

QUALITY OF LIFE IN WOMEN WITH BREAST CANCER

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BY

ERIN BENTLEY WYATT

DR. NAGIA ALI – ADVISOR

BALL STATE UNIVERSITY

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## Chapter I

### *Introduction*

According to the American Cancer Society (2008), one in eight women will be diagnosed with breast cancer. Advances in treatment have increased survival rates in women, so many are living longer with the disease (American Cancer Society, 2005). With these treatment advances come short and long-term side effects, and there is increased potential that women will face negative changes in their perceived quality of life (QOL) (Byar, Berger, Bakken & Cetak, 2006). Breast cancer diagnosis creates difficult physical, psychosocial, and emotional issues for women. Previous research states that compared to women without breast cancer, diagnosed women demonstrate consistently lower scores when QOL is measured (Mahon, 2006).

In localized breast cancer, surgery is the primary treatment. Surgical procedures commonly used in breast cancer treatment include lumpectomy or mastectomy with or without lymph node dissection (Mahon, 2007). Mastectomy, which is the surgical removal of the breast, puts many women at risk for altered body image. Lumpectomy involves only the removal of the cancerous breast lump, and women may experience an alteration in body image due to the surgical scar. In certain cases, women experience lymphedema as a result of lymph node dissection, also increasing the risk for disturbances in body image (Itano & Taoka, 2005).

Adjuvant treatments for breast cancer might include a combination of chemotherapy, radiation therapy, hormonal therapy, and/or targeted therapy (Mahon, 2007). In some cases, breast cancer chemotherapy can induce premature menopause. Hormonal treatments block the effects of estrogen in the body, also creating symptoms of menopause. Radiation therapy causes fatigue in almost 100% of women treated (Itano & Taoka, 2005). Women being treated for breast cancer commonly experience sexual dysfunction due to treatment induced menopause and fatigue (Mahon, 2007).

When a woman is diagnosed with cancer, she is forced to contemplate her own mortality. She may deal with fear of death, fear of recurrence, and fear of what her partner might think of her (Mahon, 2007). She may have feelings of anxiety and uncertainty related to her illness (Wonghongkul, Dechaprom, Phumivichvate & Losawatkul, 2005).

Social support is important when dealing with breast cancer. A woman relies on her family, friends, faith community, and medical team to provide her with the support she needs to deal with her illness (Mahon, 2007). Some women choose to participate in support groups and similar interventions that offer social support. A strong social support network is thought to have a positive effect on perceived QOL (Manning-Walsh, 2005; Makabe & Nomizu, 2007; Sammarco & Konecny, 2008).

Breast cancer diagnosis brings about many physical and psychological changes in a woman's life. These changes, sometimes positive and often negative, can affect a woman's QOL. Therefore, it is considered very essential for the nurse to assess a woman's QOL as part of the ongoing nursing care plan (Davis, 2005).

### *Background and Significance*

The National Cancer Institute (2008) defines QOL as “the overall enjoyment of life.” QOL encompasses a person’s perceived state of being and his or her ability to perform activities of living.

Researchers have studied QOL in breast cancer for some time (Davis, 2005; Byar et al., 2006; Manning-Walsh, 2005). Results have showed that women with breast cancer rate their QOL lower than the general population (Mahon, 2007).

Breast cancer incidence and mortality rates are declining at the present (American Cancer Society, 2005), but there are hundreds of thousands of women alive today who have survived the disease. Many of the women are dealing with long-term effects left over from the disease (Davis, 2005); in some cases the effects are permanent: the loss of the breast.

Chemotherapy used to treat breast cancer causes alopecia. Together with the scars of breast surgery, these side effects can greatly impact a woman’s body image and sexuality. Hormonal treatments known to cause vaginal dryness can increase sexual dysfunction in breast cancer survivors (Mahon, 2005). Sexuality is important to many people, and is an important concept in determining QOL.

Social support is an important concept that has a direct effect on QOL. When a woman perceives she has adequate social support from loved ones and health professionals, she is more likely to cope better and adjust to her diagnosis. Women without a strong social support network are at higher risk for emotional problems such as anxiety and depression. One study suggests that women who lacked social support resources before a diagnosis of cancer have an increased mortality risk (Knobf, 2007).

A woman appraises the stress of being diagnosed with breast cancer as irrelevant, benign positive, or stressful (Wonghongkul et al., 2006). If she appraises her situation as irrelevant, it does not affect her or have an impact on her life. A benign positive appraisal would indicate that the experience is positive. Appraising an event as stressful means that the woman perceives breast cancer diagnosis as harm/loss, threatening, or a challenge (Lazarus & Folkman, 1984). Occasionally, women do see the diagnosis of breast cancer as a positive event. It helps them to re-evaluate their lives and create new priorities. Usually at the time of diagnosis, though, women perceive breast cancer as stressful; as something that will bring challenges and harm (Mahon, 2007).

Lazarus and Folkman (1984) studied appraisal and coping and grouped coping styles into eight categories: confrontive, distancing, self controlling, seeking social support, accepting responsibility, escape avoidance, planful problem solving, and positive reappraisal. How a woman copes determines her adjustment to a situation and ultimately affects QOL (Wonghongkul et al., 2006).

Davis (2005) researched the relationships among body image, sexuality, appraisal and coping, and social support with QOL in women who had been diagnosed with breast cancer and had surgery as treatment. The author found that women with lower body image scores also had lower QOL scores. Higher sexuality scores indicated an increase in QOL. Appraisal and coping subscales were positively associated with QOL. The study is important to nurses who care for women with breast cancer and apply interventions that promote QOL.

This study will build on Davis' (2005) previous research with the intention to obtain more data on variables that relate to QOL in order to enhance and improve QOL of women with breast cancer.

### *Statement of Problem*

Breast cancer is a very common disease which affects one in eight women (American Cancer Society, 2008). In 2008, an estimated 184,450 women will be diagnosed (American Cancer Society, 2008). Advances in treatment have caused mortality rates to steadily decline (American Cancer Society, 2005) but the treatments have significant negative side effects (Mahon, 2007). Side effects such as alopecia, loss of the breast, decreased libido and fatigue can negatively affect QOL (Mahon, 2007). Emotional aspects of the disease such as uncertainty in illness or a lack of social support may also have a negative relationship with QOL (Wonghongkul et al., 2005; Manning-Walsh, 2005; Makabe & Nomizu, 2007; Sammarco & Konecny, 2008). Nurses have an important role in the treatment of the woman with breast cancer and can implement interventions that can help enhance QOL.

### *Purpose*

The purpose of this study is to evaluate relationships among body image, sexuality, appraisal and coping, and social support with quality of life in women with breast cancer and to confirm the finding's of Davis' (2005) study on QOL and women with breast cancer.

### *Research Question*

1. What are the relationships among body image, sexuality, appraisal and coping, and social support with quality of life in women with breast cancer?

### *Theoretical Framework*

The framework of this study is a theoretical model that was designed by Davis (2005) which is called Body Image, Sexuality, and Coping: Quality of Life in Women with Breast Cancer: A Theoretical Model. The model is based on the appraisal theory of Lazarus and Folkman (1984). The model looks at the event of the breast cancer diagnosis and then looks for predictors of QOL: body image, sexuality, appraisal, coping, and social support, and then examines the adaptational outcome of QOL (Davis, 2005).

### *Definition of Terms*

#### *Quality of Life*

*Conceptual* In the past, QOL had to do with a patient's perceived view on his or her abilities to carry out activities of daily living compared with their actual abilities to do so (Davis, 2005). As time progressed, the patient's satisfaction with her ability to perform her everyday functions was included in the concept of QOL. Healthy People 2010 (Office of Disease Prevention and Health Promotion: U.S. Department of Health and Human Services, 2000) defined QOL as including all aspects of life. Health, recreational activities, culture, rights, values, beliefs and the conditions that maintain life make up the concept of QOL (Davis, 2005). For this study, QOL will be defined as the stated well-being of women that includes the physical, psychosocial, and social aspects.

*Operational* QOL will be measured with data collected from subscales of the Chronic Illness Life Satisfaction Ladder (CILSL).

#### *Social Support*

*Conceptual* Social support is a multifaceted concept which involves the number of relationships one has with others as well as the quality of those relationships. Social

support could mean one's perception of the availability of a support system, the reception of support from others and providing reciprocal support to others (Manning-Walsh, 2005). Support can come in the form of emotions such as caring or empathy, it can include providing goods or services or information. Support can be obtained from family, friends, medical professionals, one's faith community, or from a support group involving other people in similar situations (Manning-Walsh, 2005).

*Operational* Social support will be measured by the Medical Outcomes Study Social Support Survey (MOS-SSS).

#### *Appraisal and Coping*

*Conceptual* Cognitive appraisal can be both primary and secondary. Lazarus and Folkman (1984) stated that primary appraisal begins with an encounter; in this case it would be the diagnosis of breast cancer. One appraises the encounter as being irrelevant, benign-positive, or stressful. Irrelevant encounters have no effect on a person, while benign-positive encounters are positive. Encounters appraised as stressful involve a perception of harm/loss, threat, or challenge (Davis, 2005). Secondary appraisal involves contemplating the actions that will be taken to deal with the encounter and explore ways of coping. Davis (2005) stated that how a woman appraises the loss of a breast can predict coping strategies and QOL.

*Operational* To measure appraisal and coping, the Ways of Coping-Cancer Version (WOC-CA) will be utilized. Also, the Cognitive Appraisal of Health Scale will measure appraisal and coping.

### *Sexuality*

*Conceptual* Davis (2005) says that “sexuality includes the psychological components of the sexual experience as well as the ability of the body to function properly during sexual interactions.”

*Operational* The McCoy Female Sexuality Questionnaire (MSFQ) will collect data to measure this variable.

### *Body Image*

*Conceptual* Davis (2005) states “body image is a subjective, ever-changing process in which beliefs about the body are formed.” The concept of body image is closely associated with sexuality and perceptions of sexual attractiveness.

*Operational* The Body Image Scale will collect data to measure body image in this study.

### *Limitations*

Although this study will be quantitative, it will lack generalizability due to small sample size. Because the study is being conducted at one site in one geographic area this is another limitation to the generalizability of the study.

### *Assumptions*

It is assumed that participants will respond honestly to the questions in the surveys. It is assumed that Davis’ (2005) previous work on QOL in women with breast cancer is valid and related to the study. It is assumed that the side effects of breast cancer treatment have a negative impact on women’s QOL.

### *Summary*

Women who are diagnosed with breast cancer experience many changes as a result of the disease. The changes may be physical, emotional, spiritual, and psychological and be acute or chronic. These changes, especially in the areas of body image, sexuality, social support, and appraisal and coping, may have an impact on QOL.

As a nurse, it is important to be aware of these changes, so that QOL can properly be assessed. Nursing interventions be implemented that can enhance the QOL of women with breast cancer.

The purpose of the study is to examine the relationships among body image, sexuality, social support, appraisal and coping, and QOL in women with breast cancer.

Davis' (2005) framework will be utilized as it has already studied these relationships.

The significance of the study may impact nurses who care for women with breast cancer.

## Chapter II

### *Literature Review*

The purpose of this study is to evaluate the relationships among body image, sexuality, appraisal and coping, and social support with quality of life in women with breast cancer.

#### *Research Question*

2. What are the relationships among body image, sexuality, appraisal and coping, and social support with quality of life in women with breast cancer?

#### *Framework*

The framework of this study is a theoretical model that was designed by Davis (2005) which is called Body Image, Sexuality, and Coping: Quality of Life in Women with Breast Cancer: A Theoretical Model. The model is based on the appraisal theory of Lazarus and Folkman (1984). The model looks at the event of the breast cancer diagnosis and then looks for predictors of QOL: body image, sexuality, appraisal, coping, and social support, and then examines the adaptational outcome of QOL (Davis, 2005).

#### *Social Support*

The diagnosis of breast cancer can be stressful for women. The addition of this stress into a woman's life can affect coping skills and ultimately QOL. Social support

from family, friends, or religious congregations may alleviate some of the stress and enhance QOL. Manning-Walsh (2005) examined the efficacy of social support with symptom distress and quality of life in women with breast cancer. The study used a cross-sectional, correlational design along with Lazarus and Folkman's (1984) stress and coping model to examine relationships with distress, social support and QOL.

The population for the study was women with breast cancer. The sample consisted of 100 women who were users of the website "Breast Cancer Online Support." The mean age of the women was 46. The criteria for inclusion were diagnosis of the disease, being 1 month to 2 years post-surgery, female, over the age of 18, not pregnant at diagnosis, and able to read and write English. The setting used was recruitment via the internet and had approval from a university institutional review board (Manning-Walsh, 2005).

A questionnaire was used to collect data. Instrumentation used included the Symptom Distress Scale, Religious Support Scale, FACT-B, and Facit-Sp-12. The Symptom Distress Scale measured distress that resulted from 10 common breast cancer related symptoms such as nausea, pain, changes in appearance, and fatigue. The scoring for these symptoms used a Likert-type scale of 1 to 5 with higher numbers indicating increased distress and had a construct validity according to the user's manual and had reliability ranging from .70 to .92 and Cronbach's alpha was .81. The Religious Support Scale consisted of eight items with a Likert-type scale and measured relationships between participants and members of their church to indicate religious support. Scores were on a scale of 1-4, with 1 being "never" and 4 being "very often." If participants did

not belong to a church, this portion of the questionnaire was omitted. To measure personal support, the same tool was used as religious support only the wording was changed to “family/friends” instead of “congregation”.

The Religious Support Scale was valid and reliable with reliability ranging from .82-.87. Cronbach’s alpha was .85 for the religious scale and .84 for the modified personal support scale. The FACT-B, or Functional Assessment of Cancer Therapy Scale and also a 12 item subscale, the Facit-Sp-12 were used to measure QOL. FACT-B contained 36 items, with 25% of them pertaining exclusively to breast cancer. Both of these tools have been established to have content and construct validity. Reliability for FACT-B was .90 and Facit-Sp-12 was .87 (Manning-Walsh, 2005).

The first research question in Manning-Walsh’s study was: How does personal social support serve as a mediator between symptom distress and quality of life in women with breast cancer? The author found that there was a positive correlation between personal social support (of family or friends) and QOL, and it also mediated symptom distress somewhat (Manning-Walsh, 2005). Results were moderate ( $r=.517, p<.01$ ).

The next question asked was: How does personal social support serve as a mediator between symptom distress and quality of life in women with breast cancer? Results showed that religious support did not help with symptom distress and therefore was had not direct relationship with QOL (Manning-Walsh, 2005).

The author concluded that social support from either family or friends lessened the unpleasant effects of symptoms on quality of life. The author emphasized the need to assess patients for distress related to symptoms and also assess the patients’ support

systems to ensure the adequate support they need. It is also important to provide patients with additional supportive resources as needed (Manning-Walsh, 2005).

Antoni et al. (2006) stated post-surgical breast cancer patients are prone to higher anxiety levels that can negatively affect QOL in the year following surgery and examined the effect of social support via a support group on anxiety symptoms and cancer-related thought intrusions in women undergoing treatment for breast cancer. This experimental study aimed to evaluate the effectiveness of a structured cognitive behavior intervention conducted in a group setting.

The population for this study was women who had undergone surgical treatment for breast cancer. The sample consisted of 199 women who had localized (nonmetastatic) breast cancer. The women had received letters either from their doctor or the American Cancer Society which encouraged participation in the opportunity to learn ways to manage their stress. Criteria included having breast cancer which was staged no higher than stage III and having surgery in the last 8 weeks. Women with a previous cancer diagnosis or a history of serious psychiatric disorder were ineligible to participate. The participants were randomly divided into two groups. The setting for the group receiving the intervention was a structured group that met for 10 weeks for 2 hours a week. Participants in the control group met one time for 5-6 hours and received condensed information from the intervention (Antoni et al., 2006).

The variables measured were thought intrusion and avoidance, interviewer-related anxiety, and emotional distress. To measure thought intrusion and distress, the Impact Event Scale was used. This scale consists is a 15 item self-report instrument which measures the degree of thought intrusion and avoidance that relate to certain situations in

life. Here, that situation is the diagnosis and the treatment of breast cancer. Each response has four options that are coded as 0,1,3, and 5. The scale also has two subscales, intrusion and avoidance. The intrusion subscale measures the amount of unwanted thoughts and mental images related to the stressor of breast cancer and the alpha reliability was 0.86. The other subscale, avoidance, describes patients' intentions to keep from thinking about the stressor and had an alpha of 0.80.

Another measurement tool was used by the interviewers to rate patient anxiety levels. The Hamilton Rating Scale for Anxiety was used and scoring was done according to the user guide. This scale was reported to have high interrater reliability, internal consistency, and discriminant validity (Antoni et al., 2006). Doing assessments were thoroughly educated on this measurement tool.

Finally, emotional distress was evaluated using the Affects Balance Scale. This scale has been utilized in other studies pertaining to breast cancer and measures negative affect, depression, hostility, guilt, and anxiety that has occurred in the previous 7 days. The items on this scale are words that describe emotions, and participants rate the frequency and degree of their emotions on a scale of 1 to 5 going from never to always. The average alpha was 0.86 (Antoni et al., 2006).

The question asked was: What effect does stress management intervention have on cancer-specific thought intrusions and anxiety symptoms in women who are receiving treatment for breast cancer? Findings were that women in the intervention group did experience less thought intrusions, anxiety, and emotional distress than those who did not receive the intervention. The positive effects of the intervention were experienced for a time even after adjuvant therapy was completed (Antoni et al., 2006).

It should be known that the patients participating in this study were self selected and fell into categories of well educated middle class. The majority of participants were white. Perhaps culturally tailored interventions should also be studied to include African American and Latinas as well. Although it was determined that avoiding cancer related thoughts was not significantly practiced by participants, many had positive outcomes in thought intrusions. Stress management interventions conducted in a group setting seem to have a significant benefit in improving the QOL of these women (Antoni et al., 2006).

Makabe and Nomizu (2007) studied women in Japan who had undergone breast cancer surgery, both before and after the procedure. They sought to examine the effect of social support on women's physical and psychological state at the time of breast surgery and one year later. Conceptual framework was based on House's (1981) work. The concept of social support included support, reciprocity, and conflict. The definition of support was assistive behaviors from a social group, reciprocity was a trade of emotional or perceptible goods or services, and conflict was stress in relationships that was brought on by others. The authors used Lazarus and Folkman's (1984) definition of psychological state that a person's psychological symptoms are from interactions between the person and her surroundings which are defined by the person as surpassing her sources of support and harms her well being.

Sixty-one women with breast cancer who had been patients in a north Japan hospital were chosen to participate as a convenience sample from a population of 158 women. Inclusion criteria were lifelong residents of Japan, age 30 or older, and breast cancer survivors. Those with a psychiatric illness could not participate. The setting was the northern Japan hospital (Makabe & Nomizu, 2007).

Instruments used were Japanese versions of the Interpersonal Relationship Inventory (IPRI) the General Health Questionnaire (GHQ), and the Physical States Interview Form (PSIF). All three tools had proven reliability and validity (Makabe & Nomizu, 2007). The IPRI was a questionnaire with the three subscales of support ( $r=0.91$ ), reciprocity ( $r=0.84$ ), and conflict ( $r=0.81$ ), each with its own scoring and was translated from English to Japanese. The GHQ was a self-test to measure distress. A low score indicates a better psychological state. The tool was translated into Japanese and reported sufficient test-retest reliability. The PSIF collected information on physical signs and symptoms expected after breast surgery, including inadequate wound healing, swelling in the affected arm, fatigue, pain, impaired range of motion, and abnormal sensations in the arm and breast, including phantom breast pain. To collect this data, interviews were performed and scores ranged from 0-10 with lower scores indicating greater physical state (Makabe & Nomizu, 2007).

Findings from Makabe and Nomizu's study demonstrated a positive significant correlations for physical and psychological states during all time periods measured ( $r = 0.45, p < 0.01$ ;  $r = 0.43, p < 0.01$ ;  $r = 0.30, p < 0.05$ ; and  $r = 0.45, p < 0.01$ ). Furthermore, negative significant correlations among psychological states and support were found ( $r = -0.33, p = 0.05$ ; and  $r = -0.43, p < 0.01$ ) as well as with psychological states and reciprocity ( $r = -0.43, p < 0.01$ ). Psychological states and conflict had no correlations of significance (Makabe & Nomizu, 2007).

There was not a significant difference seen in psychological states or social support networks, which included family and friends. Physical findings included abnormal sensations in the breast (56%), pain in the arm or chest (49%), altered

sensations in the arm (48%), swelling of the arm (28%), difficulties with range of motion (28%), phantom pain of the breast (13%), delayed wound healing (5%), and other signs and symptoms (41%) (Makabe & Nomizu, 2007).

The authors concluded that healthcare providers should be aware of the positive and negative nature of social support when treating Japanese women with breast cancer. Further suggestions included encouraging women to identify and utilize social support when it is available and making contact with patients' families and loved ones in order to assist the patients as they are treated for breast cancer (Makabe & Nomizu, 2007).

In the Western world, research has shown that access to information and social support may assist coping with breast cancer and reducing its psychosocial morbidity. However the information and social support may often be viewed as insufficient. Taiwan hospitals have educational programs in place to support newly diagnosed women, but there is inconsistency among them. Social support was studied in newly diagnosed women with breast cancer in Taiwan, with the intent to investigate continuing care in increasing social support and decreasing levels of uncertainty (Liu, Li, Tang, Huang & Chiou, 2006). Two research questions were, does a multiphase supportive intervention provided over three months increase the social support among newly diagnosed women with breast cancer in Taiwan, and does this intervention also increase uncertainty perceived by these women? The framework used was created from the literature review and examined continuing supportive cares for the support subjects and support primary caregivers in newly diagnosed breast cancer with social support increasing and uncertainty decreasing through the use of the supportive cares (Liu et al., 2006).

The population was women with breast cancer who were newly diagnosed and the sample consisted of 61 women. To participate, women were to be between the ages of 20 and 60, have early stage breast cancer that was not locally or distantly advanced, be able to communicate, agree to breast surgery within days, and agree to the study (Liu et al., 2006).

Social support was assessed by the Social Support Questionnaire (SSQ), which was alteration of Cohen's Interpersonal Support Evaluation List. The SSQ was self reported from participants and measured support in two categories: family and friends, and doctors and nurses. The tool consisted of 20 items covering emotional, self-esteem, informational, and tangible support and was scored according to a 5-point Likert scale. The range for scores could fall between 40-200, and higher scores represented increased support. Reliability of the SSQ from previous research had a Cronbach  $\alpha$  of 0.91 and for this particular study, a Cronbach  $\alpha$  of .93. The uncertainty scale (US) was an alteration of the Mishel Uncertainty in Illness Scale which was translated into Chinese and contained 25 items in the form of a questionnaire designed to be self-administered. The US obtains information about the uncertainty in illness felt by women with breast cancer that is rated on a 5-point Likert scale. It is categorized into ambiguity (15 items) and unpredictability (10 items) related to the participant's attitude and perception of breast cancer diagnosis. Scores can fall between 25 and 125, with the higher the score translating into higher uncertainty. Cronbach  $\alpha$  for the ambiguity subscale was .86, and .88 for the unpredictability subscale (Liu et al., 2006).

At baseline, the control and the experimental groups exhibited lower levels of social support, uncertainty, ambiguity, and unpredictability. At later points, the

experimental group showed an increase of 15.9% in overall support, and the control group had a reduction of 10% in overall social support. The experimental group experienced a decline in uncertainty, ambiguity, and unpredictability and demonstrated higher levels of perceived social support at later testing intervals. The control group exhibited an initial increase in uncertainty during further testing but declined again at the third assessment post surgery (Liu et al., 2006).

The study concluded that offering an ongoing supportive care intervention could increase social support and decrease uncertainty in illness for Taiwanese women with new breast cancer. Although it was found that this intervention improved perceptions of support from healthcare providers, it did not have a significant impact on support from family and friends. The authors suggest increased research in education for families and loved ones.

Latina women with breast cancer are an underrepresented population. Previous research on quality of life in women with breast cancer in other ethnic groups can not easily be generalized to include Latina women. Sammarco and Konecny (2008) conducted a study with the purpose of examining relationships between social support, uncertainty, and their singular and combined effects on the quality of life of Latina women with breast cancer. The framework for the study was shaped by Mishel's uncertainty in illness theory and Ferrans conceptual model of QOL.

To clarify, the term Latina pertains to women living in the United States who have Mexican, Central American, Caribbean, or South American ancestry. The population for the study consisted of Latina women with a history of breast cancer. The convenience sample included women who had completed treatment one year prior to the

study who were living in metropolitan New York and New Jersey. Previous literature hypothesized that Latinas might be unable to participate in research studies due to cultural factors, so minimal exclusion criteria was enforced in order to obtain an adequate sample size of 89.

Tools used were the Social Support Questionnaire (SSQ), the Mishel Uncertainty in Illness Scale-Community (MUIS-C), and the Ferrans and Powers Quality of Life Index-Cancer Version III (QLI-CV). This version of the SSQ was a self-test that contained 40 items that rated on a 5-point Likert scale five sources of social support: spouse or significant other, family, friend, nurse, and doctor. Internal consistency reliability was reported at 0.93, but not all the questions could be applied to all the participants because only 59 of the 89 participants had significant others. The MUIS-C, also a self-test with a 5-point Likert scale, measured uncertainty in illness. The higher the scores on the test, the higher the uncertainty level. In this study, reliability was stated as 0.84. The QLI-CV measures QOL in terms of satisfaction with life domains and the participant's perception of those domains' importance. These two aspects are measured in their own sections with 35 items each, rated on a 6-point Likert scale. Internal consistency reliability for the entire tool was 0.94 (Sammarco & Konecny, 2008).

Perceived social support scores in the sample were moderately high, but they were lower than the mean scores collected in previous studies of non-Latina women (149.00-166.70). Mean uncertainty scores were higher than in previous studies on women with breast cancer (33.70, 46.72, and 57.60). Total scores for QOL were moderately high, but again were lower than mean scores in other populations. Social support and overall QOL were positively correlated ( $r = 0.388$ ,  $p < 0.001$ ), and

uncertainty and QOL were negatively correlated ( $r = -0.0439$ ,  $p = 0.001$ ) (Sammarco & Konecny, 2008).

An analysis of the relationship of demographic variables with the main variables was performed. Age did not have a significant affect on QOL, uncertainty, or social support. Marital status did have an effect on the three main variables. Single women demonstrated more uncertainty than married women ( $p = 0.027$ ). Married women had higher scores than unmarried women in perceptions of social support ( $p = 0.003$ ), and widowed women had lower scores than those who were divorced ( $p = 0.001$ ). Level of education was not related to QOL or social support, but it did affect uncertainty ( $F[3,85] = 0.88$ ,  $p = 0.45$ ) (Sammarco & Konecny, 2008).

It had been questioned that women who have breast cancer and are described as well adjusted do not receive a benefit from support groups or psychotherapy interventions. Vos, Visser, Garssen, Duivenvoorden, and Haes (2007) studied the effectiveness of social support compared to group psychotherapy in women with breast cancer. The purpose of the study was to determine if experiential-existential group psychotherapy was more effective than a social support group for women with breast cancer.

Women who had breast cancer without metastasis and were well adjusted were the population for the study. The sample ( $n = 67$ ) was recruited from hospitals in Rotterdam, The Netherlands. To be included in the study, women had to be between 18-70 years old, had surgery for breast cancer at least four months prior to the study, could not have any metastatic lesions, and could not have any psychiatric illness (Vos et al., 2007).

A general questionnaire was provided to the participants which collected medical and demographic information. The Profile of Mood States (POMS) was translated into Dutch and measured on a 5-point Likert scale emotional adjustment with items on depression (8 items,  $\alpha = 0.89$ ), anger (7 items,  $\alpha = 0.91$ ), fatigue (6 items,  $\alpha = 0.91$ ), tension (6 items,  $\alpha = 0.89$ ), and vigor (5 items,  $\alpha = 0.80$ ). The higher a score is, the more frequently an emotion is experienced (Vos et al, 2007). A tool with two items related to sexual functioning ( $\alpha = 0.81$ ) and 4 items related to body image ( $\alpha = 0.89$ ) measured psychosexual functioning. To measure social adjustment, a questionnaire with subscales on social interaction (20 items,  $\alpha = 0.75$ ) and recreation (8 items,  $\alpha = 0.75$ ) which came from the Sickness Impact Profile (SIP) was used. These items were scored on a 4-point Likert scale, with higher scores indicating an increased impact from illness (Vos et al., 2007).

The participants were divided into two groups, one group received psychotherapy and the other, group therapy. Each group lasted for 12 weeks and two follow up sessions were held one and two months out. The initial hypothesis of the authors was that the women in the psychotherapy group would adjust better to their illness, but it was found that there was no increased benefit. Furthermore, the women in the social support group intervention did not experience an increased benefit in adjustment as measured by the tools, at least (Vos et al., 2007).

An interview held with participants one year after the study revealed that women did feel that the social support group was helpful for them and they received a benefit in talking with other women in the same situations within the group. For the most part, if a woman is a well adjusted human being before she is diagnosed with breast cancer, she

can adjust to her illness, but in some cases a support group does offer additional social support which can improve perceptions of QOL (Vos et al., 2007).

*Stress, coping, and anxiety*

The next study's aim was to determine levels of uncertainty in illness, types of stress appraisal, types of coping, and levels of quality of life in breast cancer survivors. The framework was constructed by Wonghongkul, Dechaprom, Phumivichuvate and Losawatkul (2005) based on Mishel's Uncertainty in Illness Model, the Stress and Coping Theory (Lazarus and Folkman), and Ferrell's Quality of Life Model.

The population for the study was breast cancer survivors obtained from Maharaj Nakorn Chiang Mai Hospital in Thailand. Women (150) who had breast cancer for at least 3 years were invited to participate. The participants were diagnosed at least 3 years before the study with no recurrence of disease in that time, and had to read and write Thai (Wonghongkul et al., 2005).

Instruments used were the Mishel Uncertainty in Illness Scale: Community Form, the Stress Appraisal Index, the Ways of Coping Questionnaire, Quality of Life: Breast Cancer Version Questionnaire, and the Demographic Data Questionnaire. The Mishel Uncertainty in Illness Scale: Community Form contained 23 items relating to uncertainty in illness and used a 5 point Likert scale to rate each item. The reliability of this item was .83, as tested by Cronbach  $\alpha$  (Wonghongkul et al., 2005).

The Stress Appraisal Index assessed stress appraisal and used three 10 cm long visual analog scales. Each scale represented harm, threat, and challenge (Lazarus & Folkman). The Ways of Coping Questionnaire examined coping strategies and contained

66 items on a 4 point Likert scale. The scale was translated to Thai and had reliability ranging from .49-.87 (Wonghongkul et al., 2005).

The Quality of Life: Breast Cancer Version Questionnaire was made up of items pertaining to physical (8 items), psychological (22 items), social (9 items), and spiritual (7 items) well being. Participants rated each item on a scale of 1-10 with 0="the worst" and 10="the best". The scores were divided by the number of items to determine total quality of life. Overall reliability was .84. Finally, the demographic data obtained included age, level of education, marital status, occupation, income, religion, diagnosis, and treatment (Wonghongkul et al., 2005).

The participants had a moderate level of uncertainty, (mean 57.08, SD 10.14) which may have been related to social support and familiarity of events. The women had higher levels of uncertainty compared to American counterparts which were not mentioned in this study (Wonghongkul et al., 2005).

The participants showed appraisal of survival situation as high challenge, which can be a benefit and can allow one to grow as a person. The most common coping strategy was to seek social support (relative mean 0.1592) and the least common was confrontive coping strategy (relative mean 0.10507). Quality of life was moderate and further broken down into the following categories: physical=high, social=moderate, spiritual=moderate, and psychological=low (Wonghongkul et al., 2005).

Findings related to predicting quality of life showed that years of survival, level of uncertainty, and perceived harm. Harm and uncertainty support Lazarus and Folkman's theory which examines the relationship between perceived situational factors and stress appraisal which affects the adaptational outcome (Wonghongkul et al., 2005)

The authors concluded that harm affected quality of life of survivors. Moderate levels of uncertainty affect quality of life as well and nurses should reduce uncertainty. Providing support for chemotherapy, surgery, and the initial diagnosis period should decrease distress. Recommendations for further research should be done on menstrual changes and fertility (Wonghongkul et al., 2005).

### *Treatments*

A qualitative study by Roberts, Morden, MacMath, Massie, Olivotto, Parker, and Hayashi (2006) was conducted to examine quality of life in older women who had breast cancer. The purpose of this study was to examine the effects of radiofrequency ablation (RFA) in breast cancer on the quality of life of older women

RFA is an investigational treatment that is being used for breast cancer. The treatment used radiofrequency to destroy breast tumors which could eliminate the need for breast surgeries. Early results show that radiofrequency is as effective as lumpectomy and has no pain, very little disfiguration of the breast, and no risk of surgical infection (Roberts et al., 2006).

The sample consisted of 12 white women between the ages of 60-81 from Vancouver Island, British Columbia. These women were some of the same women who participated in a previous study (Hayashi et. al) to investigate clinical outcomes in RFA as a treatment for breast cancer (Roberts et al., 2006).

A descriptive phenomenological study approach was used through interviews which allowed for open-ended comments. The participants were encouraged to speak about positive and negative experiences related to the treatment. The participants told of lived experiences, and researchers provided prompts that facilitated discussion of

participants' quality of life. After the interviews, participants were encouraged to recommend to the researchers what information healthcare workers should provide to prospective women undergoing RFA (Roberts et al., 2006).

Interviews were transcribed verbatim and then analyzed to identify themes and patterns of experience. A protocol analysis procedure (Colaizzi, 1978) was used to examine these themes and patterns. The procedure consisted of getting a sense of meaning from the interviews by listening to the tapes repeatedly, identifying significant statements from all paragraphs, and then formulating statements of meaning from those significant statements. A peer reviewer was then used to ensure themes and extracted statements were actually those made by participants and not just what the researchers had expected. A theme was prevalent if most participants mentioned it in interviews. Finally, follow up interviews were conducted to ensure that the themes accurately represented the actual lived experiences. A qualitative data analysis program, NVivo, was used to assist with analysis of the text (Roberts et al., 2006).

Two key themes were identified, "empowerment" and "support". Empowerment was divided into three categories: participating in a procedure that would kill the tumor, contributing to cancer research, and improving the life of future cancer patients. The support theme consisted of support from both medical professionals and family and friends. Empowerment and support increased participant quality of life by reducing levels of anxiety, in increase in hope for the future, and more control over their own treatment and health (Roberts et al., 2006).

This study was important to nursing because it showed that even if RFA is not deemed as effective as the current standard of care, patients still had an increase in

quality of life because women were empowered by making the choice to have the treatment, and were contributing to the lives of others with the disease. In the past, research had shown that older women were more passive and left treatment up to physicians, but this study showed that the elderly can have a benefit in taking some control in their own care (Roberts et al., 2006).

Finishing treatment for breast cancer can be a time of great anxiety for women. Although women are relieved to be finished with treatments such as chemotherapy and radiation, they are also frightened. The end of treatment means the beginning of fear of disease recurrence. At this point, women will not be seeing their physicians as often and miss the constant care and assurance from the healthcare team (Ganz et al., 2004). The Moving Beyond Cancer (MBC) Study acknowledged that previous research has been done on QOL and women in treatment for breast cancer, but little had been done to look at QOL of women who had completed treatment. The purpose of this study was to make comparisons between psycho-educational interventions to make women ready for life after primary breast cancer treatment (Ganz et al., 2004).

The MBC study was a multisite trial and the population included 558 women from three areas: Los Angeles (279), Washington, DC (160), and Kansas City/Lawrence, KS (119). Inclusion criteria were having breast surgery as primary treatment for cancer, having invasive breast cancer (as opposed to in situ) staged at I or II with any lymph node status, and facing reconstructive surgery. Exclusion criteria were having a previous history of breast cancer, presence of metastasis, in situ cancer, diagnosed with inflammatory breast cancer, using neoadjuvant chemotherapy, stem cell or bone marrow transplant, having a severe psychiatric illness, unable to understand and read English,

participating in another QOL trial, and having complications with reconstructive surgery (Ganz et al., 2004).

The MBC study used a 39 page booklet created exclusively for it. It included information pertaining to demographic and medical information, health history, psychosocial and health-related adjustment, life events perceived as stressful, and further psychological variables. To measure QOL, the Medical Outcomes Study (MOS) SF-36 and the Ladder of Life Scale was used, which had been established as reliable in previous studies (Ganz et al., 2004).

The women were divided into four groups: mastectomy without chemotherapy, lumpectomy without chemotherapy, mastectomy with chemotherapy, and lumpectomy with chemotherapy. Women in all of these groups may have used radiation and hormonal treatments. Compared to women with mastectomy, women with a lumpectomy had significantly higher SF-36 scores at the time of initial assessment ( $P=.002$ ), this group also had higher scores than women with mastectomy and chemotherapy ( $P < .001$ ). There was no difference among these groups pertaining to emotional well being. After the completion of therapy, all groups had similar mental health scales (Ganz et al., 2004).

After treatment, 60% of the women were sexually active. Surprisingly women with chemotherapy were more sexually active than those without, but this may have been related to the younger age status of the group. The chemotherapy group did report more sexual problems such as vaginal dryness and lack of desire (Ganz et al., 2004).

Overall, the authors found that at the end of treatment women have a good mental health status but may be experiencing long term physical side effects such as hot flashes and vaginal dryness. Women who had undergone mastectomy reported lower physical

functioning scores than the general population (Ganz et al., 2004). The authors suggest that doctors should discuss long term side effects and physical symptoms with women at the end of treatment because these effects are associated with a decrease in physical and emotional well being (Ganz et al., 2004).

### *Sexuality and body image*

Kieren et al. (1997) described a study on women living longer with metastatic breast cancer, and as a result QOL was affected. Three main areas of impact were sexuality, body image, and health-related quality of life. The research design was a comparative and descriptive cross-sectional study of two different groups of women with breast cancer. The purpose was to explore the QOL, sexuality, and body image of women with advanced stage cancer who had undergone chemotherapy.

The population for this study was women with metastatic breast cancer who had undergone chemotherapy of some sort. Thirty-eight women participated in this study. Nineteen had received high dose chemotherapy and peripheral stem cell transfusion (HDC/PBSCT) for the treatment of their cancer, and 19 had received the traditional dose of chemotherapy. The women were between the ages of 30 and 63 years and all resided in Western Canada. All participants were diagnosed with metastatic breast cancer. The women ( $n=13$ ) in the HDC/PBSCT group had modified radical mastectomy, with the rest of the sample having either lumpectomy or segmental excision in combination with external beam radiation (Kieren et al., 1997).

There were several measurement tools. Along with providing health histories, psychosocial histories, and demographical information, the subjects also responded to Fears about Cancer and Sexuality Questionnaire (Schover et al.), a Body Image

Questionnaire adapted from Robinson et al.'s, items from the Sexual History Form (Schover), a health related QOL questionnaire, (Schipper et al.'s) Functional Living Index-Cancer, and finally, the Disease and Treatment Specific Module (DTSM).

The Fears about Cancer and Sexuality Questionnaire used a 5 point Likert Scale to rate five separate issues which relate to cancer and sexuality that have worried and upset women. The tool's internal consistency correlations are between .13 and .72 with a mean of .49. Reliability was determined by Cronbach's alpha to be .77. The Body Image Scale contained items from the Derogatis Sexual Functioning Inventory (Kieren et al., 1997).

The Functional Living Index-Cancer (FLI-C) was a short 22 item tool (Schipper, Clinch, McMurray & Levitt, 1984) that measures QOL in cancer patients. It is a self-reported visual analog scale for each item. The overall QOL is determined by measuring the mean score. This tool was created from formal interviews that were measured for face validity by experts in the health profession as well as patients. When the FLI-C was originally designed, it was used on 837 subjects. Test-retest reliability is about .80, and the FLI-C has been determined to be a valid way to measure cancer patients' QOL.

The DTSM assess symptoms specifically linked to late stage breast cancer such as cough and nausea. The items on the DTSM were created in collaboration with the authors of the FLI-C and its validity was determined in a longitudinal study. The Sexual History Form (Schover et al.) was also used and was administered to participants at least 3 months after the final chemotherapy treatment to ensure that side effects were resolved (Kieren et al., 1997).

The question asked by this study: is there a difference in impact on sexuality, body image, and health-related QOL in women with high dose chemotherapy/peripheral stem cell transfusion and women with conventional chemotherapy? Results showed that many women in both groups had difficulties with sexuality and body image, such as fears of being unattractive, fear of pain related to sexual intercourse, and a decrease in desire. The women in the HDC/PBSCT group were much more likely to be afraid of the cancer causing painful or impossible intercourse. Both groups indicated low sexual desire, which was not present before the chemotherapy treatment. An unexpected finding was that two women in the conventional chemotherapy group reported increased feelings of desire, and neither women had ovarian function before the start of treatment. Most of the participants reported satisfying relationships with partners but thought that the partner was also affected by their cancer. Many women reported that sexuality had suffered, but they were happy to still be alive and had accepted changes in desire and body image eventually and found comfort in relationships with partners (Kieren et al., 1997).

The authors concluded that chemotherapy does have an impact on sexuality, body image and health and it is important to assess QOL in women with metastatic breast cancer. Women with metastatic breast cancer as well as partners may see a benefit in being informed prior to treatment about what to expect sexually and physically (Kieren et al., 1997).

Meyerowitz, Desmond, Rowland, Wyatt, and Ganz (1999) believed women's sexuality, both before and after breast cancer treatment was important. The topics of both sexuality and body image were addressed. The study's purpose was to identify contributing factors that could predict sexual health in women treated for breast cancer.

The population consisted of breast cancer survivors. The sample was taken from eligible patients who were identified from tumor registries in Washington, D.C., and Los Angeles, California. The sample consisted of 863 female breast cancer survivors who had nonmetastatic breast cancer and had completed treatment in the last five years. Some women were still taking tamoxifen, but all were considered cancer-free. Women with a prior history of another type of cancer (with the exception of thyroid or skin cancer) were excluded from the study, as were with debilitating medical or psychiatric conditions (Meyerowitz et al., 1999).

Several instruments were used in the study. One instrument used was the Watts Sexual Function Questionnaire (WSFQ), which consisted of 17 items for the patient to respond to and rate on a 5-point Likert-type scale which ranged from 1="Never" to 5="Always" and was used to provide a sexual function score (Meyerowitz et al., 1999). The WSFQ rated patients' desire, arousal, orgasm, and satisfaction. This instrument has very good internal consistency, reliability, and content validity. The authors compared the data from this group to other healthy women without a history of breast cancer (Meyerowitz et al., 1999).

A Sexual History Form (SHF) was also used, which presented data on different sexual behaviors, functioning, and satisfaction. This instrument was modified to be relevant for women with a history of breast cancer. The respondents were to rate their answers according to pre-cancer life, and life after the cancer diagnosis (Meyerowitz et al., 1999).

Participants also filled out a behavior checklist that included eight sexual behaviors as well as if the women had participated in these behaviors before and after their diagnoses.

Participants who were currently without significant others filled out a CARES Dating Scale that described difficulties they had faced in relationships related to the cancer diagnosis (Meyerowitz et al., 1999).

Other standardized measures were utilized to collect descriptive data such as demographic and medical information. Participants also used the Center for Epidemiologic Studies-Depression Scale to rate their depression. Women currently in relationships filled out the Dyadic Adjustment Scale which rated their current relationships (Meyerowitz et al., 1999).

All participants' overall health perceptions were rated on the general health perception subscale of the Medical Outcomes Study SF-36. Chi-square and t-tests compared who were currently sexually inactive and compared the impact of breast cancer according to the sexual activity category. To predict the negative impact of breast cancer on the patients' sexual lives, logistic regression was used. The error rate was determined to be less than 0.05 (Meyerowitz et al., 1999).

The first research question was: What areas of sexuality have changed after breast cancer diagnosis? Responses related to breast cancer were body image issues after surgery, discomfort in the area of the breast surgery, and increased pain and decreased vaginal lubrication related to chemotherapy. In spite of the issues, 75% of respondents were still satisfied with sexual relationships after the breast cancer compared to 88% before the breast cancer (Meyerowitz et al., 1999).

The second research question was: What factors could possibly predict a negative impact on sexuality? Variables included prior relationship difficulties before breast cancer, hormonal changes due to breast cancer, chemotherapy, and menopausal status.

The women's ages, type of surgery, tamoxifen use, elapsed time after diagnosis, sexual dysfunction of partners, and other health issues did not significantly predict an impact on sexuality (Meyerowitz et al., 1999).

The conclusion overall: women with a history of breast cancer have the same levels of functioning and satisfaction as women without breast cancer. The authors reported that 33% of breast cancer survivors' illness did have a negative impact on their sexuality. Many of the women could name at least one negative aspect in some part of their sex lives as a result of the illness (Meyerowitz et al., 1999).

Research points out that women with late stage breast cancer have higher incidences of psychological and psychiatric issues, negatively affecting quality of life (Grabesh et al., 2006). Australian investigators conducted a study with the aim of examining the frequency of psychiatric disturbance and assess QOL in women with late breast cancer (Grabesh et al., 2006).

The sample for this study was women with Stage IV (TNM staging) breast cancer (n=227). The study took place in the clinical setting. To be eligible for the study, women had to have advanced breast cancer. Women over 70 years old, those who lived in an inaccessible location, those with a previous history of any cancer except basal cell carcinoma of the skin, poor understanding of the English language, and those with mental conditions such as dementia or psychosis were unable to participate (Grabesh et al., 2006).

The Monash Interview for Liaison Psychiatry (MILP), an interview tool for the medically ill, was used to gather data about physical and psychological symptoms. Reliability and validity were favorable for this tool. The self tests European Organization

for Research and Treatment of Cancer (EORTC) quality of life questionnaire (QLQ-C30) and the EORTC QLQ-BR23 breast module were used, each containing items pertaining to QOL, including body image and sexual functioning. Answers are given on a 4-point Likert scale (Grabesh et al., 2006).

Results showed that over one-third of the women perceived themselves as less attractive as a result of their disease (36%). About one-fourth were unhappy with their body image (27%), approximately one-fourth felt diminished femininity (24%), and forty participants had trouble looking at themselves naked (18%). Physical symptoms included hot flashes (30%), nausea (12%), headaches (8%), phantom breast pain (12%), pain in the affected arm (14%), and lymphedema (12%). Sixty-seven women (30%) experienced alopecia as a result of treatment, resulting in distress of 38 of them (38%). Eighty-nine percent of participants had no desire for sexual activities, and some who were currently engaging in sex did not enjoy it (50%) (Grabesh et al., 2006).

QOL scores provided by the EORTC QLQ-C30 showed 67.7 in role functioning, 69.1 for social functioning, 72.4 for emotional functioning, 79.1 for cognitive functioning, and 64.7 for global health. Role functioning scores were above the median at 66.7, and the four other domains were below the median scores (Grabesh et al., 2006).

Having metastatic breast cancer can have an impact on quality of life. Side effects of treatment are at times unavoidable, but interventions can be put in place to minimize negative effects. Sexual functioning is often affected as a result of breast cancer treatments, but doctors and nurses can discuss solutions to the problems often experienced (Grabesh et al., 2006).

## Summary

Most articles indicated that breast cancer does have a significant impact on quality of life in most women who are diagnosed and have surgery, chemotherapy, and/or radiation. Common themes are decreased sexuality, change in body image, appraisal, coping, and social support (Davis, 2005). Each of these themes can affect a woman's quality of life when she is diagnosed with breast cancer. Many women experience low desire and difficulty with intercourse as a result of the cessation of ovarian function related to chemotherapy (Meyerowitz et al., 1999). Women who have undergone mastectomy and even lumpectomy report a negative change in their own body image, and this can affect relationships with others as well as sexuality. The uncertainty of the illness can cause disruptions in women's appraisal and coping (Wonghongkul et al., 2005). Social support from friends, family, and medical professionals can positively or adversely affect the women's perceived QOL. Healthcare providers must be constantly aware of how illness and treatment can affect QOL and must treat not only the illness, but the patient.

Source (Author, year)	Problem	Purpose/Research Questions	Framework or Concepts	Sample	Design	Instruments	Results
1. Manning-Walsh, 2005	Diagnosis of breast cancer creates stress	How does personal social support serve as a mediator between symptom distress and quality of life in women with breast cancer?  How does personal social support serve as a mediator between symptom distress and quality of life in women with breast cancer?	Lazarus and Folkman  Distress  Social support  QOL	100 users of the website "Breast Cancer Online Support"	Cross-sectional, correlational	Symptom Distress Scale, Religious Support Scale, FACT-B, and Facit-Sp-12	Positive correlation between personal social support and QOL, and it also mediated symptom distress somewhat. Results were moderate ( $r=.517$ , $p<.01$ ).  Religious support did not help with symptom distress and therefore was had not direct relationship with QOL
2. Antoni, Wimberly, Lechner, Kazi, Sifre, Urcuyo, Phillips, Smith, Petronis, Guellati, Wells, Bloomberg and Carver, 2006	Post-surgical breast cancer patients are prone to higher anxiety levels that can negatively affect QOL in the year following surgery	What effect does stress management intervention have on cancer-specific thought intrusions and anxiety symptoms in women who are receiving treatment for breast cancer?	Thought intrusion and avoidance Interviewer-related anxiety  Emotional distress	199 women with localized breast cancer	Experimental	Impact Event Scale  Hamilton Rating Scale for Anxiety  Affects Balance Scale	Women in the intervention group did experience less thought intrusions, anxiety, and emotional distress than those who did not receive the intervention
3. Makabe and Nomizu, 2007	Social support's impact on breast	Examine the effect of social support on	House's (1981) work	61 women with breast cancer	Non experimental, descriptive	Japanese versions of	Negative significant

Source (Author, year)	Problem	Purpose/Research Questions	Framework or Concepts	Sample	Design	Instruments	Results
	surgery	women's physical and psychological state at the time of breast surgery and one year later	Support Reciprocity Conflict Lazarus and Folkman's (1984) definition of psychological state			Interpersonal Relationship Inventory (IPRI) General Health Questionnaire (GHQ) Physical States Interview Form (PSIF).	correlations among psychological states and support were found ( $r = -0.33$ , $p = 0.05$ ; and $r = -0.43$ , $p < 0.01$ ) as well as with psychological states and reciprocity ( $r = -0.43$ , $p < 0.01$ ).
4. Liu, Li, Tang, Huang and Chiou, 2006	Access to information and social support may assist coping with breast cancer and reducing its psychosocial morbidity. However the information and social support may often be viewed as insufficient.	Does a multiphase supportive intervention provided over three months increase the social support among newly diagnosed women with breast cancer in Taiwan?  Does this intervention also increase uncertainty perceived by these women?	Created from the literature review  Continuing supportive cares	61 women newly diagnosed with breast cancer	Experimental	Social Support Questionnaire (SSQ), which was alteration of Cohen's Interpersonal Support Evaluation List  The uncertainty scale (US) was an alteration of the Mishel Uncertainty in Illness Scale which was translated into Chinese	Experimental group showed and increase of 15.9% in overall support  Control group had a reduction of 10% in overall social support.  Experimental group experienced a decline in uncertainty, ambiguity, and unpredictability and demonstrated higher levels of

Source (Author, year)	Problem	Purpose/Research Questions	Framework or Concepts	Sample	Design	Instruments	Results
							<p>perceived social support</p> <p>The control group exhibited an initial increase in uncertainty during further testing but declined again at the third assessment post surgery</p>
5. Sammarco and Konecny, 2008	Latina women with breast cancer are an underrepresented population	Examine relationships between social support, uncertainty, and their singular and combined effects of the quality of life of Latina women with breast cancer	Mishel's uncertainty in illness theory  Ferrans conceptual model of QOL	89 Latina women with breast cancer in NY and NJ	Non experimental, descriptive	<p>Social Support Questionnaire (SSQ)</p> <p>Mishel Uncertainty in Illness Scale-Community (MUIS-C)</p> <p>Ferrans and Powers Quality of Life Index-Cancer Version III (QLI-CV)</p>	<p>Social support and overall QOL were positively correlated (<math>r = 0.388, p &lt; 0.001</math>)</p> <p>Uncertainty and QOL were negatively correlated (<math>r = -0.0439, p = 0.001</math>)</p> <p>Single women demonstrated more uncertainty than married women (<math>p = 0.027</math>)</p> <p>Married women</p>

Source (Author, year)	Problem	Purpose/Research Questions	Framework or Concepts	Sample	Design	Instruments	Results
							<p>had higher scores than unmarried women in perceptions of social support (<math>p=0.003</math>)</p> <p>Widowed women had lower scores than those who were divorced (<math>p=0.001</math>)</p>
<p><b>6.</b> Vos, Visser, Garssen, Duivenvoorden, and Haes, 2007</p>	<p>It had been questioned that women who have breast cancer and are described as well adjusted do not receive a benefit from support groups or psychotherapy interventions</p>	<p>The purpose of the study was to determine if experiential-existential group psychotherapy was more effective than a social support group for women with breast cancer</p>	<p>Social support</p>	<p>67 Dutch women with localized breast cancer</p>	<p>Experimental</p>	<p>Profile of Mood States (POMS)</p> <p>A tool with two items related to sexual functioning (<math>\alpha=0.81</math>) and 4 items related to body image (<math>\alpha=0.89</math>) measured psychosexual functioning</p> <p>A questionnaire with subscales on social interaction (20 items, <math>\alpha=0.75</math>) and recreation (8</p>	<p>No increased benefit in an experiential-existential psychotherapy group intervention</p>

Source (Author, year)	Problem	Purpose/Research Questions	Framework or Concepts	Sample	Design	Instruments	Results
						items, $\alpha = 0.75$ ) which came from the Sickness Impact Profile (SIP) was used	
7. Wonghongkul, Dechaprom, Phumivichuvate and Losawatkul, 2005	Breast cancer affects QOL and causes uncertainty in illness	To determine levels of uncertainty in illness, types of stress appraisal, types of coping, and levels of quality of life in breast cancer survivors	Based on Mishel's Uncertainty in Illness Model, the Stress and Coping Theory (Lazarus and Folkman), and Ferrell's Quality of Life Model	150 women who had breast cancer for at least 3 years	Non-experimental, descriptive	Mishel Uncertainty in Illness Scale: Community Form  Stress Appraisal Index  Ways of Coping Questionnaire  Quality of Life: Breast Cancer Version Questionnaire Demographic Data Questionnaire	Moderate level of uncertainty, (mean 57.08, SD 10.14)  Appraisal of survival situation as high challenge  The most common coping strategy was to seek social support (relative mean 0.1592)  Quality of life was moderate and further broken down into the following categories: physical=high, social=moderate, spiritual=moderate, and psychological=low
8. Roberts, Morden,	Quality of life in	To examine the	Not specified	12 white women	Qualitative,	Interviews	Two key themes

Source (Author, year)	Problem	Purpose/Research Questions	Framework or Concepts	Sample	Design	Instruments	Results
MacMath, Massie, Olivotto, Parker, and Hayashi, 2006	older women who had breast cancer	effects of radiofrequency ablation (RFA) in breast cancer on the quality of life of older women		between the ages of 60-81 who had undergone RFA	descriptive phenomenological study		were identified, “empowerment” and “support”.
9. Ganz, Kwan, Stanton, Krupnick, Rowland, Meyerowitz, Bower & Belin, 2004	Finishing treatment for breast cancer can be a time of great anxiety for women	To make comparisons between to psycho-educational interventions to make women ready for life after primary breast cancer treatment	QOL	558 women with breast cancer from three areas: Los Angeles (279), Washington, DC (160), and Kansas City/Lawrence, KS (119).	Non-experimental, descriptive	39 page booklet created for MBC study  Medical Outcomes Study (MOS) SF-36  Ladder of Life Scale	Women with a lumpectomy had significantly higher SF-36 scores at the time of initial assessment ( $P=.002$ )  All groups had similar mental health scales  There was no difference among these groups pertaining to emotional well being  At the end of treatment women have a good mental health status but may be

Source (Author, year)	Problem	Purpose/Research Questions	Framework or Concepts	Sample	Design	Instruments	Results
							<p>experiencing long term physical side effects such as hot flashes and vaginal dryness</p> <p>Women who had undergone mastectomy reported lower physical functioning scores than the general population</p>
<p><b>10.</b> Kieren, Nabholtz, Makar, Cumming, Lees, Hundleby, Jenkins, Wentzel, Handman and Cumming, 1997</p>	<p>Women are living longer with metastatic breast cancer, and as a result QOL is affected</p>	<p>To explore the QOL, sexuality, and body image of women with advanced stage cancer who had undergone chemotherapy</p>	<p>Sexuality Body image Health related QOL</p>	<p>38 women who had chemotherapy for breast cancer</p>	<p>Comparative and descriptive cross-sectional study</p>	<p>Fears about Cancer and Sexuality Questionnaire Body Image Questionnaire health related QOL questionnaire Functional Living Index-Cancer Disease and Treatment</p>	<p>Women in both groups had difficulties with sexuality and body image</p> <p>women in the HDC/PBSCT group were much more likely to be afraid of the cancer causing painful or impossible intercourse</p> <p>Both groups indicated low</p>

Source (Author, year)	Problem	Purpose/Research Questions	Framework or Concepts	Sample	Design	Instruments	Results
						Specific Module (DTSM). Medical Outcomes Study (MOS) SF-36 Ladder of Life Scale	sexual desire  Women reported that sexuality had suffered, but they were happy to still be alive and had accepted changes in desire and body image eventually and found comfort in relationships with partners
<b>11.</b> Meyerowitz, Desmond, Rowland, Wyatt, and Ganz, 1999	Women's sexuality, both before and after breast cancer treatment was important	To identify contributing factors that could predict sexual health in women treated for breast cancer  What areas of sexuality have changed after breast cancer diagnosis?  What factors could possibly predict a negative impact on sexuality?	Sexuality  Body Image	863 women with a diagnosis of localized breast cancer in the last 5 years	Non-experimental, descriptive	Watts Sexual Function Questionnaire (WSFQ)  Sexual History Form (SHF)  Behavior checklist  CARES Dating Scale  Center for Epidemiologic Studies-Depression Scale	women with a history of breast cancer have the same levels of functioning and satisfaction as women without breast cancer  33% of breast cancer survivors' illness did have a negative impact on their sexuality

Source (Author, year)	Problem	Purpose/Research Questions	Framework or Concepts	Sample	Design	Instruments	Results
						Dyadic Adjustment Scale  Medical Outcomes Study SF-36	
12. Grabesh, Clarke, Love, McKenzie, Snyder, Bloch, Smith & Kissane, 2006	Women with late stage breast cancer have higher incidences of psychological and psychiatric issues, negatively affecting quality of life	Examine the frequency of psychiatric disturbance and assess QOL in women with late breast cancer	QOL  Psychiatric disturbances	227 women with Stage IV breast cancer	Non-experimental, descriptive	Monash Interview for Liason Psychiatry (MILP)  European Organization for Research and Treatment of Cancer (EORTC) quality of life questionnaire (QLQ-C30)  EORTC QLQ-BR23 breast module	Over one-third of the women perceived themselves as less attractive as a result of their disease (36%)  About one-fourth were unhappy with their body image (27%)  approximately one-fourth felt diminished femininity (24%)  Forty participants had trouble looking at themselves naked (18%)  Physical symptoms

Source (Author, year)	Problem	Purpose/Research Questions	Framework or Concepts	Sample	Design	Instruments	Results
							included hot flashes (30%), nausea (12%), headaches (8%), phantom breast pain (12%), pain in the affected arm (14%), and lymphedema (12%)

## Chapter III

### *Methodology*

#### *Introduction*

Breast cancer is a disease that affects one in eight women (American Cancer Society, 2008). Breast cancer affects many aspects of a woman's life including but not limited to: body image, sexuality, social support, and appraisal and coping (Davis, 2005). Davis (2005) examined the relationships among body image, sexuality, appraisal and coping, and social support with quality of life (QOL) in women with breast cancer.

The purpose of this study is to evaluate relationships between body image, sexuality, appraisal and coping, and social support in women with breast cancer, and to verify the findings of Davis' (2005) study.

#### *Research Question*

1. What are the relationships among body image, sexuality, appraisal and coping, and social support with quality of life (QOL) in women with breast cancer?

#### *Population, Sample and Setting*

The population for this study includes women who have been diagnosed with breast cancer in south central Indiana who had breast surgery at Bloomington Hospital. The anticipated sample is 50 women. To be included in the study participants must be female, received a diagnosis of localized breast cancer within the last three years, have had surgery and chemotherapy and/or radiation therapy to treat breast cancer, and have

the ability to read and understand English. A simple random sample will be chosen from all women who had breast cancer surgery at Bloomington Hospital. Interested participants will be interviewed and will complete several questionnaires: the Functional Assessment of Cancer Therapy for Breast Cancer (FACT-B), Body Image Scale (BIS), McCoy Female Sexuality Questionnaire (MFSQ), Medical Outcomes Study Social Support Survey (MOS-SSS), Ways of Coping-Cancer Version (WOC-CA), and Cognitive Appraisal of Health Scale (CAHS).

#### *Protection of Human Subjects*

Participation in this study is voluntary and may withdraw at any time. In order to protect participants, the Institutional Review Boards at Ball State University and Bloomington Hospital will review the study. The research council at Bloomington Hospital will be informed about the study and permission will be obtained from the institution. Participants will be informed of the risks and benefits of the study and informed consent will be given. A slight risk for participants might be feelings of negative emotions related to discussing their experience with breast cancer. For those who may have difficulties, a social worker or therapist will be made available. The benefits to participating in this study include: sharing personal experiences in order to help others in the future by determining factors that affect QOL, and feelings of empowerment from possibly making a difference in the lives of other women with breast cancer. All data collected in the study will be anonymous and cannot be linked back to the participant.

### *Research Design*

This study will use a descriptive correlational design in order to describe phenomena in the real-life situation of breast cancer diagnosis and examine relationships between several variables related to breast cancer (Burns & Grove, 2005). Women with breast cancer will respond to surveys on body image, sexuality, appraisal and coping, and social support to determine relationships among these concepts and QOL.

### *Procedures*

Upon the receipt of approval from the institutional review boards at Ball State University and Bloomington Hospital, letters will be sent to all women who have had breast cancer surgery at Bloomington Hospital who meet the criteria for the study. Interested women will be contacted and interviewed. During the interview, women will be informed about risks and benefits and that they may withdraw from the study at any time. After giving their consent to participate, the women will fill out several surveys about their experiences with breast cancer.

### *Instrumentation*

The functional assessment of cancer therapy for breast cancer (FACT-B), Body Image Scale (BIS), McCoy Female Sexuality Questionnaire (MFSQ), Medical Outcomes Study Social Support Survey (MOS-SSS), Ways of Coping-Cancer Version (WOC-CA), and Cognitive Appraisal of Health Scale (CAHS) will be used.

The FACT-B contains 44 items and measures QOL in women with breast cancer on a 5 point Likert scale. Scores can range from 0-4 with 0 meaning, "Not at all" and 4 meaning, "Very much" (Brady et al., 1997). The BIS is a ten item tool used for patients with cancer, particularly who have had body altering surgery (Hopwood, Fletcher, Lee &

Al Ghazal, 2001). The MFSQ is a 19 item, self-reporting tool which is for women only and measures such things as sexual interest, satisfaction with sexual frequency, lubrication, sex partner, and orgasm (McCoy, 2000). The MOS-SSS is an 18 item survey which assesses social support (Gjesfjeld, Greeno & Kim, 2008). The WOC-CA is an abbreviated version of the Ways of Coping Questionnaire by Lazarus and Folkman (1984) and has 66 items and eight coping scales that are rated on a 4 point Likert scale. The eight scales are: confrontive coping, distancing, self-controlling, seeking social support, accepting responsibility, escape-avoidance, planful problem solving, and positive reappraisal (Coulter, 1999). The CAHS measures primary and secondary appraisals of health related events and contains 28 items (Kessler, 1998).

#### *Validity and Reliability*

This study will build upon previous work by Davis (2005) which studied 72 women. For all statistical tests in the study, an alpha level of 0.05 will be used. Each of the tools used in the study show good reliability and validity. The FACT-B has been tested several times, with an alpha = .90 and subscale alpha coefficients from .63 to .86 (Brady et al., 1997). The BIS has a Cronbach alpha of 0.93 and shows good clinical validity (Hopwood et al., 2001). The MFSQ has an internal validity alpha of .77 with an average test-retest correlation of .83 (Davis, Yarber, Bauserman, Schreer & Davis, 2004). The MOS-SSS has been tested in many situations and shows validity and reliability (Gjesfjeld et al., 2008). The Cronbach's alpha coefficients for the WOC-CA range from .61 to .79 (Coulter, 1999). The CAHS has also shown reliability and validity as a way to assess cognitive appraisal of health events (Kessler, 1998).

### *Data Analysis*

Each participant's responses will be scored by the tools. Backward stepwise regression will be used in order to examine all the relationships of the independent variables with the dependent variable to determine to what effect each independent variable (sexuality, body image, social support, and appraisal and coping) has on QOL, the dependent variable.

### *Summary*

In this chapter, the method and procedure to be used in the examination of relationships of body image, sexuality, social support, and appraisal and coping have with QOL in women with breast cancer are described. The method of data collection will be questionnaires that measure sexuality, body image, social support, appraisal and coping, and QOL. A descriptive correlational design will be used in the study. The expected sample is 50 women from south central Indiana who have been treated for breast cancer at Bloomington Hospital. The functional assessment of cancer therapy for breast cancer (FACT-B), Body Image Scale (BIS), McCoy Female Sexuality Questionnaire (MFSQ), Medical Outcomes Study Social Support Survey (MOS-SSS), Ways of Coping-Cancer Version (WOC-CA), and Cognitive Appraisal of Health Scale (CAHS) will be used.

Results from the study will be used to develop nursing interventions to enhance QOL in women treated for breast cancer who may have feelings of altered body image, lack of social support and sexual dysfunction as a result of treatment side effects.

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