

CHAPTER 2

REVIEW OF LITERATURE

The literature review for this study included:

1. Chronic renal failure and hemodialysis
2. Impact of chronic renal failure and hemodialysis on patients and their spouses
3. Quality of life of chronic renal failure patients and their spouses
4. Coping of chronic renal failure patients and their spouses
5. Relationship between coping and quality of life

Chronic Renal Failure and Hemodialysis

Chronic renal failure (CRF) is a permanent, irreversible condition in which the kidneys cease to remove metabolic wastes and excessive water from the blood (Ignatavicius, 1995). When kidney function is inadequate for sustaining life, chronic renal failure is referred to as end stage renal disease (ESRD). The patient's progression toward ESRD usually begins with a gradual decrease in renal function. Initially, there is a diminished renal reserve. At this stage, the reduced function occurs without measurable accumulation of metabolic wastes in the serum, and a 24-hour urine specimen for monitoring creatinine clearance is necessary to detect that the renal reserve is less than normal. In the next stage, renal insufficiency, metabolic wastes begin to accumulate in the blood because the healthier kidney tissue can no longer compensate for the loss of nonfunctioning nephrons. Level of blood urea nitrogen (BUN), serum creatinine, uric acid, and phosphorus are increasingly elevated in relation to the degree

of renal function loss. Ultimately, many patients progress to end stage renal disease. Excessive amounts of nitrogenous wastes, such as urea and creatinine, accumulate in the blood, and the kidneys cannot maintain homeostasis. Initially, severe fluid overload and electrolyte and acid-base imbalances occur. Without renal replacement therapy (RRT), fatal complications are likely (Ignatavicius, 1995).

Hemodialysis (HD) is one of three renal replacement therapies for the treatment of CRF. Dialysis removes excess fluids and waste products and restores the chemical and electrolyte balances. HD involves the extracorporeal (outside of the body) passage of the client's blood through a semipermeable membrane that serves as an artificial kidney. The principles of hemodialysis are based on the passive transfer of toxins, which is accomplished by diffusion. Diffusion during dialysis occurs more rapidly when:

- The membrane pores are large
- There is a large surface area of membrane
- The temperature of the solutions is high
- There is a large difference in the solute concentrations

Larger molecules, such as RBCs and plasma proteins, cannot pass through the membrane (Ignatavicius, 1995).

In general, CRF patients require hemodialysis twice to three times weekly to maintain the patient's health. By undergoing hemodialysis routinely, patients are expected to improve their ability to perform daily living activities, experience less fatigue and other physical symptoms, and achieve a better quality of life (Oberley & Schatell, 1995). Eventually, hemodialysis patients may experience an increase in the length of survival rate, decreased morbidity and mortality, improved life satisfaction, and maintain an optimum level of quality of life (Wish, 2002).

Impact of Chronic Renal Failure and Hemodialysis on Patients and Their Spouses

The advancement of hemodialysis technology has shown a great benefit and effectiveness in managing renal failure. However most patients still encounter numerous treatment-associated stressors. Stapleton (1992) wrote that the stressors confronting patients with CRF could be categorized as physiological, psychological, role disturbance, and life change stressors.

The toxic effects of uremia that manifest in virtually every body system are usually associated with physiological stressors. The pathophysiological effects can be categorized as (1) disturbances in body biochemistry (altered body water homeostasis; metabolic acidosis; and elevation of serum potassium, sodium, phosphorus, calcium, magnesium, creatinine, and uric acid), and (2) organ system disturbances (hypertension, heart failure, anemia, gastrointestinal irritation, osteodystrophy, soft-tissue calcification, clotting deficiencies, altered endocrine function, and neuropathy (Baldree, et al., 1982; Ulrich, 1989; Stapleton, 1992). Lok (1996) found that muscle cramp and fatigue were experienced by chronic renal failure patients. Fatigue is a highly prevalent symptom experienced by hemodialysis patients associated with sleep problems, poor physical status and depression (McCann & Boore, 2000).

The psychological stressors may include body image disturbance, frustration in basic drives, fear of death and fear of life, or dependence-independence conflict. Body image disturbances are related to changes in appearance and loss of bodily functions (Stapleton, 1992). Baldree, et al. (1982); and Mok and Tam (2001) reported that hemodialysis patients placed changes in bodily appearance as ninth in importance of these stressors. Such changes can cause an alteration in the patients' self-concept. Seemingly never ending treatment and uncertainty of life on dialysis, may result in

feeling of powerlessness to control the actions of the hemodialysis machine for most hemodialysis patients. There is also a strong fear that something will go wrong during dialysis-events such as hypovolemic shock, a ruptured dialyzer, or separation of tubing connections (Stapleton, 1992).

Role disturbances and life-style changes are closely related to both physiological and psychological stressors. Because of the illness, the patient may be forced to decrease their social life, or experience job interference, changes in family responsibilities, and role reversal with spouse and children (Baldree, et al., 1982; Lok, 1996; Mok & Tam, 2001). The patient may experience guilt over being unable to fulfill role expectations. This inability to perform expected role behaviors is a great threat to the patient's self-esteem (O'Brien, 1999; Ulrich, 1989).

A qualitative study was conducted to investigate the biopsychosocial impact of dialysis patients and their partners. After interviewing 22 dialysis patients and 22 partners, White and Grenyer (1999) identified a number of themes that can be categorized into two perspectives. The first theme from the patients' perspective includes (1) anxiety about the uncertainty of their health, (2) major changes in life style since the commencement of dialysis, (3) negative emotional responses to dialysis, (4) positive aspects of their relationship, and (5) a sense of indebtedness to their partners. The second theme from the partners' perspective includes (1) life style changes since the commencement of dialysis, (2) fatigue, (3) negative reactions to the partners' situation, (4) positive relationships with partners, and (5) loss within the relationship. From the study, although the partners described many losses including loss of partnership and sexual intimacy, both patients and partners retain positive relationships.

This theme suggests that dialysis does not affect the strength of the patient and partner relationship.

Long-term hemodialysis increases patient dependence, reduces work capacity and physical abilities, and causes family role reversals. The marital relationship is especially vulnerable. Baldree, et al. (1982) found that married patients scored higher on the stressor scale than unmarried. They postulate that being married entails more responsibilities; thus greater stress ensues when these obligations cannot be met. Stapleton (1992) conducted a study by using a participant-observer method on six hemodialysis patients. She found that individuals with CRF often experienced a change in family relationships that contributed to feelings of powerlessness. Belasco and Sesso (2002) conducted a study on burden and quality of life of caregivers for hemodialysis patients. They found that almost two-thirds of caregivers, most of whom were spouses, reported poor health and more frequently associated chronic diseases, particularly depression, and greater use of medications. The individuals often expressed guilt at being unable to fulfill previous role obligations. In addition, the central nervous system manifestations of CRF produce irritability and mood changes that also can influence family relationships.

The multiple limitations resulting from CRF and hemodialysis treatment may influence the levels of quality of life of hemodialysis patients as well as their spouses. Most hemodialysis patients perceived that their physical activity, social activity, and satisfaction with life were generally lower than people not experiencing renal failure (Lok, 1996). Lower values regarding the quality of life of hemodialysis spouses also was reported by Lindquist, et al. (2000). Factors such as treatment time requirements, uremic symptoms, poor health, nonrenal illnesses, fatigue, and difficulties in daily

activities can make intrusions to quality of life (Ferrans & Power, 1993). These experiences can influence perceived subjective well-being of hemodialysis patients.

The experience of being a hemodialysis patient, or spouse taking care of them, includes emotional and cognitive aspects determining which coping strategies will be used to preserve or restore both physical and psychological well-being (Coelho, et al., 2003). A study on coping strategies of hemodialysis patients found that avoidance (emotional focus) coping strategies were used frequently (Welch & Austin, 2001). Coping is one factor that is associated with quality of life, and helping patients and spouses develop effective coping strategies is a major concern of health care providers (Coelho, et al., 2003).

There are many problems that result from CRF including physical, psychological, social, and family relationship. In turn, these problems can affect the level of quality of life of patients and spouses. Hemodialysis itself can't resolve these problems, however it is beneficial for maintaining a state of patient well-being. The impact of CRF and related treatments are not only felt by the patient as an individual, but also family members, particularly spouses, living together and struggling to adapt to the hemodialysis. Coping strategies play an important role in maintaining stages of well-being of both patients and spouses. Therefore, encouragement, consistent treatment, team support, and participation in decision-making are key factors in the care of hemodialysis patients and their spouses.

Quality of Life of Chronic Renal Failure Patients and Their Spouses

1. Definitions of Quality of Life (QoL)

Quality of life has been defined and measured in a number of different ways by nurse researchers. It is a multi-disciplinary term, not only used in everyday speech, but also in the context of research where it is linked to various specialized areas such as sociology, medicine, nursing, and psychology (Farquhar, 1995). It is difficult for people to agree on a definition of QoL, because the researchers in the various disciplines come from different perspectives (Farquhar, 1995). In addition, cultural, ethnic, and religious values may influence how quality of life is judged, and different people have different values (Ferrans & Powers, 1993).

Farquhar (1995) viewed three major types of definitions of QoL (1) global definitions, (2) component definitions, and (3) focused definitions. The global definitions (Type I) usually incorporate ideas of satisfaction or dissatisfaction, happiness or unhappiness, sense of well-being, the individual's own evaluation of life experiences, and achievement of a satisfactory social situation and physical capacity. The component definitions (Type II) are those which break quality of life down into a series of component parts or dimensions, or identify certain characteristics deemed essential to any evaluation of QoL. An example of component definitions was proposed by George and Bearon (as cited in Farquhar, 1995), who defined QoL in terms of four underlying dimensions, two of which are objective and two of which are reflected in the personal judgment of the individual. The objective dimensions are general health and functional status, and socio-economic status. The dimensions reflecting the personal judgment of the individual, or subjective evaluations, are life satisfaction and related measures, and self-esteem and related measures. Focused definitions (Type III) are

those definitions, which refer to only one or a small number of components of health/functional ability (Farquhar, 1995).

Other researchers view quality of life as a multidimensional construct that encompasses perceptions of both positive and negative aspects of physical, emotional, social, and cognitive functions, as well as the negative aspects of somatic discomfort and other symptoms produced by a disease or its treatment (King, 1998). Similarly, Ferrans and Powers (1993) conceptualized quality of life as a multidimensional construct that consists of four major life domains: health and functioning, social and economic, psychological/spiritual, and family. Although the researchers have different views in defining quality of life, commonly they agree that quality of life a multidimensional construct.

In the development of the WHOQoL instrument, quality of life is defined as an individual's perception of his/her position in life in the context of the culture and value systems in which he/she lives, and in relation to his/her goals, expectations, standards, and concerns. It is a broad-ranging concept, incorporating complexities of way a person's physical health, psychological state, level of independence, social relationships, and their relationship to silent features of their environment (WHOQoL Group, 1994).

In summary, quality of life refers to a concept of a multidimensional construct, which has been commonly defined as happiness or life satisfaction. Quality of life is defined differently in different studies. In this study, quality of life is a conceptualization based on the WHO's broad conceptual definition of a person's physical health, psychological state, level of independence, social relationships, and their relationship to silent features of their environment.

2. Dimensions of Quality of Life

Despite controversies regarding the dimensions of quality of life, most experts agree that there are four to five generally accepted dimensions to QoL (King, 1998). These are (1) physical, (2) psychological, (3) social, (4) somatic/disease and treatment-related symptoms, and (5) spiritual. The physical dimension is the one that most closely approximates the outcome measures traditionally used, including functional abilities such as activity level, strength, energy, self-care, and fertility. The psychological dimension includes life satisfaction and achievement of life goals, affect, perceived stress, self-esteem, psychological defense mechanism, anxiety, depression, fear, and coping. The social dimension or social well-being refers to how individuals carry on relationships with family, friends, colleagues at work, and the general community, including sexual satisfaction. The somatic dimension refers to disease symptoms and treatment side effects. Spiritual well-being refers to one's life purpose and meaning (Aeroson, et al. as cited in King, 1998).

Based on analyses of the WHOQoL group, four dimensions or domains were considered most appropriate for the WHOQoL-BREF. The four domains of the WHOQoL-BREF include physical, psychological, social relationships, and environment domains. Physical health includes pain and discomfort, dependence on medical treatment, energy and fatigue, mobility, sleep and rest, activities of daily living, and work capacity. Psychological health includes positive affects, spirituality, thinking, learning, memory and concentration, body image and appearance, self-esteem, and negative effect. Social relationships are comprised of personal relationships, sexual activity, and social support, and the environment dimension consists of physical safety and security, physical environment, financial resources, opportunities for acquiring new

information and skills, participation in and opportunities for recreation/leisure activities, home environment, accessibility and quality of health and social care, and transportation. These dimensions have captured a broad domain of life, however they reflect less emphasis on spirituality aspects, which are important in a holistic approach to patient care, particularly patients with terminally ill or incurable diseases, such as chronic renal failure.

3. Measurement of Quality of Life

Quality of life studies can provide comprehensive and sensitive methods for communicating information on the burden of disease and effectiveness of treatment if they are designed and implemented well. Experts haven't yet reached an agreement on a gold standard or best method of measuring QoL (Cella & Tulsky as cited in Haberman & Bush, 1998). The focus of QoL measurement has shifted from measuring health alone to also measuring other aspects of a person's life such as spirituality and employment, thus becoming more comprehensive (Corless, Nicholas, & Nokes, 2001). Generally, measuring QoL may be divided in two ways, namely quantitative measurement and qualitative measurement.

The qualitative inquiry is a form of systematic measurement that is becoming increasingly popular (Haberman & Bush, 1998). A qualitative method may include a few open-ended questions at the end of a forced-choice questionnaire, or a short semi-structured interview. Some additional qualitative methods include participant observation, storytelling, interviewing key informants, or use of client diaries as a way to chronologically log symptoms or health behaviors. Commonly, investigators use multiple types of data collection in one study (King, 1998).

The quantitative measurement is another way to measure QoL, with the use of standardized questionnaires, either fixed-item or forced-choice (Haberman & Bush, 1998). The advantages of such standardized tools are that they usually have known reliability and validity, they ensure every participant is asked the same set of items, it is easy to administer and complete, and results can be compared across studies that use the same instruments (Haberman & Bush, 1998). The disadvantages are limited responses addressing only the items contained in the questionnaire, so many important aspects in assessing QoL may be overlooked. For example, if the questionnaire focuses on physical functioning, participants will not be asked to identify problems related to social, emotional, or spiritual functioning. Several quality of life instruments already exist for measuring quality of life quantitatively (Haberman & Bush, 1998).

Stromborg and Padilla (1997) examined several instruments often used in quality of life studies. For example, the objective Karnofsky Performance Status Scale was developed by Karnofsky and Burchenal (1949), and focuses on one dimension of the patient's life, namely the ability to perform activities of daily living (ADL), each activity is rated from 1 to 100 percent in increments of 10 percent. Another example of objective measurement is the Quality of Life Index (QL-INDEX) developed by Spitzer et al. (1981) which is used to measure not only health but also family support, activities of daily living, and outlook, with range scores from 0 to 10 (Stromborg, 1992). Padilla et al. (1983) developed a subjective self-evaluation questionnaire to measure many dimensions of quality of life including physical well-being, psychological well being, and symptom control (Stromborg, 1992). The Quality of Life Index (QLI) developed by Ferrans & Powers (1985) is used to measure the quality of life of healthy people as well as those who are experiencing an illness, including dialysis patients.

In 1991, the Division of Mental Health of the WHO initiated World Health Organization Quality of Life (WHOQoL) project. The aim of this project was to develop an internationally applicable and cross-culturally comparable quality of life (QoL) assessment instrument. This WHOQoL instrument was developed collaboratively in a number of centers worldwide. After going through several stages, the final result was a 100-item version of the instrument, which is known as the WHOQoL-100. The WHOQoL-100 assesses individuals' perception of their position in life in the context of the culture and value system in which they live and in relation to their goals, expectations, standards and concerns. It is a 100-item instrument that currently exists in directly comparable forms in 29 language versions. In order to use the instrument outside of a clinical setting, the WHOQoL group also developed a short version named the WHOQoL-BREF containing 26 items (WHOQoL Group, 1994).

In this study, the researcher used the WHOQoL-BREF to measure patients' and their spouses' quality of life. Compared with other quality of life instruments, the 26-item WHOQoL-BREF is the shortest, nevertheless, it captures a broad domain of quality of life measurements as shown in psychometric properties and results of the international trial (Nelson & Lotfy, 1999). Since most of hemodialysis patients have difficulty in concentrating, and are also powerless to do some things due to fatigue, the short instrument was more convenient for hemodialysis patients than the longer one. Furthermore, it was more practical and less time-consuming than the WHOQoL-100 item or other QoL instruments.

4. Quality of Life of Chronic Renal Failure Patients and Their Spouses

Regarding the multiple stressors and potential loss of hemodialysis patients' lifestyle, quality of life is an important issue for hemodialysis patients (Ferrans & Powers, 1992; Lok, 1996). Improving quality of life can be a goal or outcome of nursing care of hemodialysis patients (Anderson & Burckhardt, 1999). In studies in which investigators have evaluated quality of life, the assessment has been made on the basis of interviews, objective data, and psychological tests. In general, these studies have reported a fair to poor quality of life for the majority of in-unit hemodialysis patients, with younger patients having a higher quality of life than older patients (Ferrans & Powers, 1993).

Several investigators also have examined the influence of background characteristics on level of quality of life of hemodialysis patients. They have found in general that the number of months on dialysis treatment had no effect on quality of life (Ferrans & Powers, 1993). On the other hand, education, race, and marital status had significant influence on quality of life (Evans et al., Wolcott, et al. as cited in Ferrans & Powers, 1993). Ferrans and Powers (1993) found that in general the subjects were satisfied with the areas of life that were most important to them. However, the quality of life scores of patients in this study were just slightly lower than those of another group of 88 healthy persons (Ferrans & Powers, 1993), wherein age, education, and employment status was significantly related to the perceived quality of life. Lok (1996) reported that hemodialysis patients perceived their level of physical activity, social activity and satisfaction with life were generally below average.

Most studies have concentrated on the effects of dialysis on the dialysis patients. Few studies have investigated the subsequent effects on the spouses or families.

Spouses share many of the problems which the patients encounter, including role and life style changes as well as changes in the relationship they have with their partner (Brunier & McKeever as cited in White & Grenyer, 1999). Lindqvist, et al. (2000) studied coping strategies and health-related quality of life among spouses of CAPD, HD, and transplant patients. They found that the spouses of hemodialysis and CAPD patients had worse overall quality of life than the spouses of transplant patients.

Coping of Chronic Renal Failure Patients and Their Spouses

1. Definitions of Coping

Several researchers have defined coping in which each has a slightly different emphasis. Lipowsky (as cited in Miller, 1992) defined coping specifically concerning illness, as cognitive and motor activities a sick person uses to preserve bodily and psychic integrity, to recover reversible impaired functions, and to compensate to the limit for any irreversible loss. Lazarus and Folkman (1984) defined coping as the constantly changing cognitive and behavioral efforts used to manage specific external and/or internal demands that are appraised as taxing and that exceed the resources of the person. In this study, coping refers to how CRF patients and their spouses deal with disease and related issues to maintain stability of physical, psychological, social, and spiritual.

2. Process and Functions of Coping

Lazarus and Folkman (1984) described the coping process as a two-staged cognitive process of primary and secondary appraisals. With the primary appraisal, the individual determines whether the condition or stimuli are a threat (“Am I O.K.?”), and

the secondary appraisal includes a review of choices of action if a threat is perceived (“What can I do?”). Responses include behaviors such as emotional, cognitive, and physical activities. In some cases, the threat may not be averted, yet the individual gets through the event without lasting psychic trauma and manifests resilience (successful coping). If the threatening situation is not handled effectively (ineffective coping) a crisis results, and, if unresolved, psychological and physiological disequilibrium may occur.

According to Lazarus and Folkman (1984), the function of coping varies with the differing coping theoretical frameworks used. It includes:

- Reduction of tension and maintenance of equilibrium
- Sound decision-making
- Maintenance of autonomy and freedom
- Motivation to meet social environmental demands
- Maintenance of stable social, psychologic, and physical states
- Control of potential stressors before they become a threat
- Avoidance of negative self-evaluation

Lazarus and Folkman (1984) divided the coping function into emotion-focused and problem-focused coping. Emotion-focused coping is directed at regulating the emotional response to a problem, or on the other hand the cognitive processes is directed at lessening emotional distress. It includes strategies such as avoidance, minimization, distancing, selective attention, positive comparisons, and wresting positive value from negative events. Problem-focus coping is the use of the problem-solving process including defining the problem, enumerating alternatives, comparing alternatives in terms of costs and benefits, and finally, selecting an action.

3. Measurement of Coping

Several instruments have been developed by various researchers to measure various aspects of coping, including physiological and psychological responses. Wegmann (1997) categorized instruments to measure coping into two broadly related categories: those related to family sociological research and those derived from studies of health care outcomes. In the family sociological category, coping strategies are described in terms of both the individual and the family. For example, the Family Coping Strategies (F-COPES) is used to identify effective problem solving approaches and behaviors used by families in response to problems or difficulties. The F-COPES is a 29-item self-report instrument that consists of five 'Likert scale' choices ranging from "strongly disagree" to "strongly agree" (Wegmann, 1997).

Health-related outcomes of coping instruments measure adaptation in specific illnesses and coping strategies of patients and families confronting long-term disease problems (Wegmann, 1997). Instruments that are included in this category are the "Preoperative Coping Scale" developed by Sime (1976), the Coping Inventory" from Zuetlin (1980), the "Coping Strategy Questionnaire" from Rosentiel et al (1983), the "Coping Strategies Scale" developed by Weisman and Worden (1976), the "Response to Illness Questionnaire (RIQ)" from Pritchard (1981), and Jalowiec Coping Scale (JCS)" developed by Jalowiec et al. (1979) (Wegmann, 1997).

In this study, the researcher used the Jalowiec Coping Scale (JCS), a 40-item self-reporting instrument. The JCS assesses situation-specific coping behavior by measuring the degree of using coping strategies in a stressful situation. The JCS consists of 15 problem-oriented and 25 affective-oriented coping strategies. Subjects rate each item on a 5-point scale (1 = never; 5 = almost always). It has been assessed for stability and

homogeneity reliability by several nurse researchers (Wegmann, 1997). In addition, the JCS also has been used widely to study coping in dialysis populations (Baldree, et al., 1982; Blake & Courts, 1996; Lok, 1996; Lindquist, et al., 2000; Mok & Tam, 2001). With this background, it was felt that the JCS was a sound instrument for measuring coping in this study.

4. Coping of Chronic Renal Failure Patients and Their Spouses

Landsman (as cited in Baldree, et al., 1982) noted that a person with a diagnosis of CRF initially reacts no differently to the stressors associated with illness and hospitalization than people with other illnesses. However, the renal dialysis patient is distinguished by “the extended duration of his stress, compounded by the uncertainty of his prognosis”. The unending demands of hemodialysis often require major adjustments in living patterns for patients and families (Baldree, et al., 1982).

Studies on the coping strategies of hemodialysis patients have been done by various researchers. Commonly they have investigated the relationships between stressors and coping of dialysis patients. Blake and Courts (1996) investigated coping strategies and styles of hemodialysis patients by gender. They found no significant difference between gender and coping strategies of patients on hemodialysis, and that the patients predominately used emotion-focused coping strategies. Welch and Austin (2001) found more avoidance (emotion-focused) coping, leading to more depression symptoms in patients with hemodialysis, indicating that nurses should assess dialysis patients for avoidance coping and also that it was important to recognize both verbal and nonverbal behaviors indicating the use of this coping strategy. In contrast, Baldree, et al. (1982) noted that long-term hemodialysis patients used problem oriented coping

methods significantly more than affective oriented coping methods in handling stress. Mok and Tam (2001) also reported similar findings that the hemodialysis patients scored higher on the problem-oriented sub-scale than the affective-oriented sub-scale.

Nevertheless, the researchers identified no similar ranking of the coping methods that the patients used. Baldree, et al. (1982) listed “look at the problem objectively, accept situation as it is, try to maintain control over situations, hope things will get better, and worry” as the five top coping methods that the patients used. Lok (1996) found “try to maintain control over situation; hope, pray and trust in God, look at the problem objectively, and worry”, and Mok and Tam (2001) found “accept situation as it is, tell yourself not to worry, tell yourself that this problem is really not important, worry, and one step at a time,” as common coping methods that hemodialysis patients used.

Most of the previous studies on coping of hemodialysis patients focused more on the patients than the spouses who assisted the patients in daily life, although the patients’ spouses experienced losses and changes in their daily life as well. Little attention has been given to the coping behavior of spouses of hemodialysis patients. Lindqvist, et al. (2000) conducted a study on coping strategies and health-related quality of life among spouses of continuous ambulatory peritoneal dialysis (CAPD), hemodialysis (HD), and transplant patients (TP). The respondents were comprised of 15 CAPD spouses, 20 HD spouses, and 20 TP spouses with a mean age of 62.7, 60.8, and 47.4 years respectively. Coping was measured by the Jalowiec Coping Scale (JCS) and the Swedish Health-Related Quality of Life Survey (SWED-QUAL) used to measure quality of life. They found that the most frequently used coping style among all three spouse groups was the optimistic one and it was also regarded as the most effective.

However, the study did not address to examine the relationship between coping strategies and quality of life. A qualitative study was done by Hibbert and Sohi (2001) identifying coping behaviors used by family members, including spouses, of dialysis patients as living each day as it comes, finding positive meaning, hoping for a transplant, and/or drawing on God's strength. Further study is still needed to investigate coping strategies that are frequently used among spouses or families of hemodialysis patients.

Relationship between Coping and Quality of Life

The stress and coping theory concerns how appraisal and the coping process affect positive and negative emotions, or subjective well-being, in a specific stressful encounter. It can reflect subjective well-being in short-term encounters and morale in long-term encounters. In this context, morale is concerned with how people feel about themselves and their conditions of life. The multidimensional quality of the concept is reflected in the structure of psychological well-being, which consists of happiness, satisfaction, and subjective well-being (Lazarus & Folkman, 1984). The term "satisfaction" has been noted as one definition of quality of life (Anderson & Burckhardt, 1999). Furthermore, the outcome of coping in the long-term may relate to life satisfaction or quality of life.

Research on the relationship between coping and quality of life has been done in several populations. For example, Meifen (1997) found that there was significant relationship between coping style and QoL of breast cancer patients receiving chemotherapy. Similarly, Coelho, et al. (2003) examined the relationship between coping style and perceived QoL in 123 patients with non-insulin-dependent diabetes

mellitus, by using the Coping Responses Inventory and Nottingham Health Profile to measure QoL. They found that a greater proportion of diabetic patients used avoidance coping strategies, which overall were related to worse quality of life, indicating that coping strategies are correlated with several dimensions of quality of life in diabetic patients. In contrast, coping strategies and QoL were found not to be significantly related in clients with chronic obstructive pulmonary disease (COPD) (Gregor & Herber, 1997). Lok (1996) studied about stressors, coping mechanisms and quality of life among dialysis patients in Australia, and found that affective coping was negatively associated with total quality of life score, problem solving focus coping was positively correlated with total quality of life score, but the total coping score was not correlated with the total quality of life score.

In conclusion, most of the previous studies on dialysis patients have investigated either stressors and coping, or quality of life of dialysis patients. Hemodialysis patients and their spouses were studied separately. Previous studies on coping and quality of life in non-dialysis populations have commonly found relationships between coping and quality of life (Meifen, 1997; Coelho, et al., 2003). Avoidance coping strategies were found to be negatively correlated to the level of quality of life (Coelho, et al., 2003). While problem solving coping strategies positively correlated with the levels of quality of life (Lok, 1996). However, more evidence is still needed to elucidate the relationships between coping strategies and quality of life, particularly in hemodialysis patients and their spouses.