

CHAPTER 2

LITERATURE REVIEW

The literature review is an important part of the research process. It guides the researcher from the research question to the data analysis process. Related literature to the proposed development of this study are included and discussed in this chapter as follows:

1. Mastectomy and its impacts
2. Self-care based on self-care deficit nursing theory
3. Self-care among women who have undergone mastectomy
4. Factors related to self-care among women who have undergone mastectomy

Mastectomy and its impacts

1. Mastectomy

The primary treatment of breast cancer especially in Stages I or II is surgical removal. A stage I breast cancer is defined as a tumor < 2 cm with negative lymph nodes. Stage II breast cancer applies to tumors between 2 and 5 cm with negative lymph nodes, or tumors < 5 cm in diameter with positive lymph nodes (Cawley, Kostic, & Cappello, 1990). Currently, there are several surgical options that are used to treat breast cancer. These include modified radical mastectomy as well as breast conservation procedures. Modified radical mastectomy involves removal of entire breast, skin, and axillary lymph nodes but preserves major pectoral muscles (Monahan & Neighbors, 1998). The type of surgical intervention selected is based on

the patient's clinical status, risk factors, location and tumor size, clinical stage of disease, and patient's preference (Monahan & Neighbors, 1998, p. 1860). Recently, women with breast cancer have been reported to still prefer modified radical mastectomy since they think that it can cure completely or cause lower cancer's recurrence rate after surgery (Hughes, 1993). However, a period following surgery commonly demonstrates several impacts on patients' physical health and functioning, psychological/spiritual, family and socioeconomic status. The impacts can decrease postmastectomy women's quality of life.

2. Impacts of mastectomy

2.1 Impacts on physical health and functioning

The literature has revealed positive and negative impacts, but negative impacts were more commonly reported. These include fatigue, chest wall tightness, numbness, lymphedema, reduced upper extremity mobility (particularly in the shoulder joint), arm weakness, difficulty performing household chores, and difficulty lifting objects (Gantz, 1990; Wingate, 1985), chronic pain, and sexual dysfunction. The following are the events recorded in the literature.

Some women reported that they practised better health and dietary habits after their diagnosis of breast cancer. They were aware that poor health may have caused their illness (Ferrans, 1994). However, women who had undergone MRM mostly described specific physical impairments and function limitations including fatigue, chest wall tightness, numbness, lymphedema, nerve damage and adhesions, which may reduce the capability of the affected arm (particularly in the shoulder joint), difficulty performing household chores, and difficulty lifting objects (Hinman, 2001). After mastectomy, many patients experienced chronic pain (postmastectomy pain

syndromes). It may prevent women from doing the things they want to do (Ferrans, 1994). Besides physical discomfort, patients also experienced sexual problem. The study of Meyer and Aspegren (1989) showed 24% mastectomized women indicated a diminished interest in sex and 17% of them indicated a change of sexual habits regarding their breasts. They lost interest in sex, and the frequency of sexual relations dropped compared to woman who underwent breast segmentectomy (Kemeny, Wellisch, & Schain, 1988).

2.2 Impacts on psychological/spiritual aspects

There are both positive and negative impacts, but negative impacts such as worry about shorter life span, depression, anxiety of body image, and feeling less feminine were reported in many studies.

Northouse (1989) reported that women with breast cancer had become better people and understood life better, had experienced a change in what they valued and their priorities, were maintaining positive thoughts and attitudes, and were proud of their accomplishments. But women after mastectomy had significant trouble with psychosocial adjustment in the early phases after surgery. They expressed worry about fear of the cancer's recurrence and anxiety over any new symptoms (Wyatt, Kurtz, & Liken, 1993). A study found that women had more difficulty dealing with uncertainties about their future than with concerns about their appearances (Quint, 1963 cited in Northouse, 1989). In another study, Peters-Golden (cited in Northouse, 1989) also found that survival issues took precedence over women's concerns about breast loss. Breast cancer would shorten their life span, especially those women who had small children because they wanted to see their children grow up (Northouse, 1989). The patients presented with a constant feeling of sadness (Cox, 1984). Dean

(1987) reported that about 8% of patients experienced depression or had an anxiety state after mastectomy that was severe enough to warrant treatment and 17 % had a moderate depression or anxiety reaction (cited in Turns, 1995). Studies found that the postmastectomy patients had a poor body image, felt less feminine and less physically attractive than did patients with breast-conserving surgery (Mock, 1993; Kemeny, Wellish, & Schair, 1988). The woman who loses a breast understandably changes not only in sensations to the breast area but also within her whole body. A subject in a qualitative study with three women's experiences of breast loss reported that she was troubled by the sensitivity of her skin around her scar site, and also affected by the change in the shape of her chest. The sense of the whole of her body feeling different made her self-conscious about her shape (Bredin, 1999).

2.3 Impacts on family

Positive attitude may increase women's recovery after surgery. However, negative reaction may be manifested by their family members especially their husbands when they look at the incision (Northouse, 1989). Many women reported that their families may provide needed emotional support and that they become close to their family through the experience of breast cancer (Wyatt, Kurtz, & Liken, 1993). Several women stated that their husbands had been understanding and caring throughout their cancer experience. Not all postmastectomy women received the support they felt they needed. A study showed that after surgery, patients' husbands had high stress (Northouse, 1989). Some patients could not be understood by their husbands; as a result, they did not share their feelings with their husbands anymore. Sometimes they felt abandoned (Ferrans, 1994), and experienced a lack of communication between wife and husband (Cox, 1984). Children whose mother

underwent breast cancer treatment had difficulty in dealing with their fears about the possibility of their mother's death and of trying to make life as normal as possible (Ferrans, 1994). These negative impacts on family may make their life change, especially for Chinese people since most of them recognize family as an important part of their life (Liang, 1998).

2.4 Impacts on socioeconomic aspects

The literature contains reports that over-sensitivity to others' opinion influenced postmastectomy women attending social activities, especially activities necessitating exposure of the body, such as athletics or swimming (Meyer & Aspegren, 1989). In addition, working ability and therapies after surgery may affect their work and income.

Following mastectomy, the women may get more support from others, society or professionals related to solving the problems caused by surgery. On the other hand, they may feel less than whole and unacceptable as a person (MacGinley, 1993) since loss of a body part that is significantly related to feminine identity results in a negative alteration in body image and self-concept (Mock, 1993). They often had episodes of over-sensitivity to others' opinion, and had less leisure time activities, with avoidance of activities necessitating exposure of the body, such as athletics or swimming (Meyer, & Aspegren, 1989). The impact of mastectomy on occupation varies a lot. Some studies have found evidence of job discrimination against workers with cancer including dismissal, failure to hire, denial of promotion, undesirable transfer, reduced or denied benefits, and hostility in the workplace. Because of the physical limitations experienced by these patients, some managers fear that these employees will not be able to perform as well as before surgery, continued treatment

and constant fatigue will interfere with the work schedule and productivity, absenteeism will increase, they will have to assume some of the employee's workload (Hinman, 2001). Therefore, a mastectomy may mean the end of a career, no alterations in occupational pursuits, and lead to serious financial problems while the cost of the therapy increases, with the ongoing treatment (Ferrans, 1994).

The impacts stated above are not independent. They are interrelated and overlapping. They influence the quality of life of women who have undergone mastectomy.

Self-care based on self-care deficit nursing theory

Orem's general theory of nursing named self-care deficit nursing theory (SCDNT) is expressed in the model of nursing system. The conceptual structure of SCDNT is composed of six core concepts including self-care, therapeutic self-care demand, self-care agency, self-care deficit, nursing agency, and nursing system, and one peripheral concept, namely, basic conditioning factors. It is presented in three theories: theory of nursing system, theory of self-care deficit, theory of self-care. These three theories together constitute the general theory of nursing, SCDNT (Orem, 2001; Taylor, Geden, Isaramalai, & Wongvatunyu, 2000). Among these theories, the theory of self-care related to this study expresses the purpose of taking care of self, referred to the self-care requisites; how to take care of self, referred to the self-care agency; and the outcome of these, known as the self-care practices or self-care system (Taylor et al., 2000). Another theory related to this study is self-care deficit theory of nursing. It is a synthesis of knowledge about the theoretical entities self-

care, self-care agency, therapeutic self-care demand, the relational entity self-care deficit, and nursing agency (Orem, 2001).

According to Orem's general theory of nursing, SCDNT, self-care is "the practice of activities that individuals initiate and perform on their own behalf in maintaining life, health, and well-being" (Orem, 2001, p. 43). It is the "deliberate use of valid means to control or regulate internal and external factors that affect the smooth activity of a person's own functional and developmental processes or contribute to a person's personal well-being" (Orem, 2001, p. 43). It is also "learned, goal-oriented activity of individuals" (Orem, 2001, p. 490). When performed effectively, self-care contributes in "specific ways to human structured integrity, human functioning, and human development" (Orem, 2001, p. 43). Sometimes, it focuses on "the prevention, alleviation, cure, or control of untoward human conditions that are affecting or can affect life, health, or well-being. This includes, when indicated, seeking and participating in medical care in its various modalities, as well as nursing and other forms of health care" (Orem, 2001, p. 45).

Performance of self-care depended on self-care agency and therapeutic self-care demand. Self-care agency refers to "the power and capability to engage in self-care" (Orem, 2001, p. 23). Therapeutic self-care demand signifies "all the care measures necessary to meet existent and emerging self-care requisites of individuals at particular times" (Orem, 2001, p. 25). When person's self-care agency is of a value that is not adequate for their performance of actions specified by their therapeutic self-care demands, there is a deficit relationship between what persons should do and what they can or will do. This type of relationship is referred to as a self-care deficit, an indicator that persons need help if their self-care requirements are to be met

(Orem, 2001, p. 53). Self-care requisite is a term that signifies “a specific need for regulation of human functioning and development” (Orem, 2001, p. 25). Three types of self-care requisites are identified in Orem's general theory of nursing: universal, developmental, and health-deviation (Orem, 2001). Nevertheless, changes of self-care requisites of women after mastectomy manifest primarily differences in health-deviation self-care requisites. Therefore, the health-deviation self-care requisites are considered as major concerns in this study.

Health-deviation self-care requisites are associated with “genetic and constitutional defects, human structural and functional deviations, and with medical diagnostic and treatment measures and their effects” (Orem, 2001, p. 48). There are six categories of health-deviation self-care requisites: “(1) seeking and securing appropriate medical assistance; (2) being aware of and attending to the effects and results of pathologic conditions and states, including effects on development; (3) effectively carrying out medically prescribed diagnostic, therapeutic, and rehabilitative measures; (4) being aware of and attending to or regulating the discomforting or deleterious effects of medical care measures performed or prescribed by the physician, including effects on development; (5) modifying the self-concept (and self-image) in accepting oneself as being in a particular state of health and in need of specific forms of health care; (6) learning to live with the effects of pathologic conditions and states and the effects of medical diagnostic and treatment measures in a life-style that promotes continued personal development” (Orem, 2001, p. 424).

The self-care requisites and related self-care are influenced by internal or external factors. These factors are named basic conditioning factors. These are age,

gender, developmental state, health state, sociocultural orientation, health care system factors, family system factors, pattern of living, environmental factors, and resource availability and adequacy (Orem, 2001). Factors including age, developmental state, patterns of living, and environmental conditions are considered as “reference points for adjustments necessitated by health state factors and health care system factors, such as a prescribed medical treatment” (Orem, 2001, p. 248). Thus health state, health care system factors and information resource that influences choice and performance of self-care will be discussed in this study.

Health state, “considered as a basic conditioning factor for persons’ therapeutic self-care demands”, is viewed as “an expressed formulation of an assessment of whether the anatomic features and the functioning of individuals is within or outside established norms for individuals of particular ages in particular developmental stages” (Orem, 2001, p. 248). The conditioning effect of health state plays an important role on the means to be used in meeting self-care requisites. "Health state conditions and features that give rise to (a) health-deviation self-care requisites" and "(b) health-deviation self-care requisites associated with medical diagnostic and treatment measures" (Orem, 2001, p. 190).

Health care is the totality of the kinds of care provided by health professionals for individuals or groups. A health care system means that the specific kinds of health care provided for individuals or groups and the relationships between the kinds of care provided and the producers of care are referred to in their totality. Health care system factors include medical diagnostic, treatment modalities, and health care provided by physicians, nurses, and many types of health workers (Orem, 2001). Medical diagnosis is “the identification of natural causes and natural effects of

disease”, and precedes treatment. Medical treatment is “extended not only to the cure and control of disease processes and the restoration of health and alleviation of symptoms but also to the prevention of disease and to overcoming defects and disability” (Orem, 2001, p. 391). However, functions in society of physician recognized as the practitioner of scientific medicine include the diagnosis and treatment of disease and its effects. Medical care refers to the care given to individuals by physicians, nurses, and various health professions. Nowadays, the practice of scientific medicine requires a number of paramedic and technical services, which contribute to some aspect of medical practice. The major paramedic services are physical therapy, occupational therapy, and some of the services of medical social workers. In addition, dietary treatment, and the diagnosis and treatment of mental and emotional disorders are also directed toward prevention, cure, or control of disease. Currently, “alternative” forms of medical and health care are increasing in use (Orem, 2001).

Resource availability and adequacy affect primarily “the selection of means to meet self-care requisites and the associated care measures” (Orem, 2001, p. 246). Resource availability and the means available to meet a requisite affect the required care measures to be performed with respect to resource use (Orem, 2001). Information resources are one of the common and important resources.

In this exploratory study, focus was on self-care that takes place when women who have undergone mastectomy face health problems and that is undertaken with support of a health care system and information resources based on their health state. For purposes of the study, self-care was defined as decisions and actions taken by women who have undergone mastectomy and who are facing health problems in

order to cope with them and improve health. Since Orem's general theory of nursing provides a system theory of self-care, this theory is properly applied as a conceptual framework in this study.

Self-care among women who have undergone mastectomy

Previous studies have reported impacts of mastectomy on patients' physical health and functioning, psychological/spiritual, family, and socioeconomic status. When a postmastectomy woman recognizes these impacts from surgery, especially at home after surgery, she needs to take care of herself. Based on health-deviation self-care requisites in Orem (2001), the self-care of postmastectomy women will be considered below:

1. Seeking appropriate medical assistance

Postmastectomy therapies involve local and systemic therapy. Knowledge of physical and psychological responses is critical throughout the trajectory of the breast cancer experience (Knobf, 1990). The need for information and psychological support after the diagnostic phase persists through the treatment and post-treatment phases (Longman, Braden, & Mishel, 1997). Therefore, she seeks medical assistance in order to manage her health problems confidently.

A study of "helping women to choose breast cancer treatment alternatives" reported that a woman who is strongly self-directed and who has taken active responsibility for her own health is likely to require an active role in decision-making, and also likely to demand information from her physician. The study also found that while older women focused on the adjustment to having cancer, young women were more concerned with loss of the breast and its effects upon their

intimate relationships. The younger women were more likely to require professional help for psychological problems secondary to the mastectomy and to perceive the mastectomy as having a negative effect on sexual relationships. The old women would be less devastated by breast cancer, tending not to view the illness as robbing her of reproductive or sexual functioning (Valanis & Rumpler, 1985).

It was reported that cancer patients not only cited themselves as the source of their self-care ideas but they also considered physicians, nurses and family members as resources. They asked for assistance from their clinicians (Dodd, 1997). From them, they got information and suggestions, then they could understand their disease and treatment more deeply and believe in their self-care behavior (Middleton, 1997).

2. Being aware of and attending to the effects and results of mastectomy

Breast cancer surgery and radiation therapy can result in lymphedema. Patients with lymphedema secondary to breast cancer therapy can experience a substantial degree of functional impairment and psychological morbidity and diminished quality of life. Functional impairment can result from decreased range of motion in the affected upper extremity joints and decreased healing capacity of the affected tissue, with resultant increased risk of infection as well as from pain (Brennan, DePompolo, & Garden, 1996). Anxiety, depression, and emotional distress are common in patients with lymphedema (Carter, 1997). Psychological distress and pain in these patients adversely affect their quality of life (Velanovich & Szymanski, 1999).

Lymphedema has been defined as subjective self-care of arm swelling as none, mild, moderate, or severe. None means no arm swelling, tightness, or heaviness; mild means periods of arm swelling but no constant increase in greatest

diameter and clothes fit the same; moderate means constant arm swelling and heaviness, clothes do not fit the same, physical discomfort but no decrease in functional activity; severe means constant arm heaviness, disability, decreased functional activity, huge arm swelling (Schrenk, Rieger, Shamiyeh, & Wayand, 2000). Lymphedema resulting from the obstruction or interruption of the lymph channels can be caused by cancer or cancer treatment techniques (e.g., lymph node dissection, radiation therapy). Fluid accumulation and fibrosis can cause pain, numbness, and limited range of motion in the extremity. These physical symptoms can lead to psychological distress related to altered body image and decreased functional ability and may even affect family relationships (Humble, 1995).

Common nonpharmacologic treatment interventions for lymphedema include elevation, massage and exercise, application of external pressure with compression garments or compression pumps, and complex physical therapy (Brennan & Miller, 1998; Humble, 1995). Less common therapies for lymphedema include surgical procedures and electrically stimulated lymphatic drainage (Erickson, Pearson, Ganz, Adams, & Kahn, 2001).

The result of two studies demonstrated that patients receiving postmastectomy physical therapy achieved better functional outcomes than those who did not. Meanwhile, the motion of upper extremity on the ipsilateral side after mastectomy may improve shoulder motion and the functional activities. These activities may involve brushing hair, sweater over head, pulling on pants, fastening bra, backing zipper ipsilateral scapula, contralateral scapula, reaching over head, making bed, and carrying groceries (Wingate, Croghan, Natarajan, Michalek, Michalek, & Jordan, 1989; Wingate, 1985).

Postmastectomy women also should pay attention to recurrence of cancer after surgery. There are several common used methods to discover recurrence of breast cancer or metastatic disease after surgery earlier. These are breast self-examination (BSE), routine mammogram, and follow-up. Breast self-examination (BSE) is a technique for checking one's own breast for lumps or suspicious. Patients who have had breast surgery for the treatment of breast cancer need to examine themselves carefully for any nodules or changes in their breasts along the chest wall that may indicate a recurrence of the disease. Mammography is a breast-imaging technique that can detect nonpalpable lesions and assist in diagnosing palpable masses. Screen mammography combined with physical examination and BSE have demonstrated effectiveness in reducing overall mortality (Smeltzer & Bare, 2004). Longman et al. (1997) investigated 53 women who were receiving treatment for breast cancer to describe the association of side-effects burden with self-help and self-care. They found that 56% of the women discovered their tumor through breast self-examination, 35% discovered it through a routine mammogram, and 11% indicated that a physical discovered the tumor; 69% reported that they sought prompt follow up.

In addition, there are possible other untoward reactions and potential complications such as restriction of shoulder movement and psychosocial problems after mastectomy. Predictable symptoms and potential complications of treatment direct rehabilitative efforts. The goals of rehabilitation for women with breast cancer after surgery are (1) physical recovery of the use and function of the shoulder and arm; (2) emotional support to minimize psychological distress; (3) gradual

resumption of preoperative social, recreational, occupational, and sexual activities; and (4) prevention of complications (Knobf, 1990).

3. Choosing medically prescribed therapies and management for side effects

3.1 Choice of medically prescribed therapies

The treatment of breast cancer involves multiple disciplines. For many women, the postmastectomy treatment is aimed at controlling the disease locally and inhibiting metastatic spread. Surgery, radiation, chemotherapy, and hormonal therapy are all possibilities that the patient may need to consider after mastectomy (Dest & Fisher, 1994 cited in Jeffries, 1997). Nowadays, complementary and alternative medicines (CAM) are becoming increasingly popular in many medical situations, particularly among patients with cancer (Tagliaferri, Cohen, & Tripathy, 2001). Contemporary concepts in cancer therapeutics now include modulation of biological pathways and synergistic combination of compounds. Most contemporary studies of traditional Chinese medicine (TCM) for early-stage breast cancer emanate from China and reflect the current practice to combine TCM with surgical treatment, hormonal therapy, chemotherapy, and radiation (Cohen, Tagliaferri, & Tripathy, 2002). Making a decision is especially difficult when multiple treatment modalities exist, each with its associated risks and benefits, as is the case with breast cancer therapy (Hughes, 1993). The patient needs to learn some knowledge related to these therapies and applied events in order to make the decisions to adapt to her health state and preference. Therefore, knowledge associated with therapies that women may use postmastectomy will be presented as follows.

3.1.1 Conventional therapies

Radiotherapy uses the effects of ionization to damage and kill cancer cells. It

performs many roles in treating early and advanced cancer. For breast cancer, radiation may be administered to regional lymph nodes after the primary tumor has been surgically excised or chemotherapeutically eradicated (Monahan, 1998).

Chemotherapeutic drugs are cytotoxic because they disrupt cell development and reproduction. As with radiation, both normal and malignant cells are affected. This is a major limiting factor in the use of chemotherapy. It can be combined with radiation, surgery, or immunotherapy to treat cancer. It is often used and also used after the surgical removal of a tumor to similarly inhibit the microscopic spread of tumor cells. The method of chemotherapy, called adjuvant therapy, has been used successfully in the postsurgical treatment of breast (Monahan, 1998).

Hormonal therapy is a specific form of therapy that slows the growth of neoplastic tissue by changing the hormonal balance. Hormone receptor status is important in deciding whether hormonal therapy is indicated. A tumor that is estrogen receptor positive suggests that the tumor cells may grow more rapidly in the presence of estrogen. To prevent estrogen from entering these cells and stimulating growth, an antiestrogen is administered (Monahan, 1998). Tamoxifen is the primary hormonal agent used in breast cancer treatment today. It is effective in decreasing risk for cancer recurrence in post-menopausal women and as a palliative treatment for recurrent cancer (Smeltzer & Bare, 2004). There are other hormonal agents such as arimedex, megace, diethylstilbestrol (DES), fluoxymesterone (Halotestin), and aminoglutethimide (Cytadren) used to suppress hormone-dependent tumors (Smeltzer & Bare, 2004). Hormones can be used alone or in combination with other chemotherapeutic drugs (Monahan, 1998). Hormonal therapy may also include

surgery to remove endocrine glands (e.g., the ovaries, pituitary, or adrenal glands) with the goal of suppressing hormone secretion (Smeltzer & Bare, 2004).

Longman's (1997) study of 53 women receiving treatment for breast cancer revealed that 60 % women received chemotherapy, 34% received radiation therapy, and 28% received hormone therapy after breast surgery.

3.1.2 Complementary therapies

Physical therapies include cutaneous stimulation, exercise, repositioning, immobilization, and counterstimulation. Types of cutaneous stimulation are application of heat, cold, lotion, massage, pressure, and vibration. Exercise maintains muscle strength and joint mobility. It also provides a sense of well-being (Monahan, 1998). Wingate (1985, 1989) conducted two studies to compare upper extremity circumferential measurements, goniometric measurements of the shoulder joint, and the performance of 10 functional activities in patients who did and did not receive physical therapy after mastectomy. The results showed that the physical therapy group regained more of their shoulder joint range-of-motion than did patients in the non-physical therapy group and outperformed them on most of the functional activities. Physical and functional gains made by patients in the therapy group were evident by the fifth post-operative day and were still present three months later.

Traditional Chinese Medicine (TCM) practice is based on theories developed and practised for over two millennia. This discipline is practised worldwide. A recent population-based survey of San Francisco women with breast cancer showed that 72% used at least one type of alternative modality 2 to 4 months after being diagnosed with breast cancer. One of the modalities commonly used among women

with breast cancer is traditional Chinese medicine (TCM) (Cohen, Tagliaferri, & Tripathy, 2002).

In the present era, TCM is intended to address all stages of the disease and to augment the benefits of conventional treatments to prevent recurrence and metastasis in early stages of breast cancer and to promote health, improve quality of life, and prolong life in advanced stages (Cohen et al., 2002). There are four pillars in TCM; these are acupuncture, herbal medicine, Qigong, and massage. The current practice is to combine TCM with surgical treatment, hormonal therapy, chemotherapy, and radiation in breast cancer treatment and rehabilitation postoperatively. A case series study consisting of 134 patients with early-stage breast cancer treated with various combinations of surgery, radiotherapy, chemotherapy and individualized herbal formulae, yielded an overall 5-year survival of 88.8% (Chinese Medicine Research Institute, Guang An Men Hospital Oncology Department, 1985 cited in Cohen et al., 2002). Another study of 62 patients with stage II-III breast cancer were divided into equal groups receiving standard surgery, radiation, and chemotherapy, with or without herbs. The herbs were taken for the duration of observation. The 5-year survival was 93.5% (29/31) in the herb group compared to 32% (10/31) in the control group (Cohen et al., 2002). An American National Institute of Health (NIH) consensus panel on acupuncture in 1998 (cited in Richardson & Straus, 2002) concludes that acupuncture is efficacious for adult postoperative and chemotherapy-associated nausea and vomiting. A study conducted on a group with paralysis reported that Qigong may improve the functional ability of 93% of clients during the period of rehabilitation (Huang, 1988 cited in Fontaine, 2000). Massage might affect body perception. In Bredin (1999) study of "Mastectomy, body image

and therapeutic massage”, the participants reported that massage can reduce physical pain and muscular tension caused by emotional suffering. It is helpful to talk and can be a very immediate expression of another person’s ability to tolerate the unacceptable. She is able to accept and cope with her changed self-concept, and also can resume sexual relations with her partner.

Dietary therapy is a form of self-care and is an inseparable part of the total health care system at home (Suzanne, 1985). Dietary adjustment for health promotion and maintenance and for helping the body to expedite its recovery from illness conditions had been part and parcel of the Chinese medical culture (Suzanne, 1985). Cassileth, Lusk, Strouse, et al. (1984) interviewed 304 cancer inpatients and 356 patients under the care of unorthodox practitioners. The result revealed that self-care was practised by 24% of patients on diet therapies; 35% of patients on diet treatments felt that the diet had a positive impact on their general health in a positive fashion. Several pilot prevention studies are ongoing with natural products including soy, green tea, and monoterpenes such as perillyl alcohol, all of which have been shown to have anticarcinogenic effects in cell line or animal models (Cohen et al., 2002). Lutz & Przytulski (2001) reported that positive dietary steps are to maintain generous intake of fruits and vegetables, fiber, vitamin E, and calcium. But people should avoid excessive consumption of alcohol, fat and meats, and especially meats that are cured or smoked. In addition, Tagliaferri et al. (2001) found that specific supplements, vitamins, and antioxidants have also been touted for their potential to decrease side effects of chemotherapy or radiation therapy.

There are many choices for Chinese postmastectomy women to manage their health problem. Many factors influence consideration of the choice of medical

therapies and the decision-making process. The decision-making process, except the influence of therapy itself such as mechanism and side effect, is also influenced by the individual's beliefs, attitudes, personality characteristics, and previous coping style; by the available choices, the amount and accuracy of information, time, and support of significant others; and by the nurse and physician relationship (Knobf, 1990).

3.2 Management for side effects of medically prescribed therapies

The diagnosis of early stage breast cancer, decisions about therapy, and therapy itself bring about many acute discomforts (Kolcaba, 1999). Side effects as a result of surgery, radiation therapy, chemotherapy, and hormonal therapy are also sources of continuing distress associated with the cancer experience. Therefore, learning side effects and side effects management associated with therapeutic interventions for women undergoing treatment for breast cancer has received considerable attention (Knobf, 1990).

3.2.1 Side effects of medically prescribed conventional therapies

Medical therapies may not only treat cancer but also cause some potential side effects. The potential side effects of each therapy (mainly conventional therapy) are reviewed.

Several studies have reported side effects of radiation therapy. These include mild and moderate skin reactions, fatigue, breast tenderness (Smeltzed & Bare, 2004), edema (Brennan, DePompolo, & Garden, 1996), limited arm mobility (Knobf, 1990) depression, difficulty sleeping, difficulty concentrating, and pain (Longman, 1997), loss of self-esteem and confidence, emotional shock, confusion, disruption of routine, anger, anxiety, fear, and feelings of isolation (Mock, 1993). Rarely they may

include pneumonitis, rib fracture & breast fibrosis (Smeltzed & Bare, 2004). In addition, chemotherapy can lead to various side effects.

Side effects related chemotherapy include nausea, vomiting, fatigue, alopecia (hair loss), mucositis, dermatitis, menopausal symptoms, weight gain, and bone marrow suppression (Smeltzed & Bare, 2004), skin changes, diarrhea and decreased appetite (Dodd, 1988). Less common side effects include hemorrhagic cystitis and conjunctivitis (Smeltzed & Bare, 2004).

Nevertheless, treatment with tamoxifen, an estrogen-blocking drug, may cause such side effects as hot flashes, nausea, and vaginal dryness (McDaniel, Rhodes, Nelson, & Hanson, 1995), weight gain, and lethargy (Smeltzer & Bare, 2004).

These side-effects burden is an important factor of quality of life of women with breast cancer (Longman, 1997). Therefore, women who have undergone mastectomy require managing side effects.

3.2.2 Management of side effects of medically prescribed therapies

Women with breast cancer cited themselves most frequently as the source of self-care information (Dodd, 1988) for managing side effects of the therapy. The process of self-care involved perception and labeling of side effects, weighing options for actions, initiating self-care behaviors, and evaluating the effectiveness of self-care (Dodd, 1988).

Various ways to reduce these side effects have been reported. A moderate self-paced walking exercise program for patients with breast cancer receiving radiation therapy decreased fatigue and emotional distress, and improved physical functioning (Mock, 1997). Relaxation with imagery demonstrated greater

improvements in physical and psychological outcomes (Bridge, Benson, Pietroni et al, 1988) and enhancing comfort in women going through radiation therapy with early stage breast cancer (Kolcaba, 1999). There were many actions to manage side effects as described below (Dodd, 1988; Foltz, Gaines, & Gulle, 1996).

Loss of hair: wearing a wig or hat, cutting hair short, using milder shampoo, choosing a softer brush.

Fatigue: increasing time in bed, taking naps, sleeping later, or going to bed earlier, cancelling activities, getting fresh air, exercising, keeping busy, or drinking caffeine, with variable effectiveness.

Nausea: resting more effectively, keeping busy, manipulating of intake such as eating less, avoiding food smells, eating crackers, drinking clear liquids, eating mints, and choosing cold foods.

Taste change: avoiding foods that tasted differently during treatment, avoiding the sight and smell of food, eating sour foods and cold foods, cleaning the mouth.

Appetite loss: eating less, making an effort to eat and increasing the frequency of eating, using dietary supplements and exercising.

Skin change: applying lotions or powders, using milder soap.

Sleeping difficulties: exercising, watching television or reading, and finding distraction.

Constipation: increasing fluid and fruit intake.

However, taking medication was reported among the most effective self-care actions in countering the side effects of chemotherapy.

4. Modifying self-concept (and self-image) in accepting after mastectomy

In a woman after mastectomy, the self-concept mode is influenced by emotional reactions to alterations in body image (Mock, 1993). Body image is a mental picture of the “physical self” and includes attitudes and perceptions regarding one’s physical appearance, state of health, skills, and sexuality (Roid & Fitts, 1988 cited in Mock, 1993). It is an integral component of self-concept. After mastectomy, there are a variety of physical perceptions: numbness, coldness, skin sensitivity, stiffness, soreness, pain and lymphoedema in the arms. These cause poor adjustment to psychosocial distress and anxiety, and influence body image, femininity, sexuality (Bredin, 1999) and self-concept (Mock, 1993).

Women after mastectomy need to cope with these negative alterations. Denial was an important part of the defense process whereby a postmastectomy woman integrated her changed body into her new self-image. Some women kept up an appearance of looking normal by wearing their prosthesis and concealing their ‘difference’ (Bredin, 1999). Some thought that external breast prostheses might mask breast loss to the outside world, but they were never incorporated into the woman’s body image and did not help her adjust to a sense of deformity. They were inconvenient, uncomfortable, and easily displaced during intense activity. Therefore, advances in breast reconstruction owed much to the thousands of women who were unwilling to accept the permanent deformity resulting from mastectomy. The goals of breast reconstruction are simple: to alleviate the breast and chest wall deformities that result from virtually all local treatment of breast cancer and to provide attractive, realistic looking and feeling breasts (Bostwick, 1990). Concerning the timing of breast reconstruction, for patients with Stage I breast cancer, the breast reconstruction

may be done immediately at the time of the modified radical mastectomy. But breast reconstruction is usually delayed until after surgical treatment of the breast cancer and 2 to 3 months after adjunctive therapy ends (Bostwick, 1989). Combining with the therapeutic massage to cope with the women's self-image after mastectomy was reported to help the affected arm to 'feel part of her body' once more, reduced bodily tension and discomfort, enabled relaxation and promoted sleep, and resumed sexual relations with her partner Bredin (1999).

5. Learning to live with effects of breast cancer and mastectomy and the related medical measures

Learning to live with effects of mastectomy and the related medical measures can reduce distress and enhance quality of life after surgery. There are several ways to learn to live with these effects.

Previous studies reported that positive attitude helped women who had undergone mastectomy to maintain their own positive outlook toward the illness (Northouse, 1989). Keeping busy on something or someone else allayed feelings of hopelessness among patients with cancer (Ferrans, 1994; Raleigh, 1992).

Physical activity has been associated with independence and sociability, improved self-esteem and decreased depression, and positive body- and self-image (Stern, Gorman, Kaslow, 1983). Many women with breast cancer used exercise such as aerobics, swimming, walking and playing tennis, as a form of self-care to maintain and improve flexibility, strength and endurance as well as their overall quality of life (Young-McCaughan & Sexton, 1991).

Faith in God was a continuing source of strength and peace for patients with breast cancer. Spiritual support may strengthen them during their most vulnerable

times of diagnosis and early treatment (Wyatt et al., 1993).

In addition, the following self-care was considered as health behavior associated illness cognition in adult. These are regular medical check-ups, avoiding emotional stress, staying mentally alert and active, avoidance of salt, regular sleep, eating a balanced diet (Prohaska, Leventhal, Leventhal, et al. 1985), pacing oneself at work and play, making time for relaxation, practising relaxation exercises, taking time to exercise, reducing negative self-talk, and increasing positive self-talk (Pardine, et al. cited in Longman, 1997).

In conclusion of this part, therapeutic self-care demands of postmastectomy women need to meet their health deviation self-care requisites, which may guide them to practise their own activities for health promotion.

Factors related to self-care among women who have undergone mastectomy

According to Orem's theory (2001), the basic conditioning factors related to self-care involve internal and external factors. Health state, which is regarded as internal factor, health care system, and information resource, which are considered as external factors, will be discussed.

1. Health state

Health state is considered as health situation at a given phase (Hoskins, 1994). Orem's statements about health also refer to specific health deviations, i.e., illnesses, injuries, or other disorders, as well as general health state. Finally, the term "health state" is included as a basic conditioning factor can influence and modify self-care (Denyes, 1988). It indicates that health state had a significant relationship with either

self-care requisites, self-care agency, self-care performance, or perceived health status (Moore & Pichler, 2000).

Health state is also described according to five attributes: mobility, self-care, usual activities, pain/discomfort, and anxiety/depression (Krabbe, 1999). We can say from this point that health symptoms might be an important indicator of health state (Frey & Denyes, 1989; Denyes, 1988). Thus women undergoing chemotherapy after breast surgery reported severity of side effects of chemotherapy, more psychological distress and lower health status (Hoskins, 1997). Self-care may be limited or adversely affected by a lower health status (Musci & Dodd, 1990).

In addition, Orem views stage and site of cancer as health states. They are thought to be indicators of the functional health that may affect patients' abilities to perform self-care (Dodd & Dibble, 1993).

2. Health care system

Kleinman (1984 cited in Montbriand, 1990) Health Care System Model divides the health care system into three sectors: professional, popular, and folk. The professional sector refers to the biomedical system with the medical doctor designated as the legitimate prescriber of health care. The popular sector incorporates the activities of health care primarily initiated and performed by the individual and their family or friends. It includes, for example, diets, herbs, vitamins, manipulations, charms, prayers and other healing rites. The folk sector consists of modern and traditional forms of folk healing, primarily initiated by a healer, for example a herbalist, chiropractor, reflexologist and others. In Montbriand's (1990) study, biomedical health care was defined as any health-related practice initiated or prescribed by a medical doctor. Alternative health care included all health-related

practices initiated or prescribed by the self, family or friends, or an alternative health-care healer. This model formed the basis for identifying alternative practices according to the individual who initiated or prescribed the care, and the patients provided their own interpretation and categorization of the practices which they believed they controlled in health care. Alternative health care described by the informants could be divided into three categories: physical, spiritual or psychological. Physical alternative practices were tangible in nature. They were substances causing physiological change in the body such as vitamins or herbal products, physical manipulations such as massage, or physical objects such as talismans. Spiritual alternative care evoked a cosmic source to cure the illness or help the patient to cope. The cosmic source was often God or a saint. Psychological alternative care included all health care practices utilizing the mind as the director of care, for example self-initiated distraction, attitude change or visualization therapies (Montbriand, 1990).

In alternative medicine, complementary and alternative medicine can be defined as those medical systems, professions, practices, interventions, modalities, therapies, applications, theories, or claims that are currently not part of the dominant (conventional) medical system. Over time, a specific alternative practice or treatment may be reclassified as conventional medicine in association with the emergence of supporting scientific data, clinical experience with its use, and a change in prevailing societal attitudes (cited in Chez & Jonas, 1997). The American National Center for Complementary and Alternative Medicine (NCCAM) groups complementary and alternative medicine (CAM) into five major domains that are applicable to cancer: alternative medical systems such as traditional Oriental medicine (TOM) and homeopathy; mind-body interventions, including meditation, imagery, and relaxation;

biologically based treatments involving melatonin, herbals, mushrooms, and high-dose vitamins; manipulative and body-based methods such as chiropractic, manipulation, yoga, and massage; and energy therapies, including Qigong and therapeutic touch (Panel on definition and description CRMC, 1995 cited in Richardson & Straus, 2002).

These health cares mostly need to be provided by health professionals. However, a patient with a deeper understanding of the diagnosis, treatment, and recovery and who has support from health care service system such as professionals, is much better equipped to cope with their illness, by changing their health-related behavior to influence their course of illness and reduce psychological distress (Gustafson, Hawkins, Boberg, Pingree, Serlin, & Graziano, et al., 1999). Nevertheless, it is important that care providers are able to address all dimensions of such need adequately of cancer patients (Wiggers, Donovan, Redman, & Sanson-Fisher, 1990). These dimensions include the art (i.e., interpersonal quality), technical quality, accessibility, convenience, availability, and financial aspects of care (Matteo & Hays, 1980; Ware, 1978 cited in Wiggers et al., 1990), whereas greater importance was given to the technical and interpersonal skills of doctors relative to the provision of family and home care (Wiggers et al., 1990). The perspectives of physicians and nurses were discussed in supporting self-care as well as the specific strategies they employ (Health Canada, 2003) in order to speed rehabilitation. The goals of rehabilitation for the newly diagnosed woman with breast cancer after surgery are to optimize well-being and minimize symptoms due to illness and treatment. These involve (1) physical recovery of the use and function of the shoulder and arm; (2) emotional support to minimize psychological distress; (3) gradual resumption of

preoperative social, recreational, occupational, and sexual activities; and (4) prevention of complications (Knobf, 1985 cited in Knobf, 1990).

3. Information resource

The impact of cancer diagnosis and mastectomy often leads women who have undergone surgery to seek information as a means of coping with their situation. Meanwhile, information may also motivate them to choose healthy behaviors. Providing patients with information can foster informed participation in treatment decision making and relieve emotional anxiety (Bilodeau & Degner, 1996). The literature related to the context will be presented by functions of information, factors influencing information, methods of delivering information, problems with patient information, and information needs.

3.1 Functions of information

Mills and Sullivan (1999) listed six main functions of information giving for patients with cancer, which were to gain control, reduce anxiety, improve compliance, create realistic expectations, promote self-care and participation, and generate feelings of safety and security. There were several studies to support the various functions of information. Hinds, Streater, & Mood (1995) interviewed a convenience sample of 83 patients with cancer before and / or after a full course of radiotherapy to determine their perceptions about the functions served by the information received from standard care personnel. Patients indicated that they considered information to serve three main functions. These were enabling them to actively participate in their treatment and control in the management of their illness, reducing anxiety, and enabling them to prepare and plan for the future. A review by Ream & Richardson (1996) considered six empirical studies that evaluated the effects

of information on patients undergoing chemotherapy and radiotherapy. They highlighted that information was found to result in more self-care behaviors being initiated, anxiety scores were reduced and patients reported less disruption in their daily activities as the information 'bolstered' their ability to predict the experience. Another study found that adequate information, confirming relationships, emotional contact and organizational changes in care are important factors for the sense of control in women with breast cancer and led to feelings of safety and security (Palsson & Norberg, 1995). There is also some evidence that provision of more information can have beneficial effects on compliance (Haynes, Mckibbon, & Kanani, 1996), patients' satisfaction, clinical outcomes, and quality of life (Jefford & Tattersall, 2002; Gattellari, Butow, Griffin, & Dunn, 2001).

3.2 Factors influencing information

There were 12 possible factors that influence information seeking. These were divided into two categories: person-related variables and situation-related variables. Person-related variable involved personality, gender, age, marital status, education, reading about cancer following diagnosis; situation-related variables included type of cancer, stage of cancer, treatment, time from suspected symptoms to diagnosis, time since diagnosis, and source of patient referral (Derdiarian, 1987a).

Bilodeau & Degner (1996) found possible factors that may influence information needs of women with breast cancer including the age, educational attainment of the patient, treatment decision making, stage of cancer, and time since diagnosis. The Interdisciplinary Group for Cancer Care Evaluation (GIVIO) (1986) found that younger women (< 50 years) and more educated women (> 6 years of education) had more information needs, and were about 50% more likely to receive

thorough information than older, less educated women. Role in treatment decision making, type of surgery, stage of cancer, and time since diagnosis are the situation-related variables that may influence the information needs of patients with breast cancer, choices of surgical and adjuvant treatments that are available for many patients with early stage breast cancer, and potential alternative roles exist for women regarding participation in these medical decisions (Degner & Russel, 1988). Stage of disease was an independent predictor of quality of information. Women with tumors smaller than 5 cm at diagnosis had a greater chance of receiving better information (GIVIO, 1986). Gordon's study (cited in Edlund & Sneed, 1989) identified the need for different information to address different concerns according to the time since diagnosis.

In general, the difficulty in identifying factors that could influence patients' information needs highlights that information is an individualized aspect of care. We cannot predict that because a patient is undergoing a specific treatment, or with a certain level of education, that they will have particular type of information needs (Mills & Sullivan, 1999).

3.3 Methods of delivering information

The mode by which information is delivered is an important consideration. Usually the three most common methods are audiovisual, verbal and written. Each type has advantages and disadvantages as Mills & Sullivan (1999) stated.

Audiovisual information is a relatively new method. This method may allow patients to clarify any misconceptions or refresh their memory of the information discussed, and family and friends to consider the available information. However, a disadvantage of this method is the expense incurred in developing and producing the

material, and not everyone has the technology to utilize audiovisual information at home.

Verbal information is often seen as the cornerstone of information giving, for in most situations information is initially imparted on a verbal one-to-one basis. The belief is that the interaction will work as a two-way process, allowing patients to ask questions and clarify any misconceptions, while gaining support from caring professionals. Unfortunately, most of the information involves novel and often frightening concepts for patients, and their ability to comprehend and retain the information is severely depleted by the shock of their diagnosis.

Written information has the overwhelming benefit that if patients are too anxious at diagnosis or consultation to retain the information they are given, then the written data serve as a permanent record to refresh their memories and clarify any misconceptions. Furthermore, written information may be particularly beneficial to patients nowadays, as their shorter hospital stays reduce the amount of time doctors and nurses have to spend discussing concerns and providing facts. Yet this should not lead to the serious misdemeanor of simply handing patients an information sheet to take home. Foltz & Sullivan (1996 cited in Mills & Sullivan, 1999) found that the standard reading level required to comprehend cancer-related information was twelfth grade education or higher. Sometimes the written information may be of a poor quality and pitched at the wrong level, and not be patient-based. Thus, unless care is taken when planning the delivery of written information, it may ultimately be of little benefit to patients (Mills & Sullivan, 1999).

In addition, Bilodeau & Degner (1996) identified the following resources from which women with breast cancer would have most preferred to get information.

The resources were physicians, nurses, friends or relatives, brochures, medical journals or textbooks, videotapes, television or radio programs, women's journals, and newspapers. In this study, physicians were the most frequent actual source of information, whereas nurses were the third most frequently used source. Women approached friends or relatives for information about their cancer diagnoses slightly more frequently than they approached nurses. Videotapes were the least used source. Overall, personal sources of information ranked higher than written sources. However, in a survey in which surgeons and mastectomy patients were asked to rank-order the importance of potentially available resources for help or information, both of surgeons and patients indicated the importance for the patient of written information. Patients seemed to feel that supplemental written information in the form of pamphlets would be most helpful. The higher the level of education of women, the more relevant a medical journal became as a source of disease-related information. Another study also indicated that most useful sources of information were women's magazines, the hospital consultant, and the television and radio (Luker, Beaver, Leinster, & Owens, 1996). Whereas electronic medical records become more widespread, personalized computer-based information would be increasingly available and affordable in the future (Jefford & Tattersall, 2002).

3.4 Problems with patient information

As already highlighted, despite the emphasis on communication skills and information giving, many cancer patients remain dissatisfied with the level of information they receive after diagnosis (Suominen, Leino-Kilpi, & Laippala, 1995). Possible reasons for deficits in information giving have been proposed. Firstly, professionals may not have the education or training to provide the level of education

required by patients (Firth, 1991 cited in Mills & Sullivan, 1999). Secondly, staff do not have time to provide patients with the information they require since they were too busy to tell the patients (Luker, et al. 1996). A third possible reason is that cancer patients may not retain the information they have been given, possibly as a consequence of denial (Wiggers, Donovan, Redman, & Sanso-Fisher, 1990; Suominen et al., 1995). This may be caused by the different emphasis perspective between patients and nurses. Patients primarily expected information support, whereas nurses underlined the role of psychological support. Furthermore, patients felt that they did not receive the support that they needed, whereas nurses felt that they provided a great deal of support (Suominen et al., 1995). The final reason is that staff assume that they know what patients' information needs are (Luker et al., 1996; Harrison-Woermke & Graydon, 1993). This assumption has been shown to be inaccurate (Suominen et al., 1995).

In addition, factors likely to influence readiness for information may include psychological adjustment and the behavior of health professional. They need to be aware that some patients are unable to absorb any further information when information is particularly distressing, for example when bad news is unexpected (Harris, 1997), or at a time when they were emotionally or psychologically unable to fully understand, attend to, or cope with it, i.e., postoperation (Hinman, 2001). As a consequence, patients with cancer can perceive a lack of information, which can result in, or exacerbate, feelings of uncertainty, anxiety, and depression (Harris, 1997). Information may be inaccessible also as a result of providers' poor attitude (Hinds et al., 1995).

Problems mentioned above cause lack of information. The information itself also can cause distress for patients and their families, and lead to increased uncertainty, anxiety, distress, and dissatisfaction, and can negatively influence patients' treatment decisions (Hinds et al., 1995; Jefford & Tattersall, 2002).

3.5 Information needs

Numerous authors have considered the information needs of cancer patients at various stages of their disease (Mills & Sullivan, 1999). Degner, Kristjanson, Bowman, & Sloan (1997) have reviewed over 200 articles relating to cancer and specially breast cancer, and then they generated nine information needs that are important to the patient. This information needs were (a) extent of disease; (b) likelihood of cure and the prognosis; (c) treatment options available (surgery, chemotherapy, radiotherapy) and the advantages/disadvantages of each treatment; (d) treatment side effects (e.g., nausea, pain, change in physical appearance); (e) dealing with the emotional impact on family/friends; (f) risk of children or other family members developing cancer; (g) effect of treatment on social activities (sports or hobbies, etc); (h) self-care and return to normal life style (e.g., diet, support groups, help at home, social worker, counselor); and (i) psychological effects of treatment and sexuality-related issues (e.g., breast disfigurement, breast prosthesis, reconstructive surgery).

There are several studies related to the content. In the study of Degner, Kristjanson, Bowman, Sloan, et al. (1997), receiving information about their chances of cure and spread of disease were the top priorities. Northouse (1989) interviewed 50 postmastectomy patients found that 50% of the patients interviewed had concerns about prognosis. Luker et al. (1996) combined a structured interview with

questionnaires to determine information needs and sources of information for 105 women with breast cancer. They found that the most important information needs concerned the likelihood of cure and the risk to the family of developing breast cancer. The patients' concerns were also incorporated into the item of information relating to treatment options. Information about sexual attractiveness was the least important of the nine information needs. In a study by Aston (1996 cited in Mills & Sullivan, 1999), the patients desired more information about diagnosis and treatment, coping with side-effects, specific cancer sites, the future/current research findings/clinical trials, chemotherapy and hormone treatment, and cancer prevention. Degner et al. (1997) also found that the information about self-care was more important further from the time of diagnosis with breast cancer. There were no differences in information needs by educational level, stage of disease at diagnosis, or role actually played in decision making (Degner et al., 1997). Luker et al. (1996) revealed that some patients might wish to be informed about how family and close friends may be affected by the disease, psychological effects of treatments, and risk of other family members developing cancer, especially at a later stage in their illness. However, some patients identified that they would like general information about cancer and its prevention (Griffiths & Leek, 1995).

In conclusion, women who have undergone mastectomy have specific health states. They need choices on health care system and various information to make decisions and enhance self-care to achieve the purpose of treatment, rehabilitate physical function and psychological influences caused by the disease and the surgery, choose cost-effective medical treatment, and maintain their health and well being.