seeking information or knowledge and looking for supportive resources.

The resources involved in stress coping ability can be divided into 2 resources as follows:

1. Internal resources: the qualifications possessed by each person such as health and energy, positive beliefs, problem-solving skills and social skills.

2. External resources : the resources coming from the environment of the person such as social support and material resources.

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Adaptational outcomes

After the person has gone through the adaptational processes following the steps, he/she will experience learning and adaptation. These adaptational outcomes will be revealed in 3 aspects as follows:

1. Social functioning is the way each person acts or practices following his/her roles, and satisfaction with interpersonal relationships or the necessary skills required for maintaining roles and relationships.

2. Morale is the emotional result that reveals and changes following situations that have occurred through satisfaction in self actions or expected success. These emotional results have both short term and accumulating long term effects.

3. Somatic health is the result of efforts to adapt with stressful situations in which the person's emotions involve and affect his/her physical condition, resulting in good health or illness.

Breast cancer constitutes a stressful life situation in which patients have to cope with stress and adapt themselves to living with their current conditions. The concepts of Lazarus and Folkman have given direction to the researcher for studying the use of resources after appraising stressful situations and adaptational outcomes which occurred by expecting a sense of coherence and hope as useful resources that will increase breast cancer patients' ability to cope with stress, thus, leading to the adaptation which can be revealed as mental health.

Mental health

Mental health has a wide meaning and a number of people have given various meanings of mental health as follows:

Townsend (1996) defined mental health as the situation that a person has succeeded in adapting to a stimulus from internal and external environments by appraisal from thoughts, feelings and behaviors in terms of suitability with his/her age, the norm and culture of the locality.

Mohr (2004 cited in Videbeck, 2004) defined mental health as the state of emotion, mind and good social livelihood resulting from satisfaction in interpersonal relationships, behaviors and appropriate coping with the problems with a positive self concept and emotional stability.

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Sooksaman (1994) suggested that mental health is happy or contented mental condition accompanied by emotional stability and adaptability toward changing social conditions.

Monkol et al. (2004) defined mental health as a state of life that is happy resulting from having the ability to manage problems, having a potentiality for self development for a good quality of life by including a stable mind in the face of changing society and environments.

The World Health Organization (WHO, 2001 cited in Monkol et al., 2004) defined mental health as emotion and social happiness in situations in which the person will be aware of abilities such as coping with stress in life, working effectively and being able to help the community.

It can be concluded that mental health is emotional, mental and social happiness that occurs because the person is able to cope with problems in life, adapt to changing environments, have self development for a good quality of life and be free of distressing problems by showing in thoughts, feelings and appropriate behaviors toward himself/herself, others and society.

Therefore, people with good mental health are capable of adaptability in carrying out various aspects of their lives with due happiness and freedom from distressing problems (Goldberg, 1972).

Characteristics of People with Mental Health Problems

The person with mental health problems cannot creatively cope with problems as reflected in inappropriate emotional and cognitive responses and behaviors. Sooksman (1994) stated that the person with mental health problems had abnormalities in 4 aspects as follows:

1. Physical aspect: having somatic symptoms in association with anxiety i.e. the person will have palpitations, indigestion, constipation, insomnia, fatigue, headache and fainting.

2. Psychological aspect: the symptoms revealing feelings (i.e. does not feel good, feels hurt and does not love himself/herself), thoughts (i.e. being occupied or scattered-brained, thinking too much and having suicidal ideas), emotions (i.e. depression, anxiety, moodiness and sensitivity) and memory and attention (i.e. memory loss and attention deficit, forgetfulness or inability to remember).

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3. Behavioral aspect: having behaviors that deviate from normal or socially unacceptable behaviors such as uncontrollable emotions, aggression, destruction of things or harm to others, social isolation, drug addiction, obsessive-compulsive disorder, dependency and anti-other relationships, stealing and lies.

4. Mental illness aspect: can be divided into 2 major types including neurosis and psychosis. The neurosis is an illness that reflects anxiety as an important symptom. The patients often have distress from loss, adaptation to normal situations, and changing personality, but do not have visual hallucinations. Psychosis is an illness that disturbs the patients' nervous system and leaving them unable to perform or live normally, unable to perceive reality, have visual hallucinations, aggressiveness and desire to harm self or others. These patients usually require caregivers.

Mental Health Assessment in Breast Cancer Patients

In assessing mental health, several researchers have done researcher and formed instruments in accordance with set objectives for uses as follows:

1. The Mental Health Inventory (MHI) was developed by Veit & Ware (1983 cited in Intaravichai, 1996) as an instrument for measuring both of psychological distress and psychological well-being. It consists of 38 items with the following 5 categories: 1) anxiety, 2) depression, 3) loss of behavioral and emotional control, 4) general positive affect, and 5) emotional ties.

2. The Thai Mental Health Questionnaire (TMHQ) was developed by Phattarayuttawat, Ngamthipwattana, & Sukhatungkha (1999) by using the diagnostic criteria of DSM-IV. It consists of 70 items with the following 5 aspects : 1) somatization, 2) depression, 3) anxiety, 4) psychosis, and 5) social function.

3. The Thai Mental Health Indicators (TMHI) were developed by Monkol et al. (2003) for measuring Thais' mental health at the individual level. Developed from definitive and dimensional concepts of mental health, this instrument consisted of a total of 54 items for the complete version (TMHI-54) and 15 items in the short version (TMHI-15). The instrument consists of the following 4 domains: 1) mental state 2) mental capacity 3) mental quality and 4) supporting factors.

4. The Thai General Health Questionnaire (Thai GHQ) was translated from the questionnaire of Goldberg (1972) into Thai by Nilchaikovit, et al., (1996). It is a screening tool for the mental health problems of people in the community whether

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they tend to have mental disorders or not. It comprises 60 items with the following 4 major aspects: 1) unhappiness, 2) psychological disturbance, 3) social inadequacy and 4) hypochondriasis. There are 3 short modified versions including Thai GHQ-30, 28 and 12. For Thai GHQ-28, the scores are divided into the following 4 groups: 1) somatic symptoms; 2) anxiety and insomnia; 3) social dysfunction; and 4) severe depression.

In this study, the researcher used Thai GHQ-28 for assessing the mental health of early breast cancer patients because it is an instrument that can screen the mental health problems of the patients who tend to have mental problems. In addition, it can be classify the symptoms and does not contain an excessive amount of questions.

The Thai GHQ-28 was tested for reliability and assessed for internal consistency. The split-half reliabilities were between 0.73-0.83 and sensitivity was 88.6 percent. Many researchers have used and tested the Thai GHQ-28 for studying patient groups and the general population, finding the reliability of the instrument to be between 0.81 – 0.92 (Bhrombutr, 2002; Khuendin, 2002 ; Wanwaisart, 2002 ; Wiwekwan, 2000; Deeprasert, 2000 ; Supuckwanich, 2000 ; Vongkum, , 2001)

Various GHQ's were observed to have been used with breast cancer patients and cancer patient groups abroad (Harrison, Haddad & Maguire, 1995 ; Tjemsland, Søreide & Malt, 1998 ; Nosarti, Roberts, Crayford, McKenzie & David, 2002 ; Atesci, Baltalarli, Oguzhanoglu, Karadag, Ozdel & Karagoz, 2004 ; Millar, Purushothan, McLatchie, George & Murray, 2005), but not reports of this nature were found in Thailand.

Sense of coherence

Sense of coherence is a central concept of the salutogenic model of Antonovsky (1993). Antonovsky studied the relationships between stress, coping with problems and health status. The salutogenic model describes the factors related with maintaining health status and happiness in life rather than illness or conditions. This model sees the health status of people as a breakdown continuum or what is generally known as a health continuum wherein the highest happiness level will be at the end of the cycle called the salutary end or health-ease and the illness will be at the end opposite to happiness called health breakdown or dis-ease. The health status level

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depends on stress, environmental pressure and ability in resisting individual stress. People respond to stress differently. Furthermore, persons are identified as an open system that constantly interacts with both internal and external environments. The environment can be both the source of stress and useful resources or generalised resistance resources (GRRs). When people have problems or become confronted with stressful situations, they will use GRRs as a sense of coherence. The sense of coherence is an intrinsic human characteristic that functions in association with the movement in the health continuum and enables people to cope with problems, manage stress appropriately and maintain health status and well-being at optimum levels (Hanucharurnkul, et. al., 1989; Sullivan, 1989 ; Antonovsky, 1993).

Sense of Coherence Components

Sense of coherence is the perception and assessment of the stimulus affected by 3 components (Antonovsky, 1987) as follows:

1. Comprehensibility: the perception that the stimulus or stress stems from the internal and external environments of the person, occurring systematically and being uncomplicated or more obvious more than events that accidentally occur. The stimulus or stress, therefore, can be reasonably explained and understood; it can also be predicted. Although clear answers may not always be provided, comprehensibility can make the person understand and feel for that thing.

2. Manageability: the perception that a person has sufficient resources to use in managing the occurred stimulus or stress. These resources may come from self or others that person has known, is familiar with or can trust, causing the person to feel that the occurred situation or problem is not a frightening thing, thus enabling him/her to confront situations or problems confidently.

3. Meaningfulness: seeing the occurred situation as a meaningful and challenging thing, having value to be successfully solved, feeling worthwhile in terms of time, energy and intellect used in confronting the situation rather than giving the meaning as a burden or causing in a difficulty.

Sense of Coherence Assessment in Breast Cancer Patients

Antonovsky (1987, 1993) developed the Sense of Coherence Questionnaire from a study on a sample of normal people who were confronted with stressful life situations. This instrument comprised of 29 items with 3components including the

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following : comprehensibility-11 items ; manageability-10 items; and meaningfulness -8 items. The questionnaire was tested for validity and reliability from 26 studies in many countries. The coefficient alphas ranged from 0.83-0.94. Moreover, Antonovsky had modified the questionnaire to a short version with 13 items that still covered 3 components including comprehensibility-5 items; manageability-4 items ; and meaningfulness-4 items. The short version was tested for reliability in 16 studies with coefficient alphas of 0.74-0.91. According to the research findings, Antonovsky concluded that both versions of the Sense of Coherence Questionnaire were standard instrument which can be used with people of various cultural backgrounds in good health or illness.

Furthermore, many studies in other countries used the Sense of Coherence Questionnaire with different samples. Some studies found that the reliabilities of the 29-item Sense of Coherence Questionnaire were between 0.84-0.93 (Gilbar, 1998 ; Boman, et al.,1999; Nesbitt & Heidrich, 2000). The reliabilities of the 13-item Sense of Coherence Questionnaire were between 0.63-0.89 (Gibson,2003 ; Post-White et al., 1996 ; Adams, Bezner, Drabbs, Zamarano, & Steinhardt, 2000 ; Richardson Gibson & Parker, 2003 ; Snekkevik, Anke, Stanghelle, & Fugl-Meyer, 2003 ; Nygren, Alex, Jonsen, Gustafson, Norberg, & Lundman, 2005).

In Thailand, Hanucharurnkul, et al. (1989) translated Antonovsky's Sense of Coherence Questionnaire with 29 items into Thai. The questionnaire was tested for reliability with 30 general nurses wherein the reliability was found to be 0.85; with the study sample of who were nursing instructors, the reliability was 0.90.

The Thai version of the Sense of Coherence Questionnaire with 29 items has been used by many researchers in various groups of samples drug users, elderly with aortic stenosis, diabetic patients, chronic obstructive pulmonary disease patients, family members of schizophrenic patients, and teenage students and tested for reliability with ranges from 0.79-0.94 (Udompattanakorn, 1996; Chomngun, 2000 ; Suwannatri, 2000; Glinhom, 1997; Kidhathong, 2003). The Sense of Coherence Questionnaire with 13 items was used in the patients with myocardial infarction patients and teachers in which the reliability ranged from 0.76-0.77(Thaechakaruha, 1997 ; Bovaree, 2003 ; Chotkapong, 2004).

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In this study, the researcher used the short version of the Sense of Coherence Questionnaire with 13 items which had the same standard as the 29-item version. The short version was selected because it was convenient to answer and took less time. Furthermore, from the pretesting the tool with 5 breast cancer patients, it was found that the questions were not excessive. Therefore, the short version was thought to be appropriate for both inpatients and outpatients with breast cancer.

With regard to cancer patients, this questionnaire had been used in intestinal and colon cancer patients with a reliability of 0.89 (Suteerawut, 2001).

Hope

Hope is a benefit source with a certain amount of power toward resistance to stress and confronting distressing conditions or various forms of suffering (Miller, 2000) and which plays a 3-dimensional role in confronting stress (Raleigh, 2000) as the following: 1) an antecedent to coping in which hope influences perception of individual circumstances as either challenging or threatening toward goals; 2) a coping strategy which causes individuals to assess situations as more challenging than threatening as they are compelled to confront problems with either determination to manage problems or emotion; and 3) an outcome of coping which is a result of utilizing stress management strategies. Nevertheless, individuals may experience despair in the face of ineffective confrontations with stress.

Definitions of Hope

A variety of definitions have been suggested for hope, which shows that hope is a complicated and multi-dimensional structure as follows:

Dufualt and Martocchio (1985) defined hope as the confidence in uncertain expectation on potential success in the future.

Nowotny (1989) defined hope as a dynamic that had many dimensions in the individual and consisted of 6 parts: 1) confident in outcome; 2) active involvement; 3) relates to others; 4) future is possible; 5) spiritual beliefs; and 6) comes from within.

Synder (1994 cited in Wongyai, 1999) stated that hope was a continual process of a cognitive set comprising the powers of individual intention and guidelines for achieving target goals.

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Ferran, Herth & Popovich (1995) stated that hope was an important experience of human beings reflecting their feelings, thoughts and behaviors expecting for demands or outcomes that had not yet occurred.

It can be stated that hope is the state of mind revealed by feelings, thoughts and behaviors reflecting the desire in potential demands or success, causing individuals to have goals and guidelines for carrying out their lives with value and meaning.

Types of Hope

Individual hope can be divided into 2 types (Dufault & Martocchio, 1985) as follows:

1. Particularized hope is the hope that is more abstract than concrete, having set goals or clear expectations. Individuals can set priorities of hope and tell which hope is the most important in life. Specific hopes are collected in the individual, resulting in motivation to try to attain expectations and confront obstacles that occurred.

2. Generalized hope is a wide hope that is not specific on any topic and less abstract than particularized hope. This hope has not developed to the optimum, however, and can bring about positive feelings toward the future with importance in preventing despair when particularized hope has failed, thus helping the individual to have motivation in living and possibly the final hope in the individual's life.

Dimensions of Hope

Herth (1991) studied the hope dimensions of Dufault and Martocchio (1985) which stated that hope had 2 types with the following 6 dimensions : 1) affective dimension 2) cognitive dimension; 3) behavioral dimension; 4) affiliative dimension, 5) temporal dimension; and 6) contextual dimension. Herth found that there were some repetitions; thus, he merged some dimensions together and divided hope into 3 new dimensions as follows:

Dimension I Inner Sense of temporality and future: the cognitive and temporal dimension that is an intrinsically positive perception of a current or future situation as to whether the demand can come true within a short or long period of time from the present.

Dimension II Inner positive readiness and expectancy: the emotional and behavioral dimension with a confident feeling and expectation regarding future events,

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causing the individual to feel ready to act following a plan for attaining demands or goals.

Dimension III Interconnectedness with self and others: the affiliative and contextual dimension in which an individual sees the importance of dependency on others or an affiliation with the individual between self and others, or self and a sacred thing and spirit, resulting in strength for confronting difficult situations.

Hope Assessment in Breast Cancer Patients

Many people have developed the hope assessment instruments such as:

1. The Nowotny Hope Scale (NHS) was developed by Nowotny (1989). It consisted of 29 items with the following 6 aspects: 1) confidence in outcome; 2) relates to others; 3) future is possible; 4) spiritual beliefs; 5) active involvement; and 6) comes from within.

2. The Snyder Hope Scale was developed by Snyder (1991 cited in Wongyai, 1999). It consisted of 12 items with 2 aspects : 1) willpower and 2) waypower.

3. The Herth Hope Scale (HHS) and the Herth Hope Index (HHI) were developed by Herth (1991, 1992). Both instruments assessed hope in the following 3 dimensions: 1) inner sense of temporality and future; 2) inner positive readiness and expectancy; and 3) interconnectedness with self and others. The HHS had 30 items, and the HHI had 12 items.

In this study, the researcher used the HHI (Herth, 1992) for assessing the hope of early breast cancer patients because it covered all dimensions following the concept of hope, and could be used in various groups of both general people and patients. In addition, it did not have too many questions and took less time to fill out, having been tested for validity and reliability several times.

The HHI was modified from the HHS by developing according to Dufualt and Martocchio's Model of Hope (Dufualt & Martocchio, 1985). This index was developed in order to provide a short, concise and clear version that could be used to assess hope in a period of short time, but covered the structure of each dimension, and could be increasingly used with various samples. Numerous researchers used the HHI with various groups of samples. In Thailand, many studies had tested the HHI for the reliability which ranged from 0.71-0.93 (Juntanaluk, 1998; Vichittragoonlthavorn, 2002; Phawapaiboon, 2003; Kidhatong, 2003; Chiewprasit, 2003).

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For cancer patients, it was found that some studies used the HHI in breast cancer patients with a reliability of 0.85–0.97 (Ketnai, 2000; Richardson Gibson, 2003; Ebright & Lyon, 2002) and in cervix cancer patients with a reliability of 0.80 (Wattanabenjasopa, 2000).

Relationship between sense of coherence and mental health problems in breast cancer patients

It is well-known that breast cancer patients are confronted with various problems and distress which affect their mental health. Some patients may see their illness from both negative and positive perspectives. Furthermore, the patients who have a sense of coherence will have positive thinking by trying to reasonably understand their illness and managing the problems that occur by knowing how to use available resources. Post-White et al.(1996) found that the cancer patients who had a sense of coherence at high levels would see the illness as meaningful, resulting in increased hope and had good quality of life.

Furthermore, several studies were conducted in relation to sense of coherence in other samples. The study of Sucumvung (1997) found that a sense of coherence was positively related to coping and quality of life in elderly patients with osteoarthristis. Sense of coherence was also positively related to the quality of life of the family members of schizophrenic patients and teenage students who had a father or mother with AIDS (Glinhom, 1997; Kidhathong, 2003). Thaechakaruha (1997) also found that sense of coherence was positively related to the psychological well-being of myocardial infarction patients as it helped chronic obstructive pulmonary disease patients and the relatives of cancer patients with advanced stage to cope better (Udompattanakorn, 1996; Cheewapoonphon, 1998). Sense of coherence could also predict the health promotion behaviors of colon cancer patients (Suteerawut, 2001) as seen in the above sample's ability to perceive and assess the stressful situation at that time in a way that can be reasonably understood with ways to solve or manage the situation successfully when it was of sufficient value to be solved. When persons can perceive situations according to reality, they can use available resources to help manage the problem. Thus, they can cope with stress appropriately, adapt themselves,

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and have good quality of life with well-being. In addition, sense of coherence is a factor that can predict mental health status (Bovaree, 2003).

From the above-mentioned research finding, it can be seen that sense of coherence can help breast cancer patients have improved adaptability leading to better lives and good mental health.

Relationship between hope and mental health problems in breast cancer patients

Breast cancer leaves patients confronted with suffering and stress in various aspects: uncertainty regarding the recurrence of the disease, side effects of treatments, lengthy treatment duration, impact on living conditions, boredom with living, and discouragement or despair with the illness, especially when the illness is exacerbated. At the same time, some patients still want to live long and hope to have happy lives.

There was a study found that breast cancer patients had high hope because most patients had not experience recurrence of the cancer. On the other hand, the patients who had recurrence would have decreased hope over the lengthy duration of treatment. Hope also affected coping with stress in a positive reappraisal pattern of the patients (Wonghongkul, Shirley, Musil, Scheider & Deimling, 2000). Another study found that breast cancer patients had high hope and that hope was positively related to spiritual perspective and psychological well-being. Moreover, the patients used hope to help in coping with psychological distress related to their illness with breast cancer (Gibson, 2001 cited in Gibson, 2003). However, some studies found that hope was not correlated with quality of life or spirituality (Post-White et.al., 1996).

Research about hope in other samples revealed that hope armed the individual with coping behaviors, adaptability and life satisfaction (Theerata, 1996; Siriwarasai, 1993; Chaungsawang, 1996) as well as good quality of life (Kidhathong, 2003) and well-being (Taechakaruha,1997). Vichittragoonthavorn (2002) found that elderly patients who had undergone heart surgery had high hope in life, little depression or none, and were able continue daily activities well. Wongyai (1999) also found that the elderly with high hope tended to have good psychological self-care.

It can be seen that hope remains an important power in individual ability to confront stress (Miller, 2000), vigorously fight the illness and purposely live, resulting in good mental health as an actual condition.

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This review of relevant literature about individual coping resources revealed 2 resources, sense of coherence and hope, which partly help individuals to be able to cope with stress. After considering the research reports on chronic illness patients, it was found that both resources were related to mental health. However, the on studying relationships between these resources and mental health in breast cancer patients remained few. Therefore, the researcher was interested in exploring these 2 factors in breast cancer patients in order to be a guideline for the internal coping resources of the individual, thus, promoting good adaptation and consequentially leading to good mental health.

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CHAPTER III
METHODOLOGY

This study consisted of descriptive research aimed at examining the factors of internal coping resources that were related to mental health problems in early breast cancer patients. The researcher conducted the study by the following processes:

Population and Samples

Population

The population of this study comprised female breast cancer patients who came to receive treatment at the chemotherapy units of the following 3 govermental health institutions : Udornthani Cancer Center, Udornthani Hospital and Khonkaen Hospital from April to August, 2006.

Samples

Sampling

The samples were selected by purposive sampling with the following inclusion criteria:

1. Diagnosis of stage I or II breast cancer
2. Treatment by both mastectomy and chemotherapy.
3. 6 months' duration of illness after diagnosis.
4. Aged between 36-59 years old.
5. No severe symptoms or complications that could be an obstacle to completing the questionnaires.
6. Normal consciousness and perception.
7. Willingness to participate in the study

Sample size

The size of the sample group was calculated by Power analysis in order to study the relationship between the variables (Cohen, 1988 ; Cohen,1992) by calculating from 3 components: significance criterion; $\propto$; power; and effect size.

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The researcher specified $\propto$ = .50 and power = .80, which is used as the standard, and the effect size = .30 because it is an effect size with moderate influence and because the effect sizes of other previous studies were unknown and as most nursing studies chose this size. This study revealed no previous research that studied the relationships between a sense of coherence and hope with mental health problems in breast cancer patients; thus, the effect size could not be calculated from the research.

After that, the values obtained were used to calculate the sample size by Cohen's alpha coefficient (Cohen,1988) which the minimal amount of samples came to 85; therefore, the researcher collected data from 90 people in the sample population.

The number of subjects from each hospital was computed by using the following formula:

$$\text{Number of subjects from each hospital} = \frac{\text{Expected number of subjects x population in each hospital}}{\text{Total population}}$$

Resulting in the number of subjects from each hospital as follows:

Udornthani Cancer Center	10 subjects	from the population	178 subjects.
Udornthani Hospital	35 subjects	from the population	607 subjects.
Khonkaen Hospital	45 subjects	from the population	774 subjects.

Setting

There were 3 settings for collecting data: Udornthani Cancer Center; Udornthani Hospital; and Khonkaen Hospital, all of which are government public health organizations providing services for people in the upper northeast region of Thailand under the Ministry of Public Health. Udornthani Cancer Center is an organization responsible for cancer control and prevention, providing cancer treatments for both in-patients and out-patients. The other 2 hospitals are central hospitals that provide treatments for all diseases and referral cases from other general or community hospitals. These hospitals are also public health service organizations that provide treatments for cancer patients at every stage. The hospitals can provide treatments including surgery, chemotherapy, hormone therapy, radiotherapy and palliative therapy; many breast cancer patients come for continued treatment; therefore, the researcher had a variety of samples from which to choose.

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Research instruments

Data collection included the following 4 instruments:

Part I Personal Demographic Questionnaire

This questionnaire included personal and illness information. There were 10 items including age, marital status, religion, educational level, occupation, family income, adequate of income, medical payment, duration of illness and stage of disease.

Part II Sense of Coherence Questionnaire: SOC-13

A short version comprising only 13 items with rating scores of 1-7, the SOC - 13 was developed by Antonovsky (1987), translated into Thai by Hanucharurnkul, et al. (1989) and used by Bowaree (2003). SOC-13 is short version had 13 items with rating scores 1-7.

Component Assessment Questionnaire comprising 3 aspects:

1) Comprehensibility: Items 2, 6, 8, 9 and 11
2) Manageability: Items 3, 5, 10 and 13
3) Meaningfulness: Items 1, 4, 7 and 12

The questionnaire had both positive (Items 4, 5, 6, 8, 9, 10, 11, 12 and 13) and negative items (Items 1, 2, 3 and 7). The criteria for positive items allotted points in correspondence to the points chosen, from 1 point for 1 to 7 points for 7; negative items were rated in the opposite way.

For the interpretation, total scores ranged from 13-91 points. Scores that were rather low indicated that the samples had a lower sense of coherence. On the other hand, scores that were rather high indicated that the sample had a high sense of coherence.

Part III Herth Hope Index: HHI

Consisting of 12 items with rating scores of 1-4 points, the HHI was developed by Herth (1992), translated to Thai by Pawapaiboon (2003) and included assessment of 2 types of hope including generalized hope and particularized hope. The items can be divided into 3 dimensions as follows:

1) Inner sense of temporality and future : Items 1, 2, 6 and 11
2) Inner positive readiness and expectancy : Items 4, 7, 10 and 12
3) Interconnectedness with self and others : Items 3, 5, 8 and 9

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The questionnaire had both positive (Items 1, 2, 4, 5 and 7, 8, 9, 10, 11 and 12) and negative meaning items (Item 3 and 6). The criteria for scoring range for positive meaning items was 1 point for strong disagreement to 4 points for strong agreement, while the criteria for negative meaning items was rated in the opposite way.

For the interpretation, total scores were from 12 to 48 in which rather low scores indicated that samples had low levels of hope. On the other hand, rather high indicated that the samples had high levels of hope.

Part IV Thai General Health Questionnaire: Thai GHQ-28

A screening instrument for assessing mental health problems, the Thai GHQ-28 was developed by Nilchaikowit, et al. (1996) and translated from the General Health Questionnaire of Goldberg (1972). The Thai GHQ-28 had 28 items divided into the following 4 groups:

1) Somatic symptoms : Items 1-7

2) Anxiety and insomnia : Items 8-14

3) Social dysfunction. : Items 15-21

4) Severe depression : Items 22-28

The GHQ scoring criteria was used (0-0-1-1) and each item was scored as follows:

A. Better/more than normal/not at all = 0

B. Same/normal/not more than normal = 0

C. Worst/less than normal/considerably more than normal = 1

D. Worst/ much less than normal/ much more than normal = 1

For the interpretation, the total overall scores were compared with the criteria of the Thai GHQ-28 which used a cutting point of 5/6 in which scores higher than 6 indicated that the samples had mental health problems.

Testing of Instruments

The researcher tested the SOC-13, HHI and Thai GHQ-28 in 30 patients who were similar to the study sample by analyzing for Cronbach's coefficient alpha (Srisathitnarakul, 2004) to obtain the reliability of the questionnaire within an acceptable range as follows:

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SOC-13	.77
HHI	.81
Thai GHQ-28	.90

Data Collection

Data were collected by the researcher according to the following steps and methods.

1. Once approval had been granted by the Committee on Human Rights Related to Human Experimentation, the researcher sent a formal letter from the Graduate Studies of Mahidol University to the director of each hospital, processing the following regulations of each hospital for cooperation and permission to collect data.

2. After permission had been received, the researcher met with the respective directors of nursing, heads of out-patient departments and heads of chemotherapy units for introduction and notification about the study objectives, steps and duration of data collection on Mondays-Fridays from 8.00 a.m. to 4.00 p.m.

3. The samples were selected according to the inclusion criteria. The information about stage of disease, treatments and duration of illness was collected from the patient record and elicited from the samples.

4. The researcher introduced herself to the samples and explained about the objectives, duration in answering the questionnaires and the sample's rights. The researcher also provided a written explanation about the study and asked the sample to sign a consent form after agreeing to participate in the study.

5. The researcher used interpersonal relationship skills for encouraging the samples to freely share their opinions. Then, the samples were invited to go into the private area prepared for administering the Personal Demographic Questionnaire, SOC-13, HHI and Thai GHQ-28, respectively, which took approximately 30-40 minutes.

6. In cases where the samples could not read or did not want to read, the researcher read each item of the questionnaires and recorded the answers select by the participants.

7. After finishing the questionnaires, the researcher examined the completion of the data, provided opportunity to the samples to ask questions and finally thanked the samples for their cooperation, notifying them of the duration of their participation in the study.

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Protection of Human Subjects

In this study, the researcher protected the rights of the samples from the beginning of the data collection process to the presentation of findings as follows:

1. The researcher introduced herself to the samples, explained the purpose of the study, the steps of data collection and the approximate time and place for answering the questionnaires.

2. The samples were given opportunity to ask questions until they had no doubts with freedom and time to decide whether to volunteer or refuse participation in the study. The samples were not penalized for refusing to participate in the study. They also had the right to leave any questions blank or stop answering the questionnaires any time they wanted without having to notify the researcher of their reasons for doing so. In addition, refusal to participate in the study did not have any impact on the samples' treatment or nursing care.

3. The place for filling out the questionnaires was as private as possible.

4. The samples were considered compensated for their participation by having been provided opportunity for expression, listening to problems and opinions and information, suggestions and counseling when required.

5. The data were confidentially kept, and destroyed after completing the study. Furthermore, the samples'identities remained anonymous in the presentation or discussion of the study. The findings also were reported in terms of an overall picture of the samples.

6. If the samples had mental health problems or were at risk for having suicidal ideas or depression while interviewing and collecting data, the researcher would provide psychological support and counseling to the sample and/or their relatives, providing the information to the healthcare team or referring the samples to the counseling clinic of each hospital for further assistance (see Appendix C).

Data Analysis

The researcher collected and analyzed data by using the SPSS/W program as follows:

1. Clarify the frequency, percentage, range, mean and standard deviation of the data from the Thai General Health Questionnaire (Thai GHQ-28) (N = 90).

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Once the researcher had selected the number of early breast cancer patients with mental health problems (mental health points ≥ 6), the data obtained was analyzed according to the following procedures:

2. Calculate frequency and percentage of personal demographic data.

3. Analyze the ranges, means and standard deviations of the sense of coherence, hope and mental health problem data.

4. Analyze relationship between sense of coherence and mental health problems, and between hope and mental health problems by using Pearson's product moment correlation coefficient with a level of significance at .05 (Wanitbancha, 2005).

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CHAPTER IV
RESULTS

This describtive research studied the relationship of internal coping resources and mental health problems in early breast cancer patients. The internal coping resources in this study included sense of coherence and hope. In this chapter, the research findings are presented as descriptions with tables as follows :

Mental health status data
Personal demographic data
Variables data
Data on the relationships between the variables

Mental health status data

Table 1 Frequency, percentage, range, mean and standard deviation of mental health status data (N = 90)

Mental health status	Frequency	Percent	Actual range	Mean	S.D.
Normal mental health	50	55.56	0 - 5	2.26	1.71
Mental health problems	40	44.44	6-19	10.48	3.68

As seen in Table 1, it was found that more than half of the sample group had normal mental health at a rate of 55.56 (Mean = 2.26, S.D. = 1.71), and mental health problems at a rate of 44.44 (Mean = 10.48, S.D. = 3.68), respectively.

This research chose to study only the 40 subjects of the sample group with mental health problems (average mental health scores of ≥ 6) as seen in the research finding presented below :

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Personal demographic data

Table 2 Frequency and percentage of mental health problem sample group categorized by personal demographic data (N = 40)

Characteristics	Frequency (n)	Percent
Age (Year)		
36 – 40	6	15.0
41 – 45	7	17.5
46 – 50	7	17.5
51 – 55	10	25.0
56 – 59	10	25.0
Marital status		
Single	3	7.5
Married	29	72.5
Widow/Divorced/Separated	8	20.0
Religion		
Buddhist	37	92.5
Christ	3	7.5
Education Level		
No education	3	7.5
Primary school	31	75.5
Secondary school	5	12.5
Diploma / Equivalent	1	2.5
Occupation		
Officer worker / Employee	3	7.5
Commerce	2	5.0
Agriculture	24	60.0
Housewife	10	25.0
Unemployed	1	2.5

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Table 2 Frequency and percentage of mental health problem sample group categorized by personal demographic data (N = 40) (continued)

Characteristics	Frequency (n)	Percent
Family income / month (Baht)		
≤ 5,000	9	22.5
5,001-10,000	24	60.0
10,001-15,000	7	17.5
Adequate of income		
Adequate with savings	1	2.5
Adequate without savings	18	45.0
Inadequate / In debt	21	52.5
Medical payment		
Eligible of reimbursement of medical cost	1	2.5
Health insurance	35	87.5
Social security	1	2.5
Responsible for own medical expenses	2	5.0
Welfare	1	2.5
Duration of illness (months)		
1-3	25	62.5
4-6	15	37.5
Stage of disease		
Stage I	1	2.5
Stage II	39	97.5

As seen in Table 2, it was found that most of the subjects of the sample group with mental health problems were rather high in age : 50% were aged 51-59 years wherein the 51-55 year age groups had the greatest amount at only 25 % while 72.5% were married and 92.5% were Buddhist ; 77.5% completed primary educations ; 60% were agriculture ; 43.3% had monthly incomes with a range of 5,001-10,000 baht ; 52.5% had inadequate incomes with debt ; 87.5% used health insurance cards to pay

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for hospital treatments ; 25% were in the first 3 months of their illness ; and most of the samples (97.5%) had been diagnosed with stage II breast cancer.

Variable data

Table 3 Score ranges, mean and standard deviation distributed by sense of coherence, hope and mental health problems for the sample group with mental health problems (N = 40)

Variables	Possible range	Actual range	Mean	S.D.
Sense of coherence	13-91	34-73	52.80	9.71
Hope	12-48	30-45	37.43	3.71
Mental health problems	6-28	6-19	10.48	3.68

As seen in Table 3, it was found that the sample group had average sense of coherence scores at a moderate level while the average hope scores were rather high and the average mental health problem scores were rather low.

Data on the relationships between the variables

In calculating the relationships for sense of coherence and hope with mental health problems, the researcher tested by Pearson's product moment correlation (see Appendix E), finding that the mental health problems scores of the sample group (N= 40) were not distributed in a normal curve which was not in agreement with use of these statistics. The researcher, therefore, used Spearman rank correlation in calculating the relationship values (Wanitbancha, 2005) due to the fact that the statistics were nonparametric statistics suitable for small sample group and in which the data distributed does not need to be in a normal curve (Lertchayuntee, U.,1996). The correlation analysis results are shown in Table 4.

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Table 4 Relationship between sense of coherence, hope and mental health problems (N = 40)

Variables	Sense of coherence	Hope	Mental health problems
Sense of coherence	1		
Hope	.043	1	
Mental health problems	-.447**	.044	1

**p < .01

*p < .05

As seen in Table 4, it was found that sense of coherence was negatively related at a moderate level to mental health problems with statistical significance (p<.01) and that hope was positive related to mental health problems with no statistical significance (p>.05)

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CHAPTER V
DISCUSSION

This study was a descriptive research aimed to examine the relationship between internal coping resources and mental health problems in early breast cancer patients with a duration of illness within 6 months and were treated by mastectomy followed with chemotherapy. This chapter discusses research finding in terms of the purpose of the study and hypothesis as follows:

The relationship between sense of coherence and mental health problems in early breast cancer patients

According to the findings of the study, early breast cancer patients had sense of coherence average scores of 52.80 (S.D. = 9.71). In comparison to the findings of other studies on cancer patients, it was found that the sample group of this study had lower sense of coherence scores than the subjects of previous studies. For example, the study of Gibson (2003) on newly diagnosed breast cancer patients of all stages, the mean score was 70.8 (S.D. = 8.01). Post-White et al (1996) reported a mean score of 68.4 (S.D. = 11.7) in cancer patients who admitted to the in-patient unit for over 2 months and were expected to survive longer than 6 months. In another study in prostate cancer, the mean score was 75.1 (S.D. = 13.2) (Jakobsson, 2002).

An analysis to find the relationship between a sense of coherence and mental health problems revealed that sense of coherence was negatively related at a moderate level to mental health problems at the significant level of .05 (Table 4). This means that a high sense of coherence indicated mental health problems, and vice versa. This finding supported Hypothesis 1. Previous studies in breast cancer patients and other cancers have found that sense of coherence is related to spiritual perspective and psychological well-being in breast cancer patients (Richardson Gibson & Parker, 2003). It has also been found that sense of coherence is related to quality of life and well-being other cancer patient groups (Post-White et al. 1996 ; Jakobsson, 2002 ;

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Forsberg, et al., 1996). At the same time, was also found in a pilot study of only 10 samples that sense of coherence is not related to psychological well-being (Gibson, 2003).

In addition, other studies were conducted to explore the relationships between sense of coherence and other variables which indicated adaptational outcomes in chronically ill patients. There are studies that have found that sense of coherence is negatively related to psychological distress, anxiety and depression in multiple trauma patients (Snekkevik et al, 2003) ; negatively related to depression in rheumatoid arthritis patients (Buchi et al, 1998; Schnyder et al., 1999) lumbar spinal stenosis patients (Sinkikallio et al., 2007); negatively related to global distress, depression, anxiety and somatizition in women with irritable bowel syndrome (Motzer, Hertig, Jarrett & Heitkemper, 2003); related to coping ability and quality of life in critical illness patients (Fok, Ying & Lopez, 2005). Furthermore, it has been found that sense of coherence is positively related to well being and has predictive power in the mental health problem of myocardial infarction patients (Taechakaruha ,1997; Drory, Kravetz & Hirschberger, 2002).

The reason the sample group had such a high sense of coherence and low incidence of mental health problems may be explained in that this sample received information from doctors, nurses, health care providers and friends or fellow patients regarding the disease in terms of its stages of disease, prognosis, treatments, complications or side effects of treatments and health care providers which allowed the patients to comprehend and accept their illness as they understood the reasons behind treatments and self-care methods throughout the treatment as well as their chances for a cure (Vinokur, Threatt, Vinokur-Kaplan & Satariano, 1990). The patients' perception and understanding enabled them to accept various methods of treatment and seek both internal and external coping resources as they attempted manage the various problems arising as a result of their illness and the side effects of treatment (Rui, 1999). Some patients might seek additional information about their illness from the people around them, various medias or other patients which helped them to adapt to the side effects of treatment with confidence that they had a chance at being healed of the disease, viewing the treatment as a challenge and deeming it meaningful to continue treatment even when confronted with the discomfort of mastectomy and the

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side effects of chemotherapy. Viewing breast cancer and breast cancer treatments as a challenging matter that was worth correcting, strengthened the sample group in finding ways to manage problems that arose as they proceeded with meaningful lives (Degner et al., 2003). This means that they accepted treatment as better than no treatment at all, which resulted in motivation to receive continual treatment and determination to be cured. For these reasons, patients with a high sense of coherence which gave meaning to the circumstances they faced in that they were worth correcting and enabled them to identify resources to assist in coping which helped them to more effectively deal with stress and have lower tendencies toward mental health problems (Fok et al., 2005 ; Drory et al., 2002).

The relationship between hope and mental health problems in early breast cancer patients

The research revealed that early breast cancer patients had a mean hope score of 37.43 (S.D. = 3.71). When compared with studies on the hope of cancer patients in earlier research, it was found that breast cancer patients also had high hope scores. For example, the study of Gibson (2003) found that newly breast cancer patients in all stages had average score of 44 (S.D. = 3.23) while the study of Wonghogkul, et al. (2002) found that breast cancer patients who went through complete therapy and did not have relapse within 5 years and had an average hope score of 41.62 (S.D. = 5.36). The study of Ebright & Lyon (2002) found that, at 3 and 12 months after surgery, recently diagnosed breast cancer patients had average hope scores of 40.32 (SD= 4.83) and 39.84 (S.D. = 5.26), respectively. Patients who were diagnosed with cancer within the first 3 months had fairly high hope scores (Mean = 37.5, S.D.= 7.91) which gradually lowered over time (Lin, Tsai, Chiou, Lai, Kao & Tsou, 2003). Finally, according to research conducted on other cancer patients, it was found that the average score was 37.28 (S.D. = 5.26) (Chen, 2003). Also finding that patients with newly diagnosed cancer and recurrent cancer did not differ in regard to their level of hope (Ballard, Green, McCaa & Logsdon, 1997).

When the relationship between hope and mental health problems was analyzed, it was found that hope was not significantly related to mental health problems at the significant level of .05 (Table 4). This finding did not support Hypothesis 2.

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It is clear, therefore, that this study yielded results that differed from most previous studies wherein studies of breast cancer patients found that hope affected positive appraisal coping (Wongkongkul et al., 2000) ; Hope is positively related to psychological well-being (Richardson Gibson & Parker, 2003 ; Gibson, 2003). And it has been found that the despair of breast cancer patients is related to the incidence of mental health problems (Northouse et al., 2002). Furthermore, it was found by other studies that the hope of other cancer patient groups that cancer patients with high hopes were able to cope with stress, thus enabling them to adapt well both physically and psychologically as they experienced psychological well-being (Pakdeechit, 1992 ; Felder, 2004; OTT, 1996; Parnumasmonton, 1991; Teerata, 1996) while few other studies found that hope was not related to quality of life or spirit in cancer patients (Post-White & et al., 1995).

The reason behind the lack of relationship between hope and mental health problems might first be explained in that the present study examined only patients who were in full active treatment. Most patients experienced discomfort from the side-effects of chemotherapy and mastectomy treatments. From previous studies, it was found that illness, discomfort and fatigue were related to depression (Heidrich et al., 2006 ; Bower et al., 2000). Therefore, despite the high hope of the sample group, hope was only an expression of thoughts, feelings and expectations on things that the samples wanted to obtain or achieve and for which they hoped they would have sufficient supportive resources in order to deal with various problems. However, that person might not have any clear guideline regarding the pursuit of his desires. Thus, the person may fail to cope when confronted with stressful situations such as facing unpleasant complications from chemotherapy e.g. nausea, vomiting, fatigue, dizziness or other complications of therapy. A second explanation may be found in the patients' possible confrontation with other stressful situations in addition to the current illness and therapy. Interviews revealed that some patients had personal or family problems such as other illnesses e.g. diabetes, hypertension or heart disease. They might also have financial problems and family conflict. These additional factors might cause mental health problems to patients who had high expectations with regard to treatment outcome. A third explanation may be revealed by the findings of this research in which it was found that the sample group had a hope score of 37.43

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(SD = 3.71), which clustered in a group with low distribution. In view of this high level of homogeneity, there is a possibility that hope had no relationship with mental health problems.

It can be seen, therefore, that the sample group comprising of early breast cancer patients that had mental health problems (N = 40, 44.44%) possessed sense of coherence at moderate levels and hope at rather high levels. The results of this research on the relationships between these variables supported Hypothesis 1, which found that sense of coherence was negatively related with mental health problems. These findings, however, did not support Hypothesis 2 in that find a hope had no significant correlation with mental health problems of patients in this group.

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CHAPTER VI
CONCLUSION

Summary of the study

This study was descriptive research aimed at examining the relationships between internal coping resources i.e. sense of coherence, hope and mental health problems in early breast cancer patients. For its conceptual framework, this study applied the Stress, Appraisal and Coping Model of Lazarus & Folkman (Lazarus & Folkman, 1984).

The researcher studied subjects aged 36-59 years old who had been diagnosed stage I and II breast cancer. Sharing illness durations of 6 months or less, the 90 subjects were treated with mastectomy followed by chemotherapy at the Chemotherapy Unit of 3 governmental health institutions: Udornthani Hospital, Udornthani Cancer Center, and Khonkaen Hospital. Data was collected through the use of 4 questionnaires: 1) Personal Demographic Questionnaire; 2) Sense of Coherence Questionnaire; 3) Herth Hope Index; and 4) the Thai General Health Questionnaire. The reliability of these questionnaires was calculated by using Cronbach's alpha coefficient with scores of 0.77, 0.81 and 0.90, respectively. Regarding data analysis, the SPSS/W software package was used to calculate frequency, percentage, mean, standard deviation and Spearman's rank Correlation.

Research Findings

1. Sense of coherence has a negative correlation with mental health problems at a moderate level with statistical significance ($r_s = -.447$, $p < .05$).

2. Hope has no significant correlation with mental health problems ($r_s = .044$, $p > .05$).

Research Limitations

1. It's possible that other factors over and above the disease and the complications of treatments may have an impact on the mental heath of the sample group such as

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other chronic illness, personal problem and family problems. The present study did not control the aforementioned variables.

2. The sample group was small in number, which made the data obtained unable to provide sufficient explanation or reference for the population of breast cancer patients at other setting.

Recommendations

Implementation in nursing practice

1. In view of the research finding that the sense of coherence was related to mental health problems, nurses may be able to apply the concept of a sense of coherence to the development of intervention programs for the support of breast cancer patients to promote a greater sense of coherence and prevent mental health problems in breast cancer patients by encouraging patients to obtain knowledge on various topics according to the components of a sense of coherence as follows:

1.1 Comprehensibility : promotion of a correct understanding of the disease to provide patients with an understanding of various methods of treatment that are compatible with their stage of the disease, side-effects of treatment and self care in order that patients will be able to fully comprehend the illness that has occurred, able to make decision to receive various forms of treatment and able to adjust to the side effects of treatment.

1.2 Meaningfulness : Encourage patients to see the value and importance of their treatments, thus promoting the patients' perception of their illness as treatable and relievable through regular treatment and self-care, which are significant factors in prolonging the survival of patients while improving their quality of life, according to the advice of the health care provider.

1.3 Manageability: promote management of stress triggers associated with the illness and its treatment by providing patients with information about self care during treatment to promote health, prevent complications and relieve the side effects of treatment. Encourage patients to take full advantage of their internal coping resources such as systematic problem solving and stress management as they utilize external resources such as support from family, friends and various healthcare service resources.

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2. Apply the findings of this research regarding internal resource for coping with stress to nursing other groups of patients with cancer or chronic disease.

Recommendations for further study

1. The variables of sense of coherence and other internal resources in previous studies by other researchers i.e. self efficacy and self esteem etc. should be examined in further study to predict the impact of these factors on mental health problems in breast cancer patients.

2. Further studies should be performed to compare hope in breast cancer patients at various stages in order to determine whether levels of hope vary or not, and to study the relationship between hope and mental health problems among breast cancer patients at various stages in order to further clarify the hope of breast cancer patients.

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APPENDIX

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APPENDIX A
DOCUMENTATION FOR THE PROTECTION OF HUMAN SUBJECTS

คำอธิบายโครงการวิจัย
(Information Sheet)

ชื่อโครงการ

ความสัมพันธ์ของแหล่งประโยชน์ในการเผชิญความเครียดกับภาวะสุขภาพจิตในผู้ป่วยมะเร็งเต้านม

วัตถุประสงค์

1. เพื่อศึกษาศึกษาความสัมพันธ์ระหว่างแหล่งประโยชน์ที่ใช้ในการเผชิญความเครียด ได้แก่ ความเข้มแข็งในการมองโลก และความหวัง กับภาวะสุขภาพจิตในผู้ป่วยมะเร็งเต้านม
2. เพื่อศึกษาภาวะสุขภาพจิตในผู้ป่วยมะเร็งเต้านม

วิธีการวิจัย/ระยะเวลาที่เข้าร่วมการวิจัย

การวิจัยครั้งนี้ศึกษาในผู้ป่วยมะเร็งเต้านม ระยะที่ 1 หรือ 2 ที่มารับการรักษาที่โรงพยาบาล .....**....**หน่วยเคมีบำบัด จำนวน 90 คน ทำการเก็บรวบรวมข้อมูลด้วยการให้ผู้ป่วยมะเร็งเต้านมตอบแบบสอบถามทั้งหมดจำนวน 4 ชุด ได้แก่ ข้อมูลส่วนบุคคล แบบสอบถามความเข้มแข็งในการมองโลก แบบสอบถามความหวัง และแบบสอบถามภาวะสุขภาพจิต ใช้เวลาตอบแบบสอบถาม ทั้งหมดนี้ประมาณ 30–40 นาที

เหตุผลที่เชิญชวนให้ผู้ยินยอมตนให้เข้าโครงการวิจัย

เนื่องจากท่านเป็นผู้หนึ่งที่สามารถให้ข้อมูลหรือความคิดเห็นอันจะเป็นประโยชน์ ต่อการวิจัย

ประโยชน์และความเสี่ยงที่คาดว่าจะเกิดกับผู้ยินยอมตนให้ทำการวิจัย

การวิจัยครั้งนี้อาจไม่ให้ประโยชน์แก่ท่านโดยตรง แต่ข้อมูลที่ได้จากท่านจะเป็นประโยชน์ในการนำไปใช้เป็นแนวทางในการส่งเสริมและป้องกันปัญหาสุขภาพจิตแก่ผู้ป่วยมะเร็งเต้านมต่อไป และการเข้าร่วมโครงการวิจัยไม่ได้ทำให้ท่านได้รับผลเสียใดๆจากการตอบแบบสอบถาม

การรักษาข้อมูลเป็นความลับ

ข้อมูลทั้งหมดจะได้รับการเก็บเป็นความลับ และจะไม่นำข้อมูลไปเปิดเผยเป็นรายบุคคล นอกจากนำเสนอโดยรวมในรูปการวิจัย

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สิทธิผู้ยินยอมตนให้ทำการวิจัย

หากท่านมีข้อสงสัยประการใดเกี่ยวกับการวิจัยในครั้งนี้ ดิฉันยินดีจะตอบข้อสงสัยให้ท่านเข้าใจ และไม่ว่าท่านจะเข้าร่วมในการวิจัยครั้งนี้หรือไม่ ท่านยังคงจะได้รับการรักษาจากเจ้าหน้าที่ของ.....(สถานบริการ).....ตามปกติ ท่านมีสิทธิ์ที่จะตอบรับหรือปฏิเสธการเข้าร่วมวิจัยครั้งนี้ ถึงแม้ท่านจะยินยอมเข้าร่วมการวิจัยแล้ว ท่านก็ยังมีสิทธิ์ที่จะขอยกเลิกการเข้าร่วมวิจัยนี้ได้ตลอดเวลาตามที่ท่านต้องการโดยไม่มีผลกระทบต่อการรักษาพยาบาลหรือบริการที่ท่านจะได้รับ

ผู้วิจัย นางสาวสุภาวดี พิสัยพันธุ์
ตำแหน่ง พยาบาลวิชาชีพ ระดับ 6
ที่ทำงาน โรงพยาบาลหนองคาย อ.เมือง จ.หนองคาย 43000
เบอร์โทรศัพท์ (01) 3802985
อาจารย์ที่ปรึกษา ผู้ช่วยศาสตราจารย์ ดร.ประภา ยุทธไตร
(ภาควิชาสุขภาพจิตและการพยาบาลจิตเวชศาสตร์)
ผู้ช่วยศาสตราจารย์ ดร.อติรัตน์ วัฒนไพลิน
(ภาควิชาสุขภาพจิตและการพยาบาลจิตเวชศาสตร์)
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ตำแหน่ง อาจารย์
ที่ทำงาน คณะพยาบาลศาสตร์ มหาวิทยาลัยมหิดล
แขวงศิริราช เขตบางกอกน้อย กรุงเทพมหานคร 10700
เบอร์โทรศัพท์ (02) 4797466-80 ต่อ ภาควิชาสุขภาพจิตและการพยาบาลจิตเวชศาสตร์
ต่อ ภาควิชาการพยาบาลศัลยศาสตร์

แหล่งให้ข้อมูลหากมีข้อสงสัยเกี่ยวกับสิทธิผู้ยินยอมตนให้ทำการวิจัย
(ที่อยู่ของสำนักงานคณะกรรมการจริยธรรมการวิจัยในมนุษย์ในแต่ละแห่งที่เก็บข้อมูล)

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เอกสารยินยอมให้ทำการวิจัยโดยได้รับการบอกกล่าวและเต็มใจ

(Informed Consent Form)

การวิจัยเรื่อง "ความสัมพันธ์ของแหล่งประโยชน์ในการเผชิญความเครียดกับภาวะสุขภาพจิตในผู้ป่วยมะเร็งเต้านม"

วันที่ให้คำยินยอม วันที่.....เดือน..... พ.ศ. .....

ก่อนที่จะลงนามในใบยินยอมให้ทำการวิจัยครั้งนี้ ข้าพเจ้าได้รับการอธิบายจากผู้วิจัยถึงวัตถุประสงค์ของการวิจัย วิธีการวิจัย อันตรายที่อาจเกิดขึ้นจากการทำวิจัยรวมทั้งประโยชน์ที่จะเกิดขึ้นจากการวิจัยอย่างละเอียดและมีความเข้าใจดีแล้ว ข้าพเจ้ามีสิทธิที่จะบอกเลิกการเข้าร่วมในโครงการวิจัยนี้เมื่อใดก็ได้และเข้าร่วมโครงการนี้โดยสมัครใจ และการบอกเลิกการเข้าร่วมโครงการนี้จะไม่มีผลต่อการรักษาโรคที่ข้าพเจ้าจะพึงได้รับต่อไป

ผู้วิจัยรับรองว่าจะตอบคำถามต่างๆ ที่ข้าพเจ้าสงสัยด้วยความเต็มใจ ไม่ปิดบังซ่อนเร้นจนข้าพเจ้าพอใจ

ผู้วิจัยรับรองว่าจะเก็บข้อมูลเฉพาะเกี่ยวกับตัวข้าพเจ้าเป็นความลับ และจะเปิดเผยได้เฉพาะในรูปที่สรุปผลการวิจัย การเปิดเผยข้อมูลเกี่ยวกับข้าพเจ้าต่อหน่วยงานต่างๆที่เกี่ยวข้องกระทำได้เฉพาะกรณีจำเป็นด้วยเหตุผลทางวิชาการเท่านั้น

ผู้วิจัยรับรองว่าหากมีข้อมูลเพิ่มเติมที่ส่งผลกระทบต่อการวิจัย ข้าพเจ้าจะได้รับการแจ้งให้ทราบโดยไม่ปิดบังซ่อนเร้น

ข้าพเจ้าได้อ่านข้อความข้างต้นแล้วมีความเข้าใจดีทุกประการ และได้ลงนามในใบยินยอมนี้ด้วยความเต็มใจ

ลงนาม..... ผู้ยินยอม

ลงนาม..... พยาน

ลงนาม..... พยาน

ในกรณีที่ผู้ยินยอมตนให้ทำการวิจัยไม่สามารถอ่านและเขียนหนังสือได้ จะต้องได้รับการยินยอมในขณะที่ยังมีสติสัมปชัญญะ และระบุข้อความไว้ตามนี้ ข้าพเจ้าไม่สามารถอ่านหนังสือได้ แต่ผู้วิจัยได้อ่านข้อความในใบยินยอมนี้ให้แก่ข้าพเจ้าฟังจนเข้าใจดีแล้ว ข้าพเจ้าจึงลงนามหรือประทับลายนิ้วหัวแม่มือของข้าพเจ้าในใบยินยอมนี้ด้วยความเต็มใจ

ลงนาม..... ผู้ยินยอม

(หรือประทับลายนิ้วหัวแม่มือ)

ลงนาม..... พยาน

ลงนาม..... พยาน

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หมายเหตุ

หลังจากการเก็บรวบรวมข้อมูลด้วยการชี้แจงและขอความร่วมมือด้วยเอกสารคำอธิบาย (Information Sheet)โครงการและเอกสารยินยอมให้ทำการวิจัยโดยได้รับการบอกกล่าวและเต็มใจ (Informed Consent Sheet) แล้ว คณะกรรมการควบคุมวิทยานิพนธ์มีความเห็นตรงกันว่าควรเปลี่ยนชื่อวิทยานิพนธ์ จากชื่อเดิมเรื่อง “ความสัมพันธ์ของแหล่งประโยชน์ในการเผชิญความเครียดกับภาวะสุขภาพจิตในผู้ป่วยมะเร็งเต้านม” เปลี่ยนเป็น “ความสัมพันธ์ระหว่างแหล่งประโยชน์ภายในตนเองในการเผชิญความเครียดกับปัญหาสุขภาพจิตในผู้ป่วยมะเร็งระยะเริ่มแรก” เพื่อความเหมาะสม ชัดเจน และสอดคล้องกับวัตถุประสงค์ของการศึกษาในครั้งนี้ ฉะนั้นชื่อวิทยานิพนธ์ที่ปรากฏในเอกสารคำอธิบายโครงการและเอกสารยินยอมให้ทำการวิจัยโดยได้รับการบอกกล่าวและเต็มใจจึงไม่ตรงกับชื่อที่ปรากฏบนหน้าปกวิทยานิพนธ์

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APPENDIX B
RESEARCH INSTRUMENTS

แบบสอบถามเลขที่ □□
โรงพยาบาล.....

แบบสอบถาม
เรื่อง
ความสัมพันธ์ระหว่างแหล่งประโยชน์ภายในตนเองในการเผชิญความเครียด
กับปัญหาสุขภาพจิตในผู้ป่วยมะเร็งเต้านมระยะเริ่มแรก

คำชี้แจง

แบบสอบถามนี้ใช้สอบถามผู้ป่วยมะเร็งเต้านมที่มารับการรักษาที่โรงพยาบาลที่ผู้วิจัยทำการศึกษา โดยแบ่งเป็น 4 ส่วนดังนี้

ส่วนที่ 1 แบบสอบถามข้อมูลทั่วไปส่วนบุคคล
ส่วนที่ 2 แบบสอบถามความเข็มแข็งในการมองโลก
ส่วนที่ 3 แบบสอบถามความหวัง
ส่วนที่ 4 แบบสอบถามปัญหาสุขภาพจิต

1. อธิบายคำชี้แจง และขอความร่วมมือในการวิจัยตามเอกสารชี้แจงให้ผู้ตอบแบบสอบถามเข้าใจอย่างชัดเจน
2. การบันทึก ให้ผู้ตอบแบบสอบถามขีดเครื่องหมาย √ หรือเขียนข้อมูลลงในช่องที่กำหนดให้ตรงกับคำตอบและตามความเป็นจริง
3. เมื่อตอบแบบสอบเรียบร้อยสำรวจความครบถ้วนของคำตอบในแต่ละข้อคำถามอีกครั้ง
4. กล่าวขอบคุณในความร่วมมือของผู้ตอบแบบสอบถาม

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ส่วนที่ 1 แบบสอบถามข้อมูลทั่วไปส่วนบุคคล

(1) ขณะนี้คุณมีอายุเท่าไร**.....**ปี

(2) สถานภาพสมรสของคุณ

☐ โสด ☐ คู่ ☐ หม้าย

☐ หย่า ☐ แยก

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(9) ระยะเวลาของการเจ็บป่วยภายหลังจากทราบผลการวินิจฉัยโรคนาน**.....**เดือน

(10) ระยะของโรค

☐ ระยะที่ 1 ☐ ระยะที่ 2

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ส่วนที่ 2 แบบสอบถามความเข้มแข็งในการมองโลก

<u>คำชี้แจง</u> : ข้อความต่อไปนี้เป็นการถามการมองชีวิตในแง่มุมต่างๆ ในแต่ละข้อคำถามจะมีตัวเลขให้ท่านเลือกตั้งแต่ 1 ถึง 7 โดยที่ตำแหน่งเลข 1 และ 7 จะมีข้อความที่บ่งลักษณะตรงกันข้ามส่วนตัวเลขตรงกลางจาก 2 ถึง 6 จะบ่งชี้ถึงความมากน้อยของความรู้สึกนึกคิดโดยอาศัยข้อความในตำแหน่งเลข 1 และ 7 เป็นหลัก กรุณาวงรอบตัวเลข O หรือทำเครื่องหมาย x ที่ตรงกับความรู้สึกของท่านมากที่สุด

<u>ตัวอย่าง</u> :

ท่านมีความพึงพอใจกับหน้าที่การงานของท่านมากน้อยเพียงใดในปัจจุบันนี้

1 2 3 4 5 (6) 7

ไม่พอใจเลย พอใจเป็นอย่างมาก

ในที่นี้ผู้ตอบวงรอบเลข 6 แสดงว่า ผู้ตอบพอใจในหน้าที่การงานใกล้เคียงหรือเกือบถึงระดับสูงสุด คือ พอใจเป็นอย่างมาก

1. ท่านมีความรู้สึกว่า ท่านไม่สนใจกับสิ่งที่เกิดขึ้นรอบๆ ตัวท่าน บ่อยเพียงใด ?

1 2 3 4 5 6 7

ไม่เคย รู้สึกว่าเป็น

รู้สึกเลย เช่นนี้บ่อย

2. ในอดีตที่ผ่านมา ท่านเคยพบกับความแปลกใจในการกระทำของบุคคล ซึ่งท่านคิดว่าท่านรู้จักเขาเป็นอย่างดีบ้างไหม ?

1 2 3 4 5 6 7

ไม่เคย เคยพบ

พบเลย อยู่เสมอ

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13. ท่านมีความรู้สึกไม่แน่ใจว่า ท่านจะควบคุมสถานการณ์ต่างๆ ในชีวิตได้บ่อยแค่ไหน ?

1 2 3 4 5 6 7

บ่อยมาก น้อยมาก หรือไม่มีเลย

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ส่วนที่ 3 แบบสอบถามความหวัง

<u>คำชี้แจง</u> : เมื่อท่านฟังข้อความต่อไปนี้แล้ว ให้ท่านบอกถึงระดับความรู้สึกของท่านว่า เห็นด้วย หรือ ไม่เห็นด้วย โดยคำตอบที่ได้จะไม่มีถูกหรือผิด

ข้อความ	ระดับความรู้สึก			
	ไม่เห็นด้วยอย่างยิ่ง	ไม่เห็นด้วย	เห็นด้วย	เห็นด้วยอย่างยิ่ง
1. ท่านจะมีชีวิตที่ดีในอนาคต				
2. ท่านมีจุดมุ่งหมายในชีวิต ทั้งในระยะสั้น ระยะกลาง หรือระยะยาว				
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11. ท่านเชื่อว่าในแต่ละวันที่ผ่านไปจะมีสิ่งดีๆเกิดขึ้น				
12. ท่านรู้สึกว่าชีวิตยังมีคุณค่า				

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ส่วนที่ 4 แบบสอบถามปัญหาสุขภาพจิต

<u>คำชี้แจง</u> : กรุณาตอบคำถามต่อไปนี้ โดยเขียนเครื่องหมายวงกลมรอบคำตอบที่ใกล้เคียงกับสภาพของท่านในปัจจุบันหรือในช่วงสามสัปดาห์ที่ผ่านมามากที่สุด โดยไม่รวมถึงปัญหาที่ท่านเคยมีในอดีต

ในระยะ 2-3 สัปดาห์ที่ผ่านมานี้ ท่าน

1. รู้สึกสบายดีและมีสุขภาพดี
   ก. ดีกว่าปกติ ข. เหมือนปกติ
   ค. แย่กว่าปกติ ง. แย่กว่าปกติมาก
2. รู้สึกต้องการยาบำรุงให้มีกำลังวังชา
   ก. ไม่เลย ข. ไม่มากกว่าปกติ
   ค. ค่อนข้างมากกว่าปกติ ง. มากกว่าปกติมาก

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27. พบว่าตัวเองรู้สึกอยากตายไปให้พ้นๆ
   ก. ไม่เลย ข. ไม่มากกว่าปกติ
   ค. ค่อนข้างมากกว่าปกติ ง. มากกว่าปกติมาก
28. พบว่ามีความรู้สึกที่อยากจะทำลายชีวิตตัวเองเข้ามาอยู่ในความคิดเสมอๆ
   ก. ไม่อย่างแน่นอน ข. ไม่คิดว่าเป็นอย่างนั้น
   ค. มีอยู่บ้างเหมือนกัน ง. มีแน่ๆ

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APPENDIX C
GUIDELINES FOR HELPING PATIENTS AT RISK FOR MENTAL HEALTH PROBLEMS

แนวทางการช่วยเหลือผู้ป่วยกรณีที่มีความเสี่ยงต่อการเกิดปัญหาสุขภาพจิต

เนื่องจากการวิจัยครั้งนี้เป็นการวิจัยแบบบรรยาย ทำการเก็บรวบรวมข้อมูลโดยใช้แบบสอบถามซึ่งไม่ก่อให้เกิดอันตรายต่อผู้ป่วยแต่อย่างใด แต่ถ้าพบว่าผู้ป่วยมีปัญหาสุขภาพจิตที่รุนแรงจะให้การช่วยเหลือทันที

ในการตอบแบบสอบถามชุดที่ 4 ซึ่งเป็นแบบสอบถามคัดกรองปัญหาสุขภาพจิต มีข้อคำถามเกี่ยวกับอาการซึมเศร้า คือ ข้อคำถามที่ 22, 23, 24, 26 และ 27 ถ้าผู้ตอบแบบสอบถามข้อดังกล่าวเหล่านี้โดยให้คำตอบ “ค่อนข้างมากกว่าปกติ” หรือ “มากกว่าปกติ” ส่วนข้อคำถามที่ 25 และ28 นั้น ถ้าผู้ตอบแบบสอบถามเหล่านี้โดยให้คำตอบ “มีอยู่บ้างเหมือนกัน” หรือ “มีแน่ๆ” คำตอบเหล่านี้แสดงว่าผู้ป่วยมีแนวโน้มเสี่ยงต่อการฆ่าตัวตาย ซึ่งจำเป็นต้องได้รับการบำบัด เพื่อป้องกันการฆ่าตัวตาย ซึ่งอาจทำในรูปแบบการให้คำปรึกษาเพื่อป้องกันการฆ่าตัวตาย และอาจจำเป็นต้องรักษาด้วยยาต้านเศร้าถ้าผู้ป่วยเป็นโรคซึมเศร้า หรือในกรณีที่ผู้ป่วยตอบแบบสอบถามมีคะแนนมากกว่า 6 คะแนนขึ้นไปซึ่งถือว่ามีปัญหาสุขภาพจิตที่ต้องให้การช่วยเหลือ ดังนั้นผู้วิจัยจะปฏิบัติ ดังต่อไปนี้

ถ้าผู้ป่วยตอบคำถามข้อใดข้อหนึ่งหรือหลายข้อในข้อที่ 22, 23, 24, 25, 26, 27 และ 28 ดังกล่าวในลักษณะข้างต้นหรือพบว่าคะแนนจากแบบสอบถามตั้งแต่ 6 คะแนนขึ้นไป โดยที่ผู้ป่วยจะเกิดภาวะจิตที่รุนแรงหรือไม่ก็ตาม ผู้วิจัยจะให้การช่วยเหลือ ดังนี้

1. ให้คำปรึกษาในระยะสั้นเพื่อลดปัญหาทางอารมณ์ โดย

1.1 เปิดโอกาสให้ผู้ป่วยระบายความรู้สึก (Empathic listening) และตอบสนองอารมณ์ของผู้ป่วย (Reflection of feeling) เพื่อให้ผู้ป่วยได้ตระหนักในความรู้สึกของตนเองและผ่อนคลายความรู้สึก

1.2 ให้การช่วยเหลือ ดังนี้

1.2.1 โดยกระตุ้นให้คิดถึงสิ่งที่เหนี่ยวรั้งจิตใจให้อยากมีชีวิตอยู่ เช่น อยู่เพื่อใคร “ลูกคุณหรือแม่คุณคงเสียใจ ถ้าคุณจากไป”

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1.2.2 ให้กำลังใจ ประคับประคองใจ ค้นหาศักยภาพหรือความสามารถที่มีอยู่เพื่อให้ผู้ป่วยสามารถแก้ปัญหาขณะนี้และยังคงมีหวังหรือรู้สึกมีค่าอยู่ เช่น “ถึงแม้คุณจะป่วยแต่คุณก็ยังมีโอกาสรักษาให้หายหรือ /ทุเลาได้ คุณยังแข็งแรง ยังสามารถทำอะไรๆและ/หรือเป็น ที่พึ่งให้กับครอบครัวได้”

2. ประเมินว่าผู้ป่วยมีภาวะโรคซึมเศร้าหรือไม่ เพราะถ้าผู้ป่วยเป็นโรคซึมเศร้าควรได้รับการรักษาด้วยยาต้านเศร้าร่วมด้วยซึ่งจำเป็นต้องส่งให้จิตแพทย์เป็นผู้ดูแลต่อไป ดังนั้นผู้วิจัยจะประเมินผู้ป่วยกลุ่มนี้ทุกรายโดยการซักถามว่าผู้ป่วยมีอารมณ์ซึมเศร้า หรือมีความเบื่อหน่ายหมดความใส่ใจในสิ่งต่างๆ ร่วมกับมีอาการดังต่อไปนี้ ตั้งแต่ 4 อาการขึ้นไป ได้แก่

เบื่ออาหาร หรือน้ำหนักลด หรือกินมากผิดปกติ
นอนไม่หลับ หรือหลับมากกว่าปกติ
ความคิดและการเคลื่อนไหวเชื่องช้า หรอกระสับกระส่าย หงุดหงิด
อ่อนเพลียไม่มีแรง
สมาธิ ความจำเสื่อม
มีความคิดอยากตาย
รู้สึกตนไร้ค่า ตำหนิตนเอง

โดยประเมินว่าผู้ป่วยมีอาการดังกล่าวเป็นเวลาอย่างน้อย 2 สัปดาห์หรือไม่ ถ้ามีแสดงว่าเป็นโรคซึมเศร้า

3. การส่งต่อ เมื่อผู้ป่วยรู้สึกผ่อนคลายจะได้ดำเนินการส่งต่อเพื่อให้ได้รับการบำบัดที่ต่อเนื่องต่อไป เนื่องจากผู้ป่วยเสี่ยงต่อการฆ่าตัวตายจำเป็นต้องได้รับการบำบัดและประเมินความเสี่ยงเป็นระยะๆ ดังนั้นหลังจากให้ความช่วยเหลือในระยะเริ่มแรกเพื่อให้ผู้ป่วยได้ผ่อนคลายภาวะเครียดหรือซึมเศร้าแล้ว จะส่งเสริมให้ผู้ป่วยได้รับการช่วยเหลือที่ต่อเนื่องโดยให้คำแนะนำให้ใช้บริการต่อเนื่องจากหน่วยบริการให้คำปรึกษาของโรงพยาบาล รวมทั้งอำนวยความสะดวกในการติดต่อกับหน่วยให้คำปรึกษา และแจ้งให้ผู้ให้คำปรึกษาของหน่วยให้คำปรึกษา รวมทั้งทีมผู้รักษาพยาบาลได้ทราบว่าผู้ป่วยมีภาวะโรคซึมเศร้าหรือมีภาวะเสี่ยงต่อการฆ่าตัวตายสูงมากน้อยเพียงใด เพื่อให้การช่วยเหลือที่เหมาะสมต่อไป

หมายเหตุ

จากการสัมภาษณ์ผู้ป่วยจำนวน 90 คน พบว่า ในกลุ่มอาการซึมเศร้าที่รุนแรง ผู้ป่วยมีความรู้สึกว่าชีวิตนี้หมดหวังโดยสิ้นเชิงและรู้สึกว่าบางครั้งทำอะไรไม่ได้เลยเพราะประสาทตึงเครียดมากจำนวนมากที่สุดร้อยละ 10.80 เท่ากัน (12 คน) เมื่อสัมภาษณ์ลงไปในรายละเอียดแล้วพบว่ามักจะ

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มีความรู้สึกดังกล่าวเมื่อมีปัญหาต่างๆเข้ามารุมเร้า แต่เมื่อคิดถึงบุตรหรือสมาชิกคนอื่นๆในครอบครัวแล้วทำให้เกิดความเป็นห่วงและคิดว่าตนเองยังสามารถดูแลช่วยเหลือคนอื่นๆได้ มีผู้ป่วยบางรายรู้สึกหงุดหงิดและไม่สบายทั้งกายและใจจากอาการข้างเคียงของการรักษาและปัญหาต่างๆในชีวิต ซึ่งเมื่อได้ระบายและรับการประคับประคองด้านจิตใจจากผู้วิจัยแล้ว ส่วนใหญ่จะยอมรับสภาพปัญหาได้ มีเพียง 1 รายที่ผู้วิจัยได้ส่งต่อยังพยาบาลหน่วยเคมีบำบัด เนื่องจากพบว่ามีลักษณะท้อแท้หมดหวังและผู้ป่วยมีสีหน้าท่าทางเหนื่อยล้า

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APPENDIX D

EXAMINING TERMS AND CONDITIONS FOR DATA ANALYSIS PEARSON'S PRODUCT MOMENT CORRELATION

การตรวจสอบเงื่อนไขในการวิเคราะห์ข้อมูลด้วยสหสัมพันธ์เพียร์สัน

ข้อตกลงเบื้องต้นของการวิเคราะห์สถิติสหสัมพันธ์เพียร์สัน ประกอบด้วย 1) ตัวแปรเป็นข้อมูลเชิงปริมาณ 2) การแจกแจงของข้อมูลตัวแปรเป็นแบบปกติ และ 3) ความสัมพันธ์ระหว่าง 2 ตัวแปรเป็นเชิงเส้นเท่านั้น การทำการทดสอบสมมติฐานเกี่ยวกับสัมประสิทธิ์สหสัมพันธ์ควรตรวจสอบการแจกแจงของข้อมูลและความสัมพันธ์ระหว่างตัวแปร (กัลยา นิชย์บัญชา, 2548)

จากข้อตกลงเบื้องต้น ตัวแปรที่ศึกษาครั้งนี้ ได้แก่ ความเข้มแข็งในการมองโลก ความหวัง และปัญหาสุขภาพจิต เป็นข้อมูลเชิงปริมาณ ผู้วิจัยจึงทำการตรวจสอบการแจกแจงของข้อมูลตัวแปรจากกลุ่มตัวอย่างที่มีปัญหาสุขภาพจิต (N = 40) โดยใช้กราฟ (ดังแผนภูมิที่ 2-4) และทดสอบด้วยสถิติ Shapiro-Wilk Test เนื่องจากขนาดกลุ่มตัวอย่างมีไม่เกิน 50 (ดังตารางที่ 5) ผลการตรวจสอบ พบว่า ความเข้มแข็งในการมองโลกและความหวังมีการแจกแจงแบบปกติ แต่ปัญหาสุขภาพจิตมีการแจกแจงแบบไม่ปกติ จึงไม่เป็นไปตามข้อตกลงเบื้องต้นข้อที่ 2 ทำให้ไม่สามารถใช้สถิติสหสัมพันธ์เพียร์สันในการวิเคราะห์ข้อมูลในครั้งนี้ได้

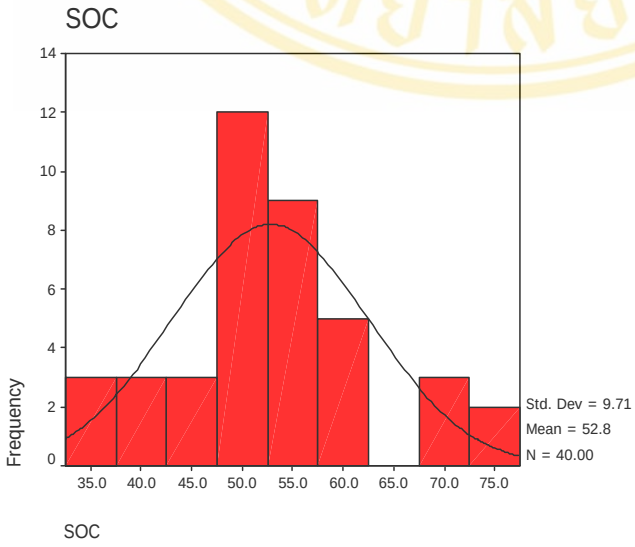

Figure 2 Histogram of sense of coherence

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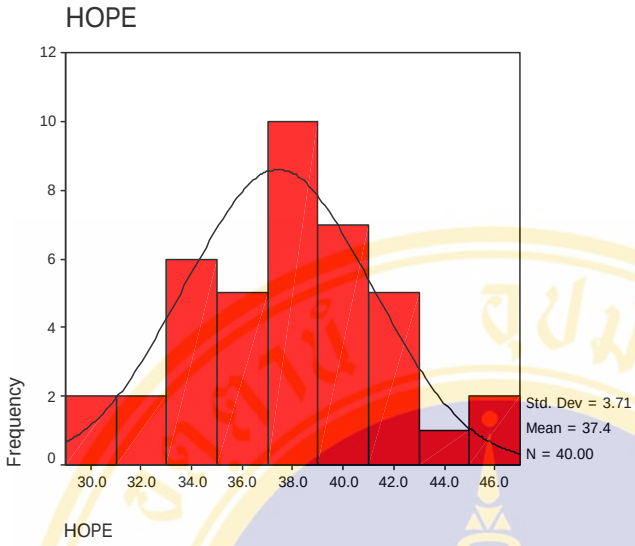

Figure 3 Histogram of hope

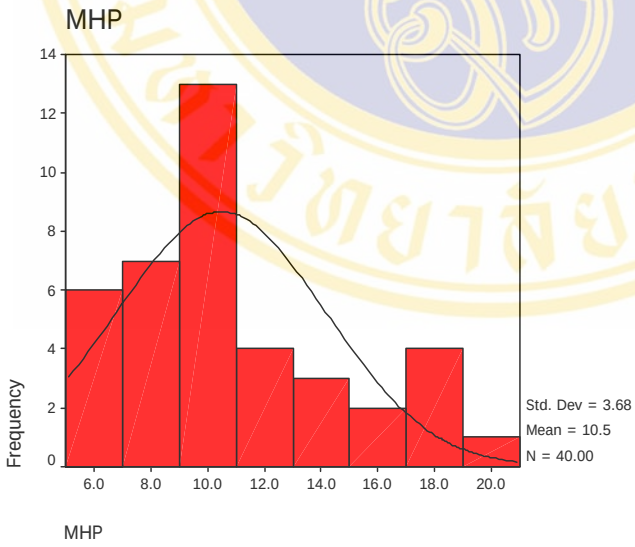

Figure 4 Histogram of mental health problems

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Table 5 Test of Normality of variables

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
SOC	.121	40	.144	.958	40	.253
HOPE	.112	40	.200	.971	40	.490
MHP	.201	40	.000*	.895	40	.010 *

*. This is a lower bound of the true significance.

**. This is an upper bound of the true significance.

a. Lilliefors Significance Correction

SOC = Sense of coherence
HOPE = Hope
MPH = Mental health problems

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APPENDIX E

AFFIRMATION OF ETHICS IN RESEARCH ON HUMAN SUBJECTS

No. MU 2006-028

Documentary Proof of Ethical Clearance
The Committee on Human Rights Related to Human Experimentation
Mahidol University, Bangkok

Title of Project: The Relationship of Coping Resources and Mental Health in Breast Cancer Patients
(Thesis for Master Degree)

Principle Investigator: Miss Supawadee Phisaiphanth

Name of Institution: Faculty of Nursing

Approved by the Committee on Human Rights Related to Human Experimentation

Signature of Chairman: .....
(Professor Dr.Srisin Khusmith)

Signature of Head of the Institute: .....
(Professor Dr.Pornchai Matangkasombut)

Date of Approval: - 2 MAR 2006

Date of Expiration: - 1 MAR 2007

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เอกสารรับรองจริยธรรมทางการวิจัย

เอกสารฉบับนี้ เพื่อแสดงว่า โครงการวิจัย

เรื่อง ความสัมพันธ์ของแหล่งประโยชน์ในการเผชิญความเครียดกับภาวะสุขภาพจิตในผู้ป่วยมะเร็งเต้านม

ผู้วิจัย คือ นางสาวสุภาวดี พิสัยพันธุ์ และคณะ

สถาบัน/หน่วยงาน นักศึกษาหลักสูตรพยาบาลศาสตรมหาบัณฑิต สาขาวิชาสุขภาพจิตและการพยาบาลจิตเวชศาสตร์ คณะพยาบาลศาสตร์ มหาวิทยาลัยมหิดล

ได้ผ่านการพิจารณาจากคณะกรรมการจริยธรรมทางการวิจัย โรงพยาบาลขอนแก่น แล้ว และเห็นว่าผู้วิจัยต้องดำเนินการตามโครงการวิจัยที่ได้กำหนดไว้แล้ว หากจะมีการปรับเปลี่ยนหรือแก้ไขใด ๆ ควรผ่านความเห็นชอบหรือแจ้งต่อคณะกรรมการจริยธรรมทางการวิจัยอีกครั้ง

ออกให้ ณ วันที่ 24 เดือน มีนาคม พ.ศ. 2549

ลงชื่อ .....

(นายสุรกรานต์ ยุทธเกษมสันต์)

นายแพทย์ 7

ประธานกรรมการจริยธรรมทางการวิจัย

โรงพยาบาลขอนแก่น

ลงชื่อ .....

(นายวิทยา จารุพูนผล)

ผู้อำนวยการโรงพยาบาลขอนแก่น

คณะกรรมการจริยธรรมวิจัยในมนุษย์ รพ.ขอนแก่น

ลำดับที่ 18 / 2549

คณะกรรมการจริยธรรมทางการวิจัย โรงพยาบาลขอนแก่น

สำนักงาน: งานวิจัยและพัฒนาระบบสุขภาพ กลุ่มพัฒนาระบบบริการสุขภาพ โรงพยาบาลขอนแก่น

ถนนศรีจันทร์ อำเภอเมือง จังหวัดขอนแก่น 40000

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