# Coping Strategies and Emotional Distress of Patients with Early Stage Breast Cancer and Their Spouses

**Pannee Buaniam**

**A Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of Master of Nursing Science (International Program)**

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**ชื่อวิทยานิพนธ์** การจัดการกับความเครียดและภาวะบีบคั้นทางอารมณ์ของผู้ป่วยมะเร็งเต้านมในระยะแรกและคู่สมรส

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## บทคัดย่อ


การวิจัยครั้งนี้เป็นวิจัยเชิงพรรณา มีวัตถุประสงค์เพื่อศึกษาวิธีการจัดการกับความเครียดและภาวะบีบคั้นทางอารมณ์ของผู้ป่วยมะเร็งเต้านมในระยะแรกและคู่สมรส และความสัมพันธ์ระหว่างตัวแปรดังกล่าว กลุ่มตัวอย่างเป็นผู้ป่วยมะเร็งเต้านมในระยะแรกและคู่สมรสที่มารับการตรวจรักษาทั้งแบบผู้ป่วยนอกและผู้ป่วยใน ที่โรงพยาบาลสงขลานครินทร์และโรงพยาบาลหาดใหญ่ จำนวน 61 คู่ เครื่องมือที่ใช้เก็บรวบรวมข้อมูลประกอบด้วยแบบบันทึกข้อมูลส่วนบุคคล แบบวัดวิธีการจัดการกับความเครียดกับความเจ็บป่วย และแบบวัดภาวะบีบคั้นทางอารมณ์ วิเคราะห์ข้อมูลโดยใช้สัมประสิทธิ์สหสัมพันธ์เพียร์สัน

ผลการวิจัยพบว่า วิธีการจัดการกับความเครียดที่ทั้งผู้ป่วยมะเร็งเต้านมในระยะแรกและคู่สมรสใช้มากที่สุด 3 อันดับได้แก่ การแสวงหาการเกื้อหนุนทางอารมณ์ การยอมรับ และการลงมือดำเนินการแก้ปัญหา ค่าคะแนนเฉลี่ยภาวะบีบคั้นทางอารมณ์ของผู้ป่วยคือ 13.74 ส่วนค่าคะแนนเฉลี่ยภาวะบีบคั้นทางอารมณ์ของคู่สมรสคือ 6.23 (ค่าคะแนนที่เป็นไปได้อยู่ระหว่าง -20 ถึง 80) ซึ่งจะเห็นได้ว่าผู้ป่วยมีภาวะบีบคั้นทางอารมณ์มากกว่าคู่สมรส ผลการวิจัยยังพบว่า วิธีการจัดการกับความเครียดที่ผู้ป่วยมะเร็งเต้านมใช้ ได้แก่ การหลีกหนีปัญหา การระบายความรู้สึก การวางแผน และการตำหนิตัวเองมีความสัมพันธ์กับภาวะบีบคั้นทางอารมณ์ของตนเอง ส่วนวิธีการจัดการกับความเครียดที่คู่สมรสของผู้ป่วยมะเร็งเต้านมใช้ ได้แก่ การหลีกหนีปัญหา มีความสัมพันธ์กับภาวะบีบคั้นทางอารมณ์ของคู่สมรส แต่ภาวะบีบคั้นทางอารมณ์ของผู้ป่วยไม่มีความสัมพันธ์กับภาวะบีบคั้นทางอารมณ์ของคู่สมรส และภาวะบีบคั้นทางอารมณ์ของคู่สมรสไม่มีความสัมพันธ์กับภาวะบีบคั้นทางอารมณ์ของผู้ป่วย อย่างไรก็ตามผลการวิจัยครั้งนี้พบว่าภาวะอารมณ์ด้านความซึมเศร้าและความโกรธของผู้ป่วยและคู่สมรสมีความสัมพันธ์กัน

จากผลการวิจัยครั้งนี้กล่าวได้ว่า วิธีการจัดการกับความเครียดของผู้ป่วยมะเร็งเต้านมและคู่สมรสมีความสัมพันธ์กับภาวะบีบคั้นทางอารมณ์ ดังนั้นพยาบาลควรมีการประเมิน

วิธีการจัดการกับความเครียดของผู้ป่วยมะเร็งเต้านมและคู่สมรสอย่างสม่ำเสมอ และให้การสนับสนุนให้ผู้ป่วยมะเร็งเต้านมและคู่สมรสได้ใช้วิธีการจัดการกับความเครียดที่เหมาะสม ซึ่งจะช่วยลดภาวะบีบคั้นทางอารมณ์ของผู้ป่วยมะเร็งเต้านมและคู่สมรสได้

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## ABSTRACT

The aim of this study was to examine coping strategies and the emotional distress of patients with early stage breast cancer and their spouses, and to examine the relationships between these two variables. This descriptive correlational research involved sixty-one couples (patients with early stage breast cancer and their spouses) recruited from outpatient clinics and inpatient departments of Songklanagarind Hospital and Hatyai Hospital, Songkla Province, Thailand. The study was conducted from December 22, 2008 to May 15, 2009.

A Demographic Data Form was used to obtain the subjects' characteristics. The Brief COPE instrument was used to measure coping strategies whereas the POMS-B was used to measure the emotional distress of patients and their spouses. Pearson's Product-moment correlation coefficient was used to examine the relationships between coping strategies and the emotional distress of patients and their spouses.

The results of this study showed that the three most frequently used coping strategies for patients with breast cancer and their spouses were emotional support, acceptance, and active coping. The mean total mood disturbance score of the patients was 13.74 whereas the mean score of spouses was 6.23. (The possible scores were -20 to 80). The results showed that patients had more emotional distress as compared to spouses. The results also indicated that the coping strategies of patients with breast cancer namely behavioral disengagement, venting, planning, self-blame were related to their emotional distress ($r = .59$ $p < 0.01$, $r = .38$ $p < 0.01$, $r = .28$ $p < 0.05$, $r = .36$ $p < 0.01$ respectively), whereas only one coping strategy of the spouses, namely behavioral disengagement, was related to their emotional distress ($r = .56$, $p < 0.01$). There was no significant correlation between the emotional distress of patients with breast cancer and their spouses, but significant correlation between mood factors was identified.

The findings support the notion that some coping strategies are related to emotional distress. Nurses should regularly assess coping strategies and facilitate coping that is appropriate to each individual to reduce emotional distress.

## ACKNOWLEDGEMENTS

The successful completion of this thesis is attributed to the extensive support from my major advisor, Dr. Charuwan Kritpracha. She gave invaluable advice, guidance, consultation, encouragement, and made corrections. I strongly believe that without her compassion and concern, I would not have finished all that had to be done on this thesis and my master degree. I am very grateful to Assist.Prof. Dr. Kittikorn Nilmamat, my co-advisor, for her contributions, suggestions, guidance and encouragement that enabled me to finish this.

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# CHAPTER 1

# INTRODUCTION

## *Background and Significance of the Problem*

Breast cancer is the most common cancer in females worldwide. In Thailand, during 1998-2000, breast cancer was the second most common cancer. The incidence of breast cancer has increased in the past decade. The estimated incidence rate is 20.5 per 10,000 women (Chaiwerawattana, 2007). In addition, it was estimated that the incidence rate of breast cancer is higher than cervical cancer (Bureau of Policy and Strategies, Ministry of Public Health, Thailand, 2007). Thus, breast cancer is one of the important health problems in Thai society.

Diagnosis of breast cancer not only impacts on the physical functions of a woman, it also impacts on her psychological functions. Breast cancer is often associated with pain, and physical limitations. Treatment for breast cancer, including surgery, radiation, and chemotherapy, may cause many side effects and change the body's appearance. It may interfere with the individuals' ability to perform activities in the workplace, home, and social arena (Heather & Scott, 2006). In addition, patients with breast cancer perceive that cancer is a life threatening disease. Some people also believe that cancer is one and the same as death or is a death sentence that makes them feel hopeless, fearful, and anxious (Junda, 2004a). They feel uncertainty regarding what causes it, how best to treat it, and what the long term outcomes will be (Corney, 2005). They have to confront many challenges (Arman, Rehnsfeldt, Carlsson, & Hamrin, 2001). Breasts are considered as a symbol of womanhood and

women's sexuality (Marshall & Kiemle, 2005). Patients with breast cancer may be concerned about the impact on their femininity and sexuality. Some patients experience psychosocial disturbance including general distress, anxiety, and depression (Heather & Scott, 2006). Women may also fear that their partners will leave them or their emotional and sexual relationships will deteriorate (Feldman & Broussard, 2006).

Breast cancer not only impacts on the patients but also on their spouses. They worry about the patients' condition and emotional response to the disease (Feldman & Broussard, 2006). Spouses feel it a challenge to carry out their usual role, assume domestic a role, manage household tasks, provide physical care, emotional support, and maintain marital and sexual relationships (Hilton, Crawford, & Tarko, 2000). Many spouses suffer with the patient when they see the patients suffering from the disease. Many patients also suffer when they see their spouses suffering and feel guilty for causing this suffering (Winterling, Wasteson, Glimelius, Sjoden, & Nordin, 2004). In addition, spouses are key supports for the patients (Pitceathly & Maguire, 2003). Therefore, both patients and spouses need to employ coping strategies to adjust to and live with breast cancer (Ben-Zur, Gilbar, & Lev, 2001). In particularly, patients with early stage of breast cancer are at high risk from poor coping.

There are many coping strategies that patients with breast cancer and their spouses can use to cope with their stress and anxiety. These depend on many factors such as personal (Shaw, 1999), appraisal (Heather & Scott, 2006), and social support (Landmark, Strandmark, & Wahl, 2002). Coping strategies are differentially associated with the distress that is related to breast cancer (Osowiecki & Compas, 1999). When couples are faced with stress because of a diagnosis of breast cancer

they may not have the emotional resources to support each other. Thus it can bring dissatisfaction, disappointment and distress for both sides. When they employ coping strategies, the strategies subsequently enable them to reduce either emotional distress (Baider, Walach, Perry, & De-Nour, 1998). When patients are distressed, their spouses are distressed as well because patients' and spouses' distress have a mutual influence on each other (Banthia et al., 2003). Furthermore, spouses' coping strategies and level of distress are related to patients' coping strategies and level of distress as well (Ben-Zur et al., 2001). Emotional distress seems to have a negative effect on one's ability to recover, the quality of life, and the prognosis of disease (Iwamitsu et al., 2003).

Previous studies have described coping strategies and emotional distress in patients with cancer. Additionally, the researchers have indicated that coping is associated with emotional distress. Most of these studies have been conducted in different cultures (Ben-Zur, 2001; Ben-Zur et al., 2001). The knowledge regarding coping can be applied in nursing care but more knowledge is needed from different populations, different environments and different cultures. In Thai culture, when a family member is sick, it also affects others. In particular, close partners can undergo misery similar to the patients (Kitrungrote, Wonghongkul, Chanprasit, Suttharangsee, & Cohen, 2008). Therefore, Thai patients with breast cancer and their spouses may employ different coping strategies and experience emotional distress. In Thailand, a few studies have focused on spouse's stress and coping (Oiemhno, Wonghongkul, & Chanprasit, 2004; Thaiglang, Phantusena, & Takaviriyanant, 2000). These studies found that spouses of cancer patients experienced stress due to the diagnosis of cancer and coped by planning, problem-solving, and seeking social support. These previous

studies have not focused on the relationship between coping strategies and emotional distress of breast cancer patients and their spouses. Therefore, the coping strategies and emotional distress of Thai breast cancer patients and their spouses is worth to investigate.

This study focused on breast cancer patients at stage I or II which is the initial phase of having cancer. The patients and their spouses needed to cope with the stressful event after the diagnosis of breast cancer. In particular, the first 6 months of the illness is a critical time for women with breast cancer and their spouses (Phisaipanth, 2007). During this time they have to adapt to their symptoms and treatment plans, adjust to their roles and responsibility, or adjust to new living patterns during the treatment period. Thus they are at risk of developing emotional distress.

Understanding the coping strategies used and the emotional distress of patients with breast cancer and their spouses is essential knowledge for nurses. They need to support both patients and spouses. Nurses can provide appropriate nursing interventions to enhance the patients' and their spouse's coping skills. This may help reduce their emotional distress. Moreover, it is expected that information attained from this study will be useful for health care providers to help them develop good standards of care for breast cancer patients and their spouses.

*Objectives of Research*

The objectives of this study were:

1. To identify the coping strategies of patients with breast cancer and their spouses.

2. To explore the emotional distress of patients with breast cancer and their spouses.

3. To examine the relationship between coping strategies and the emotional distress of patients with breast cancer.

4. To examine the relationship between coping strategies and the emotional distress of spouses of patients with breast cancer.

5. To examine the relationship between coping strategies of patients with breast cancer and the emotional distress of their spouses.

6. To examine the relationship between coping strategies of spouses and the emotional distress of patients with breast cancer.

7. To examine the relationship between the emotional distress of patients with breast cancer and the emotional distress of their spouses.

*Research Questions*

1. What are the coping strategies of patients with breast cancer and their spouses?

2. What are the levels of emotional distress of patients with breast cancer and their spouses?

3. Is there a relationship between coping strategies and the emotional distress of patients with breast cancer?

4. Is there a relationship between coping strategies and the emotional distress of spouses of patients with breast cancer?

5. Is there a relationship between coping strategies of patients with breast cancer and the emotional distress of spouses?

6. Is there a relationship between coping strategies of spouses and the emotional distress of patients with breast cancer?

7. Is there a relationship between the emotional distress of patients with breast cancer and the emotional distress of their spouses?

*Theoretical Framework of the Study*

This study is based on a cognitive appraisal model of stress and coping (Lazarus & Folkman, 1984), a model of factors that predict patient's and their spouse's adjustment (Northouse, Dorris, & Charron-Moore, 1995) and a review of existing literature. These were adapted to guide this study. According to the cognitive appraisal model of stress, there are three major components: antecedent, mediator, and outcomes. The study proposed that the diagnosis of breast cancer is an antecedent that influences coping strategies. Coping strategies was one of the mediators and emotional distress was an outcomes.

Furthermore, a model of factors that predict patients' and their spouses' adjustment was used to guides the previous research in breast cancer patients and their spouses (Northouse et al., 1995). Adjustment in the model is measurable in terms of

emotional distress and role function. This study emphasized the association of the emotional distress of patients with breast cancer and their spouses. According to the previous research not only patients, but also spouses, were strongly affected by a diagnosis of breast cancer (Northouse, Templin, Mood, & Oberst, 1998). Additionally, each coping strategy is associated with emotional distress (Ben-Zur, 2001; Ben-Zur et al., 2001). Moreover, patients and their spouses have mutual influences on each another. When patients reported higher levels of emotional distress, their spouses also reported higher levels of emotional distress (Northouse et al., 1995). Patients' emotional distress is a factor that has a significant direct effect on spouses' distress. Correspondingly, the spouses' distress is one of the strongest predictors of women's emotional distress (Northouse, Templin & Mood, 2001). Therefore, the model used in this study was developed to anticipate the relationship between the coping strategies and emotional distress and the mutual effect on patients and their spouses. These complex relationships are presented in Figure 1.

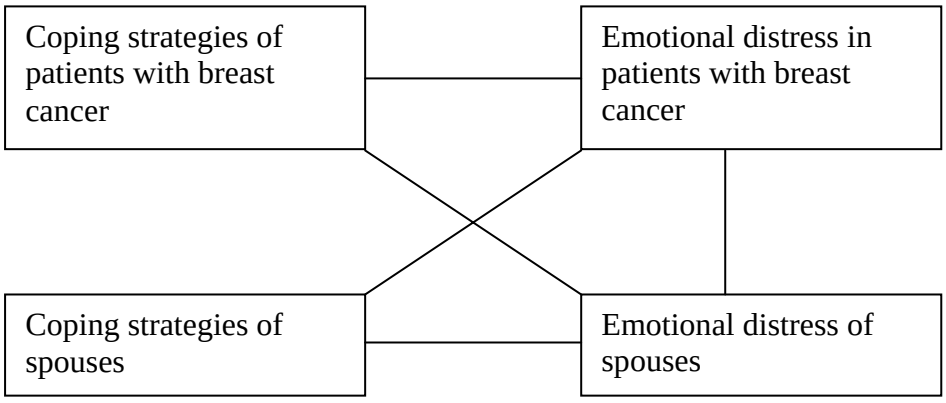


Figure 1 Patient-spouse's coping strategies and emotional distress (based on the cognitive appraisal model of stress and coping: Lazarus and Folkman, 1984, and a model of factors that predict patients' and their spouses' adjustments: Northouse et al., 1995).

*Hypotheses*

1. Coping strategies in patients with breast cancer will be related to emotional distress.

2. Coping strategies in spouses of patients with breast cancer will be related to emotional distress

3. Coping strategies in patients with breast cancer will be related to emotional distress in their spouses.

4. Coping strategies in spouses will be related to emotional distress in breast cancer patients.

5. Emotional distress of breast cancer patients will be related to the emotional distress of their spouses.

*Definition of Terms*

Coping strategies is defined as feelings, thoughts, and action that breast cancer patients and their spouses use to manage the stressful situation of breast cancer. Coping strategies was measured by the Brief COPE (Carver, 1997). This instrument consists of 28-items that measure fourteen coping strategies. The measured coping strategies are: self-distraction, active coping, denial, substance use, use of emotional support, use of instrumental support, behavioral disengagement, venting, positive reframing, planning, humor, acceptance, religion, and self-blame. Higher scores indicated that participants used more of the coping strategies.

Emotional distress is mood disturbance whereby breast cancer patients and their spouses respond to the illness. Emotional distress was measured by the Profile of Mood State-Brief (POMS-B) (McNair & Heuchert, 2008). This measure is comprised of 30 items and consists of six mood factors measuring: tension-anxiety, depression-dejection, anger-hostility, fatigue-inertia, confusion-bewilderment, and vigor-activity. Higher scores of total mood disturbance indicate more emotional distress.

*Significance of the Study*

The findings from this study will provide important information about the relationship between coping strategies and emotional distress. The findings should guide researchers in designing nursing interventions to help patients and their spouses to use appropriate coping strategies and reduce emotional distress. In addition, the findings of this study may provide baseline data for future research, thus inspiring others to further explore this area.

*Scope of the Study*

The aim of this study was to explore the relationship between coping strategies and emotional distress of patients with early stage breast cancer and their spouses. Sixty-one subjects were selected by a purposive sampling method. The study was conducted from December 22, 2008 to May 15, 2009. The subjects in this study were patients who had been diagnosed with stage I and II breast cancer in the past 6 months

and their spouses. The patients had been attending surgical outpatient clinics and female surgical inpatient departments of the Songklanagarind Hospital and the Hatyai Hospital.

# CHAPTER 2

# LITERATURE REVIEW

The review of literature deals with the following: (1) breast cancer, (2) coping strategies, (3) emotional distress, and (4) coping strategies and emotional distress in breast cancer patients and their spouses.

## *Breast Cancer*

### *Overview of breast cancer*

Worldwide, breast cancer is the most common cancer in females. In 2007 an estimated 178,480 new cases will be diagnosed with invasive breast cancer, and approximately 40,460 women were expected to die from breast cancer. (American Cancer Society [ACS], 2007a). In Thailand during the period 1998-2000 female breast cancer was the second most common cancer, and the incidence of breast cancer has increased in the past decade. The estimated incidence rate is 20.5 per 10,000 women (Chaiwerawattana, 2007). In addition, the incidence rate of breast cancer would be higher than cervical cancer (Bureau of Policy and Strategies, Ministry of Public Health, 2007).

Breast cancer is an abnormal growth in the cells that normally line the ducts and the lobules (ACS, 2007b). Abnormal cells may develop in the ductal epithelial cells and spread further in the breast duct or lobule wall. As breast cancer advances, it invades the basement membrane, mammary fat, underlying muscle, and overlying skin and spreads to the blood vessels and lymph vessels of the dermis.

Stages of breast cancer: Stages of the disease constitutes one indicator of the survival rate of the patient and are important for identifying appropriate treatments. If women come to the hospital in the early stage, the treatment will be effective and the rate of survival will be longer. The American Joint Committee on Cancer (AJCC, 2007) divided the phases of breast cancer into 5 stages, using the criteria of the TNM classification, as follow

Primary tumor (T)

TX Primary tumor cannot be assessed

T0 No evidence of primary tumor

Tis Carcinoma in situ

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 chest wall or skin

Regional Lymph Nodes (N)

NX Regional lymph nodes cannot be assessed

N0 No regional lymph nodes metastasis

N1 Metastasis to movable ipsilateral axillary lymph node(s)

N2 Metastasis to ipsilateral axillary lymph node(s) fixed to one another or to other structures

N3 Metastasis to ipsilateral internal mammary lymph node(s)

Pathologic Classification (pN)

pNX Regional lymph nodes cannot be assessed

pN0 No regional lymph nodes metastasis

pN1 Metastasis to movable ipsilateral axillary lymph node(s)

pN2 Metastasis to ipsilateral axillary lymph nodes that are fixed to one another or to other structures

pN3 Metastasis to ipsilateral internal mammary lymph node(s)

Distant Metastasis (M)

MX Distant metastasis cannot be assessed

M0 No distant metastasis

M1 Distant metastasis

Stage Grouping

| | | | |
|---|---|---|---|
| Stage 0 | Tis | N0 | M0 |
| Stage 1 | T1 | N0 | M0 |
| Stage IIA | T0 | N1 | M0 |
| | T0 | N1 | M0 |
| | T1 | N1 | M0 |
| | T2 | N0 | M0 |
| Stage IIB | T2 | N1 | M0 |
| | T3 | N0 | M0 |
| Stage IIIA | T0 | N2 | M0 |
| | T1 | N2 | M0 |
| | T2 | N2 | M0 |
| | T3 | N1 | M0 |
| | T3 | N2 | M0 |

| | | | |
|---|---|---|---|
| Stage IIIB | T0 | N2 | M0 |
| | T4 | AnyN | M0 |
| | Any T | N3 | M0 |
| Stage IV | AnyT | AnyN | M1 |

Early stage breast cancer is classified in stage I ($T_1N_0M_0$) and stage II ($T_{1\text{-}2\text{-}3}$ $N_{0\text{-}1}M_0$) (ACS, 2007b).

Sign and symptoms: The earliest sign of breast cancer is usually an abnormality detected on a mammogram before it can be felt by the woman or a health care professional. Less common symptoms include: persistent changes to the breast such as thickening, swelling, distortion, tenderness, skin irritation, or scaliness, or nipple abnormalities, such as ulceration, retraction, or spontaneous discharge. Pain is not an early symptom of breast cancer but it results from benign condition (ACS, 2007b).

Risk factors: There are many risk factors which are associated with the development of breast cancer. These include: increasing age, a family history of breast cancer, a personal history of breast cancer, a history of benign breast disease, and hormonal factors such as early age at menarche, late age at menopause, and late age at first live birth, oral contraceptive use, and alcohol intake (Bland & Copeland, 1998; Chaiwerawattana, 2007)

Treatment: The primary treatment for patients with stage I or II breast cancer can be surgery. The surgery can be lumpectomy that removes only the cancer and a margin of surrounding normal tissue, or complete removal of the breast namely mastectomy (ACS, 2007b). Sometime breast-conserving surgery is done after

chemotherapy. In addition, radiation is recommended as part of treatment following lumpectomy.

*Impact of breast cancer*

The diagnosis of breast cancer has many effects on women. Breast cancer patients suffer from the nature of disease, treatment protocol, and the side effects of the treatment. Therefore the patients have to confront many problems. The diagnosis of breast cancer impacts on women's physical, psycho-emotional, spiritual and socio-economic status (Junda, 2004a). Physical impact refers to the symptoms of breast cancer and its treatments that most of patients experience, such as feeling discomforts, pain, fatigue, nausea, and vomiting. Women with breast cancer also encounter psycho-emotional suffering. They feel tense and anxious because of the stressful situations related to breast cancer and its treatment. They always keep thinking about their breast cancer problem and that makes them unhappy. Breast cancer patients also feel sorrowful, uncertain about their future, have a fear of recurrent illness and they fear death. At the time of diagnosis women with breast cancer also have negative emotions such as anger, and feeling upset and devastated (Marshall & Kiemle, 2005). The diagnosis of breast cancer also has effects on a patient's spirit. This generates an imbalance of vital processes and inhibits the healing process of the physical body, mind, and spirit.

In addition, the treatment of breast cancer creates social and financial problems because women with breast cancer need support from their family over the course of treatment. For example, they have to be accompanied to the hospital. They also felt reluctant to disturb or impose on someone to do something. Additionally, the

treatment of breast cancer is costly and time-consuming for them. Moreover, some women with breast cancer faced economic challenges because they cannot work due to their limited physical functions.

Furthermore, the breast is a symbol of femininity. They may feel a loss and their self image may change. Breast loss has negative effects on the sexual relationship between patients and their spouse. Sometimes women with breast cancer have to separate from their spouses after being diagnosed with breast cancer (Walsh, Manuel, & Avis, 2005).

Breast cancer is not only the patients' problem. Spouses of women with breast cancer also feel anxiety, fear the possibility of their wives' death, and a spreading or recurrence of the cancer (Marshall & Kiemle, 2005). Their anxiety is related to dealing with their emotion, supporting their wives, and looking after the family. It also affect the psychological and physical health of some spouses (Hagedoorn, Sanderman, Bolks, Tuinstra, & Coyne, 2008). In addition, some spouses accept the breast loss if their wives needed to have a mastectomy in order to survive. However, they worry how their wives will react to the loss of their breast. Some couples' relationships deteriorate, there is a high risk of marriage breakdown after diagnose of breast cancer (Corney, 2005).

In contrast, some patients with breast cancer feel a positive change in their life after being diagnosed (Manne et al., 2004). They may experience increased closeness and intimacy with their spouses (Walsh et al., 2005). Some patients and their spouses believe that their relationship has become stronger as a result of enduring the crisis together (Corney, 2005). They also feel that the illness brought them closer together.

They appreciate each other and want to spend more time with each other (Marshall & Kiemle, 2005).

## *Coping Strategies*

### *Definition of coping strategies*

According to Lazarus (1993), coping is the process of using emotional, cognitive, and/or behavioral strategies to manage one's stress in order to reduce its potential harmful impact on psychological adjustment. Lazarus and Folkman (1984) defined coping as "constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing and that exceed the resources of the person" (p.141). Henderson and colleagues (2003) also defined coping as the strategies that women used with the challenges of stressful events. Thus coping is any behavior or cognitive activity that is used to deal with stress.

According to the model of stress and coping (Lazarus & Folkman, 1984), coping refers to the feelings, thoughts, and actions that people encounter during stress. Much depends on their appraisals of the situation. In primary appraisals, the stressful situation is perceived either as a loss, threat, or challenge. In secondary appraisals, people complete what they can do in order to solve the problem based on their resources and personal capability for coping.

### *Dimension of coping strategies*

Previous studies have generally clustered coping using theory based categories and factor analysis. There are various groups of coping strategies which are classified

and some strategies overlap. Lazarus & Folkman (1984) categorized coping strategies into two groups: problem-focused and emotion-focused. Problem-focused coping strategies are efforts to do something actively to alleviate stressful circumstances. Emotion-focused coping strategies involve efforts to regulate the emotional consequences of stressful or potential stressful events. Problem-focused coping is an attempt to manage external demands and reduce the conflicts between an individual and his/her environment. Problem-focused coping includes strategies such as managing external aspects of a stressor, seeking social support, accepting responsibility, using problem-solving and developing action plans. Emotion-focused coping is an attempt to manage internal demands and conflicts, such as dealing with stressful emotions. Emotion-focused coping involves coping strategies such as distancing, self-control, escape-avoidance, and positive reappraisal.

In addition, several previous studies undertook factor analysis and classified coping strategies into two main categories: positive and negative coping strategies. Kristiansen and colleagues (2007) divided coping strategies into two categories: adaptive and maladaptive. Adaptive coping strategies consist of acceptance, active coping, planning, religion, emotional support, instrumental support, positive reframing, and humor. Maladaptive coping strategies consist of behavioral disengagement, venting, self-distraction, substance use, self-blame and denial.

Yang and colleagues (2008) used factor analysis and labeled coping strategies into two groups: engagement and disengagement. Engagement coping composes of four strategies: active coping, planning, seeking instrument support, and positive reframing. Disengagement coping composes of three strategies: denial, alcohol/drug use, and behavioral disengagement.

Roesch and colleagues (2005) conducted a meta-analytic review and categorized coping strategies into two groups: approach and avoidant coping. Approach coping includes approach/active coping, positive expectancies/optimism coping, self-efficacy, seeking information, seeking guidance/support, self control, positive reappraisal/ reinterpretation, medical compliance, planning, logical analysis, suppression of competing activities, acceptance, and problem solving. Avoidant coping includes avoidant/passive coping, wishful thinking, denial, behavioral disengagement, mental disengagement, self-blame, religion, threat minimization, distancing/distraction, emotional discharge/venting, alcohol/drug use, helplessness, and humor.

Coping strategies have also been divided into two categorizes: active and avoidance coping strategies. Active coping strategies comprise of acceptance, emotional support, religion, active coping, planning, and positive reframing. Avoidant coping strategies consist of self-distraction, venting, humor, denial, behavioral disengagement, and alcohol/drug use (Kershaw, Northouse, Kritpracha, Schafenacker, & Mood, 2004).

Although coping strategies are categorized in different ways, the meaning of these different conceptualizations is similar. Adaptive, active, problem focused, and approach coping strategies refer to strategies where individuals accept and actively attempt to deal with their situation. Maladaptive, avoidant and disengagement refer to strategies where individuals try to avoid dealing with the problem by cognitively and physically distancing themselves from the situation. Adaptive coping is viewed as generally positive and maladaptive coping is viewed as generally negative. However,

one strategy is not inherently good or bad, depending on the individual's situation and outcomes (Lazarus & Folkman, 1984).

*The measurement of coping strategies*

Several measurements of coping are used in breast cancer research. These include: Ways of Coping (Lazarus & Folkman, 1984), The COPE Inventory (Caver, Scheier, & Weintraub, 1989), and the Jalowiec Coping Scale (Jalowiec, Murphy, & Powers, 1984). They differ from each other and most consist of many items.

The Jalowiec Coping Scale (Jaloweic et al., 1984) has 40 items which are rated on a 1-5 point scale that indicates the degree of use. This instrument classifies the items into two coping strategies: problem-oriented and affective-oriented. The Jalowiec Coping Scale identifies eight coping styles: confrontive, evasive, optimistic, fatalistic style, emotive, palliative, supportant and self reliant. The participants have to respond to all the items.

The COPE Inventory (Caver et al., 1989) is a 60-item self-report questionnaire which has proved to be useful in health-related research. It consists of 15 subscales which assess a broad range of coping strategies. These subscales have been grouped into two major categories: problem-focused and emotion-focused.

The Brief COPE (Carver, 1997) was developed to minimize demands on the time of the participants. It is a brief version of the COPE Inventory (Caver et al., 1989). This measure was derived in partly from the Lazarus & Folkman (1984) model of coping, and partly from the behavioral self-regulation model (Caver & Scheier 1990 as cited in Carver, 1997). The COPE Inventory consists of 60 items with 4 items per scale. However, the Brief COPE consists of 28 items which are divided into 14

subscales namely use of emotional support, acceptance, active coping, planning, positive reframing, use of instrumental support, religion, self-distraction, venting, denial, behavioral disengagement, humor, self-blame and substance use. This instrument is brief but comprehensive and appropriate for measuring coping strategies in both patient and non patients. The statements in each item are easy to understand and the participant can choose the answer in accord with their feelings. The Brief COPE is widely used in the study of cancer. Therefore, the Brief COPE (Carver, 1997) was also used in this study. In addition, the Brief COPE has shown adequate validity and reliability and has frequently been used for patients with breast cancer (Kershaw, et al, 2004; Kritpracha, 2004; Lauver, Connolly-Nelson, & Vang, 2007; Li, & Lambert, 2007).

*Coping strategies of breast cancer patients and their spouses*

Previous research focused on the coping strategies of breast cancer patients. These studies included women at a different stages of the disease, used different measurement strategies, different times since diagnosis and took place in different cultures. These previous studies have found that women with breast cancer used various types of coping strategy. Li and Lambert's study (2007) showed that planning, positive reframing and self-distraction are the most commonly used coping strategies by Chinese women with breast cancer. Henderson and clleagues (2003) found that coping strategies which are used by African-American with breast cancer include: relying on prayer, avoiding negative people, developing a positive attitude, having a will to live, and receiving support from family, friends and support groups. According to Guifang (1997), post-mastectomy patient use various types of coping strategies and

the most favored are optimistic, confrontive and self-reliant coping styles. Manuel and colleagues (2007) suggested that the most frequently used coping strategies are positive cognitive restructuring, wishful thinking, and making changes. Lauver and colleagues (2007) found that the most frequently used coping strategies of women cancer survivors include: acceptance, emotional support, and religious strategies. These strategies are also rated highly as helpful coping strategies. In addition, the most common strategies that were reported from open-ended interviews were: seeking information, managing symptoms, and talking with others.

In addition, spouses and breast cancer patients usually face the challenge of a breast cancer diagnosis together. The spouses also need coping strategies to encounter this stressful event. A number of studies have been conducted on how spouses of breast cancer patients cope when their loved ones are diagnosed with breast cancer. Oiemhno and colleagues (2004) studied ways of coping among spouses of breast cancer patients. The findings showed that the majority of coping strategies include: seeking social support, problem solving, planning, and positive reappraisal. Marshall and Kiemle (2005) explored coping strategies which are used by patients and their spouses. They found patients with breast cancer who had undergone reconstructive surgery and their spouses use positive strategies as a means of coping. These strategies include: positive thinking, distraction, living a day at a time, and downward social comparison. The patients reported hope, and spouses reported having a “that’s life” attitude and talking to friends as other coping strategies. However, a few spouses reported that they were unable to cope and used strategies to block their feelings, such as avoidant strategies and use of alcohol.

In addition, previous studies have been conducted on the coping strategies of both breast cancer patients and their spouses. Hilton and colleagues (2000) reported that there are two major themes that are related to men's way of coping: focusing on the wife's illness and care, and focusing on the family to keep life going. Nine sub-themes cross over both major themes: being there, relying on health care professionals, being informed and contributing to decision making, trying to keep the pattern normal and family life going, helping out and relying on others, trying to be positive, putting self on hold, adapting work life, and managing the finance.

*Factors influencing coping*

There are many factors related to coping including: appraisal, the nature of the stressful event, personality, age, gender, level of education, social support, time since diagnosis, stage of disease, and the trajectory of the illness.

Appraisal: Appraisal of the illness is defined as the individual's subjective assessment to the meaning of illness (Lazarus & Folkman, 1984). Stressful appraisal occurs when an individual identifies an event in their diagnosis of breast cancer as it being a potential harm, threat or loss. The appraisal of illness has been related to patients' coping strategies. Heather and Scott (2006) conducted a meta-analysis to examine the relationship between primary appraisal and coping strategies in people with cancer. The findings suggested that individuals with cancer who appraise their illness as a threat are likely to use more problem-focused coping strategies. Individuals who appraise their cancer as harm/loss are likely to use avoidant coping strategies. Finally, those who appraise their cancer as a challenge were likely to use approach coping strategies.

Stressful Event: Persons used different coping strategies for different stressful events. In some situations it may be appropriate to use a problem-focused strategy but in other situation an emotion-focused strategy is appropriate (Shaw, 1999). Manuel and colleagues (2007) used a qualitative design to study how well women cope with different stressful aspects of the diagnosis of breast cancer. Woman reported that different strategies are useful depending on the stressor. For example, social support is helpful in dealing with anger or depression, whereas positive cognitive restructuring is more helpful for concern about the future. However, any one strategy that people use to cope with stressful event is neither not good nor bad (Lazarus & Folkman, 1984).

Personality: Personality is the type people are and show it by the way they feel, think and behave. Personality has been shown to be predictive of coping strategies (Shaw, 1999). Each person may have their preferred styles based on their personality characteristics. One strategy may be effective for one person, but may not be effective for another.

Age: Patients of different ages employed different coping strategies. Older women have a more optimistic coping style than younger women (Vos, Garssen, Visser, Duivenvoorden, & de Haes, 2004).

Gender: Gender is the physical and/ or psychological state of being male or female (Kiss & Meryn, 2001). Men and women differ not only with regard to their reproductive organs and bodies but also in the way they think, feel, and behave. The patients with breast cancer and their husbands are of different gender. Therefore, they may have different coping strategies. Tamres, Janicki and Helgeson (2002) conducted a meta-analysis to examine sex differences in coping. Women are more

likely to engage in more coping strategies than men. They are likely to use strategies that involve speaking to others or the self, seeking emotional support, ruminating about problems, and using positive self-talk.

Level of education: Level of education improves cognitive function of people. Ben-Zur and colleagues (2001) found that a high level of education among patients contribute to low emotion-focused coping. They also suggested that patients with a high level of education may have more ability to understand the situation and use information more effectively.

Social support: Social support may play an important role in helping breast cancer patients by fostering the use of a greater proportion of approach coping strategies (Holland & Holahan, 2003). Drageset and Lindstrom (2005) studied the relationship between demographic characteristics, social support, anxiety, coping and defense among 117 women who had undergone breast biopsy. The results showed that social support is strongly connected to instrument-orientation followed by an emotion-focused coping style. They also suggested that social support is a coping resource that promotes coping. Landmark and colleagues (2002) also stated that social support influences patients' ability to cope with the strain of living with breast cancer. In contrast, lack of social support has an opposite effect.

Time since diagnosis: Coping is a dynamic and changing process (Lazarus & Folkman, 1984). At different time since diagnosis, the patients may have different coping strategies to manage their stress. The coping strategies of each person will change overtime (Lazarus, 1993).

Stage of cancer: The stage of cancer is recorded according to the tumor-node-metastasis (TNM) system. Cohen (2002) found that patients with primary

cancer used more problem-solving and positive-focused coping strategies than do women with recurrent cancer.

Trajectory of the illness: The trajectory of the illness refers to the period of illness, a series of situations or the sequence of events. Heim and colleagues (1997) classified the trajectory of the illness of breast cancer into eight stages: preliminary diagnosis, hospitalization, post-discharge and convalescence, post-discharge and aggressive chemotherapy or radiotherapy, rehabilitation and adaptation, metastatic disease, terminal illness and dying. They found that patients use different coping strategies over the stages of the illness.

Environment: The environment is one of factors that precede and influence the coping strategies of patients and their spouses. The environmental factors include: patients-healthcare and professional communication, information-giving by healthcare professionals, and nursing interventions.

## *Emotional Distress*

### *Definition of emotional distress*

Emotional distress is the unique discomfort or mood disturbance experienced by an individual as a negative response to a specific stressor or demand that is harmful. It may be manifested by changes from a stable baseline emotional state to one of anxiety, depression, irritability, aggressiveness, and self- depreciation (Sheila, 2004).

*Factors that influence emotional distress*

Gender: Some studies have looked into the role of gender in emotional distress in patients with breast cancer and their spouses. They found that females reported more emotional distress than their partners (Northouse et al., 1998, Northouse, Mood, Templin, Mellon, & George, 2000). In addition, females perceive more distress being the patient, whereas males perceive more distress being the spouse (Tuinstra et al., 2004).

Age: People of different ages respond to the diagnosis of breast cancer differently. A number of studies found that younger women with breast cancer have higher levels of emotional distress than older women (McCual et al., 1999; Politi, Enright, & Weihs, 2007). On the contrary, Von Ah and Kang (2008) found that age is not significantly related to emotional distress.

Social support: Social support is concept that typically describes relationships that individuals maintain with others. Various types of social support have been defined, including: emotional support-expression of affect or love of another, and affirmation or endorsement of another person's action or view, and aid support- the giving of material support or assistance to another (Kahn, 1979 as cited in Von Ah & Kang, 2008). A previous study found that social support was associated with mood disturbance across the breast cancer treatment trajectory (Von Ah & Kang, 2008). In addition, family support is part of social support. Women who get more family support have less distress (Northouse et al., 1995; Northouse et al. 2001). Moreover, Manne and colleagues (2006) reported that greater support from spouses was related to the cancer patients' use of positive coping strategies and related to the

patient's more positive mood. However, another study indicated that family support does not affect the patient's distress (Baider et al., 1998).

Emotional response: Iwamitsu and colleagues (2003) investigated the differences in affective status between patients who restrain their negative emotion and those who express negative emotion after being given their breast cancer diagnosis. They found that Japanese breast cancer patients who express their negative emotion regarding their diagnosis have less emotional distress than those who do not express their negative emotion.

Severity of illness and symptoms: Women with breast cancer are more susceptible to mood disturbances than healthy women. Northouse and colleagues (1998) compared the patterns of adjustment of couples with benign and malignant breast diseases, and found that emotional distress is part of adjustment. They found that patients with malignant diseases and their spouses have significantly higher levels of emotional distress than patients with benign diseases and their spouses. They also continue their higher emotional distress level following diagnosis, whereas patients with benign diseases and their spouses have lower levels of distress following diagnosis. Similar findings were reported by Iwamitsu and colleagues (2003) who surveyed seventy-eight Japanese women who were undergoing breast biopsies. They found that patients who had been diagnosed with breast cancer have greater mood disturbances than Japanese women with benign breast biopsies. In addition, Northouse and colleagues (1995) found that patients who have greater symptoms experience more emotional distress and their spouses also report more distress. In addition, breast cancer patients with recurrent or advanced disease reported more

emotional distress than primary breast cancer patients (Cohen, 2002; Northouse et al., 1995).

Time since diagnosis: Previous studies suggest that patients' distress decrease over time after diagnosis (Carver et al., 1993). However, conflicting results have been noted. Female patients reported increasing levels of distress at 6 months post surgery (Tuinstra et al., 2004). Nourthouse and colleagues (2001) found that the spouses' distress after their partner's diagnosis of cancer predicted their distress a year later. Patients and spouses who have high emotional distress at the time of diagnosis continue have high emotional distress at 60 days and 1 year following diagnosis.

Coping strategies: Previous studies have found that coping strategies are associated with emotional distress, so that as emotional focus is related to high emotional distress (Vos et al., 2004). The details are provided in following section.

*Impact of emotional distress*

Emotional distress induces medical symptoms. Women who were emotionally distressed often experience increased physical side effects and find it more difficult to manage these side effects. In addition, emotional distress can contribute to negative health outcomes. It has been linked with cardiovascular arousal, altered immune functions, and rapid cancer progression (Richard & Gross, 1999 as cited in Cameron, Booth, Schlatter, Ziginskas, & Harman, 2007). Breast cancer survivors who had been emotionally distressed experienced overall a reduced quality of life and a shorter survival time. Spouses suffering from distress are less able to assist the patients to recover from the disease. In addition, too much distress can interfere with a patient's ability to cope, making her cancer experience much more difficult.

*The measurement of emotional distress*

There is a number of measurements that may be used to measure emotional distress such as the Brief Symptom Inventory (BSI) (Derogatis, 1975), and the Profile of Mood States-Short Form (POMS-B) (McNair & Heuchert, 2008).

The Brief Symptom Inventory (BSI) (Derogatis, 1975) is a self report instrument which contains 53-items. Each item describes a feeling or thought. The answers are on a 5-point scale from 0 = "not at all" to 4 = "extremely". The items are categorized into nine primary symptom dimensions: somatization, obsess-compulsion, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation and psychoticism. There are also three global indices of distress: global severity index, positive symptom distress index, and positive symptom total. The global severity index is used to measure distress. Previous research used the BSI to measure distress for studies conducted on married couples (Baider, et al., 1998) and in breast cancer couples (Ben-Zur, 2001). However, this instrument was used to assess psychological distress but the distress was nonspecific. Therefore this instrument is not appropriate for assessing emotional distress in this study.

The Profile of Mood States-Short Form (POMS-B) (McNair & Heuchert, 2008) is made up of 30 items. The items are rated on a five point scale, ranging from "not at all" to "extremely" (score 1-4). This instrument consists of six POMS factors and measures: tension-anxiety, depression-dejection, anger-hostility, fatigue-inertia, confusion-bewilderment, and vigor-activity. The POMS-B is a valid measure of mood states and it is used extensively to study cancer patients and their spouses. Therefore, the POMS-B was used in this study as it is the most appropriate instrument to measure mood disturbance of the patients and their spouses.

*Emotional distress in patients with breast cancer and their spouses*

Many researchers have studied emotional distress and have found that patients and their spouses experience equal and sometimes greater distress than each other (Taylor, 2005). Baider and colleagues (1998) studied psychological distress in cancer patients and their spouses. The findings showed that spouses of cancer patients have a high degree of distress and which is not much different from the patients. Similarly, Northouse and colleagues (1995) found that spouses have a mutual influence on each other's emotional distress. Spouses have more emotional distress when the patients have higher emotional distress.

*Relationship between Coping Strategies and Emotional Distress in Patients with Breast Cancer and their Spouses*

Patients with breast cancer experience psychological problems after the diagnosis. Patients may have their own coping strategies to confront their situation. Several studies have examined the relationship between coping strategies and level of distress experienced by women with breast cancer. They have concluded that coping strategies are associated with the regulating of the emotions, especially distress (Folkman & Moskowitz, 2004; Osowiecki & Compas, 1999). Emotion-focused coping strategies are related to emotional distress. Roussi, Krikeli, Hatzidimitriou, and Koutri (2007) found that the coping strategies of patients with breast cancer, such as acceptance and humor, are negatively related to distress. However, denial and emotional expression are positively related to distress. They also suggested that multiple coping strategies are related to low levels of distress. The study by Politi and

colleagues (2007) found that higher levels of emotional acceptance by patients with breast cancer are related to lower levels of distress. Carver and colleagues (1993) also reported that acceptance and use of humor predict lower distress, denial and disengagement predict more distress. Osowiecki and Compas (1999) assessed coping and symptoms of anxiety and depression and they found that problem-focused engagement coping is related to lower anxiety/depression symptoms. However, emotion-focused disengagement coping was related to more anxiety/depression. Vos and colleagues (2004) also found that emotion-focused coping strategies predict higher distress. David, Montgomery and Bovjerg (2006) studied the relationship between coping strategies and levels of emotional distress. The results revealed that the following coping strategies are related to greater distress: greater planning, denial, self-distraction, instrumental support, humor, emotional suppression, venting, self-blame, and substance use. In addition, McCual and colleagues (1999) stated that greater avoidant coping predicted greater distress. In conclusion, different coping strategies are associated with levels of emotional distress.

In addition, when women are diagnosed with breast cancer, it not only affects them but it also affects their spouses who are the main caregiver and their primary support. Corney (2005) reviewed the literature on the impact of breast cancer. It was found that when patients and their spouses face the stressor of breast cancer, they do not have the emotional resources to support each other. This brings dissatisfaction, disappointment and distress for both sides. However, the spouses' coping strategies influence patients' feelings. Many male partners cope by withdrawing from open discussion about the illness. In contrast, women are more likely to talk and misinterpret their spouses' withdrawal/ avoidance as a lack of feeling or caring.

Both patients and spouses have their own coping strategies to deal with stress which is related breast cancer. Badr (2004) studied coping in marital couples and found that husbands and wives differ in their use of active engagement, approach coping, and protective buffering. Spouses may be at greater risk to marital distress when the wife is ill. This study also points out that patterns of dyadic coping may be more important than individual coping when examining the association between coping strategies and marital adjustment. As previously mentioned, patients and spouse differ in coping style, but this may affect their emotions. Kershaw and colleagues (2004) found that patients with breast cancer make great use of emotional support, religion, positive reframing, distraction, venting and coping with humor. On the other hand their family members (mostly husbands) use alcohol/drug coping much more. There are negative relationships between family caregivers' avoidance coping strategies and their mental quality of life when patients have high levels of distress symptoms. Barnoy, Bar-Tal, and Zisser (2006) investigated the influence of correspondence in an information coping style. They found that the correspondence by female patients with their spouse in monitoring their conditions is associated with better psychological reactions. Manne and colleagues (2006) found that mutually constructive communication is associated with less distress for both patient and her partner. Demand-withdrawal communication is associated with higher distress for both patients and partners. Mutual avoidance is associated with higher distress for patients and partners.

Many studies have indicated that distress in patients is associated with distress in their spouses (Tuinstra et al., 2004). For example, Northouse and colleagues (1995) examined the interrelationship between patients' and spouses' adjustment by using the

Brief Symptom Inventory (BSI) to measure subjects' emotional distress. They found that partners have mutual influences on each other's adjustment. In addition, previous studies have found that coping strategies and emotional distress between patients and their spouses affect each other. However, Northouse and colleagues (2000) found that women have more emotional distress, more role problems, and less marital satisfaction than men.

Recent studies have shown that the coping strategies of patients and their spouses are associated with distress related to breast cancer. Ben-Zur and colleagues (2001) found that breast cancer patients' use problem-focused coping more than their spouses and they are more distressed. These emotion-focused coping strategies include venting and avoidance strategies. In addition, the spouses' emotion-focused coping and their distress are related to the breast cancer patient's emotion-focused coping and distress. The findings also suggested that the patients' distress is greater when their spouses try to deny the situation. In conclusion, the study showed that emotion-focus coping by either or both spouses is related to the patient's distress. Ben-Zur's (2001) study also found that spouses' use of venting, denial, religion, and mental and behavioral disengagement as coping strategies are related to patient's greater distress. The results also suggest that patients who use emotion-focused strategies cope help their spouses to adjust to breast cancer. For the patients themselves, their own emotion-focused coping is more influential than their spouses' coping.

In conclusion, the diagnosis of breast cancer has much impact. They affect physical, psychological and social functions. Patients with breast cancer have to confront many challenges. In addition, the spouses of patients with breast cancer also

report that breast cancer affects their lives. Thus both patients and their spouses need coping strategies to adjust to and live with the diagnosis of breast cancer. There are various strategies that patients with b reast cancer and their spouses use to cope with their illness. They have different coping strategies that are associated with emotional distress. However, a few studies have focused on Thai patients and spouses' coping strategies. These previous studies have not focused on the relationship between coping strategies and emotional distress of breast cancer patients and their spouses. Therefore, the coping strategies and emotional distress of Thai breast cancer patients and their spouses is worth to investigate.

# CHAPTER 3

# METHODOLOGY

## *Research Design*

A descriptive-correlation study was used to identify the coping strategies of patients with breast cancer and their spouses. This was used to explore the levels of emotional distress of patients with breast cancer and their spouses, and to examine the relationship between those two variables.

## *Population and Samples*

The estimated numbers of subjects for this study was determined by using power analysis (sample size estimates for bivariate correlation test). The necessary sample size was estimated at a level of significance (α) of .05, a power of test (1-β) of .80, and an estimated effect size (ρ) of .34. An Alpha of .05 is the accepted minimum level of significance, .80 is the accepted minimum power of test, and the effect size of .34 is estimated based on previous related studies. From analyzing the results from previous studies that examined the relationship between coping and psychosocial adjustment in patients with breast cancer and their spouses, the estimated effect size saturated to state was at level .32 (Ben-Zur, 2001). In another study that also examined the relationship between coping and psychosocial adjustment in patients with breast cancer and their spouses, the estimated effect size saturated to state was at level .36 (Ben-Zur et al., 2001). The average of these two studies is .34. With an alpha

of .05 and power of .80, the sample size needed in the study was between 50 subjects (for an effect size of .40) and 88 subjects (for an effect size of .30). To examine the relationship between two variables by using the Pearson correlation coefficient, a sample size of 75 subjects was needed (Polit & Hungler, 1999). Therefore, the sample size of 75 subjects was considered adequate.

The target populations in this study were the patients with breast cancer and their spouses. They attended the outpatient clinics and female surgical inpatient departments of Songklanagarind Hospital and Hatyai Hospital, Songkhla Province, Thailand. Songklanagarind Hospital is a university hospital in southern Thailand which has 855 beds. Hatyai Hospital is a regional hospital which has 640 beds. Purposive sampling method was used to select the subjects. During the data collection period, only 61 subjects' met the following inclusion criteria.

Patients' inclusion criteria

1) Aged 18 years or older, the age considered to be an adult
2) Married and living with their spouse in the same household
3) Had been diagnosed with stage I and II breast cancer in the past 6 months
4) Able to communicate in the Thai language

Spouses' inclusion criteria

1) Aged 18 years or older
2) Living with the patient
3) Able to communicate in the Thai language

*Instruments*

The instruments used for data collection included a set of questionnaires making up three parts: a Demographic Data Form, the Brief COPE (Carver, 1997), and the Profile of Mood State-Brief (POMS-B) (McNair & Heuchert, 2008).

1) The Demographic Data Form was used to collect personal information on the subjects. It included: age, religion, education level, number of children, occupation, household income per month and expenditure, health service payment, family history of cancer, stage of breast cancer, type of treatment, type of breast surgery, number of chemotherapy treatments, time since diagnosis, time since married, and perception of severity of the illness (patients rate the score for their perception about severity of illness on a numeric scale from 0 = not severe to 10 = the most severe)

2) Brief COPE (Carver, 1997) is the short version of the original 60-item COPE scale developed by Carver et al. (1989) which was developed based on the concepts of coping from Lazarus and Folkman (1984). It is a 28-item self-report instrument. The scale was designed to measure fourteen coping strategies, each consisting of two items. In the Brief COPE, fourteen coping strategies are measured: self-distraction (items 1 and 19), active coping (items 2 and 7), denial (items 3 and 8, substance use (items 4 and 11), use of emotional support (items 5 and 15), use of instrumental support (items 10 and 23), behavioral disengagement (items 6 and 16), venting feelings (items 9 and 21), positive reframing (items 12 and 17), planning (items 14 and 25), humor (items 18 and 28), acceptance (items 20 and 24), religion (items 22 and 27), and self-blame (items 13 and 26). Participants rated their degree of

use of these strategies on a 4-point scale from 1 (not at all) to 4 (doing a lot). The scores for each coping strategy were calculated by the score on the respective two items, so the scores ranged from 2-8. The higher scores indicated that patients used more coping strategies. It has shown adequate validity and reliability (Carver, 1997) and has been used in patients with breast cancer (Kershaw et al., 2004, Kritpracha, 2004, Lauver, et al., 2007, Li, & Lambert, 2007). The internal consistency and reliability of the Brief COPE (Thai version) was .72 for the entire scale. The alpha coefficients of each of the strategies were: .48, .71, .61, .39, .69, .71, .63, .50, .65, .71, .43, .69, .68, and .76 for: self-distraction, active coping, denial, substance use, use of emotional support, use of instrumental support, behavioral disengagement, venting, positive reframing, planning, humor, acceptance, religion, and self-blame respectively (Kritpracha, 2004).

3) The Profile of Mood State-Brief (POMS-B) (McNair & Heuchert, 2008) is made up of 30 items. This measure consists of six mood factors measuring: Tension-Anxiety (items 1, 6, 12, 16, 20), Depression-Dejection (items 7, 11, 15, 17, 21), Anger-Hostility (items 2, 9, 14, 25, 28), Fatigue-Inertia (items 3, 13, 19, 22, 23), Confusion-Bewilderment (items 5, 18, 24, 26, 29), and Vigor-Activity (items 4, 8, 10, 27,30). The items are rated on a five point scale, ranging from “not at all” to “extremely” (score 0-4). All items are defined in each subscale in the same direction except “Efficient” in the confusion scale, which received a negative weight. The Total Mood Disturbance scores are calculated by summing scores on the six subscales. The five scale scores of Tension-Anxiety, Depression-Dejection, Anger-Hostility, Fatigue-Inertia, and Confusion-Bewilderment are added together, and Vigor-Activity is subtracted from these score. The higher scores of total mood disturbance indicate a

higher emotional distress. The POMS-B has show adequate validity and reliability (McNair & Heuchert, 2008). It has been translated into Thai and used in previous research with cancer patients (Petpichetchain, 2001). The internal consistency reliability of the POMS-B (Thai version) was .95 for the entire scale. The alpha coefficients of each subscale were: .88, .84, .85, .86, .66, and .84 for Anger-Hostility, Tension-Anxiety, Fatigue-Inertia, Vigor-Activity, Confusion-Bewilderment, and Depression-Dejection respectively (Petpichetchain, 2001).

*Validity and Reliability*

The Brief COPE and POMS-B were developed in English. The English version of Brief COPE has been translated into the Thai language using de-centering and back translation techniques to ensure its accuracy in accord with the original version and its cultural appropriateness by Kritpracha (2004). The POMS-B also was translated into the Thai language by Multi-Health Systems Inc. The researcher obtained permission to use the Brief COPE and POMS-B for this study.

For this study the demographic questionnaire, the Brief COPE and POMS-B were validated by two experts from the Faculty of Nursing, Prince of Songkla University and one expert from Cancer Center, Songklanagarind Hospital. The researcher modified some words of Thai version instruments to make it easier for subjects to understanding. This was based on the expert's recommendations and the meaning of the original English version was not changed.

The Brief COPE and POMS-B Thai versions were analyzed for internal consistency and reliability by using Cronbach's alpha. The researcher conducted a

pilot study with 20 patients and their spouses who had the same characteristic as the population in this study. The internal consistency reliability of the Brief COPE was .88 and .76 for the patients and the spouses respectively. The internal consistency and reliability of the POMS-B (Thai version) was .91 for the patients and .88 for the spouses.

*Protection of Human Subjects' Rights*

The researcher requested approval from the Research Ethics Committee of the Faculty of Nursing, Prince of Songkla University, Songklanagarind Hospital and Hatyai Hospital before collecting the data. When the proposal was approved, the researcher asked registered nurses to approach the potential participants who met the inclusion criteria of this study. The registered nurses asked participants for their permission verbally as to whether or not they agreed to participate.

When the potential participants agreed, the nurses informed the researcher and the researcher approached the potential participants. The following Information was provided about the purposes of the study: the plan procedure for gathering data, freedom to withdraw from the study at any time, and the possible benefits of the study for the nursing profession and for patients with breast cancer and their spouses. They were informed that the participants' names and identities were not to be revealed and only the researcher could access the information obtained.

In this study there were potential risks to participant which might have occurred when gathering data. They might experience psychological effects when completing the questionnaires because they might be reminded that they were patients

with breast cancer or spouses of patients with breast cancer. When there were psychological problems the researcher stopped the data collection process. In addition, the researcher and the nurses agreed to provide psychological support for the participants. However, no participants experiences serious psychological problem during data collection process.

*Data Collection*

1. Preparation phase

1.1 Permission for the study and ethical approval were obtained from the Faculty of Nursing, Prince of Songkla University, Hatyai, Thailand.

1.2 Permission was obtained from the directors of Songklanagarind and Hatyai Hospitals to collect the data in these hospitals.

1.3 The objectives and expected research outcomes were described to the registered nurses at Songklanagarind and Hatyai hospitals.

2. Identification of subjects

2.1 Registered nurses at the outpatient clinics and inpatients departments of Songklanagarind and Hatyai hospitals informed the patients who met the inclusion criteria about the study and provided descriptions of the study.

2.2 After obtaining the participants' permission, the nurses informed the researcher and the researcher then contacted the potential participants in the clinic area.

2.3 Participants were free to agree or decline to participate in this study.

2.4 The researcher informed the participants that even though they agreed to participate in the study, they could refuse to answer questions they did not want to answer and could withdraw from the study at any time.

2.5 Participants who were willing to participate were asked to give their consent either verbally or by signing a consent form.

3. Collection of the data

3.1 When the participants agreed to participate in the study the researcher provided them with a questionnaire. The participants took about 30-45 minutes to complete the questionnaire. They were asked to answer all questions. When the participants were not able to read the questionnaire, the researcher read the questions word by word and completed the questionnaires for them. The patients and their spouses completed the questionnaire separately.

4. The researcher confirmed that all questions were answered before leaving the subjects.

5. The researcher checked all items and prepared the data for analysis.

*Data Analysis*

Descriptive statistics were used for presenting the data relating to demographic details, coping strategies and emotional distress. Frequencies, percentages, means and standard deviations were calculated. Preliminary data analysis was undertaken to test the assumptions of bivariate analysis, which includes normal distribution, linearity and homoscedasticy. The results showed that most of variables met the conditions for normal distribution. Pearson's Product-moment correlation coefficient was used to

examine the relationships between the coping strategies and emotional distress in the patients with breast cancer and their spouses.

# CHAPTER 4

# RESULT AND DISCUSSION

This chapter presents and discusses the findings of the study. The descriptive study was conducted to identify the coping strategies and emotional distress of patients with breast cancer and their spouses, and the relationship between coping strategies and emotional distress of breast cancer patients with breast cancer and their spouses. The findings of this study were based on data from sixty-one patients who were diagnosed with breast cancer and their spouses from Songklanagarind Hospital and Hatyai Hospital, Songkla province, Thailand. The findings of this study are presented as follows: subject characteristics, coping strategies frequently used by the subjects, emotional distress and the relationship between coping strategies and emotional distress in the subjects.

## *Results*

### *Subject characteristics*

A total of sixty-one couples participated in the study. The subjects were mainly from Songklanagarind Hospital. Table 1 shows the patients' demographic characteristics. The patients' ages ranged from 28 to 65 years (M = 46.61, SD = 8.72). Most patients were Buddhists (82%) with a few Muslims (18%). One-third of them were educated at the primary school level (34.4%). The number of children ranged from 0-4, with a mean of 2.23. One-fourth of the patients worked as agriculturists (24.6%) or had small businesses (24.6%). One-third of them of them (34.4%) had a

monthly income of more than 20,000 bahts, which was considered adequate by most of the subjects. Nearly half of the patients (44.3%) used the Universal Coverage Health Scheme (30 bahts). More than sixty percent (63.9%) of the patients had no family history of cancer. There was a relatively equal number of stage I and II breast cancer (49.2% and 50.8 %). They were treated by surgery and chemotherapy (42.6%) with the most common being modified radical mastectomy (MRM) (67.2%). The number of chemotherapy treatments ranged from one to eleven courses with a mean of 4.73 (SD 2.17). The number of radiation treatments ranged from one to thirty cycles with a mean of 16.63 (SD 11.21). The average time since diagnosis was 109 days. Patients were asked to rate their perception of the severity of cancer. The possible score were 0-10. The higher score indicated that breast cancer was more severe. 0 meant the breast cancer was not severe whereas 10 means cancer was considered very severe. The mean of the patients' perception of the severity of the breast cancer score was 6.36.

Table 1

Demographic Characteristics of the Patients (N = 61)

| Variables | n | % |
|---|---|---|
| 1. Age (years) | | |
| M = 46.61, SD = 8.72, Range = 28-65 | | |
| 2. Religion | | |
| Buddhism | 50 | 82 |
| Islamic | 11 | 18 |
| 3. Education level | | |
| None | 2 | 3.3 |
| Primary school | 21 | 34.4 |
| Secondary school | 8 | 13.1 |
| High school | 6 | 9.8 |
| Diploma | 9 | 14.8 |
| Undergraduate/Graduate | 15 | 24.6 |

Table 1 (continued)

| Variables | n | % |
|---|---|---|
| 4. Number of children (persons) | | |
| M = 2.23, SD = 0.92, R = 0-45. | | |
| 5. Occupation | | |
| Unemployed | 8 | 13.1 |
| Agriculture | 15 | 24.6 |
| Government service/State enterprise | 9 | 14.8 |
| State employee | 1 | 1.6 |
| Private employee | 10 | 16.4 |
| Small business | 15 | 24.6 |
| Retired | 3 | 4.9 |
| 6. Household income per month | | |
| Less than or equal to 5,000 bahts | 9 | 14.8 |
| 5,001-10,000 bahts | 19 | 31.3 |
| 10,001-15,000 bahts | 10 | 16.4 |
| 15,001-20,000 bahts | 2 | 3.3 |
| more than 20,000 bahts | 21 | 34.4 |
| 7. Household income per month and expenditure | | |
| Adequate | 43 | 70.5 |
| Inadequate | 9 | 14.8 |
| Inadequate and indebted | 9 | 14.8 |
| 8. Health service payment | | |
| Self-paid | 1 | 1.6 |
| Universal Coverage Health Scheme or 30 bahts | 27 | 44.3 |
| Government/State Enterprise Welfare | 23 | 32.7 |
| Social security insurance | 8 | 13.1 |
| Other (personal insurance) | 2 | 3.3 |
| 9. Family history about cancer | | |
| No | 39 | 63.9 |
| Yes | 22 | 36.1 |
| 10. Stage of breast cancer | | |
| Stage I | 30 | 49.2 |
| Stage II | 31 | 50.8 |
| 11. Type of treatment | | |
| Surgery | 19 | 31.1 |
| Chemotherapy | 5 | 8.2 |
| Surgery and chemotherapy | 26 | 42.6 |
| Surgery and radiation | 1 | 1.6 |
| Surgery and hormonal therapy | 1 | 1.6 |
| Surgery, chemotherapy and radiation | 4 | 6.6 |
| Surgery, chemotherapy and hormonal therapy | 1 | 1.6 |
| Surgery, chemotherapy, radiation and hormonal therapy | 4 | 6.6 |

Table 1 (continued)

| Variables | n | % |
|---|---|---|
| 12. Type of breast surgery | | |
| No surgery | 4 | 6.6 |
| Modified radical mastectomy | 41 | 67.2 |
| Simple mastectomy | 1 | 1.6 |
| Wide excision | 3 | 4.9 |
| Breast conservative surgery | 12 | 19.7 |
| 13. Number of chemotherapy (courses) | | |
| M = 4.73, SD = 2.17 | | |
| 14. Number of radiation (cycles) | | |
| M =16.63, SD =11.21 | | |
| 15. Time since diagnosis (days) | | |
| M =109, SD = 60.88 | | |
| 16. Perception about severity of illness | | |
| M =6.36, SD =2.49 | | |

The spouses' demographic characteristics are presented in Table 2. The spouses age ranged from 31 to 66 years (M = 48.95, SD = 8.84). Most spouses were Buddhists (82%) with a few Muslims (18%). Approximately one-third of the spouses were educated at undergraduate/graduate level (31.1%). One-fourth of the spouses worked as agriculturists (26.2%) and had small business (24.6%).The average time since married was 21.95 years. The spouses' perception towards the severity of breast cancer score was 5.66.

Table 2

Demographic Characteristics of the Spouses (N = 61)

| Variables | n | % |
|---|---|---|
| 1. Age (years) | | |
| M = 48.95, SD = 8.84, Range = 31-66 | | |
| 2. Religion | | |
| Buddhism | 50 | 82 |
| Islamic | 11 | 18 |

Table 2 (continued)

| Variables | n | % |
|---|---|---|
| 3. Education level | | |
| Primary school | 18 | 29.5 |
| Secondary school | 8 | 13.1 |
| High school | 8 | 13.1 |
| Diploma | 8 | 13.1 |
| Undergraduate/Graduate | 19 | 31.1 |
| 4. Occupation | | |
| Unemployed | 2 | 3.3 |
| Agriculture | 16 | 26.2 |
| Government service/State enterprise | 12 | 19.7 |
| State employee | 3 | 4.9 |
| Private employee | 7 | 11.5 |
| Small business | 15 | 24.6 |
| Retired | 5 | 8.2 |
| Other | 1 | 1.6 |
| 5. Time since married (years) | | |
| M = 21.95, SD = 10.67, Range = 2-50 | | |
| 6. Perception about severity of illness | | |
| M = 5.66, SD = 2.48 | | |

*Coping strategies of patients with breast cancer and their spouses*

The mean scores and standard deviations of each coping strategy are shown in Table 3. The rank order of the coping strategies used by the patients and the spouses were similar. The three most frequently used coping strategies in patients and spouses were the use of emotional support, acceptance, and active coping, whereas the least frequently used coping strategies were substance use. The results also showed that the patients had significantly higher scores on the various coping strategies than their spouses.

Table 3

Means and Standard Deviation of the Patients' and Spouses' Coping Strategies (N=122)

| Coping Strategies | Patients (n = 61) | | Spouse(n = 61) | |
|---|---|---|---|---|
| | *M* | *SD* | *M* | *SD* |
| Use of emotional support | 7.56 | 1.06 | 6.36 | 1.65 |
| Acceptance | 6.79 | 1.11 | 6.54 | 1.13 |
| Active coping | 6.73 | 1.20 | 6.23 | 1.53 |
| Positive reframing | 6.68 | 1.40 | 6.16 | 1.46 |
| Use of instrumental support | 6.48 | 1.57 | 5.98 | 1.58 |
| Religion | 6.46 | 1.52 | 5.43 | 1.77 |
| Self-distraction | 6.08 | 1.58 | 4.56 | 1.59 |
| Planning | 6.00 | 1.62 | 5.36 | 1.45 |
| Venting | 4.97 | 1.58 | 3.79 | 1.28 |
| Denial | 3.69 | 1.95 | 2.75 | 1.32 |
| Humor | 3.15 | 1.54 | 2.51 | 1.15 |
| Behavioral disengagement | 3.11 | 1.24 | 2.59 | 0.97 |
| Self-blame | 2.95 | 1.49 | 2.48 | 1.01 |
| Substance use | 2.07 | .519 | 2.23 | 0.64 |

*Emotional distress of patients with breast cancer and their spouses*

Emotional distress can be measured by POMS-B (McNair & Heuchert, 2008) which consists of six mood factors. These measure tension-anxiety, depression-dejection, anger-hostility, fatigue-inertia, confusion-bewilderment, and vigor-activity. The higher the score of the total mood disturbance indicates the greater emotional distress. (The possible scores were -20 to 80). The total mood disturbance score ranged from -11 to 66 for patients and -14 to 44 for spouses. The mean of the total mood disturbance score of the patients was 13.74 (SD = 16.18), whereas the mean score of the spouses was 6.23 (SD =12.46). The results showed that patients had more emotional distress than did spouses. The means and standard deviations of the mood factors are presented in Table 4.

Table 4

Means and Standard Deviations of the Total Mood Disturbance Scores and the Mood Factors

| | Patients (n = 61) | | Spouse(n = 61) | |
|---|---|---|---|---|
| | *M* | *SD* | *M* | *SD* |
| Total Mood disturbance | 13.74 | 16.18* | 6.23 | 12.46* |
| Vigor-Activity | 10.80 | 3.58 | 11.69 | 2.72 |
| Tension-Anxiety | 6.41 | 4.38 | 4.62 | 3.00 |
| Confusion-Bewilderment | 5.23 | 2.91 | 3.87 | 2.81 |
| Fatigue-Inertia | 5.10 | 3.67 | 3.48 | 2.75 |
| Anger-Hostility | 4.15 | 3.66 | 3.10 | 2.73 |
| Depression-Dejection | 3.66 | 3.78 | 2.85 | 2.58 |

* In order to interpret the scoring of this measure, the scoring required the subtracting of the Vigor-Activity from the sum of other subscales. The possible scores were -20 to 80. The range of total mood disturbance scores was wide while the means were low. Therefore, the SD was higher than the mean.

*The relationship between coping strategies and emotional distress*

The Pearson's correlations coefficients between the coping strategies and emotional distress in patients are presented in Table 5. The results showed that coping strategies of patients with breast cancer namely behavioral disengagement, venting, planning, and self-blame were related to their emotional distress ($r = .59$, $p < 0.01$, $r = .38$, $p < 0.01$, $r = .28$ $p < 0.05$. $r = .36$ $p < 0.01$ respectively). For the coping dimension, maladaptive coping strategies were related with emotional distress ($r = .46$, $p < 0.01$). Table 5 presents the relationships between coping strategies and emotional distress of the patients.

Table 5

Correlation Coefficients of Coping Strategies and Emotional Distress of Patients with Breast Cancer (n=61)

| Coping Strategies | Emotional Distress | | | | | | |
|---|---|---|---|---|---|---|---|
| | T(1) | D(2) | A(3) | F(4) | C(5) | V(6) | TMD(7) |
| Self distraction | .26* | .17 | .10 | .13 | .24 | .20 | .16 |
| Active coping | .31* | .31 * | .07 | .08 | .08 | .16 | .17 |
| Denial | .20 | .11 | -.05 | -.07 | .17 | -.05 | .10 |
| Substance use | .11 | .15 | -.01 | .03 | .12 | -.03 | .10 |
| Emotional support | .11 | .01 | -.11 | -.07 | -.03 | -.09 | .03 |
| Instrumental support | .11 | .09 | .02 | .13 | .11 | -.13 | .13 |
| Behavioral disengagement | .61** | .64** | .36 ** | .47 ** | .45 ** | -.02 | .59** |
| Venting | .37 ** | .41 ** | .23 | .32 * | .31 * | .00 | .38** |
| Positive reframing | -.07 | -.25 | -.27* | -.11 | -.17 | .26* | -.25 |
| Planning | .44** | .29 * | .13 | .18 | .12 | .02 | .28* |
| Humor | .06 | .06 | .02 | .19 | .23 | .15 | .09 |
| Acceptance | .23 | .13 | .15 | .26* | .09 | .30* | .14 |
| Religion | .25 | .23 | .04 | .14 | .19 | -.01 | .19 |
| Self-blame | .39** | .32 * | .25 | .38** | .26* | .04 | .36** |

* $p < 0.05$, ** $p < 0.01$, (1) = Tension-Anxiety, (2) = Depression-Dejection, (3) = Anger-Hostility, (4) = Fatigue-Inertia, (5) = Confusion-Bewilderment, (6) = Vigor-Activity, and (7) = Total Mood Disturbance

A Pearson correlations analysis was also conducted to determine the relationship between coping strategies and emotional distress in spouses. The results are presented in Table 6. The coping strategies of spouses, namely behavioral disengagement, was related to their emotional distress ($r = .56$, $p < 0.01$). ). For the coping dimension, maladaptive coping strategies were related to emotional distress ($r = .46$, $p < 0.01$). Table 6 presents the relationships between coping strategies and emotional distress of the spouses.

Table 6

Correlation Coefficients of Coping Strategies and Emotional Distress of Spouses

| Coping Strategies | Emotional Distress | | | | | | |
|---|---|---|---|---|---|---|---|
| | T[(1)] | D[(2)] | A[(3)] | F[(4)] | C[(5)] | V[(6)] | TMD[(7)] |
| Self distraction | .39** | .32* | .17 | .13 | .05 | .07 | .22 |
| Active coping | .01 | -.01 | -.03 | .15 | -.18 | .19 | -.06 |
| Denial | .21 | .17 | .02 | -.08 | .02 | .03 | .07 |
| Substance use | -.07 | .04 | .17 | .01 | .07 | -.14 | .08 |
| Emotional support | -.02 | -.09 | -.23 | -.05 | -.33** | .26* | -.22 |
| Instrumental support | .25 | .07 | .05 | .19 | .03 | .10 | .11 |
| Behavioral disengagement | .44 ** | .53** | .47** | .43** | .43** | -.23 | .56** |
| Venting of feelings | .26* | .11 | .17 | .20 | .29* | -.02 | .24 |
| Positive reframing | -.07 | -.10 | -.10 | .06 | -.21 | .29* | -.16 |
| Planning | .07 | .22 | -.02 | .18 | .00 | -.02 | .09 |
| Humor | .09 | .27* | .24 | .23 | .18 | .13 | .19 |
| Acceptance | -.04 | -.04 | -.18 | -.03 | -.31* | .27* | -.19 |
| Religion | .17 | .1 | .07 | .08 | .04 | .27* | .05 |
| Self-blame | .07 | .41** | .30* | .18 | .21 | .04 | .24 |

* $p < 0.05$, ** $p < 0.01$, (1) = Tension-Anxiety, (2) = Depression-Dejection, (3) = Anger-Hostility, (4) = Fatigue-Inertia, (5) = Confusion-Bewilderment, (6) = Vigor-Activity, and (7) = Total Mood Disturbance

The relationship between the coping strategies of the patients with breast cancer and the emotional distress of their spouses is presented in Table 7. The findings suggest that there was no significant correlation between the coping strategies of patients and the emotional distress of their spouses. Similarly, there was no significant correlation between the coping strategies of their spouses and emotional distress in the patients. The relationship between the coping strategies of the spouses and the emotional distress of the patients is presented in Table 8. However, significant correlations were found among the components of coping strategies and the components of emotional distress.

Table 7

Correlation Coefficients of Coping Strategies of Patients with Breast Cancer and Emotional Distress of their Spouses

| Coping Strategies | Emotional Distress | | | | | | |
|---|---|---|---|---|---|---|---|
| | T[(1)] | D[(2)] | A[(3)] | F[(4)] | C[(5)] | V[(6)] | TMD[(7)] |
| Self distraction | -.02 | -.10 | -.26* | -.15 | -.20 | .24 | -.21 |
| Active coping | .00 | -.00 | -.17 | -.04 | -.09 | .25 | -.12 |
| Denial | .17 | -.02 | -.04 | -.20 | .05 | .09 | -.04 |
| Substance use | -.16 | -.04 | -.01 | -.02 | -.18 | .06 | -.11 |
| Emotional support | -.05 | -.02 | -.13 | -.08 | -.03 | -.09 | -.05 |
| Instrumental support | .01 | -.09 | -.13 | -.03 | -.21 | .10 | -.12 |
| Behavioral disengagement | .28* | .37** | .22 | .19 | .07 | .01 | .25 |
| Venting | .20 | .26* | .07 | .15 | .06 | .08 | .15 |
| Positive reframing | .04 | -.07 | -.14 | -.04 | -.01 | -.07 | -.03 |
| Planning | .06 | -.03 | -.17 | -.12 | -.08 | -.04 | -.06 |
| Humor | .01 | -.00 | -.02 | -.05 | -.05 | .05 | -.03 |
| Acceptance | .03 | -.12 | -.09 | -.04 | -.01 | .16 | -.09 |
| Religion | -.07 | -.10 | -.08 | -.07 | -.08 | .22 | -.14 |
| Self-blame | -.10 | -.03 | -.06 | -.00 | -.05 | .18 | -.08 |

* $p < 0.05$, ** $p < 0.01$, (1) = Tension-Anxiety, (2) = Depression-Dejection, (3) = Anger-Hostility, (4) = Fatigue-Inertia, (5) = Confusion-Bewilderment, (6) = Vigor-Activity, and (7) = Total Mood Disturbance

Table 8

Correlation Coefficients of Coping Strategies of Spouses and Emotional Distress of Patients with Breast Cancer

| Coping Strategies | Emotional Distress | | | | | | |
|---|---|---|---|---|---|---|---|
| | T[(1)] | D[(2)] | A[(3)] | F[(4)] | C[(5)] | V[(6)] | TMD[(7)] |
| Self distraction | -.05 | -.01 | .14 | -.087 | .07 | .07 | -.09 |
| Active coping | .02 | .04 | .15 | -.034 | .05 | -.04 | .06 |
| Denial | .31 * | .37** | .17 | .10 | .16 | .08 | .24 |
| Substance use | -.01 | .03 | .16 | -.07 | .06 | -.03 | .02 |
| Emotional support | -.14 | -.14 | -.12 | -.17 | .00 | .07 | -.15 |
| Venting | .10 | .03 | .06 | .12 | -.01 | .02 | .07 |
| Behavioral disengagement | .02 | .18 | .19 | .15 | .12 | .00 | .19 |
| Instrumental support | .06 | -.03 | .05 | .14 | .08 | -.04 | .08 |
| Positive reframing | -.17 | -.2 | -.03 | -.14 | -.06 | .12 | -.17 |

* $p < 0.05$, ** $p < 0.01$, (1) = Tension-Anxiety, (2) = Depression-Dejection, (3) = Anger-Hostility, (4) = Fatigue-Inertia, (5) = Confusion-Bewilderment, (6) = Vigor-Activity, and (7) = Total Mood Disturbance

Table 8 (continued)

| Coping Strategies | Emotional Distress | | | | | | |
|---|---|---|---|---|---|---|---|
| | T(1) | D(2) | A(3) | F(4) | C(5) | V(6) | TMD(7) |
| Planning | .12 | .03 | .16 | .01 | .08 | .10 | .07 |
| Humor | -.14 | -.02 | -.03 | -.05 | .09 | .23 | -.09 |
| Acceptance | -.03 | -.07 | -.04 | -.01 | -.00 | .00 | -.04 |
| Religion | .06 | .08 | .04 | .03 | .12 | .05 | .06 |
| Self-blame | -.13 | -.04 | .06 | .07 | .04 | .03 | -.01 |

* $p < 0.05$, ** $p < 0.01$, (1) = Tension-Anxiety, (2) = Depression-Dejection, (3) = Anger-Hostility, (4) = Fatigue-Inertia, (5) = Confusion-Bewilderment, (6) = Vigor-Activity, and (7) = Total Mood Disturbance

A Pearson correlation analysis was also conducted to determine if there was association between emotional distress of patients with breast cancer and their spouses. The results are presented in Table 9. There was no significant correlation between total mood disturbance of patients with breast cancer and their spouses. For mood factors, the patients' depression-dejection and anger-hostility had a significant correlation with their spouses' depression-dejection and anger-hostility ($r = .30$, $r = .34$, $p < 0.01$, respectively).

Table 9

Correlation Coefficients of Emotional Distress of Patients with Breast Cancer and their Spouses

| Emotional Distress | T(1) | D(2) | A(3) | F(4) | C(5) | V(6) | TMD(7) |
|---|---|---|---|---|---|---|---|
| Tension-Anxiety | .22 | .18 | .07 | .04 | .08 | -.03 | .14 |
| Depression-Dejection | .13 | .30* | .24 | .14 | .12 | -.00 | .20 |
| Anger-Hostility | .10 | .22 | .34** | .13 | - .01 | .19 | .13 |
| Fatigue-Inertia | .29* | .31* | .23 | .21 | .15 | .02 | .26* |
| Confusion-Bewilderment | .15 | .25 | .27* | .20 | .11 | .08 | .20 |
| Vigor-Hostility | .08 | .01 | .09 | .06 | - .07 | .25 | -.02 |
| Total Mood Disturbance | .19 | .28* | .23 | .14 | .12 | - .00 | .21 |

* $p < 0.05$, ** $p < 0.01$, (1) = Tension-Anxiety, (2) = Depression-Dejection, (3) = Anger-Hostility, (4) = Fatigue-Inertia, (5) = Confusion-Bewilderment, (6) = Vigor-Activity, and (7) = Total Mood Disturbance

## *Discussion*

This study aimed to identify coping strategies, emotional distress in patients with breast cancer and their spouses and the relationships between coping strategies and emotional distress in patients with early stage breast cancer and their spouses. The target population of this study was patients with early stage breast cancer and their spouses. Subjects were recruited from Songklanagarind Hospital and Hatyai Hospital from December 22, 2008 until May 15, 2009, using a purposive sampling method. There were sixty-one patients with breast cancer and their spouses who participated in this study.

### *Subjects' characteristics*

The demographic features of sample in this study reflect the specific characteristics of Thai cancer patients. The mean age of the patients in this study was 46.61 years old, ranging from 28 to 65 years. This finding is congruent with the age distribution of most women of 45 years of age diagnosed with breast cancer in Thailand (Prechawittayakul, 2007). The mean age of the spouses was 48.95. Most of patients and the spouses in this study were middle-aged. This is very busy period in their lives with multiple roles, high responsibility in work, and dealing with nurturing the family at the same time. Most patients were educated at primary school level (34.4%) while many of their spouses were at undergraduate/graduate level (31.1%). Most patients and spouses worked as agriculturists (24.6% for patients and 26.2% for their spouses). Thus the social status and educational level of the patients in this study are generally low. This might be related to the fact that in the past only primary

school was mandatory. People with low educational levels may be particularly vulnerable to distress because education may enhance coping through the ability to understand the situation and help make more effective use of information.

Most patients and spouses were Buddhists (82%). Buddhist teaching may play an important role in people's belief and this can influence their coping. The average length of marriage was 21.95 years. The results showed that patients and their spouses had been married for a long time and they may have felt committed to each other.

The emotional responses of the patients might effect the emotions of the spouses. Both patients and spouses' score for their perceptions of the severity of the disease was at a moderate level compared to the possible score (0-10). The mean score was 6.36 for the patients and 5.66 for the spouses. One possible explanation is that all patients were diagnosed with stage I and II of breast cancer. They might perceive that at the early stage it is possible to be cured. Thus the score for the perception of the severity of the illness was moderate. The results showed that patients' perceived their breast cancer to be more severe than their spouses. The patients were directly faced with the disease and the side effect of treatment while the spouses were indirectly affected by the diagnosis of breast cancer.

*Objective 1: To identify coping strategies of patients with breast cancer and their spouses*

The patients with breast cancer and their spouses used various strategies to cope with stress arising from the diagnosis of breast cancer. This finding is congruent with Lazarus and Folkman's theory (Lazarus and Folkman, 1984) that posits that coping refers to the feelings, thoughts, and actions that people encounter during stress.

Individuals employed different coping strategies depending on their appraisal of stressful event and the specific context encountered. Coping strategies that patients with early stage breast cancer and their spouses most frequently used in this study were use of emotional support followed by acceptance and active coping. Less frequently used coping strategies were behavioral disengagement, self-blame, and substance use. This is consistent with the study of Kritpracha (2004) who found that emotional support, acceptance, and active coping were the most frequently used coping strategies of Thai women newly diagnosed with breast cancer.

Patients with breast cancer reported that they needed emotional support from their nearest and dearest to cope with their new situation regarding breast cancer. Patients who get emotional support from their loves ones will feel better because it dissipates negative perceptions about cancer (Junda, 2004a). It also contributes to patients' well being (Kitrungrote et al., 2008). In addition, Thai spouses of patients with breast cancer reported that the majority of coping strategies most use by the spouses were emotional and instrumental support (Thaiglang et al., 2000, Oiemhno et al., 2004).

Acceptance was the second most frequently used coping strategy of patients with early stage breast cancer but it was the one most commonly used by the spouses. This finding was consistent with previous studies. Lauver et al., (2007) found that female cancer patients used acceptance as a primary coping strategy and it was helpful. Thai women with breast cancer reported that they accepted illness and recognized that their illness could not be change but they could live with it (Junda, 2004a). One reason is that most of the population is Buddhist. This plays an important role in people's lives, especially when they become ill (Junda, 2004a). According to

Buddhist teaching, everybody should be aware of the nature of human life which includes birth, decay, sickness and the death (Minarik, 1996).

Another explanation in the literature suggests that patients and their spouses believe in the Karmatic law, the law of cause and effect. They believe that their illness is a part of their life and a result of their actions (Kitrungrote et al., 2008, Kritpracha, 2004), therefore they must accept this condition. The spouses of patients with cancer reported that acceptance helped them become calm and thus their suffering was diminished. In addition, some patients may believe it to be fate or the will of God. Thus, they use acceptance to cope with the diagnosis of their cancer.

In addition, active coping was the third most frequently used coping strategy of patients and their spouses. One possible explanation is that all patients were diagnosed with stage I and II of breast cancer. They might perceive that at the early stage it is possible to be cured. In addition, the outcomes of treatment tend to be more positive and the health-care situation is more controllable. As a result, the patients are likely to feel that the results of treatment would be more positive. So they put in more effort, such as going to get treatment, which is considered as active coping.

The results showed that patients had significantly higher scores on the various coping strategies than spouses. According to the Lazarus and Folkman theory (Lazarus and Folkman, 1984), the coping efforts of individuals depend on their appraisal. Thus patients who perceive that their disease is more severe may experienced more stress and use more coping strategies than their spouse. In addition, there might be a very simple explanation, that the patients were directly affected by the disease and the side effects of treatment. They may use coping strategies more frequently to cope with stress.

Emotional support and acceptance are considered as emotion-focused while active coping is considered as problem-focused. Emotion-focused coping strategies are efforts to regulate the emotional consequences of stressful or potential stressful events. On the other hand, problem-focused coping strategies are efforts to do something actively to alleviate stressful circumstances (Lazarus & Folkman, 1984).

In conclusion, the 3 strategies that were commonly used by the patients and their spouses were both emotion-focused and problem-focused. It may be concluded that patients with early breast cancer and their spouses use both types of strategies to combat the stress.

*Objective 2: To explore the emotional distress of patients with breast cancer and their spouses*

The mean of total mood disturbance score in this study was 13.74 for the patients and 6.23 for the spouses. This result shows that both patients and the spouses had emotional distress. The possibility explanation is that both patients and they spouses dealt with stress together. The patients experienced directly the threat posted by breast cancer and the side effects of treatment such as pain, fatigue, nausea, vomiting, and physical limitation. These all contribute directly to increasing emotional distress. Base on review literature, patients with breast cancer also believed that cancer is equal to death and that made them feel anxiety, uncertainty about their future, and fear of death. Thus they might feel emotional distress. In addition, the patients may have a sense of loss and grief which is a normal response to the loss of a breast, or part of a breast. This might lead them to feel emotional distress.

The spouses also experienced emotional distress. Even though the spouses did not have the disease, they were affected by it. One possible explanation is that he patients and their spouses in this study had been married for a long time. A life threatening illness like cancer may cause emotional distress for the spouses because the spouses have an intimate relationship with the patients and they were co-sufferers (Kitrungrote et al., 2008). When the patients were diagnosed with breast cancer, their spouses also felt similar misery. As primary supporters, spouses must assume new roles in the household and also provide emotional support for the patients (Hilton et al., 2000). For these reasons, they experienced emotional distress.

The results showed patients had more emotional distress compared to their spouses. This supports the findings of previous study which noted that patients reported more emotional distress compared to their spouses (Ben-Zur et al., 2001; Northouse et al., 2002). A previous study reported that females had more emotional distress than males. It is important to note that this was not because of their gender but because of their role as a wife (Hagedoorn et al., 2008). Thai women with breast cancer reported that they changed their role as caretaker to a new role as a care receiver (Junda, 2004b). They are thus likely to experience more emotional distress. In addition, most spouses of this study were educated at undergraduate/graduate level while most patients were educated at primary school level. Persons who had higher education might experience less distress

However, their level of emotional distress was low. The patients may have thought that they are lucky to be diagnosed at the early stage of breast cancer. At this stage of breast cancer it is possible to be cure, so they felt less emotional distress. In addition, the majority of patients already knew their diagnosis and had been

undergoing surgery and chemotherapy. Previous studies reported that the diagnostic phase (prior to surgery) was the most stressful time and the patients experienced great emotional distress (Heim et al., (1997). The patients and their spouses in this study had passed the diagnostic phase with its decisions about treatment which is a period of crisis. So their emotional distress might be lower in both patients and their spouses.

In addition, nearly half the patients in this study used the Universal Coverage Health Scheme or 30 Baths program for cost of treatments. Yet most of them had an adequate income. Therefore, they did not have financial problems. Those who had more support reported less distress (Northhouse et al., 1995). When the patients were less distressed, their spouses were also less distressed because they had a mutual effect on each other.

*Objective 3: To examine the relationship between coping strategies and emotional distress of patients with breast* cancer

There were significant correlations between the coping strategies and emotional distress of patients with breast cancer. The results showed that coping strategies of patients with breast cancer namely behavioral disengagement, venting, planning, and self-blame were related to their emotional distress. Similar results were obtained in prior research. Ben-Zur and colleagues (2001) found that behavioral disengagement and venting of feelings were positively related to distress. David and colleagues (2006) also suggested that coping response of greater venting, planning, and self-blame were related to greater distress. Besides, in prior research the use of self-blame had been suggested to be negative associated with general well being (Li

& Lambert, 2007). In conclusion, the more a patient uses behavioral disengagement, venting, planning, and self-blame, the more emotional distress they might experience.

*Objective 4: To examine the relationship between coping strategies and the emotional distress of spouses of patients with breast cancer*

There were significant correlations between coping strategies and the emotional distress of spouses. The results showed that coping strategies of the spouses such as behavioral disengagement were related to their emotional distress. It can be suggested that when the spouses of patients with breast cancer give up or withdraw because of the stressful diagnosis of breast cancer, they feel guilt. They are co-sufferers of the patients. For this reason, they experience increased emotional distress when they use behavioral disengagement as their coping strategy.

*Objective 5: To examine the relationship between the coping strategies of patients with breast cancer and emotional distress of their spouses, and*

*Objective 6: To examine the relationship between coping strategies of spouses and emotional distress of patients with breast cancer*

The findings suggest that there was no significant correlation between the coping strategies of patients and the emotional distress of their spouses. Similarly, there was no significant correlation between the coping strategies of spouses and the emotional distress of patients. According to Junda's (2004b) study, the spouses of patients with breast cancer experience emotional distress. They tend to express it to other family members, but not to the patient because they wanted to avoid causing

more stress to the patients. So no relationships were found between the coping strategies and emotional distress of patients and their spouses.

However, significant correlations were found among components of the coping strategies and component of emotional distress. This result suggested that coping strategies of patients, namely self-distraction, behavioral disengagement, and venting of feelings, were related to their spouse's mood factors, namely Anger-Hostility, Tension-Anxiety, and Depression-Dejection. Coping strategies of spouses, namely denial, were related to patients' mood factors such as Tension-Anxiety and Depression-Dejection. According to a previous study, Ben-Zur (2001) found that patients' use of venting and behavioral disengagement were related to the greater distress of spouse and a spouse's use of denial was related to patients' increased distress. Findings from this study from using the POMS-B indicated the significance of specific mood factors of patients and their spouses. This is different from any previous study.

*Objective 7: To examine the relationship between emotional distress of patients with breast cancer and emotional distress of their spouses*

There was no significant correlation between the total mood disturbance of patients and their spouses. The finding of this study was different from Northouse and colleagues (2001). Their study revealed that patients' emotional distress had a significantly direct effect on spouses' emotional distress. Likewise, spouses' emotional distress had a significantly direct effect on patients' emotional distress. One possibility is Thai patients with breast cancer not only have the spouses as a primary support but also have support from their relatives. For example, their relatives give them financial support and take care of their children when the patients receive the

treatment or during hospitalization. In addition the spouses of patients with breast cancer try to avoid showing their emotional distress to the patient but they tend to express it to other family members. Therefore, a relationship between the emotional distress of patients and their spouses was not found.

If the patients have higher emotional distress but their spouse had lower emotional distress, it is good because they can balance their negative feelings. This benefits both patients and their spouses. When the patients were distressed they still had their spouses to support them, when the spouses were distressed they still have the patients to support them. However, there were relationships between the mood factors of the patients and their spouses. The patients' depression-dejection and anger-hostility were related to their spouses' depression-dejection and anger-hostility. The findings of this study support the finding of previous research that patients and their spouses have mutual influences on each other (Northouse et al., 1995; Tuinstra et al. 2004).

# CHAPTER 5

# CONCLUSIONS AND RECOMMENDATIONS

This study aimed to examine coping strategies, the emotional distress of patients with breast cancer and their spouses and the relationship between coping strategies and emotional distress of breast cancer couples. The population of this study was made up of patients with breast cancer and their spouses. The subjects were recruited from Songklanagarind Hospital and Hatyai Hospital from December 22, 2008 to May 15, 2009, using purposive sampling. Sixty-one couples (patients with breast cancer and their spouses) participated in this study. They were asked to complete sets of questionnaires, one for patients and another for their spouses. The questionnaire consisted of three parts: a demographic questionnaire, the Brief COPE, and the Profile of Mood State-Brief (POMS-B). This chapter presents a summary of the study result, their implications, and recommendations.

## *Summary of the study results*

The three most frequently used coping strategies for patients with breast cancer and spouses were the use of emotional support, acceptance, and active coping. The mean total mood disturbance score of the patients was 13.74, whereas the mean score of the spouses was 6.23. Results showed that patients have more emotional distress than did spouses. There were significant correlations between some coping strategies and the emotional distress of patients and their spouses. The result showed that coping strategies of patients with breast cancer such as behavioral disengagement,

venting, planning, and self-blame were related to their emotional distress. However, the coping strategies of spouses such as behavioral disengagement were related to their emotional distress. There was no significant correlation between the emotional distress of patients with breast cancer and their spouses, even though significant correlations between mood factors were identified.

*Implications*

The findings of this study show the significant positive correlations between some coping strategies and the emotional distress of patients with breast cancer and their spouses. Nurses need to be aware of the various coping strategies that patients and their spouses use to confront the diagnosis of breast cancer. An assessment of coping strategies is a prerequisite to facilitate appropriate care for patients with breast cancer and their spouses. Nurses can assist the patients and their spouses by providing support, information, and alternative strategies to promote coping strategies Nurses should consider nursing intervention to help patients and their spouses to select appropriate coping strategies with them. In addition, the results of this study found that emotional support was the most common coping strategy used by the patients and their spouses. Emotional support should be provided. Establishing support groups and involving their family to provide emotional support to the patients and spouses would be to the benefit of patients and their spouses in Thai culture.

The findings of this study suggest that there were significant positive correlations between some coping strategies and the emotional distress of patients with breast cancer and their spouses. Coping strategies such as behavioral

disengagement, the venting, planning, and self-blame all related to emotional distress. Nurses should pay more attention to patients and their spouses who use these coping strategies. Nurses can help can patients and their spouses to avoid strategies that induce emotional distress. They can do this by identify coping strategies, sharing information, exchanging ideas and empowering them to use appropriated coping strategies to reduce emotional distress. Moreover, since there was no significant correlation between emotional distress of patients with breast cancer and their spouses, this is beneficial to them because they can balance their negative moods and support each other to reduce emotional distress.

*Limitations of the Study*

Some of the Cronbach alpha reliability tests for the Brief COPE subscales were low in this study because each coping strategies consisted of two items. However, the internal consistency and reliability of the Brief COPE for the entire scales of patients and their spouses were acceptable.

*Recommendations*

Further studies that use longitudinal designs are needed to examine stability or changes in coping strategies and emotional distress following the diagnosis of breast cancer. More studies are needed to identify factors influencing the coping strategies and emotional distress of patients with breast cancer and their spouses. It is also recommended that Thai women with all stage of breast cancer be included. The

patients might use dissimilar coping strategies at different stages. Thus the stage of breast cancer might be a factor that influences the coping strategies and emotional distress of patients and their spouses.

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**APPENDICES**

# APPENDIX A

## INFORMED CONSENT FORM

My name is Pannee Buaniam, a master student at the Faculty of Nursing, Prince of Songkla University, Hat Yai, Thailand. I am conducting a research project to explore the relationship between coping strategies and emotional distress of patients with early stage breast cancer and their spouses. This is to fulfill a requirement of the master's nursing program at Prince of Songkla University. You will be asked to complete the questionnaire about your personal information, your coping strategies, and level of emotional distress. It will take about 30-45 minutes. If you have any questions, I will be glad to answer them for you.

The information gathered will be used to write a report and it will be of benefit to nurses to help patients with breast cancer and their spouses to deal with their emotional distress. It will only be used for the purpose of this study. Only the researcher and her advisors will have access to it. Your name and your identity will not be revealed. The questionnaires will be destroyed after the completion of the study.

Your participation is voluntary and the decision will be yours whether to participate or not to participate. You can withdraw from this study at any time. There will be no penalty or any effect from your decision to refuse to participate in this study. If there are any psychological problems, the researcher and the nurses will provide psychological support for you.

Your signature on this form will indicate that you understood this form and agreed to participate in this study.

| | | |
|---|---|---|
| ---------- | ---------- | ---------- |
| Name of participant | Signature | Date |
| ---------- | ---------- | ---------- |
| Name of researcher | Signature | Date |

If you have any question, please contact:

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# APPENDIX B

# INSTRUMENTS

This questionnaire consist of 3 parts

Part I Demographic questionnaire

Part II Brief COPE

Part III Profile of Mood State-Brief (POMS-B)

**Part I Demographic questionnaire of patients with breast cancer**

The following questions are the question about you. Please response to each items by filling out you answer in the blank or placing ✓ mark on any one of given options.

1. Age _____ years

2. Religion

☐ 1) Buddhism ☐ 2) Christianity

☐ 3) Islam ☐ 4) Other (specify) _____

3. Education level

☐ 1) None ☐ 2) Primary school

☐ 3) Secondary school ☐ 4) High school

☐ 5) Diploma ☐ 6) Undergraduate/Graduate

4. Number of children _____

5. Occupation

☐ 1) Government employ ☐ 2) Non-government employee

☐ 3) Small business ☐ 4) Agriculture

☐ 5) Labor ☐ 6) Other (specify) _____

6. Household income per month

☐ 1) Less than or equal to 5,000 bahts ☐ 2) 5,001-10,000 bahts

☐ 3) 10,001-15,000 bahts ☐ 4) 15,001-20,000 bahts

☐ 5) more than 20,000 bahts

7. Household income per month and expenditure

☐ 1) Adequate ☐ 2) Inadequate

☐ 3) Inadequate and indebted

7. Health service payment

☐ 1) Self-paid ☐ 2) Universal Coverage

☐ 3) Government/state enterprise welfare ☐ 4) Social security insurance

☐ 5) Elderly welfare ☐ 6) Other (specify) _____

9. Family history about cancer

☐ 1) No ☐ 2) Yes (specify) _____

10. Stage of breast cancer

☐ 1) Stage I ☐ 2) Stage II

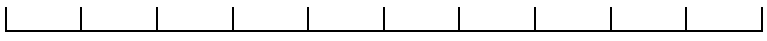
11. Type of treatment

☐ 1) Surgery ☐ 2) Chemotherapy

☐ 3) Radiation ☐ 4) Other (specify) _____

12. Time since diagnosis _____days

13. Perception about severity of illness (please mark X on the number)



0 1 2 3 4 5 6 7 8 9 10

not severe very severe

**Part I Demographic questionnaire of spouses of patient with breast cancer**

The following questions are the question about you. Please response to each items by filling out you answer in the blank or placing ✓ mark on any one of given options.

1. Age _____ years

2. Education level

☐ 1) None ☐ 2) Primary school

☐ 3) Secondary school ☐ 4) High school

☐ 5) Diploma ☐ 6) Undergraduate/Graduate

3. Occupation

☐ 1) Government employee ☐ 2) Non-government employee

☐ 3) Small business ☐ 4) Agriculture

☐ 5) Labor ☐ 6) Other (specify) _____

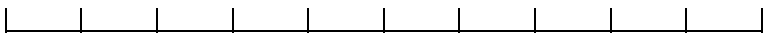
4. Religion

☐ 1) Buddhism ☐ 2) Christianity

☐ 3) Islam ☐ 4) Other (specify) _____

5. Times since married_____ years

6. Perception about severity of illness (please mark X on the number)



0 1 2 3 4 5 6 7 8 9 10

not severe very severe

**Part II Brief COPE**

Instruction: I am interested in learning how people deal with a difficult or stressful event in their lives especially about an illness. There are lots of ways to deal with stress. I would like to know what you do to cope with the illness.

Each following items says something about a particular way of coping. I want to know to what extent you've been doing to deal with the illness and how much or how frequently. There are no “right” or “wrong” answers, so choose the most true answer for you.

1 = I haven't been doing this at all

2 = I've been doing this a little bit

3 = I've been doing this a medium amount

4 = I've been doing this a lot

| | Not at all | A little bit | A medium amount | A lot |
|---|---|---|---|---|
| 1. I've been turning to work or other activities to take my mind off things. | 1 | 2 | 3 | 4 |
| 2. I've been concentrating my efforts on doing something about the situation I'm in. | 1 | 2 | 3 | 4 |
| 3. I've been saying to myself "this isn't real". | 1 | 2 | 3 | 4 |
| . | | | | |
| . | | | | |
| . | | | | |
| 26. I’ve been blaming myself for things that happened. | 1 | 2 | 3 | 4 |
| 27. I've been praying or meditating. | 1 | 2 | 3 | 4 |
| 28. I've been making fun of the situation. | 1 | 2 | 3 | 4 |

**Part III Profile of Mood State-Brief (POMS-B)**

Below is the list of words that describe feelings people have. Please read each one carefully, and rate each from 0 to 4 using the scale below to describe how you are feeling in the past 24 hours including now.

0 = Not at all

1 = A little

2 = Moderately

3 = Quite a bit

4 = Extremely

| Mood | Not at all | A little | Moderately | Quite a bit | Extremely |
|---|---|---|---|---|---|
| 1. Tense | | | | | |
| 2. Angry | | | | | |
| 3. Worn out | | | | | |
| . | | | | | |
| . | | | | | |
| . | | | | | |
| 28. Bad-tempered | | | | | |
| 29. forgetful | | | | | |
| 30. Vigorous | | | | | |

# APPENDIX C

## LIST OF EXPERTS

The instruments of this study were validated by three experts

1. Wongchan Petpichetchian, R.N., Ph.D. Assistant Professor, Faculty of Nursing, Prince of Songkla University, Thailand
2. Wandee Suttharangsee, R.N., Ph.D. Associate Professor, Faculty of Nursing, Prince of Songkla University, Thailand
3. Paradee Prechawittayakul, R.N., Songklanagarind Hospital, Faculty of Medicine, Prince of Songkla University, Thailand

# VITAE

**Name** Pannee Buaniam

**Student ID** 5010420016

**Educational Attainment**

| **Degree** | **Name of Institution** | **Year of Graduation** |
|---|---|---|
| Bachelor in Nursing (Nursing) | Prince of Songkla University | 2007 |