CHAPTER 2

LITERATURE REVIEWS AND CONCEPTUAL FRAMEWORK

Literature related to breast cancer and mastectomy, stress related to breast cancer and mastectomy, coping and coping behaviors related to breast cancer and mastectomy, family relationship and age influencing stress and coping behaviors are reviewed and the conceptual framework is discussed in this chapter.

Literature review and related researches

Breast cancer is a significant life event resulting in physical and emotional trauma. For the woman experiencing a mastectomy, the recovery period is influenced by the loss of physical well being, and the emotional impact of loss of an important body part. The recovery process for most women is erratic, with progress towards adaptive coping alternating with periods of regression. A woman, who quickly returns to her original lifestyle and achieves personal growth, normally has experiences of coping adaptively. Some women experiencing maladaptive coping often focus extensive energy on cancer experience and loss of the breast to the exclusion of satisfying relationship and life activities (Rice & Szopa, 1988). Studies of breast cancer and mastectomy as stressful

events, coping with breast cancer and mastectomy, and the influencing factors such as family relationship and age were reviewed.

Breast cancer and mastectomy

The incidence of breast cancer has been increasing in China and worldwide. It has become the leading cause of cancer death in women. Advanced treatments include: surgery, chemotherapy and radiation therapy. Surgery is considered as an essential therapy which can take the forms of simple mastectomy, modified radical mastectomy, or radical mastectomy. Modified radical mastectomy is a very common form of surgery for breast cancer in China in the recent years (Li, 1993).

Stress related to breast cancer and mastectomy

Stress has been studied from three major perspectives. The main ideas of these three major perspectives are summarized as follows:

Stress as a response: The biological and medical sciences have traditionally viewed stress as the body's response to an event. Stress is the physiological response or change that occurs within the body. The idea of stress as a response gained prominence through the work of Hans Selye, who defined the stress as the nonspecific response of the body to

any demand made upon it to adapt whether that demand produces pain or pleasure. From Selye's definition, three things are immediately apparent. First, Selye thought that the body's response to stress was nonspecific. The body reacted as a whole organism. Second, stress was considered as a physiological response, not a psychological one. Third, Selye believed that it was not just the "bad" things in life that cause stress, but the "good" things as well (Selye, 1976).

Stress as a stimulus: It is realized that individuals do not react to all stressors as threats. Theorists and researchers began to explore the stress inherent in a stimulus. In this perspective, stress is seen as the event itself or the stressor, not as the response to the event. With the advent of the stimulus concept of stress, research efforts were directed toward determining what life events were stressful and how stressful they were (Ignatavicius & Bayne, 1991).

Stress as a transaction between a person and the environment: The perception of stress appears to be related to the person and event within a certain environment. The view of stress as a relationship between the person and the environmental event is called transactional model of stress. In this model, people are more than passive recipients of stress and are not just unthinking reactors to the events around them. According to this view of stress, the person's

interpretation of the event is important to consider. The meaning given to the event by the individual determines the individual appraisals of a situation as stressful (Lazarus, & Folkman, 1984).

Lazarus and Folkman's theory has been used to explain a variety of stress events. Lazarus and Folkman maintained primary and secondary appraisal. Primary appraisal is the cognitive determination of the degree of the demands to the individual. Demands can be external or internal. During the primary appraisal, demands are assessed according to the possible impact on the individual's well-being. Demands can be judged as irrelevant, benign-positive, or stressful. Stress appraisals include harm/loss, threat and challenge. In harm/loss, some damage to the person has already been sustained as in an incapacitating injury or illness or recognition of some damage to self or social esteem or loss of loved or valued person. The most damage life events are those in which central and extensive commitment are lost. Threat concerns harm or loss that has not yet taken place but is anticipated. Even when a harm/loss has occurred, it is always fused with threat because every loss is also the source of negative implications for the future. The primary adaptive significance of threat is that it permits anticipatory coping. Challenge has much in common with threat in that it too calls for the mobilization of coping efforts. The main difference is

that challenge appraisals focus on the potential for gain or growth inherent in an encounter and they are characterized by pleasurable emotions such as eagerness, excitement and exhilaration, whereas threat counters on the potential harms and is characterized by negative emotions such as fear, anxiety and anger. Secondary appraisal is the individuals' coping mechanisms (cognitive and behavioral effects to manage a troubled person-environment relationship). Primary and secondary appraisal are postulated to mediate between the stimulus and the outcome response (coping effectiveness).

Common complaints of stress: A variety of physical and psychosocial complaints may reflect stress in the client. Common stress-related physical complaints are: sleep problems, headaches, shaking, inability to sit still, muscle tenseness, rapid speech, stuttering, or stammering, fatigue, increased heart rate, digestive troubles, increased perspiration, light-headed, cold chills, hot flashes, palpitations, dry mouth, frequent urination, menstrual cycle changes, and crying. Common stress-related psychosocial complaints are resentment toward health care workers, anger, loss of temper, feelings of helplessness, resistance to treatment or tests, overuse of drugs, including prescription and over-the-counter drugs, withdrawal from friends and family, overuse of alcohol, excessive excitement, confusion and forgetfulness, nervousness, irritability, and complaints

of anxiety.

Stress is important in the practice of medical-surgical nursing for adults as its presence may cause, prolong or aggravate illness. Stress can interfere with other aspects of clients' lives because it may contribute to family, spiritual, and social crisis.

Many studies have documented the high prevalence of psychological stress experienced by patients at the time of cancer diagnosis and during early treatment. Maguire & Lee (1978) conducted a follow up study of 75 women from the time they were presented with suspected breast cancer to one year after the operation and compared with the control group (N=50). Through out the follow up period, the incidence of psychiatric problems such as anxiety, depression and sexual difficulty were higher among the women who had undergone mastectomy. One year after surgery, anxiety was found in 25 women with mastectomy (33%) compared with only 5 (10%) of the control group needed treatment of anxiety ($p<.01$); depression was found in 26 women with mastectomy (36%) compared to 6 (12%) in the control group ($p<0.01$); and 26 women (36%) with mastectomy had sexual difficulties compared to only 3 (8%) in the control group ($p<0.001$). All together, 29 (39%) patients in mastectomy group and 6 (12%) of the control had serious anxiety, depression or sexual difficulties. They concluded that the inability to recognize and treat these emotional

disturbances was a common and serious problem. Their findings confirmed the existence of a high psychological and psychiatric morbidity in the first year after mastectomy for breast cancer. Threats which each woman faces, namely, the possible loss of her femininity, self-esteem, health, role and life are known to cause the psychological and psychiatric problems.

Once diagnosed, the patient with cancer must continuously face the possibility of recurrence regardless of the success of initial and subsequent treatment. Their fears decrease as the patient's sense of wellness is reestablished (Krumm, 1982). A study of 41 women with mastectomy was conducted in one hospital by use an extensive questionnaire designed to examine various aspects of the mastectomy procedures, emotional responses, perceptions of effects of the mastectomy on the relationship with spouse and attitudes towards surgeons and nursing staff (Jamison, Wellish & Pasnau, 1987). Their findings of the post-mastectomy emotional adjustment showed that approximately one-fourth (24.4%) of the women stated that they had suicidal ideation after the mastectomy. More than one-third (35.9%) stated that their tranquilizer use was great or much greater than it had been before the mastectomy, and 15.4% reported that their alcohol use significantly increased. An increase in problematic sleep patterns was reported by 9.8%, 7.3% reported

a significant decrease in appetite, 2.7% reported a decrease in sexual interest or ability, and 87% of women had little or none communication about the emotional aspects of mastectomy with their spouses or significant others. This not shared feelings could be one of the factors that contribute to their stress experience.

In the Stolar's (1982) study of 90 volunteers of former mastectomy patients (one year early) in Canada, 80.8% of them reported feeling of life being threatened, and 57.3% of them reported feeling of "stunned, dazed or depersonalized". Anxiety was identified as a frequent feeling by 42.7% of the women. Time was found as a key variable in identifying problems, and interpersonal stability was found as the key variable in the ability to cope. The time periods of immediately before, during and after the operations were intense emotional experiences of patients and their families. Immediately postoperative period was not considered as the most difficult one compared to the preoperation and the first three months post operation.

Findings from Northouse's study (1989) of the impact of breast cancer on patients (N=50) and husbands (N=50) showed that for the majority of women, the period before mastectomy was much more stressful than the period in the hospital or at home, but the family reported the immediately postoperative period was more stressful. Survival concerns were the

predominant worries reported by the patients and husbands in the hospital and one month after surgery.

A longitudinal study (N=247) during the year after breast cancer diagnosis was conducted by Vinokur (1990), the findings showed that the improved health and physical functioning was a significant reduction in the appraised threat of breast cancer disease ($p<0.05$) and concomitant reduction in the experience of stress from this condition ($p<0.001$). But there appeared to be no overall change in mental health and well-being. The results based on various mental health indicators including affective experience such as depression, and somatic complains showed no change. This suggested that although women perceived their breast cancer as now being less threatening and more predictable and controllable, their general mental health and well-being did not improve over six months period of time. Social support was found having positive statistically significant effects on quality of life, self-esteem, and role and emotional functioning.

Ali and Khalil (1991) conducted a study among 64 Egyptian women who had mastectomy, several stressors they identified were hope for a cure (39.2%), worry about effectiveness of treatment (23.4%), fear of the unknown (20.3%), pain (9.3%) and progression of disease (7.8%). When compared the degree of the stress of their great concern on a

five-point Likert scale, the "effectiveness of treatment" stressor had the highest mean stress level. The mean level of stress of all stressors for the total sample was 4.56 (possible range is 1-5) which was considered as high level.

The above studies have shown that mastectomy as a stressful event does bring threats to women's health.

Coping and coping behavior related to breast cancer and mastectomy

Coping is any behavior or cognitive activity that is used to deal with stress and how individual cope with stress may affect their health directly or indirectly.

According to White (cited in Thelan & Lynne, 1994), coping is an adaptive strategy. People use coping when faced with serious problems that they cannot master with familiar behaviors and uncomfortable effects such as anxiety or grief accompany coping.

Lazarus and Folkman (1984) define coping as constantly changing cognitive and behavioral effects to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person. Coping is a process that serves to manage a problem and modulates the emotional response to that problem.

Jalowiec and the associates (1984) define coping as a process in which the individual attempts to alleviate stress.

They developed an instrument which was named as Jalowiec Coping Scale (JCS) to measure the coping behaviors. The original scale consisted of 40 items that represented three dimensions of coping: confrontive, emotive and palliative coping. In 1987 Jalowiec revised the JCS. The coping scale were expanded from 40 to 60 items. Some of the items from the original scale were eliminated, some were combined, some were reworded, and new items were added. The coping items were reexamined rationally to determine common conceptual themes, and eight coping styles evolved as the most descriptive of the coping dimensions represented by the 60 items. The eight coping styles are confrontive, evasive, optimistic, fatalistic, emotive, palliative, supportant and self-reliant. (1) Confrontive coping (10 items): it is problem-oriented. People confronts the situation, faces up to the problems. They may use strategies such as information seeking and try out solutions. (2) Evasive coping (13 items): that means to take evasive and avoidant activities, such as tried to get away from the problem for a while, or wished that the problem would go away; (3) Optimistic coping (9 items): that means to use positive thinking, positive outlook, positive comparisons, such as tried to see the good side of the situation, or tried to keep a sense of humor; (4) Fatalistic coping (4 items): that means to be pessimism, hopelessness, feeling of little control over the situation, such as told yourself that you

were just having some bad luck; (5) Emotive coping (5 items): that means expressing and release of emotions, ventilating feelings, such as worried about the problem, or took out your tensions on someone else; (6) Palliative coping (7 items): that means to try to reduce or control distress by making the person feel better, such as tried to keep busy and work harder, or had a drink; (7) Supportant coping (5 items): that means to use support systems (personal, professional, spiritual), such as talked the problem over with family or friends; (8) Self-reliant coping (7 items): that means to depend on self rather than on others, such as preferred to work things out by yourself.

Aquilera (cited in Thelan, & Lynne, 1994) stated that coping activities encompass all the diverse behaviors that people use to meet actual or potential demands. The available coping mechanisms are those behaviors that a person typically uses to solve problem and relieve anxiety associated with the problem. The individual draws on what he or she has found to be effective in the past.

Weissman (cited in Thelan & Lynne, 1994) viewed coping as a problem-solving process that draws on cognition, judgment, memory and defense mechanisms. Coping skills that people tend to use including the steps for problem solving, the defense mechanisms, interpersonal strategies such as sharing concerns, and conscious coping mechanisms such as

distracting oneself or laughing off a problem. No one strategy is superior.

Weisman and Worden (1977) studied the coping strategies of 120 patients with newly diagnosed cancer they found that good copers used the strategies of confrontation, redefinition of the problem, and compliance with the authority. Good copers were also resourceful rather than rigid. They tended to avoid denial, but taking actions based on confronting reality instead. They also considered alternatives for their problems, maintained open communication and maintained hope. Poor copers were found to use suppression, passivity, submission and harmful tension-reduction measures (drink, drugs) as their means of dealing with the illness. Poor copers also had high total mood disturbance.

In Stolar's (1982) study of 90 breast cancer patients at post mastectomy phase, 61 of them accepted the need to have a mastectomy, they believed that the discomfort was inevitable, and they looked for something constructive in the experience. Sixty-two women mentally denied the situation. They put their condition out of mind, laughed it off, or tried or distract themselves with other thoughts and activities. Thirty-one women carried on as before, three women reduced tension by eating and drinking, and one woman stated she withdrew from social interaction. They considered the positive

action and denial (not in the sense of denying the reality of their condition, but in the sense of not dealing on it) were more effective.

Herth (1989) Studied the relationship among level of hope, level of coping response and other variables in patients with cancer (N=120). The findings of this study showed significantly positive relationship between level of hope (use of optimistic coping style) and level of coping response.

Perry (1990) used Jalowiec Coping Scale (JCS) to measure the coping styles of the tertiary level adult patients (N=41). Confrontive and palliative-type coping methods were found most favored and were in the top ten in rank. Conversely, the emotive-type coping methods were noted among the least favored and were listed in the bottom ten in rank. Correlation was found between the coping methods employed (confrontive, emotive and palliative) and degree of loneliness reported. A significantly positive correlation was found between the loneliness score and the emotive subscale of the JCS, and also a significantly inverse correlation was found between the confrontive subscale of the JCS and the University of California, Los Angeles (UCLA) `Loneliness Scale'. This indicated that the more often the confrontive-type coping was used, the less was the likelihood of being lonely.

Ali and Khalil (1991) studied coping strategies among 64 women who have had mastectomy. They used McNett's Coping

Effectiveness Questionnaire (MCEQ). Coping strategies reported by those women were categorized into four groups: faith, compliance with medical regimen, seeking information and social support, and self-distraction. The coping effectiveness was significantly and positively correlated with age and time since mastectomy which accounted for 35% of the variance in coping effectiveness. Self-evaluation of coping effectiveness was significantly correlated with modified total coping effectiveness, modified social functioning, and modified well-being. Age was significantly and positively correlated with self evaluation of coping effectiveness, modified total coping, and negatively correlated with education. Time since mastectomy was moderately but significantly and positively related to self-evaluation of coping, modified social functioning, modified well-being, modified total coping, age and negatively related with education. Stepwise multiple regression was used to predict which variable accounted for the greatest variance in coping effectiveness. The result showed that time since mastectomy accounted for 35% of variance in total coping effectiveness, 27% in well being, 20% in self- evaluation at coping effectiveness, and 16% in social functioning.

Dodd (1992) conducted a study among 64 adult cancer patients with chemotherapy and 69 family members. The study focused on patients and family concerns, and coping

strategies. Several categories of the coping strategies were identified. They included direct action, seeking social support, seeking information, seeking direction from authority about cognitive and/or affective strategies (such as find something positive in situation, try to forget), discretionary inaction, and spirituality. Among them the most frequently used were direct action (90.6%), seeking social support (57.8%), and seeking information (46.9%). The sources of ideas about coping strategies were mostly come from self (92%), health care providers (48.4%), and family members (32.8%).

In Fredette's (1995) study of five-year survivors of breast cancer patients (N=14), the subjects reported using several different coping methods, the majority of which fitted within the problem-focused strategies mentioned by Lazarus and Folkman, such as work, spirituality, information seeking, support from significant others (husbands, family, friends), hope based on a positive prognosis, will to live, and self reliance.

From the literature reviewed above, patients use different coping styles to cope with the situations they face and their options are related to their own characteristics.

Family relationship influencing stress and coping behaviors

Family is part of the patient's primary social support system. The importance of family and significant others in helping individuals cope with threat has been studied. The threat is lessened in the presence of effective support systems. Lazarus (1966) found that people who were exposed to threatening situations often increased their number of interpersonal relationship as a mean of utilizing their social resources against threat.

Family relationship is the unique interpersonal interactions existing within family which are perceived by postmastectomy patients. Family relationship as one of the measurements of the effectiveness in family function of patients has been used in some studies. The dimensions of relationship which were concluded by Moos (1986) include: cohesion (help and support provided to other family members), expressiveness (members are encouraged to express their feelings openly), and conflict (the amount of openly expressed anger in the family). Neuling and Winefield (1988) described the support by four aspects: emotional support which involves closeness with others in an environment of acceptance or love; informational support which allows for organization of thoughts and provides a framework for appraisal; tangible support which involves direct aid; and reassurance support

which leads to increased confidence.

Family as being the greatest influence on the health of individual was shown in Stolar's (1982) study of 90 postmastectomy patients. Eighty-five percent of the subjects stated that their family gave them support and affection when the doctor confirmed the need for a biopsy and mastectomy.

Neuling and Winefield (1988) studied the social support and recovery after surgery for breast cancer in 59 women. They found that satisfaction with support from family members was of prime importance for psychological adjustment in the initial stages, whilst patients were accustoming themselves to the fact that they had cancer and were undergoing the operation. Anxiety in hospital was significantly related to satisfaction with support from family members. Although a considerable amount of empathic support was given from family members, it was still most widely criticized as being insufficient.

In Northouse's (1989) study, 50 patients and their husbands were studied. The emotional support was identified most frequently as the factor that helped women cope in the hospital and at home. Eighty-seven percent of the patients and 64% of the husbands reported helped in hospital and 72% of the patients and 49% of the husbands reported helped at home.

Ell and the associates (1989), in their longitudinal analysis of psychological adaptation among survivors of cancer

(N=253), pointed out that perceived adequacy of support was a significant predictor of long term adaptation. Psychological resources were even more important in patients' psychological adaptation than illness-related factors.

Primomo, Yates and Woods (1990) studied the social support for women during illness (N=125). They found out that lower levels of depression for women were associated with more affectional support and reciprocity from the partner, more afffectional and affirmational support from the family.

Palsson and Norberg (1995) conducted a study in 26 Swedish women with breast cancer aged 35-69 years. Findings of this study showed that the presence of a supportive husband, sister, child, friend, or colleague was said to be an important factor for most women, and was said to help them in coping with the illness.

Age influencing stress and coping behaviors:

The different demands of social roles facing younger and older person with a chronic illness like cancer are different. Their expectations about their respective futures shape how they cope with similar stressors. Younger patients with cancer displayed significantly higher levels of emotional distress on several validated measures even after controlling for a wide array of potentially confounding factors. It is likely that the different expectation of disease and

disability among older and younger persons lead to a more profound sense of relative derivation among younger person--that the disease has forfeited their future, causing relatively more emotional distress among them than among older persons with cancer. (Mor, 1994).

Micheal and Asken (1975) found that mastectomy might assure a symbolic quality in other ways. The young patient might have strong reaction to mastectomy as the operation suddenly forces her to confront with her own mortality. In the older patients, mastectomy might confirm the debilitating effects of old age.

A follow up study (Vinokur et al., 1989) of breast cancer patients (N=349) on the effects of age, recovery of breast cancer diagnosis, and severity of the disease on adjustment outcomes showed that age was associated with increased social activities and contacts, with better mental health, perceived quality of life and functioning is reported by the significant others. In contrast age was associated with lesser degree of feeling involved.

Another study conducted by Vinokur's group in 1990 among 274 breast cancer patients (40 years of age and older) found that poor mental health was directly affected by physical impairment, appraisal of threats, the extent of surgery and age. Younger age is one of the significant contributors to appraisal of threats. Younger patients

perceived the breast cancer as a greater threat to their life in the further than older ones, although age was also found to have small independent effect on poor mental health.

Dodd and the colleagues (1992) studied 64 adult cancer patients and 69 family members on the concerns and coping strategies of chemotherapy. They found that patients' age was negatively correlated with the total coping strategy.

Given and colleagues found that cancer patients' (N=111) age and gender and the interaction of these two variables had a significant impact on depression. Another study conducted by Mor and associates (1994) also concluded that the older individuals with cancer, experience fewer negative psychosocial consequences than their younger counterparts.

Schover and associates (1995) studied the psychosocial adjustment of body image and sexuality among 218 women with breast cancer. Seventy-two women had partial mastectomy, and 146 women had immediate breast reconstruction after mastectomy. The study showed that younger women's experienced more maladjustment. Younger women worried more often about a recurrence of their cancer. Expression of affection and overall sexual satisfaction did have difference across age groups.

Age as an influencing factor to the stress and coping behaviors has been shown from the above studies.

In summary, mastectomy generally is stressful experience for breast cancer patient because of the physical and psychosocial factors associated with the disease and the treatments. Stress level vary according to the time since surgery and personal situations. Patients may use different types of coping strategies to deal with the stress they confront. Many researches have been conducted to study the stress and coping behaviors of the postmastectomy patients, but most of them were studies starting from two months and longer time following the surgery, a few of them have been done in one week post operative period. Most patients recover from critical situation and thinking of going home during this period of time. A holistic assessment of patients is needed. And all those studies are come from the western world, little information of stress and coping strategies has been found in Chinese nursing literature.

Conceptual framework

The conceptual framework of this study was based on Lazarus and Folkman's theory (1984) of stress and coping and Jalowiec's (1984) coping theory.

Lazarus and Folkman's theory focuses on the person-environment transaction and the cognitive appraisal of demands and coping options. Lazarus proposed that the person and the situation mutually influence each other during stressful

encounters. Stress is a particular relationship between the person and his or her environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being. The judgment that a particular person-environment relationship is stressful hinges on cognitive appraisal. Appraisal is a judgement process that includes recognizing the degree of demands (stressors) placed on the individual, and the recognizing of available resources or options that help to deal with the potential or actual demands. Demands can be external or internal. During the primary appraisal, demands are assessed according to the possible impact on the individual's well-being. Demands can be judged as irrelevant, benign-positive, or stressful. In secondary appraisal the process of recognizing the coping resources and options that are available is conducted. Primary and secondary appraisal often occur simultaneously and interact with each other in determining stress. Cognitive reappraisal is the process of continuously relabeling cognitive appraisals (Lazarus & Folkman, 1984).

One of the events which is typically cited as stress stimuli by Lazarus (1984) is major changes in person's life, such as life threatening or incapacitating illness.

Breast cancer diagnosis and mastectomy are major events that affect women and their families. The psychological reactions of a woman to mastectomy result from her appraisal

of the event. In primary appraisal, she may assess the impact of mastectomy. She would weigh the benefits she gets which are the effects of prolong life by stopping the progressive process of cancer agents, and the costs she pays which are the changed body function, body image and life style it brings to them. Patient's age and her family relationship may also play a role in influencing her appraisal. These influences also need to be considered. If these demands are perceived as stressful, patients will experience under stress and certain signs and symptoms of under stress can be assessed by the Modified Symptom of Stress Inventory (MSSI) which was modified from the Symptom of Stress Inventory (Cornell Medical Index, 1949) by the investigator of this study.

In the secondary appraisal, available resources and options of coping are assessed. Jalowiec and the associates (1984) define coping as a process in which the individual attempts to alleviate stress. Jalowiec (1987) identified eight types of coping style: confrontive coping (problem-oriented) that means confronting the situation, facing up to the problem, and constructive problem-solving; evasive coping that means taking evasive and avoidant activities; optimistic coping that means using positive thinking, and positive outlook, positive comparisons; fatalistic coping that means being pessimism, hopelessness, and feeling of little control over the situation; emotive coping that means expressing and

releasing of emotions, and ventilating feelings; palliative coping that means trying to reduce or control distress by making the person feel better; supportant coping that means using support systems (personal, professional, spiritual); and self-reliant coping that means depending on self rather than on others. Evaluations of coping options include an evaluation about whether a given coping option will accomplish what it is supposed to and an evaluation of the consequences of using a particular strategy in the context of other internal and/or external demands and constrains. One can apply a particular strategy or set of strategies effectively. The coping behaviors that postmastectomy patients choose can be assessed by revised Jalowiec Coping Scale (JCS) (1987) in the operative level.

Coping resources are described as factors that precede and influence coping. The resources include: health and energy, positive beliefs, problem-solving skills, social skills, social support, and material resources.

Since family support has been perceived as important context of social support system, in which the illness occurs, so family relationship is selected as one of the determinate coping resources to be tested in this study and is assessed by using of the Family Relationship Assessment Questionnaire (FRAQ) which was developed by the investigator of this study.

Age as another influencing factor of stress and coping behaviors is also examined in this study.