FACTORS RELATED TO QUALITY OF LIFE AMONG PATIENTS WITH END STAGE RENAL DISEASE RECEIVING HEMODIALYSIS

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ABSTRACT

The number of people with end stage renal disease (ESRD) in Vietnam has been increasing and the treatment of choice is hemodialysis. These patients suffer various symptoms which effect their quality of life (QOL). The aim of this research was to study the relationship among comorbidity, social support, symptom status and QOL among patients ESRD receiving hemodialysis. Health related quality of life was used as a framework for this study as a descriptive correlational research. This study was conducted among 115 patients with ESRD receiving hemodialysis in a tertiary care hospital in Hanoi, Vietnam. The samples comprised those who received hemodialysis at least 2 cycles per week aged 18 years and above. Data were collected using the patients' hospital record and interview with the patients. Spearman's rho was employed to test the relationship among all variables. The results of the study revealed that majority were female (61.7%) ages ranged from 21 to 77 years with an average age of 47.47 years (SD ± 14.14 years). The majority of them (56.5%) had no monthly income, about 59.1% had received hemodialysis for more than 61 months and more than a half (65.2%) had two or more co morbidity. The average scores of QOL were 45.53±13.20, while the majority of the patients (62.6%) had below average level QOL. Numbers of comorbidity and severity of symptoms were negatively correlated with QOL (r = -.46, p<.01; r = -.67, p <.01 respectively) while social support was positively correlated with QOL (r = .63, p <.01). In conclusion, majority of the patients with ESRD receiving hemodialysis experienced poor level of QOL. In order to improve QOL, it is recommended that nurses should assess and manage the patients' symptom, control their co morbidities and seek appropriate resources to support them. Multi sites research should be further conducted to cover the phenomena related to QOL among Vietnamese with ESRD.

KEY WORDS: QUALITY OF LIFE/ HEMODIALYSIS/ END STAGE RENAL DISEASE/SOCIAL SUPPORT/ SYMPTOMS

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LIST OF ABBREVIATIONS

CKD	Chronic Kidney Disease
ESAS	Edmonton Symptom Assessment System
ESRD	End Stage Renal Disease
HD	Hemodialysis
HRQOL	Health related quality of life
KDQOL-SF	Kidney Disease and Quality of Life Short Form
MHC	Mental Health Component
MHS	Mental Health Score
MSPSS	Multidimensional Scale of Perceived Social Support
PD	Peritoneal Dialysis
PHC	Physical Health Component
PHS	Physical Health Score
QOL	Quality of Life
RRT	Renal Replacement Therapy
SF-36	Short-Form Health Survey - 36
WHO	World Health Organization

CHAPTER I
INTRODUCTION

1.1 Background and significance of the study

According to the World Health Organization (WHO), the number of patients who have End Stage Renal Disease (ESRD) receiving hemodialysis (HD) is increasing worldwide(Chow & Tam, 2014).ESRD has gradually increased among population in every country around the world (United Kingdom Renal Registry, 2010; Coresh et al., 2007; Khalil & Abed, 2014) and HD is one of requirement to million and increasing 7% every year (Matzo & Sherman, 2010). In Asian countries, likewise the other countries in the world, numbers of patients with ESRD who required HD are increasing every year. In Singapore, the number of patients on dialysis at the end of 1999 to the end of 2004 increased from 2,465 to 3,403 patients (Joshi, Mooppil, & Lim, 2010). In Vietnam, the number of patients with ERSD has been increasing in the past 2 decades, approximately there are 6 million people suffering with this disease. Within that number, 800,000 are in the final stage of disease (Dung, 2013). Although HD is considered to be a treatment of choice among patients with ESRD, this treatment modality brings about many complications to patients such as electrolyte imbalance, volume depletion and discomfort. Moreover, most of patients receiving HD are in their late stage of illness so that the disease itself cause patients various symptoms. These patients also have to deal with the high medical expense while they have to leave their work at least 2 times a week to receive the treatment. These would lead them to poor quality of life (QOL).

Quality of life (QOL) refers to individuals' perceptions of their position in life. It is related with the context of their culture, value, goals, expectations, living standard and concern (WHO, 1997). People with ESRD have to deal with various signs and symptoms which disturbed their daily live. As the consequence, the majority of patients reported impairment in QOL. In particular, ones who have to receive in HD(Vos et al, 2006).As the results, many researchers and health care personnel in

nephrology area have placed more emphasize on the research related to QOLin patients with ESRD who receive HD treatment**.** Moreover, QOL in this group of patients can be considered as an outcome of care because it reflects the comprehensive picture including physical function, psychological health, social function, economic status and general satisfaction with life **(**Tsay & Healstead, 2002; Son, Choi, Park, Bae, & Lee, 2009**).** Patients who perceived themselves as having good quality of life are more likely to have low level of anxiety, less depression, more compliance to medical follow up and treatment, more capacity in performing self-care and decreased mortality**(**Chan, Brooks, Erlich, Chow, & Suranyi, 2009; Drayer et al**.**, 2006**).**

According to previous literatures, there are many factors related to QOL in patients with ESRD**.** Those include, severity of disease or symptoms, patients**'** co morbid diseases and patients**'** resources availability or supports from others (Khanh, Duangpaeng, Deenan, & Bonner, 2012; Bonner, Caltabiano, & Berlund, 2013; Paraskevi, 2013).

Patients with ESRD who have several comorbid diseases would experience low QOL because they have to deal with multi drug use, other symptoms from co morbid diseases and the higher expense of medical care (Khanh, et al, 2012). It was also found that these patients had to be hospitalized for longer period or had to be re admission in the hospital leading to more burden on their family care givers and their family financial status (Almutary, Bonner, & Douglas, 2013). It is importance to note that the family care givers of patients with ESRD often spend their time for caring the patients or accompanying the patients during HD. Some of them dedicate their time for patients while neglect their own health. Some of them has to isolate themselves from routine social functions or work. Eventually, they would feel uneasy performing care for the patients leading to unhealthy relationship between family care givers and the patients**(**Ziegert, Fridlund, & Lidell, 2006**).**

Khanh and the others stated that if these co morbid diseases were well controlled, the symptoms related to them would be decreased and patients will experience good QOL (Khanh, et al, 2012). Patients with ESRD always experience various symptoms **(**Bonner, et al, 2013). Those symptoms relate to increased level of BUN, creatinine, urea, electrolytes and other waste products (Caltabiano, & Berlund, 2013). Many of them suffer with low appetite which leads them to poor nutritional

status. On the other hand, many of them who still have normal appetite cannot consume the food according to their preference because they are not allowed to consume high protien, high sodium and high potassium diet. Having less food choice, patients would have dis satisfactionand cannot fulfill their basic need. Some symptoms such as insomnia usually occurs in patients with ERSD. This symptom will lead to fatigue, weakness and feeling of invitality. Eventually, the mental health and QOL will be affected(Paraskevi, 2013).

The study of Khalil and Abed showed that during HD if ESRD patients received adequate support from others in particular from their family members, they would experience less depression and demonstrated higher QOL**(**Khalil & Abed, 2014**).**These researchers stated that family members should be encouraged to engage in patients care plan because they were significant people to whom the patients could rely on **(**Khalil & Abed, 2014**).** Not only the support from family, ERSD patients who receive HD should receive support from the other parties such as from health care personnel, friends and neighbors. The more support the patients received, the higher QOL they have.

In Vietnam, research related to patients with ESRD is still in its early stage. In particular, the nursing research focusing on patients' symptoms, social support and their effects on QOL is not available.To be able to provide ESRD patients with high quality care, scientific evidences from research process are vital. Accordingly, the researcher would like to conduct the research in patients with ESRD who receive HD. The main focus would place on QOL of these patients as well as factors related to their QOL.According to the aforementioned, social support, patients' symptoms and patients' comorbid diseases are selected factors in this study. It is expected that knowledge obtained from this study can be used to guide nursing practice and further researches related to patients with ESRD in Vietnam.

1.2 Research questions

What are factors related to QOL among patients with ESRD receiving hemodialysis?

1.3 Purpose of the study

To study the relationship among comorbidity, social support, symptom status and QOL among patients with end stage renal disease receiving hemodialysis

1.4 Hypothesis

1 Comorbidity is correlated with QOL among patients with ESRD receiving HD.

2 Social support is correlated with QOL among patients with ESRD receiving HD.

3 Symptom status is correlated with QOL among patients with ESRD receiving HD.

1.5 Conceptual of framework

The research used quality of life theory because this theory supported the ideology underpinning the relationship among independent and dependent variables in this research. It provides the concepts that cover all variables which are relevance to HD patients. Patients with ESRD receiving HD are ones who deal with various signs and symptoms which have an effect on their quality of life. According to this theory there are indicators effecting patients' quality of life. Those include patients' comorbidity which will lead to poor quality of life, social support which will lead to good quality of life. Moreover, there is a major indicator that will alter patients' quality of life, patients' symptom status. Patients who suffered with severe symptoms would experience poorer quality of life while patients with lesser symptoms would experience better quality of life. The relationship among studied variables is described in figure 1.1

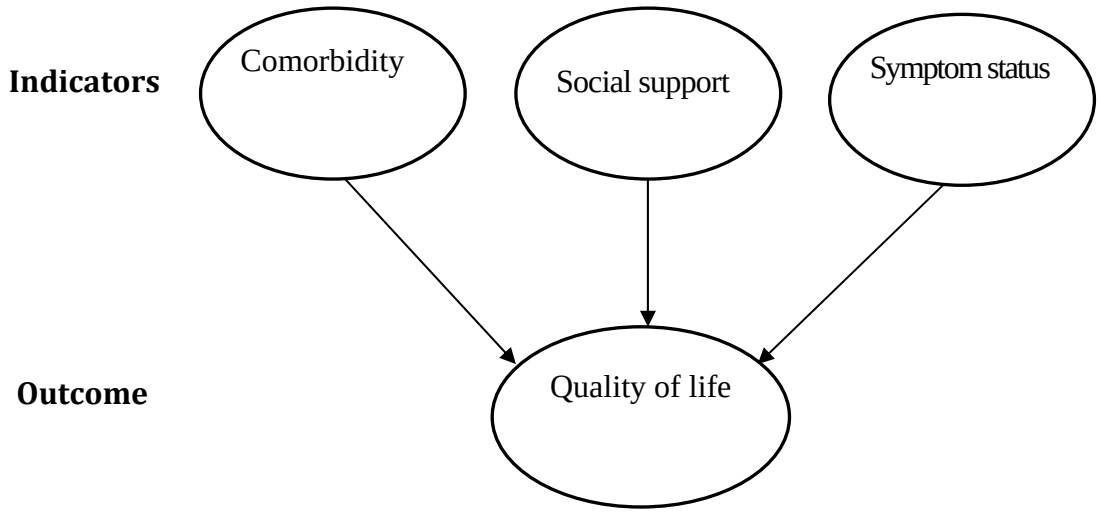

Figure 1.1 Conceptual framework of the study

1.6 Definition of terms

According to World Health Organization, QOL refers to individuals' perceptions of their own circumstance in their living. It has strong binding with the contextual environment as well as culture and value. QOL is also related to people concern, expectation and their ultimate goal **(**WHO, 1996**).** In this study, QOL was measured by Kidney Disease Quality of Life-Short Form 36 scale (KDQOL-SF36) (Hays et al., 1995).

Comorbidity refers to the other diseases that were diagnosed in patients with ESRD receiving HD. In this study comorbidity was measured by the patients' record scale developed by the researcher.

Social support refers to the support from others that the patients receive or have perception that they receive. In this study, social support was measured by The Multidimensional Scale Perceived Social Support (MSPSS) (Zimet, Dahlem, Zimet, & Farley, 1988).

Symptom status refers to any change in the body or functions which related to the disease or related to the treatment. In this matter, it refers to any change or patients complain related to ERSD and or HD. In this study, symptom status was

measured by Edmonton Symptom Assessment System scale **(**Dudgeon, Harlos, & Clinch, 1999**)**.

1.7 Expected outcomes and benefits

It is expected that the results of this research will be useful for these following matters:

1. Nurses and other health care personnel can utilize the knowledge from this study to improve QOL among patients with ESRD receiving HD.

2. Nurses can use this knowledge to assess and manage patients' symptom, control their co morbidities and promote their social support.

3. Outcomes from this research can lead to further research study among patients with ESRD to cover other aspects related to QOL and other treatment modalities in Vietnam.

CHAPTER II
LITERATURE REVIEW

In this chapter, the 3 main topics related to health problems, QOL and factors related to QOL among patients with ESRD receiving HD will be presented following with the conclusion. Details are presented below.

2.1 Problems among patients with end stage renal disease

2.1.1 Incidences of patients with ESRD receiving HD.

2.1.2 Pathophysiology of ESRD receiving HD.

2.1.3 The classification of CKD receiving HD.

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2.2.1 Concept of QOL

2.2.2 QOL among patients with ESRD receiving HD

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2.3.1 Quality of life theory

2.3.2 Quality of life theory and HD patients.

2.3 Factor related to quality of life among HD patient.

2.4.1 Comorbidity related to QOL among HD patients and measurement.

2.4.2 Social support related to QOL among HD patients and measurement.

2.4.3 Symptom status related to QOL among HD patients and measurement.

2.4 Conclusion

2.1 Problems among patients with end stage renal disease

2.1.1 Incidences of end stage renal disease.

ESRD is growing fast in over the world. In 2012, there were over 3.01 million patients with ESRD. Moreover, more than 1.1 million had maintaining HD in the world and to increase by 7**%** annually **(**Matzo & Sherman, 2010**).** In 2012, European Renal Association - European Dialysis and Transplant Association reported that the incidence rate of patients with ESRD is increasing every year similar to what found in the USA and Australia (Gilbertson et al., 2005; Coresh et al., 2007). In Asian countries, the figures are quite similar to the rest of the world (Coresh et al., 2007; Joshi, Mooppil, & Lim, 2010**).**

In Vietnam, the estimation was 5.4 million people with chronic kidney disease (CKD) (Hai, 2009). The most widely treatment is any type of renal replacement therapy with approximately 72,000 patients being treated by either hemodialysis (HD) or peritoneal dialysis (PD) (Hoa, 2009). The number of patients nationwide is 6**.**73 per cent of the total population or about 6 million people and nearly 0**.**1 **%** of them are in the final stage of disease **(**Dung, 2013**).**

2.1.2 Pathophysiology of end stage renal disease.

Chronic kidney disease(CKD) refers to permanent diminished renal function, renal insufficiency and diminished renal reserve. It is divided into 5 stage with the last stage refers to ESRD. Declining in renal function is a process in which deterioration gradually occur. First of all, kidneys' ability to preserve electrolyte homeostasis and fluid is changed resulting in mal function of the kidneys to balance solutes and water, acids and basis, excrete waste in the form of urine and retain nutrients. Moreover, plasma concentrations of urea and creatinine start. Patients would suffer from uremic syndrome, reduced glomerular filtration rate, high levels of urea. Secondly, as the consequences of decreasing renal production of calcitriol and renal excretion of phosphate, both hypocalcaemia and hypophosphatemia may take place, follow by renal osteodystrophy. Moreover, uremic syndromes affect the kidneys function leading to decreased ability to produce and excrete the erythropoietin and hormones rennin, anemia and moderate acidosis (James & McMillan, 2013), follow by

poor regulation of blood pressure. Cardiovascular function will gradually deteriorate so that cardiac arrhythmia, coronary artery disease and congestive heart failure will occur.

2.1.3 The classification of chronic kidney disease

According to the Kidney Disease Improving Global Outcome **(**2012**)**, chronic kidney disease **(**CKD**)** is kidney damage which lasts more than 3 months including abnormal structure and function of the kidney, with or without reduced glomerular filtration rate, as the indication by abnormal or pathological examination of the lesion kidney **(**abnormal blood tests, urine or kidney imaging**)** or glomerular filtration rate of lesser than 60 ml / min / 1**.**73 m^2 (Levey et al., 2007). CKD is sorted by its severity into five stages**.** In particular, stage 1 is the mildest and usually causes some symptoms and stage 5 is the most serious illness because it is expected to have poor life expectancy without treatment**.** Stage 5 is regarded as the ESRD**.**In 2002, treatment guidelines recommending different actions based on the stage of kidney disease were published by the National Kidney Foundation (Levey et al., 2007). Details in each stage are explained as follow:

Stage 1: Kidney damage with normal GFR (90 or above ml/min/1.73 m^2). Kidney damage may be detected before the GFR begins to decrease. In the first kidney disease stage, the treatment aims to slow the progression of CKD and reduce the danger of heart and blood vessel disease.

Stage 2: Kidney damaged with mild decrease in GFR (60 to 89 ml/min/1.73 m^2). When kidney function starts to decrease, the progress of your CKD will be evaluated and go on to be treated by your health care provider to reduce the risk of other health problems

Stage 3: Moderate decreased in GFR (30 to 59 ml/min/1.73 m^2). When CKD has advanced to this stage, anemia and bone problems turn out to be more common. You can prevent or treat these complications by working with your health care provider.

Stage 4: Severe reduce in GFR (15 to 29 ml/min/1.73 m^2). Carry on treating complications of CKD and learn about the treatments for kidney failure as much as patient can.

Stage 5: Kidney was failure (GFR less than 15 ml/min/1.73 m^2). When the kidneys find it difficult to continue life by working hard, patient will have a demand for hemodialysis or a kidney transplant (Levey et al., 2007).

Stage 5 CKD call end stage renal disease (ESRD) is increasing worldwide. In 2012, more than 3.01 million people with chronic kidney disease in the final phase.

2.1.4 Impact of end stage renal disease

Many studies provide a unique perspective on the negative impact which HD can have on couples, yet it also recommends that some can cope positively regardless of the many life-style adjustments required by HD**.** When patients with ESRD start to receive HD, they must cope with the chronic stress associated with restrictions on their time, economic burden, functional limitations, dietary constraints, and possible adverse effects of medications **(**Son, Choi, Park, Bae, & Lee, 2009**).** Not only patients**'** physical but also patients**'** psychological were significantly influenced such as sadness, resentment, guilt and loss were prevalent, anger, depression as well as hopelessness **(**White &Grenyer, 1999**)** concluded that HD patients suffered from severe stressful as well as fatigue**.** Moreover, the loss of social activity, life restrictions, increased workload, and negative economic consequences changed relationship with the patient and sexual problems for spouses **(**Devins, Hunsley, Mandin, Taub, & Paul, 1997**)** that increased patients**'** isolation and made the change to improve psychological influences such as depression, fatigue and stress**.** In addition, depression has strong correlation with decreased health related living standard, especially in mental dimensions **(**Chan, Brooks, Erlich, Chow, & Suranyi, 2009**).** Therefore, several studies have shown that patients who had higher incidence of Tired and fatigue had poorer QOL, followed by increasing patients**'** mortality **(**Drayer et al**.,** 2006**).** As the consequences of many influences, patients with ESRD have lower quality of life than that of healthy populations is demonstrated by numerous studies **(**Tsay & Healstead, 2002**).**

2.1.5 Treatment and care of hemodialysis patients

2.1.5.1Treatment

2.1.5.1.1 The method of preservation treatment:

Cardiovascular disease (CVD) is the first reason resulting in death in patients with CKD. Decreasing factors of risk for development of CVD bring about benefits. e.g: treatment of hyperlipidemia, lifestyle and dietary changes

Controlling tight blood pressure: Mitigating damage because the end organ effects of hypertension on the heart as well as the kidney. The effects of angiotensin II on sodium and fluid retention, stimulating ADH release, vasoconstriction, stimulating aldosterone release, and inducing a sympathetic response are blocked by angiotensin-converting enzyme angiotensin II receptor blockers (ARBs) and inhibitors (ACEI). Slow down progression of proteinuria in patients with diabetic CKD is also slowed down by ARBs and ACEIs.

The management of diabetes: tight glucose management slows the progression of vascular and heart disease.

Nephrotoxic drugs and avoidance of IV contrast, NSAIDs, and: an acute kidney injury on the bottom kidney disease and therefore increase the baseline CKD can be induced by these agents.

Diet: whether dietary protein restriction is good in slowing disease progression or not, mixed evidence exists. The renal hemodynamics is affected by proteins, which raises the GFR, in hypothesized 2 approaches: Hormonal effects – proteins cause IGF-1 and kinins, secretion of glucagon, all of which have been shown to raise the GFR; Tubuloglomerular effects – high amino acid filtration leads to increased level of amino acid and affects the sodium uptake in the proximal convoluted tubule. A reduction of level of sodium transferring to the distal tubule convoluted renal structure then leading to the rennin - angiotensin system activation. Through these aforementioned process, GFR will be raised and the macula become dense. Dietary control includes control the stage of hyperphosphatemia by decrease the consumption of protein diet. The main reason to control serum phosphate level is to prevent the occurrence of renal osteodystrophy. The other measure to control

phosphate level is to use phosphate binders because it will prevent or reduce phosphate absorption through gastrointestinal tract.

2.1.5.1.2 How a renal replacement therapy works (RRT)

Treatment with CKD patient with step 4 or 5 is patients has one theory to receiving peritoneal dialysis, renal replacement therapy (RRT) including HD, or kidney transplantation.

When being treated by HD therapy, it is necessary to prepare a vein in patients' arm. The vein has to be strong and large to be well prepared for repeated needle insertion (AVG or AVF). The patients' blood goes through the dialysis machine via a filter or dialysis membrane or dialyzer together with special dialysis fluid during HD cycle. Waste products such as creatinine, urea and excess water are diffused through the filtered blood is returned to the filter and the body into the dialysis fluid and discarded. During HD the medication is used: heparin or aspirin to avoid clot formation for HD machine and the filter wire. Patient with ESRD sometime is under electrolyte and Acid–Base severe disturbances. When the GFR is below 30 ml per minute per 1.73 m2, there is impairment in both sodium conservation in response to an acute reduction in sodium intake and sodium excretions in response to sodium load; in most patients, sodium excretion does not fall below 20 to 30 mmol per day, at least in the beginning. A concomitant impairment in the physiological processes that allow for dilution of the urine or maximal concentration confers a predisposition to hypernatremia or hyponatremia in these patients. Patients, most of whom with chronic kidney disease with the exception of some patients who also have hypoaldosteronism and diabetes, have near normal serum potassium levels. However, hyperkalemia may develop in patients with chronic kidney disease after they receive treatment with ARBs, aldosterone antagonists, ACE inhibitors. In patients with ESRD, mainly owing to a reduction in renal ammonia synthesis, on–anion-gap metabolic acidosis can develop, among patients with advanced a reduction in titratable acid (phosphate) excretion which is a chronic kidney disease. An increased anion-gap metabolic acidosis because of the limit of organic acids is common in patients with ESRD. Patients will be helped by HD to resolve the best this issue. Weekly at a dialysis center three or four times, HD is generally performed. At home HD can

happen. Advantages of home dialysis include improved survival and patient satisfaction, and other measures of successful rehabilitation.

Patient will need to have a catheter placed in abdomen for peritoneal dialysis. The dialysis fluid is injected into the space surrounding the bowel, where before drainage and instillation of new fluid, it remains for several hours. During these hours, the patient's body removes excess fluid and waste products they are discarded with the drained solution. Usually this type of dialysis is performed at home with number of treatments dependent and the specifics of technique on the individual patient.

Patient might want to ask friends or family to consider donating a kidney for transplantation. The surgical implantation of a healthy kidney from a donor is called Kidney transplantation. The new kidney is attached to one of renal veins and the renal arteries and to the ureter carrying the urine to the bladder. The transplanted kidney, called a "graft," carries out all the functions the eliminating the need for dialysis, failing kidneys is unable to perform. Their existing two types of kidneys transplants: those that are gained from nonliving givers (cadaveric kidneys) and those that come from living donors (either related or nonrelated). The patient must take immunosuppressant drugs to stop the rejection of the new organ. Patients will require dialysis before another transplant can be performed if a new kidney is rejected.

2.1.5.2 Hemodialysis patients care.

Care nurses play a crucial part in the management of patients with CKD. Educating people to make informed decisions about long-term treatment and helping and enabling them to be aware of their condition, and they will be thought to be beneficial. Enhancing self-management achievements by: 1)

Helping patients on the importance of blood pressure control ensuring people are aware that mitigating raised blood pressure is a key factor in preventing progression of chronic kidney disease. 2) Consider appropriate place to encourage home blood pressure monitoring

3) Maintain a good glycogenic control to slow progression of chronic kidney disease and 4) Advice on exercise and healthy eating.

2.2 Quality of life among patients with end stage renal disease receiving hemodialysis

2.2.1 Concept of quality of life

Quality of life has been defined differently among previous researchers. According to the World Health Organization**:** Quality of life is defined as individuals' perceptions of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns **(**WHO, 1997**)**. In addition, Oleson (1990) defined that quality of life is the level of peoples' satisfaction in the field that they believe that it is most important in life such as economic status, housing, employment, religion, assistance social policy and health status. Furthermore, Ferrans (1996) provided a measurement tool to assess Quality of Life. Based on Ferrans' theory, quality of life model has four domains: health and functioning, psychological/spiritual, social and economic, and family (Ferrans, 1996). This conceptual model of quality of life was developed based on the three-steps of synthesis process. The first step focus on clarifying and defining the concept and meaning of quality of life. Secondly, factors in the concept of quality of life wasindentified. In the last steps, those factors were grouped into domains of quality of life by applying factor analysis.

However, QOL is a broad concept including many areas. In order to focus on terms of health care, the necessary to separate the concept of quality of life related to health.As a result, the term "health related quality of life" associated with the quality of life measurement with health and disease. As defined by the World Health Organization: "Health related quality of life is a measure of the relationship combination of physical, mental, self-satisfied and activity level of personal independence as well as the impact of this relationship on the person's life situation" (Miller, 2002).

2.2.2 Quality of life among patients with end stage renal disease receiving hemodialysis

Quality of life is an important criterion to assess the effectiveness of many chronic diseases treatment including ESRD (Kalantar-Zadeh, Kopple, Block, & Humphreys, 2001; Mapes et al., 2004) and QOL is considered an important element for assessing the outcome of patients with CKD.Even though the improvements in the treatment of end-stage renal disease, HRQOL is still lower than the general population (Valderrabano, Jofre, & Lopez-Gomez, 2001) and declining quality of life in patients with ESRD have increasingly reduced glomerular filtration rate (Tsai et al., 2010). In addition, physical, psychological and total quality of life with relatively significantly with mortality in patients with end-stage renal failure. First of all, physical health is factor in the prognosis of death for dialysis patients and physical health score (PCS) in elderly Korean patients with ESRD (Chin, Song, & Lee, 2008). De Oreo and colleagues found that the physical health prognostic role of death in patients on dialysis and not mental health (DeOreo, 1997). Similarly, the physical health scores are lower than the mental health score (MCS) in African Americans with chronic kidney disease (Madan, Kalra, Agarwal, &Tandon, 2007). Further study showed that patient mortality in the group with the worst physical health has a higher mortality risk of 93% (Mapes et al., 2004). Secondly, some studies have also focused on the relationship between the mental healthof the QOL and clinical outcomes of dialysis patients. Kamyar and colleagues (Kalantar-Zadeh et al., 2001) have found that mental health is linked to mortality in HD patients and poor mental health associated with depression in patients with CKD and ESRD(Chin et al., 2008).Therefore, 40% of patients with ESRD suffered from depression in varying degrees (Tsai et al., 2010). As the results, depression has been proven to be an independent predictor of clinical outcome in HD patients (Hedayati et al., 2008). The last factor related to social support. Many studies show that social support can affect clinical outcomes in many chronic diseases, such as cardiovascular diseases, hepatitis and malignant diseases. Patients with ESRD receiving HD who have more support from the others demonstrate better prognosis and survival rate (Bruce & Fries, 2003; Kroenke, Kubzansky, Schernhammer, Holmes, &Kawachi, 2006, Madan et al., 2007).

2.2.3 Measurement of quality of life

Most assessment tools of quality of life are in the form of questions**.** How to build and evaluate the corresponding scale in the quality of life questions covering multidimentional and multilayered **(**Ware, 2000**).** This means that there is an intrinsic value of quality of life, but cannot be measured directly but can be measured indirectly by asking a series of questions individually, and then grouped into sub-scale, many headings constitute scale, multiple scales combined into domains and finally these parts combine to form components to reflect the entire quality life**.** There are many classifications scales health related quality of life but now the author is often divided into two types of scales generic instrument and specific instrument. Specific instrument is a scale examine the areas of HRQOL of specific diseases (such as heart failure, asthma), a population of patients (elderly people), a certain function (such as sleep or sexual function), or a medical problem (such as pain). Currently there are specific instrument are used in many different disciplines, such as lung study, oncology, rehabilitation, cardiology, endocrinology. But to evaluate quality of life of end stage renal disease patients, authors sometime use scales following:

Quality of Life Index (QLI): It is composed of 68 items distributed in 2 sub-scales: satisfaction with and importance of different life domains (Ferrans &Powers, 1993). The first sub-scale measures satisfaction on a six-point Likert scale (1 = very dissatisfied, 6 = very satisfied) with various aspect of life. The second subscale measures the importance of these aspect to patients (1 = very unimportant, 6 = very important). The range of the QLI total score or its subscales is between 0 and 30; higher QLI score indicates higher level of perceived quality of life, satisfaction or importance.

WHOQOL-BRIEF scale is a self-report 26-item quality of life inventory developed by the World Health Organization (WHO, 1996). The items comprise a 4 domains model: physical health, psychological health, social relationships and environment. The raw score ranges from 0 to 100, and a higher score indicates better QOL.

Kidney Disease Quality of Life SF (KDQOL-SF) scale (Joshi et al., 2010) mentions five aspects including: symptom/problem, effect of kidney disease on daily life, burden of kidney disease, work status, cognitive function, quality of social

interaction, social support, dialysis staff encouragement, patient satisfaction. But in this study, researcher mainly used 36 items (RAND-36) consisting of eight domains of physical and mental health status: physical functioning, role limitations caused by physical health problems, role limitations caused by emotional health problems, social functioning, emotional wellbeing, pain, energy/fatigue, and general health perceptions. The raw scores are converted into transformed score to a 0-100 range, with higher transformed score always reflecting better QOL. QOL evaluations following levels: from 0-25: poor QOL; from 26-49: QOL below average; from 50-75: quality of life rather average; from 76-100: QOL is quite well. The total scores are 100 scores and the higher scores refer to good QOL (Silveira et al., 2010; Phong 2013; Bayoumi et al., 2013).

In this study, Kidney Disease Quality of Life SF36 (Short Form Health Survey: SF-36) was used as specific instrument; it is updating to assess quality of life of end-stage renal disease patients receiving HD. A self-management tool includes templates for general health survey and questions directed at the special concerns related to the health of QOL patients. The questionnaire, one of the most complete tools, used in data systems kidneys USA - report data annually is currently available to assess the QOL of patients because it includes health aspects in general and in particular, it enables a more complete assessment of the health of patients (Rao et al., 2000). Moreover, it has been tested on different populations with ESRD(Cagney et al., 2000; Carmichael, Popoola, John, Stevens, & Carmichael, 2000).

2.3 Quality of life theory as a conceptual framework to explain quality of life among hemodialysis patients

2.3.1 Quality of life theory

The concept of quality of life has been defined differently based on the context and its application by researchers. In this study, the term and conceptual model of quality of life come from Ferrans(1996). Ferrans' model provided the foundation to develop the measurement tool to assess quality of life. Figure 1 summarized quality of life model that had four domains including health and functioning,

psychological/spiritual, social and economic, and family.The first domain is health and functioning that encompasses usefulness to others, physical independence, ability to meet family responsibilities, pain, energy (fatigue), leisure time activities, and ability to travel, sex life and health care. According to psychological/spiritual domain, satisfaction with life, happiness, achievement of personal goals, and peace in mind were identified. Moreover, social and economic domain covered standard of living, financial independence, home, job/unemployment, friend, and emotional support from others. Family domain included family happiness, family health and children.

In our study, based on quality of life model, we assumed that patients' physical functioning especially several comorbidity conditions in ERSD patients may influenced patients' QOL. Moreover, social support including social status and family status also may associate with patients' QOL. In addition, the third factor may affect patients' QOL was psychological/ spiritual that may be associated with patients' QOL. Therefore, quality of life theory was chosen because of its framework which supported the conceptual framework of this research title. The concepts that it provides covers all variables relevant to HD patients. The quality of life of HD patients is clearly defined by using this theory.

2.3.2 Quality of life theory and hemodialysis patients

Health Related Quality of Life Theory was chosen because of its framework supported the conceptual framework of this research title. The concepts that it provides covers all variables relevant to HD patients. The quality of life of HD patients is clearly defined by using this theory. In clinical practice this theory will guide nursing to evaluate quality of life as outcomes of patients with ESRD so that it can reflect the effectiveness of the care.

2.4 Factor related to quality of life among HD patient

2.4.1 Comorbidity and quality of life among HD patient.

Normally, patients with ESRD have had the other chronic illnesses before the diagnosis of ESRD. Most of them report history of prolonged and uncontrolled

hypertension, diabetes, dementia, cerebrovascular disease, chronic lung disease, connective tissue disease, chronic glomerulonephritis and nephrotic syndrome. With several comorbid diseases, patients have to use various kind of medications or undergo several kinds of treatment and investigation. These comorbid diseases add up unpleasant symptoms and affect patients' QOL(Di Iorio et al., 2004; Khalil & Abed., 2014).Previous studies supported that ESRD patients who have one or more co morbid diseases showed poor clinical outcomes such as increased mortality, increased length of hospital stay, increased numbers of hospital admission and increased number of emergency room visit (Di Iorio et al., 2004; Khalil & Abed., 2014; Bohlke et al., 2008). Consequently, it would affect patients HRQOL (Bohlke et al., 2008; Mucsi, 2008).

2.4.2 Social support related to quality of life among HD patient

When peoples are ill, patients need a high level of social support provided by family members, friends. Besides, others who gave them tangible support such as financial assistance, transportation, access to medical service and emotional support play an important role. This also seems to be the situation when a family member has a complex chronic condition such as ESRD. Patients have social support well then QOL with HD patient will increase. Some research showed that social support is beneficial for patients with ESRD receiving HD(Tezel, Karabulutlu, & Sahi, 2011). Social support was found to be associated with quality of life in patients with ESRD (Tel & Tel, 2011). McClellan and colleagues showed that HD patients have more social support have a better prognosis than those without social support (McClellan et al., 1993). Other studies of ESRD patients have found a strong relationship exists between social support and quality of life (Frank, Auslander, & Weissgarten, 2003). Other study in Vietnam also found that having higher levels of social support was significantly correlated with higher overall levels quality of life (Khanh, Duangpaeng, Deenan, & Bonner, 2012). Untas and the colleagues showed that having poorer social support mechanism is associated with higher mortality risk, lower adherence to medical care and poorer physical quality of life in ESRD patients (Untas et al., 2010). Summary, there are a lot of researches shown that social support related quality of life in ESRD patients but in Vietnam we need to find to know the effect of social support

impacts to some extent with end-stage renal disease patients on HD. The most patients need having a high level of social support, which was provided by family members, friends, and significant other who gave them tangible support such as financial assistance, transportation, access to medical service and emotional support and family members play an important role in supporting other members when they are ill.

This research used The Multidimensional Scale of Perceived Social Support (MSPSS) to find related among social support with quality of life in HD patients, It developed by the author Zimet (Zimet, Dahlem, Zimet, & Farley, 1988), MSPSS have 12 items scale that measures perceived 3 groups of social support: Relatives (4 questions), Family (4 questions), and Friends (4 questions). Each Item has 7 possible answers from 1 "strongly agree" to 7 "strongly disagree". This instrument evaluates a patient's perceived support from family, friend or a significant person on a score ranging from 0 to 84. Higher mean scores refer to better perceived social support. The MSPSS scale was found to be associated with quality of life in patients with ESRD (Tel & Tel, 2011). Within the current study, Cronbach alpha of MSPSS was .97.

2.4.3 Symptom status related to quality of life among HD patient

Patients with end stage renal disease (ESRD) receiving maintenance HD suffer from a multitude of physical and emotional symptoms, exhibit a particularly high prevalence of depression, and experience substantial impairments in quality of life. Symptoms including pain, tired, nauseated, depressed, anxious, drowsy, appetite, feeling of wellbeing, shortness of breath and itchy affect half or more of patients receiving HD. This high burden of symptoms likely contributes to the marked impairments in QOL of HD patient (Merkus et al., 1999).

The fatigue usually experienced in ESRD include prescribed medications and their side-effects; nutritional deficiencies; physiological alterations, particularly abnormal urea and hemoglobin levels; psychological factors, such as depression, sleep dysfunction; and those associated with HD treatment (low dialysate sodium and excessive ultrafiltration). Fatigue has a considerable effect on a person's HRQOL (Jhamb, Weisbord, Steel, & Unruh, 2008).Pain is the principal mechanism of the body, which shows abnormal function. It frequently accompanies kidney problems (from the

kidneys themselves or the urine drainage system). Pain may experience when the nurse put the needle into the vein to start HD or after withdrawal of the needle at the end of the HD. Pain impairs QOL in ESRD patients as it interferes with functional capacity and the ability to interact socially and it is known to increase depression, anxiety and sleep disturbances (Noble, Meyer, Bridge, Johnson, & Kelly, 2010).

Edema cause water retention due to a loss of glomerular filtration rate (GFR) leading to sodium and fluid retention. Fluid moves into the extravascular space, due to increased hydrostatic pressure, causing pitting edema in the lower extremity (fluid movement could also be due to hypoalbuminemia, in some diseases, leading to a low oncotic pressure). Shortness of breath: Fluid accumulation causes pulmonary edema and loss of air space causing ventilation perfusion mismatch. This leaves less area for oxygen diffusion form the blood vessels. Anemia: Erythropoietin (EPO), the major erythropoiesis stimulator, is released from the kidneys; with renal failure, there is loss of EPO release. Loss of lean body mass: Protein-energy malnutrition due to metabolic acidosis. Loss of kidney function results in impaired H+ secretion from the body.

This study applied Edmonton Symptom Assessment System scale **(**ESAS**)** to examine correlation among symptom status and quality of life of HD patients**.** ESAS scale use to assess of nine symptoms common in ESRD patients include pain, tiredness, nausea, depression, anxiety, drowsiness, appetite, wellbeing and shortness of breath and other problem**.** The severity at the time of assessment of each symptom is rated from 0 to 10 on a numerical scale**:** 0 meaning that the symptom is absent and 10 that it is of the worst possible severity**.** That is the **"**gold standard**"** for symptom assessment because it is the patient**'**s opinion family should be taught how to complete scale**.** The ESAS scale provides a clinical profile of symptom severity over time**.** Symptoms status to be attained the ESAS must be used as just one part of a holistic clinical assessment, higher scores indicate more severe symptom burden lead to low quality of life **(**Dudgeon, Harlos, & Clinch, 1999**).**

2.5 Conclusion

According to the literature review it can be concluded that patients with ESRD receive HD experienced poor QOL which will alter their daily life. They have to deal with changed in work status, cognitive function, quality of social interaction. Previous studies have shown that QOL was associated with mortality and survival rate of ESRD and is considered as an important element for assessing the outcomes of treatment and care delivered for patients with CKD. There are strong evidences from researches in many countries in every region of the world except for Vietnam to support the phenomena of QOL and its related factors. In order to gain scientific evidences to improve QOL among Vietnamese patients with ESRD receiving HD. Quality of life theory can be appropriately applied as a conceptual framework. This theory will frame and illustrate clear picture of the relationship among all studied variables leading to strong nursing scientific evidences to support standard care for patients living with ESRD.

CHAPTER III
METHODOLOGY

In this chapter include research design, population and sample of the study, studied instruments and their validity and reliability, data collection procedure, human right protection, data analysis and assumption of the statistic used in this study was consecutively presented.

3.1 Research design

The study was a descriptive correlation research aimed to study factors (commorbidity, social support, symptom status) related to quality of life (QOL) among patient with end stage renal disease (ESRD) receiving hemodialysis (HD).

Data were collected from patient hospital records and interviewer patients by questionnaires.

3.2 Population and sample of the study

3.2.1 Population and sample of this study

The population of this study included patients who were diagnosed end stage renal receiving HD. The sample were those who come to receive HD in Dialysis Department in Bach Mai Hospital, where responsible treatment and care for the people of the province north of Vietnam. The samples were selected according to the inclusion criteria from the patients who come to the Dialysis Department in Bach Mai Hospital.

3.2.2 The sample of the study

The sample size in this study was calculated by using G*power version 3.1.9.2 program to determine the minimum number of participants needed for co-relational design (Faul, Erdfelder, Buchner, & Lang, 2009). The researcher tested the relationship among previous illness, social support, symptom status and QOL among patients with ESRD receiving HD. The level of significance $\alpha = 0.05$, the power of the statistical test (Power 1- $\beta = .8$). There are three independence variables in this study and effect size for this study ($f^2 = .099$). Based on G*power, sample size is 115 patients.

3.2.3 Criteria of the sample

The inclusion criteria: The inclusion criteria are as follow

1**)** Patients 18 years of age or above

2) Patients who receive HD at least 2 cycles per week

3) Patients who are able to communicate in Vietnamese language and voluntarily agreed to participate in the study

The exclusion criteria of patients were as follows:

1) Patients who had history of adverse events during HD.

2) Patients who incomplete fill out questionnaire

The termination criteria*:* Criteria to terminate the participation are:

1) Patients who develop an emergency situation such as ARDS (acute respiratory distress syndrome*)* or respiratory failure during HD.

2**)** In complete fill out questionnaire**.**

3.3 Setting

Bach Mai Hospital is a multi-field medical facility in Hanoi and is considered one of the largest in Vietnam. Bach Mai Hospital was established in 1911. It played important role in the health system of Vietnam and is one of high specialized medical centers, specializing on internal medicine. It is a big center of cadres training and scientific research in the country. Hospitals including three institutes, eight centers, twenty one clinical departments, six preclinical departments, ten functioning

rooms and a medical college. The hospital has more than 2,500 civil servants, has many Professors, Associate professor, doctors, pharmacy, nursing and other medical staffs. Hospital has 1900 beds, diverse disease patterns. Every day hospital receive, examination and treatment for thousands of people, including about 100 people with kidney disease - Urinary. Dialysis department in Bach Mai hospital was established in 1972.

The research was conducted at Dialysis department Bach Mai hospital, the department have the number patients of maintains HD are 300 patients a day, with have 80 beds and over 80 dialysis machines.

Healthcare services are provided by the medical staff everyday from 6:30 AM-10:00 PM at Dialysis department. Each patient was maintained on HD for 4 hours a day and 3 times a week. Nurses and a physician work two shift a day. Each shift has 80 HD patients. Health care services are given by about 33 nurses and 9 physicians, their services include: receiving patients, correctly identify patients (name, age, gender, ID) and examination of patients with special attention to the symptoms the patient is suffering (pain, tired, nauseated, depressed, anxious, drowsy, appetite), best feeling of wellbeing, focused examination of patients with comorbidity conditions of patients by reviewing profile in the computer (glomerulonephritis, nephrotic syndrome, heart disease, diabetes), take blood and urine tests as directed by doctor if patient have, nursing assessment total patients, give some advice to patients about self-care, ask patients about sources of support from family, friends and society to maintain HD, providing filter for patients then nursing begun installing HD machine and maintenance HD patients. During dialysis procedure, patient was monitored by nursing, detection of abnormal signs and care, investment nutritional advice to patients until the end of HD. So, the researcher collected data from Monday to Saturday.

3.4 Instruments

The instruments used for data collection included 5 parts as follows:

Part I: General characteristics and information related to patients illness

This questionnaire was developed by the researcher. It included demographic data and data related to patients' illness including age, gender, weight,

height, BMI, occupation, education, marital status, income, the treatment methods, medical payment method, related laboratory results, blood pressure and related vital sign.

Part II: The record of patients' previous illnesses.

In this study patients' previous illnesses was measured by using comorbidity scale record form and developed by the researcher. The scale composed of the items of common chronic disease including heart disease, respiratory disease, kidney disease (glomerulonephritis, nephritis syndrome), diabetes, hyperlipidemia, neurological disease, hypertension and other diseases that occur before patients sustaining the injury at this time. Total patients' comorbidities were recorded by interviewer patient and investigation of medical records. In addition to this, the details of each disease such as duration of illness, the treatment, medication was recorded.

Part III: The Multidimensional Scale Perceived Social Support (MSPSS)

The Multidimensional Scale Perceived Social Support (MSPSS) (Zimet, Dahlem, Zimet, & Farley, 1988). This scale used to measurement perception of social support as it offered from special person, family and friends. MSPSS have 12-item. Respondents answer items on a seven-point Likert-type scale ranging from very strongly disagree to very strongly agree. This instrument has range from 12 to 84. Higher scores refer to better perceived social support. Its reliability and validity were demonstrated across different populations (Tonsing, Zimet, &Tse, 2012).The MSPSS will translate into Vietnamese then to determine the reliability of Vietnamese version of MSPSS, Khanhand colleagues had a pilot research use MSPSS with hemodialysis patients in Vietnam, result showed that: Cronbach's alpha for the three domains in this pilot was: .6 for family, .7 for friend and .8 for significant other (Khanh, Duangpaeng, Deenan, & Bonner, 2012), Research of Khalil and colleagues used the MSPSS scale was found to be associated with quality of life in patients with ESRD, Cronbach's alpha of MSPSS was .87 (Khalil & Abed, 2014).

Part IV: Edmonton Symptom Assessment System scale **(**ESAS**).**

Edmonton Symptom Assessment System scale **(**Dudgeon, Harlos, & Clinch, 1999**)** was used to assess of ten symptoms status common in ESRD patients**:** pain, tiredness, nausea, depression, anxiety, drowsiness, appetite, wellbeing and shortness of breath and itchy**.** The severity at the time of assessment of each symptom

is rated from 0 to 10 on a numerical scale**:** 0 meaning that the symptom is absent and 10 that it is of the worst possible severity**.** That is the **"**gold standard**"** for symptom assessment because it is the patient**'**s opinion family should be taught how to complete scale**.** The ESAS provides a clinical profile of symptom severity over time**.** Symptoms status to be attained the ESAS must be used as just one part of a holistic clinical assessment**.** Author Davision and colleagues used ESAS to find correlation between symptom burden **(**ESAS score**)** and components of QOL **(**physical health and mental health**) (**Davision et al**.**, 2006**).** This study was used ESAS to determine the impact of change in symptom burden on quality of life of HD patients**.** The lower scores reflect the symptoms status affecting fewer patients**.** The higher score reflects the clinical symptoms status affect more patients**.**

Part V: Kidney Disease and Quality of Life - Short Form 36 scale

Kidney Disease Quality of Life-Short Form 36 scale (KDQOL-SF36) (Hays et al., 1995) was applied as outcomes research to access quality of life for ESRD patients receiving hemodialysis. There are eleven domains targeted areas summarized included: symptom/problem, effect of kidney disease on daily life, burden of kidney disease, work status, cognitive function, and quality of social interaction, sexual function, sleep, social support, dialysis staff encouragement, and patient satisfaction. Especial, KDQOL-SF36used measures QOL of ESRD patients receiving HD. It also included 36 items health survey (RAND 36) consisting of eight domains measures of physical and mental health status (SF -36): Physical functioning; Role-physical; Bodily pain; General health; Vitality (Energy/fatigue); Social functioning; Role emotional; Mental health: Emotional well-being.QOL of patients with ESRD is measured by two components: Physical health and mental health. The raw scores are converted into transformed score to a 0-100 range, with higher transformed score always reflecting better quality of life. QOL evaluations following levels: from 0-25: poor QOL; from 26-49: QOL below average; from 50-75: QOL rather average; from 76-100: QOL is quite, well. This research applied KDQOL-SF36 (RAND 36) to calculate quality of life.

Research of Ann Bonner and colleagues also used KDQOL-SF36. Cronbach's Alpha for reliability was 0**.**64 **(**general health**)** to 0**.**72 **(**mental health/emotional well-being**)** to 0**.**91 **(**role–physical; bodily pain**)**, and 0**.**93 **(**physical

functioning; role - emotional) (Bonner, Caltabiano, & Berlund, 2013). Other research used to evaluate the internal consistency of the KDQOL-SF36, reliability is considered good for alpha values equal to or greater than 0.60 (Lopes, Fukushima, Inouye, Pavarini, & Orlandi, 2014), Anees and colleagues (2015) was conducted: Translate, validate and assess the reliability of kidney disease quality of lifeshort form (SF-36) in Urdu, national language of Pakistan. Result was shown that: the internal consistency reliability coefficient for overall scale was .84 (Anees et al., 2015).

3.5 Validity and Reliability of Measurement

3.5.1 Instrument Validity

To use instrument in this research, study applied four scales by English.This instruments have been used and measured validity by previous studies: The Multidimensions Scale of Perceived Social Support (MSPSS) was used in Tinakon Wongpakaran(2011) and colleagues to examines the Thai version of the MSPSS for its psychometric properties(Wongpakaran, Wongpakaran, &Ruktrakul, 2011); Davison (2006) was study cross-sectional validity of a modified Edmonton symptom assessment system in dialysis patients:A simple assessment of symptom burden (Davison, 2006); Chow & Tam (2014) were determined the validity and reliability of the Cantonese Chinese version of the Kidney Disease Quality of Life-36 (KDQOL-36™) questionnaire (Chow & Tam, 2014).

When researcher used those instruments, researcher translated from English to Vietnamese myself, then English teacher translated from English to Vietnamese, researcher discuss with English teacher, then both agreed and rewrite, next researcher asked one of colleagues who also was a English teacher but learn about medical English, translated from Vietnamese into English and researcher also agreed with medical English teacher some problems in translation. To assess content validity of instruments, six experts were invited to review the instruments included: a professor doctor, a nephrology doctor, a general physician, a dialysis nurse, a medical English teacher and a nursing. After review the instruments, all members agreed to approve these instruments to be used to interview patients and apply to study.

3.5.2 Instrument Reliability

After obtain the IRB approval the Numerical Rating scale (NRS), the reliability is tested by Cronbach's Alpha to calculate correlations between items. The Multidimensional of Scale Perceived Social Support **(**MSPSS**)**, Edmonton Symptom Assessment System scale **(**ESAS**)** and Kidney Disease Quality of Life-SF36 scale were used in 31 patients with ESRD receiving HD who had characteristic similar to the studied sample as aforementioned. The reliability by Cronbach's alpha coefficient were employed to test each instrument reliability for 31 patients and for the whole sample (n = 115) (table 3.1).

Table 3.1 Reliability of scales **(**n= 31 and n=115**)**

Scale	**N of Items**	**Cronbach's Alpha (n = 31)**	**Cronbach's Alpha (n = 115)**
ESAS (Symptom status)	10	.87	.818
Scale of Social Support	12	.89	.874
Quality of life- SF36	36	.78	.801

This instrument has been used and measure reliability by previous studies: Zimet(1988) was .85; Chung **(**2012**)** was **.**94 **(**Chung, 2012**).**

3.6 Data collection

The data collection was conducted in the following sequences:

1) After getting the approved and received permission to collect by the IRB Faculty of Nursing, Mahidol University, Thailand and IRB of Vietnam National University, Vietnam, the researcher met the director of Bach Mai hospital, head of Dialysis department and head nurse, the doctor and the staff of department to explain the purposes for data collection. Then, the head nurse introduced researcher to target population (patients).

2) The researcher self-introduced, made a relationship with the patients, then informed sample about the objectives of study, read the participation information sheet to them, described data collection procedure and invited them to join in to the

study. After the patients agreed to join in to the study, they were invited to sign the consent form. The researcher used the questionnaire and assessment form for data collection. Some demographic data were collected from medical record form.

3) The researcher organized the private room to interview the sample or asked them to do questionnaire by themselves. Then, researcher used five questionnaires for data collection. The questionnaires were: 1) Characteristics of the individual data of the patients with 15 items. 2) The record of patients' previous illnesses with 24 items. 3) Multidimensional Scale of Perceived Social Support questionnaire with 12 items. 4) Edmonton Symptom Assessment System (ESAS) with 10 items. 5) Kidney Disease Quality of Life-SF36 (RAND - 36) with 36 items.

4) Participants were asked to feel free to withdraw from the study at any time without explain; confidentiality was maintained by not collecting data that could identify any one individual and also through employing unique study codes. The patients answered the questions in the context of an interview which lasted for about 30 - 40 minutes.

3.7 Protection of human rights

As with any medical research, this study the researcher protected and respected the right of the human subject consisted 2 dimensions including benefit from research, and data confidentiality.

3.7.1 The collected the data after receiving approval from Institutional Review Board of Nursing faculty, Mahidol University and Institutional of Review Board of SMP, Hanoi National University.

3.7.2 The researcher self - introduced himself to the participants at Dialysis Department, informed the patients about the research objective and all data collection process. The researcher explained the purposes for study, data collection procedure, benefit, risks, types of questionnaire, length of time to complete the questionnaires, and the right to refuse participation in the study anytime**.** If the patients withdraw from the research project it would not influence on their treatment or caring process. After patients clearly understood and agreed to join in the research process, they were invited to sign their name in the consent form.

3.7.3 This research did not cause any risk to the patient physical health. The data collection process took time about 30 to 40 minutes. Although the patients did not get any benefit from this research but the results were expected to produce benefit for other patients who have the same health care problem as the sample.

3.7.4 All contents were kept confidential, only the researcher and the research team were able to get access to the data. Any content related to data that presented in the thesis or any publication would be anonymous. In case of ones who withdrawn themselves from the research, all data would be deleted from the database and would not be used as any part of the research. In this research, all patients who agreed to join in the study did not withdraw themselves.

3.7.5 In case of further questions or more explanation, the participants were told that they were able to ask the researcher at anytime throughout the research process.

3.8 Data analysis

1. Quantitative data were analyzed using computer programs.
2. All data were analyzed using descriptive statistic in terms of frequency, percentage, mean and standard deviation and range were used to describe general information and studied variables, including comorbidity, social support, symptom status and especial the QOL.
3. The variables were tested for their normal distribution according to the assumption of the Pearson Product-Moment correlation coefficient. All studied variables did not show normal distribution so that Spearman's rho was employed to test correlation among the variables.

CHAPTER IV
RESULTS

In this chapter, results of the study will be presented in 4 main topics; general characteristics of the sample, information related to illness, comorbidity, social support, symptom status and quality of life, and the relationship between comorbidity, social support, symptom status and quality of life. Table and narrative explanation will be used to present the results.

4.1 General characteristics of the sample

The majority of the sample were female (61.7%) with the mean age of 47.47 years old (SD = 14.14). A lot of sample have BMI under normal level (40%), many sample are unemployment (27%). All most subject are secondary school and high school (76.6%). The majority of the sample married (69.6%) and don’t have income (56.5%). A lot of samples live in country have to hospital to hemodialysis (54.8%) (table 4.1).

Table 4.1 Characteristic of the individual **(**n =115**)**

Characteristics	Number	Percentage (%)
Gender		
Male	44	38.3
Female	71	61.7
Age (years)		
21 –35	28	24.3
36 –45	22	19.1
46 –55	32	27.8
56 –65	20	17.4
66 –75	10	8.7
Upper 75	3	2.6
Min: 21		
Max: 77		
Mean ± SD: 47.47 ± 14.14		
BMI		
Underweight (18.49)	46	40
Normal (18.50 – 22.99)	64	55.7
Overweight (>23.00)	5	4.3
Min: 12.96		
Max: 24.97		
Mean ± SD: 19.14 ± 2.17		
Occupation		
Unemployment	31	27.0
Office employer	3	2.6
Business person	15	13.0
Government staff	4	3.5
Farmer	13	11.3
House keeper	27	23.5
Retired	8	7.0
Others (Street work…)	14	12.2

Table 4.1 Characteristic of the individual **(**n =115**)** (cont.)

Characteristics	Number	Percentage (%)
Educational Level		
Primary School	3	2.6
Secondary school	47	40.9
High school	41	35.7
Vocational school or some college	22	19.1
Bachelor degree	2	1.7
Marital status		
Married	80	69.6
Divorce/widowed/separate	6	5.2
Single	29	25.2
Income		
No income	65	56.5
1 to 100 USD	21	18.3
101 to 200 USD	15	13.0
201 to 300 USD	9	7.8
Over 300 USD	5	4.3
Min: 0 USD		
Max: 450 USD		
Mean: 70.43		
Accommodation		
City	52	45.2
Countryside	63	54.8
Hospital Hemodialysis		
Before HD in Bach Mai hospital	38	33
Start HD in Bach Mai hospital	77	67

Table 4.1 Characteristic of the individual **(**n =115**)** (cont.)

Characteristics	Number	Percentage (%)
Weight		
Min: 26.50		
Max: 68.00		
Mean ± SD: 47.56 ± 7.53		
Height		
Min: 120		
Max: 175		
Mean ± SD: 156.37 ± 8.36		

4.2 The information related to illness

In population of research, all samples diagnosis end stage renal disease and choose method treatment hemodialysis (100%). A lot of sample had duration of hemodialysis over five years (59.1%) with mean duration apply hemodialysis are 78.61 months (SD = 5.71). About a half of patients (50.4%) had systolic blood pressure equal to or above than 140 mmHg.According to blood examination, the mean of urea was 23.25mmol/l (SD = 8.25). The mean of creatinine was 921.60µmol/l (SD = 252.88). In the other hand, the mean of albumin was 40.59 gram/liter, 90.4% sample had anemia status. The majority of participants used medicine at home (99.1%) and 97.4% of patients did not know the reason of their kidney disease.

Table 4.2 Characteristic of illness and information about health status **(**n =115**)**

Characteristics	Number	Percentage (%)
Diagnosis		
End Stage Renal Disease	115	100.0
Method treatment		
Hemodialysis	115	100.0
Duration of hemodialysis		
Less than 12 months	9	7.8
12 - 36 months	17	14.8
37 -60 months	21	18.3
61-120 months	48	41.7
More than 120 months	20	17.4
Min: 1		
Max: 336		
Mean ± SD: 78.61 ± 55.71		
Systolic blood pressure		
Low systolic blood pressure	0	0
Normal systolic blood pressure	57	49.6
High systolic blood pressure	58	50.4
(equal to or above 140 mmHg)		
Min: 90		
Max: 210		
Mean ± SD: 137.13 ± 20.79		
Urea		
Normal	3	2.6
High	112	97.4
Min: 4.50		
Max: 47.10		
Mean ± SD: 23.25 ± 8.25		

Table 4.2 Characteristic of illness and information about health status **(**n =115**)** (cont.)

Characteristics	Number	Percentage (%)
Creatinine		
Normal	0	0
High	115	100.0
Min: 242		
Max: 1561		
Mean ± SD: 921.60 ± 252.88		
Albumin		
Low	39	33.9
Normal	76	66.1
Min: 23.90		
Max: 48.40		
Mean ± SD: 40.59± 4.28		
Red Blood Cell (RBC)		
Low	104	90.4
Normal	11	9.6
Min: 2.04		
Max: 4.83		
Mean ± SD: 3.53 ± .53		
Medicine		
Yes	114	99.1
No	1	.9
Day of staying at hospital in the last 6 months		
Yes	15	13.0
No	100	87.0
Min: 1		
Max: 60		
Know caused kidney disease		
Yes	112	97.4
No	3	2.6

4.3 Comorbidity, social support, symptom status and quality of life

This study showed thatnearly part of samples had hypertension (46.1%). Almost of patient hadGlomerulonephritis **(**43.5 %) and/or Nephrotic syndrome **(**27.8) or diabetes **(**11**.**3**%)**, this disease are chronic disease, they usually appear before ESRD, Some patients with stomach ulcers could be caused by anti-inflammatory medication (23.5 %). So almost patients had to take medication daily (99.1%) (table 4.3).

Table 4.3 Comorbidity of ESRD patients

Comorbidity	**Number**	**Percentage (%)**
Hypertension	53	46.1
Glomerulonephritis	50	43.5
Nephrotic syndrome	32	27.8
Stomach ulcers	27	23.5
Polycystic kidney	23	20.0
Liver disease	12	10.5
Heart disease	9	7.8
Diabetes		
Diabetes with end-organ damage	7	6.1
Diabetes without end-organ damage	6	5.2
Chronic lung disease	5	4.3
Lupus	5	4.3
Congestive heart failure	2	1.7
Tumor without metastasis	2	1.7
Dementia	1	.9
Lymphoma	1	.9

The data showed that 31.3% of patients had 2 comorbidities. Only 5.2% patients did not have any comorbidity. In the contrary, only one patient (0.9%) suffered from 6 comorbidities (table 4.4)

Table 4.4 The number of comorbidity of ESRD patients **(**n = 115**)**

Comorbidity	**Number**	**Percentage (%)**
Nocomorbidity	6	5.2
1 comorbidity	34	29.6
2 comorbidities	36	31.3
3 comorbidities	12	10.4
4 comorbidities	21	18.3
5 comorbidities	5	4.3
6 comorbidities	1	.9

The mean of questions in social support questionnaire was shown in table 4.5. The highest mean belonged to question 11 with 5.27, following by the mean of question 3 with 5.26. In the other hand, the lowest mean was question 12 with 3.57 (table 4.5).

Table 4.5 Social support HD patients received **(**n = 115**)**

Question	Mean ± SD	Min	Max
1	5.19 ± 1.36	2	7
2	5.14 ± 1.47	2	7
3	5.26 ± 1.29	2	7
4	5.22 ± 1.26	3	7
5	5.20 ± 1.50	2	7
6	3.66 ± 1.38	1	7
7	3.69 ± 1.34	1	7
8	5.09 ± 1.23	3	7
9	3.76 ± 1.34	1	7
10	5.17 ± 1.49	2	7
11	5.27 ± 1.25	2	7
12	3.57 ± 1.40	1	7

According to symptoms status of ESRD patients, the highest mean of score belong to symptom “tired” with 6.17, following by appetite with 5.7. The lowest mean score belonged to depressed symptom. (table 4.6)

Table 4.6 Symptoms status of HD patients **(**n = 115**)**

Symptoms	Mean ± SD	Min	Max
Pain	4.92 ± 2.93	1	8
Tired	6.17 ± 2.94	2	10
Nauseated	4.04 ± 2.10	1	9
Depressed	3.89 ± 1.97	1	9
Anxious	5.18 ± 2.31	2	9
Drowsy	4.70 ± 2.04	1	10
Appetite	5.70 ± 2.66	2	10
Feeling of wellbeing	5.52 ± 1.98	2	10
Shortness of breath	4.06 ± 2.89	1	9
Itchy	4.76 ± 2.49	1	10

Related to quality of life of ESRD patients receiving HD, the table 4.6 showed the mean of each domain in quality of life questionnaire. Domain of physical functioning had highest of mean with 58.74, following by the mean of social functioning with 51.41. The lowest mean score was general health domain with 35.49. Physical health and mental health are two component s to access QOL, The mean scores is equal (45.91 and 45.14) (table 4.7).

Table 4.7 Range, mean and standard deviation of domains to survey health of ESRD receiving HD **(**n = 115**)**

Scale	Minimum scores	Maximum scores	Mean scores	SD
SF –36				
Physical Functioning (PF)	20.0	90.0	58.74	16.65
Role-physical (RP).	0	100	41.52	32.09
Bodily Pain (BP).	12.5	100	47.83	20.96
General Health (GH).	10.0	70.0	35.49	14.51
Vitality (VT): Energy/fatigue	15.0	80.0	46.0	15.72
Social Functioning (SF)	12.5	100	51.41	14.79
Role-Emotional (RE).	0	100	46.67	28.20
Mental Health (MH):	20	80	46.16	16.82
RAND 36				
Physical health component (PHC)	16.5	78.5	45.91	15.24
Mental health component (MHC)	13.5	77.0	45.14	12.60

Health related to quality of life in HD patients, There were domains summary, all mean scores except effect of kidney disease (46.25), burden of kidney disease (25.00), work status **(**34**.**35**)**, sexual function (45.43) and sleep (45.04) were found to be below 50. The patient possessed better quality of life in social support (58.41), dialysis staff encouragement (85.22) (table 4.8)

Table 4.8 Range, mean and standard deviation of items targeted at particular health **–** related concerns of individuals with ESRD receiving HD **(**n = 115**)**

Scale	**Minimum scores**	**Maximum scores**	**Mean scores**	**SD**
Symptom/problem list	29.17	97.92	59.71	15.87
Effects of kidney disease	15.62	81.25	46.25	16.05
Burden of kidney disease	0	68.75	25.00	14.88
Work status	0	100	34.35	32.08
Cognitive function	20.00	93.33	51.59	17.28
Quality of social interaction	20.00	80.00	50.96	15.65
Sexual function	0	100	45.43	31.65
Sleep	17.50	80.00	45.04	15.22
Social support	16.66	100	58.41	19.17
Dialysis staff encouragement	50.00	100	85.22	12.45
Patient satisfaction	33.33	100	93.77	12.18

According to table 4.8, there are 24 kind of illness discovered in this study with highest comorbidity with ESRD is 6 illness. Samples received support from special person, family and friends are difference in that patients get from friends is the lowest. The lowest mean score was 28, the mean scores was 56.21. A lot of patients through symptoms status daily make them feel uncomfortable, such as fatigue, anorexia. The highest scores were 82. The mean symptom status scores as measured by the ESAS for this sample was 48.92 (SD = 17.27). The mean quality of life scores was 45.53 (SD = 13.2) with ranging from 15 to 73.6 (table 4.9).

Table 4.9 Mean and standard Deviation of previous**'**s illness, social Support, symptom status and quality of life **(**n=115**).**

Variable	**Possible Range**	**Observed Rang**	**Mean**	**Std. Deviation**
Previous 's illness	0 - 24	0 - 6	-	-
Social Support	12-84	28 - 80	56.21	14.42
Symptom status	10-100	19 - 82	48.92	17.27
Quality of life	-----	15 – 73.6	45.53	13.20

The majority of patients (62.6%) belonged to below average group, following by 33% participant in rather average group (table 4.10).

Table 4.10 Classification quality of life follows scores (n=115)

Comorbidity	Number	Percentage (%)
Poor (0-25 scores)	5	4.3
Below average (26 – 49 scores)	72	62.6
Rather average (50-75 scores)	38	33.0
Quite well (76-100 scores)	0	0

4.4 Correlation between previous illnesses, social support, symptom status and quality of life.

All variables in this study were tested for their normal distribution and the results and the results showed that most of variable not have normal distribution. Accordingly, Spearman's who was employed to test correlation among studied variables. The results in table 4.11 showed the correlation between comorbidity social support, symptom status and quality of life of HD patients. There was statistically significant negative correlation between previous illness and quality of life ($r = -.46$; $p<.01$) indicating that patients had more previous illness were less likely have lower quality of life score. Furthermore, the statistically significant negative correlation between symptom status and quality of life also was explored ($r = -.67$, $p<.01$) indicating that patients had more symptom were had lower quality of life. In the contrary, there was statistically significant positive correlation between social support and quality of life ($r = .63$; $p<.01$) indicating that patients had higher social support were more likely have higher quality of life (table 4.11)

Table 4.11 Correlation between comorbidity, social support, symptom status and quality of life **(**n=115**)**

	1	**2**	**3**	**4**
1. Comorbidity	1.00			
2. Social Support	-.496**	1.00		
3. Symptom status	.512**	-.515**	1.00	
4. Quality of life	-.460**	.627**	-.669**	1.00

** p <.01

CHAPTER V
DISCUSSION

In this chapter, the researcher will present the discussion of this research findings relevance to the studied objectives.

5.1 Quality of life among patients with end stage renal disease receiving hemodialysis.

The patients in this study composed of 115 patients with end stage renal disease(ESRD) receiving hemodialysis (HD) at Bach Mai Hospital. All of them were treated as outpatients and obtained at least 2 cycles of HD per week. During data collection, there was no adverse event so that all of them participated throughout the study with no attrition.

Quality of life (QOL) in patients in this study was in the average scores of 45.53 (SD±13.20) which referred to poor and below average level on QOL. Moreover, there are 5 patients had poor level on QOL (4.3%), the majority of patients (62.6%) had below average level on QOL. The explanation was that majority of them had been on the HD treatment for more than 61 months (5 years), they had to deal with high expense on the treatment and most of them (54.8%) had to travel from the other province out of Hanoi to get treatment. Traveling from hometown might add more expense for them and made them become tired. Some patients' residences were very far for traveling, they had to rent a small room to stay near Bach Mai Hospital whereas they could walk for receiving HD. Among these patients their expense depended on the support from family, relatives and friends (Khalil &Abed, 2014). This result was less then Bayoumi's study in Saudi (49.5 ± 13.7) (Bayoumi et al., 2013). It was also found that patients suffered with "tired" symptom in relatively high score (mean = 6.17, SD± 2.94**).** Similar to the study of Lee & Jeon **(**2015**)** among 143 Korean patients with stage 2 to 4 CKD, the prominent symptom found were energy

insufficiency due to the accumulation of waste products in blood stream(Lee & Jeon, 2015).This study was also supported the findings from previous researches which stated that QOL score in end stage renal disease patients was demonstrated lower than the general population and declining quality of life in patients with ESRD was correlated with reduced glomerular filtration rate (Tsai et al., 2010). When there was a progressive of disease, patients would demonstrate deterioration in physical function and tremendous declined in QOL (Nayana, Balasubramanian, Nathaliya, Hussain, Salim&Lubab, 2016). Moreover, patients in this study reported loss of appetite in moderated scores (mean = 5.70, SD± 2.66) which led them to feel tired and experienced the feeling "not in wellbeing" (mean = 5.52, SD± 1.98). Other factors contributed to poor QOL was the income of these patients, 56.5 % reported that they had no income because they could not work due to their poor health condition and they had to spend time on HD. Many of them had to rely on their family members' income which made them feel like a burden to their family. Their roles changed which was reflected in the low scores of physical functions(mean = 41.52, SD ± 32.09, from total scores of 100).

5.2 The relationship between comorbidity and quality of life

Comorbidity was negatively correlated with QOL ($r = -.46$, $p < .01$). It referred that patients with ESRD who had multiple comorbid diseases showed poorer QOL. The explanation is that when patients suffered with various co morbid diseases, they had to use multiple medications to treat those diseases. This might lead to more drug compatibility and adverse effects from multi drug used. Moreover, nearly half of patients (46.1%) were hypertension; these patients received antihypertensive drugs which caused hypostatic hypotension while they changed position.

There were 43.5 % of patients with glomerulonephritis and 27% with nephrotic syndrome. These co morbid diseases caused accumulation of urea and creatinine as evidences found from this study that all of patients had high level of creatinine and 97.4% had high level of urea. High level of urea affected consciousness and cognitive status of patients leading them to altered life pattern. Moreover, hyper uremia caused dryness of skin, skin itching and discomfort. Many studies found that it

led to sleep disturbance and feeling restless and tired. Likewise, what found in previous studies, patients with many diseases indicated more severe comorbidity burden and QOL will be influenced (Di Iorio et al., 2004; Khalil & Abed., 2014).

The link between an increasing number of comorbidity and lower HRQOL has been previously reported. Khanh and colleagues have researched in Vietnam in 2012 also indicated the negative relationship among comorbidities and QOL in HD patient (Khanh et al, 2012). Van Manen's study (2003) compared comorbidity with the physical and mental components of the SF-36 (PCS and MCS) and found correlation among these variables (Van Manen., 2003).

5.3 The relationship between social support and quality of life

Almost ESRD patients receiving HD in Bach Mai hospital are very poor. Majority of the patients have lived in province then they must to hire the room in near hospital to live. In addition, after receiving HD in hospital, they also need to find a part time job such as working in market, housework. Patients seemed to strongly rely to health care insurance as well as funding from their family (mean = 5.26, r = 1.29). The mean score of patient received social support was 56.21 (r = 14.42). In addition, the patients rarely received friend support that can be explained that the time for HD was too long then their friends were difficult to follow and support them. Furthermore, based on Vietnamese cultural, family was cornerstone in the life (Do, 2002).

Our finding was consistent with Khalil and Abed (2014) in Jordan that the friend support was low score (Khalil and Abed, 2014), however, the mean score in Jordan still higher than Vietnam score (mean =63.9, r = 14.8) (Khalil & Abed, 2014). The difference can be explained that Jordan's income was very high so the family had more opportunity to support the patient.

Our finding had lower score than the study in USA in 2011 with mean score was 72 ± 17 (Khalil, Frazier, et al., 2011) or another study in South Asia (67.4 ± 12.2) (Tonsing et al., 2012). This finding indicated that developed countries had more support from family, friends, social as well as health care system to ERSD patients.

To explore the correlation between social support and QOL, Spearman's rho was calculated and the results are shown in table 4.11. Patients who receive social

support was reported as high this had a significant and positive relationship with QOL in HD patients (r =.627, p<.01). Our finding was consistent with another study in Vietnam (r =.3, p<.01) (Khanh, 2013) and other country as research of Rambod and colleagues Iran shown that total QOL was also significantly correlated with perceived social support (r= .72, p<.01) (Rambod et al, 2010).

5.4 The relationship between symptom status and quality of life

In this study, the severity of symptoms for ESRD was measured using the Edmonton Symptom Assessment System scale, which was constituted to quickly measure the symptoms status in a Dialysis department (Davison et al., 2006). Result this research showed that tired symptom had the highest scores (mean = 6.17, SD ± 2.94), lowest depressed symptom scores is 3.89 (SD ±1.97). This result had similarity with a study done by Davison and colleagues (2006). However, total symptoms distress score (mean ±SD**:** 48.92±17**.**27) was also higher in this study than in Davison's study (mean ±SD**:**33.9±18.9). This difference can health care better in Australia in Vietnam, this difference can be attributed to the severity of symptoms increasing as the kidney function deteriorates symptom severity or burden were similar despite racial differences or two studies have compared symptom status between patients from different cultures; in both studies, patients were receiving HD (Almutary et al., 2013).

There were negative correlations between the total symptoms scores and total QOL (r=−.669, p<.01).This result research is same previous study (Davison et al., 2006; Thong et al. 2009). Lowney's research used Palliative Care Outcome Scale (POS) to find correlations with QOL also showed that spending more patients experiencing symptoms are also reduced QOL (r = -.58,p<.01) (Lowney et al., 2015). This is understandable, the ESRD will have a lot of comorbidity symptoms because they may not have the economic conditions, medical assistance is limited, kidney disease complications generate symptoms, when patients suffer more symptoms, more severe symptoms, and the patient must daily endure the symptoms that led to declining QOL. In this study, higher symptom scores refer to lower QOL, which indicated that clinical nurses should take into account QOL to provide quality nursing care.

In conclusion, finding from this study supported the concept of health-related quality of life theory in that QOL in patients with ESRD receiving HD was a comprehensive view point represented the whole picture of patients' lives. This group of patients dealt with poor QOL which reflected by inclusive aspects. Those comprised physical function, sociological function, psychological function as well as role function. Factors influencing QOL were prominently discovered so that nurses can provide various strategies to improve QOL among patients with ESRD by proper intervention.

CHAPTER VI
CONCLUSION

6.1 Conclusion of the study

This descriptive correlational study aimed to examine the relationship between comorbidity social support, symptom status and quality of life with end stage renal disease receiving hemodialysis that aged 21 – 77 years old in Dialysis department from August to October, 2016.Quality of life theory was utilized as a framework of this study. The sample size in this study was calculated by using G*power version 3.1.9.2 program to determine the minimum number of participants needed for co-relational design. The sample calculation yielded 115 samples. The research setting was the Dialysis department, in one of biggest in Viet Nam.

After study obtained approval from Institutional Review Board of Nursing faculty, Mahidol University and Institutional of Review Board of SMP, Vietnam National University, Hanoi, Vietnam. The researcher used 5 instruments: The demographic data questionnaire; The record of patients' previous illnesses; The Multidimensional Scale Perceived Social Support (MSPSS); Edmonton Symptom Assessment System scale **(**ESAS**)** and Kidney Disease Quality of Life-Short Form 36 scale (KDQOL-SF36: RAND-36) to collect data. All instruments were tested for their validity and reliability as clearly explained in chapter 3. Cronbach's alpha coefficient of Scale Perceived Social Support (MSPSS) was 9.74; Edmonton Symptom Assessment System scale **(**ESAS**)** was 9**.**18 and Kidney Disease Quality of Life-Short Form36 (KDQOL-SF36: RAND-36) was 8.01. The 115 samples were selected according to the inclusion criteria. The researcher collected data by herself from 8.00 amto 9.00 pm every day until the sample reached the target of the studied sample size. For each sample the researcher spent 30 to 40 minutes on interviewing and collected some data from their patients' records. During data collection, there was no adverse event among the sample. All sample recruited in the study remained throughout the study process with no attrition.

Data analysis was conducted by using SPSS computer program. The descriptive statistics were used to describe general information and study variables, including comorbidity, social support, symptoms status and quality of life.The assumption of Pearson' Product Moment Correlation was tested and it was found that all variables were not in normal distribution. Accordingly, Spearman's rho was used to examine correlation comorbidity, social support, symptoms status and quality of life among patients with ESRD receiving hemodialysis.

The findings are summarized as follows:

Within 115 patients, there were 61.7 % of female 38.3 % of male with the ages ranged from 21 to 77 years. The average age was 47.47years (SD ±14.14 years). A lot of prominent age young group was with 46.8% (years 35 – 21). A lot of samples have BMI under normal level (40%). The majority of the samples don't have income (56.5%) and unemployment (27%). More than half of patients who live countryside (54.8%) were married (69.6%). The majority of them had been receiving hemodialysis more than 61 months (5 years), 90.4% samples had anemia status. All most HD patients have comorbidity (94.8%) included glomerulonephritis, nephrotic syndrome, diabetes and hypertension. The mean scores of social support were 56.21 (SD ± 14.42), all most patients received support from family; little patients received support from friends. Rang of symptoms status scores in HD patients from 19 to 82 (max 100), mean 48.92 (SD ±17.27), high symptoms scores indicate in tired (mean = 6.17, SD ± 2.94) and no feeling of wellbeing (mean =5.52, SD ± 1.98). There were 5 patients had poor level on QOL (4.3%). The majority of patients (62.6%) had below average level on QOL (26 – 49 scores) and (33%) rather average(50-75 scores), no patients had levels of quite, well(76-100 scores).

There were correlations among comorbidity, social support, symptoms status and quality of life among patients with ESRD receiving hemodialysis. Numbers of comorbidity and severity of symptoms were negatively correlated with QOL (r =-.46, p<.01; r =- .67, p <.01 respectively) while social support was positively correlated with QOL (r =.63, p <.01).

The results of this study reflected the concept as proposed in quality of life theory in that patients with end stage renal disease receiving hemodialysis had relatively poor QOL. Factors correlated with poor quality of life among these patients

comprised internal or patients-related factors such as patients' comorbidity and patients' severity of symptoms while external or environmental-related factor was social support.

6.2 Implications of Research Findings

6.2.1 Implications for nursing practice

To enhance QOL in patients with ESRD receiving hemodialysis nurses should perform these following activities;

1) Assess patients' comorbidity and identify patients who have high numbers of comorbidities. Patients' symptoms or illnesses related to comorbidities have to be controlled and treated properly.

2) Patients' symptoms in particular tired symptom has to be managed by many measures for example; enhance patients' appetite, giving advises about sleep hygiene and adequate rest.

3) Enhance family support, peer group support as well as support from society. Thus, the patients' QOL will be improved.

4) Patients who have low income and residing far away from Bach Mai hospital, Hanoi should receive welfare support from appropriate resources.

5) Patients' QOL should be continuously assessed in every 3 months in order to monitor patients' QOL. When poor QOL was identified, appropriate measures should be taken into consideration.

6.2.2 Implication for further researches

1) Clinical practice guidelines to improve QOL patients with ESRD receiving hemodialysis should be developed and tested for its effectiveness by using quasi experimental research.

2) Kidney Disease Quality of Life-Short Form 36scale (KDQOL-SF36) in Vietnamese version should be tested in its psychometric property by using in adequate numbers of patients, advanced statistic-factor analysis should be employed to test

the psychometric property of Quality of Life-Short Form 36 scale (KDQOL-SF36) in Vietnamese context.

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APPENDIX

INSTRUMENTS (Vietnamese version)

1

BỘ CÂU HỎI NGHIÊN CỨU

I: Thông tin chung của bệnh nhân

Số thứ tự: ..... **Mã bệnh án:** .....

Mã ID:.....

Các câu hỏi sau đây có liên quan đến thông tin cá nhân của Ông/bà. Hãy điền đầy đủ các thông tin vào chỗ trống và khoanh tròn phương án trả lời mà Ông/bà cho là đúng nhất với Ông/bà. Nếu câu hỏi nào Ông/bà không hiểu vui lòng hỏi tôi, tôi sẽ trả lời Ông/bà.

1. Họ tên bệnh nhân: ..... Tuổi.....
2. Giới: 1. Nam ..... 2. Nữ .....
3. Cân nặng: .....
4. Chiều cao: .....
5. BMI: .....
6. Tỉnh/ Thành phố: .....
7. Bệnh viện đã điều trị trước khi điều trị tại bệnh viện Bạch Mai: .....
8. Nghề nghiệp:
   1. Thất nghiệp
   2. Công nhân
   3. Kinh doanh
   4. Công chức nhà nước
   5. Nông dân
   6. Nội trợ
   7. Hưu trí
   8. Khác
9. Trình độ học vấn:
   1. Cấp 1
   2. Cấp 2
   3. Cấp 3
   4. TC, CĐ và dạy nghề
   5. Đại học
   6. Trên đại học
   7. Khác
10. Tình trạng hôn nhân:
    1. Đã có gia đình
    2. Ly hôn/ góa/ ly thân
    3. Độc thân
11. Thu nhập/tháng: .....VND = ... USD
12. Thời gian bị bệnh: ..... (ngày, tháng)
    1. Dưới 12 tháng
    2. Từ 12 - 36 tháng
    3. Từ 37 -60 tháng
    4. Từ 61-120 tháng
    5. Trên 120 tháng
13. Phương pháp Ông/bà lựa chọn điều trị lâu dài:
    1. Lọc máu chu kỳ
    2. Ghép thận
    3. Lọc màng bụng
14. Phương pháp thanh toán:

2

1. Tự trả
2. Chính phủ chi trả
3. Bảo hiểm y tế
4. Bảo hiểm nhân thọ
5. Khác

15. Các xét nghiệm:

1. Ure: ……..... 4. Huyết áp : ……
2. Creatinin: …… 5. Albumin: …….
3. Glucose: …….. 6. Hồng cầu: …..…….

2: Bảng ghi chép các bệnh trước đây của bệnh nhân.

Số: ……. ID: …….

Điểm	Điều kiện lâm sàng
0	Không có bệnh kèm theo
1	Viêm cầu thận (đã được kiểm soát)
1	Hội chứng thận hư (đã được kiểm soát)
1	Tăng huyết áp
1	Bệnh tim
1	Bệnh phổi mãn tính
1	Lupud
1	Nhồi máu cơ tim
1	Suy tim sung huyết
1	Bệnh mạch máu ngoại vi
1	Sa sút trí tuệ
1	Bệnh mô liên kết
1	Bệnh viêm loét dạ dày
1	Bệnh gan nhẹ (không có tăng áp lực tĩnh mạch cửa, bao gồm viêm gan mãn tính).
1	Bệnh tiểu đường không có tổn thương cơ quan đích (ngoại trừ kiểm soát chế độ ăn đơn thuần).
1	Liệt nửa người
1	Bệnh thận vừa hoặc nặng: viêm cầu thận mạn tính, hội chứng thận hư
1	Bệnh tiểu đường có tổn thương cơ quan đích (bệnh võng mạc, bệnh thần kinh, bệnh thận, hoặc bệnh tiểu đường không ổn định)
1	Khối u không di căn (loại trừ chẩn đoán xác định trên 5 năm)
1	Bệnh bạch cầu (cấp tính hoặc mãn tính)
1	Bệnh U lympho
1	Bệnh xơ gan trung bình hoặc nặng
1	Khối u có di căn
1	AIDS (không chỉ là HIV dương tính)
	Tổng số bệnh kèm theo

3: Thang khảo sát mức độ hỗ trợ của Xã hội

Chúng tôi quan tâm đến **CẢM NHẬN** của Ông/bà như thế nào về các vấn đề sau. Hãy đọc các mệnh đề dưới đây cẩn thận và cho biết **CẢM NHẬN** của Ông/bà về những mệnh đề dưới đây:

Khoanh tròn "1" nếu Ông/bà hoàn toàn không đồng ý
Khoanh tròn "2" nếu Ông/bà rất không đồng ý
Khoanh tròn "3" nếu Ông/bà không đồng ý
Khoanh tròn "4" nếu Ông/bà không có ý kiến
Khoanh tròn "5" nếu Ông/bà đồng ý
Khoanh tròn "6" nếu Ông/bà rất đồng ý
Khoanh tròn "7" nếu Ông/bà hoàn toàn đồng ý

Nội dung		Hoàn toàn không đồng ý	Rất không đồng ý	Không đồng ý	Không có ý kiến	Đồng ý	Rất đồng ý	Hoàn toàn đồng ý
1.	Luôn có một người đặc biệt ở bên cạnh tôi mỗi khi tôi cần	1	2	3	4	5	6	7
2.	Luôn có một người đặc biệt ở bên cạnh tôi, giúp tôi chia sẻ buồn vui.	1	2	3	4	5	6	7
3.	Gia đình tôi luôn cố gắng giúp tôi	1	2	3	4	5	6	7
4.	Tôi nhận được sự giúp đỡ và hỗ trợ về mặt tình cảm từ gia đình mỗi khi tôi cần.	1	2	3	4	5	6	7
5.	Luôn có một người đặc biệt làm cho tôi thấy thoải mái.	1	2	3	4	5	6	7
6.	Bạn bè của tôi luôn cố gắng giúp tôi.	1	2	3	4	5	6	7
7.	Tôi có thể tin tưởng vào những người bạn của tôi khi tôi có những hướng đi sai lầm	1	2	3	4	5	6	7
8.	Tôi có thể nói với gia đình về các vấn đề của tôi.	1	2	3	4	5	6	7
9.	Tôi luôn có những người bạn có thể chia sẻ với tôi những buồn vui.	1	2	3	4	5	6	7
10.	Luôn có một người đặc biệt trong cuộc đời tôi quan tâm đến cảm xúc của tôi.	1	2	3	4	5	6	7
11.	Gia đình tôi luôn sẵn sàng giúp tôi đưa ra quyết định.	1	2	3	4	5	6	7
12.	Tôi có thể nói chuyện với những người bạn về các vấn đề của tôi.	1	2	3	4	5	6	7

5

4: Thang đánh giá triệu chứng lâm sàng

Chúng tôi quan tâm đến CẢM NHẬN của Ông/bà như thế nào về các mệnh đề sau. Hãy đọc các mệnh đề dưới đây cẩn thận và đưa ra cảm nhận về triệu chứng lâm sàng mà Ông/bà đang bị. Khoanh tròn vào một số trên mỗi hàng mà Ông/bà cho là đúng nhất.

Họ và tên Ông/bà: ……..

Ngày: …… Giờ: ……

Phiếu này được điền bởi:

1. Người bệnh
2. Người chăm sóc
3. Người hỗ trợ chăm sóc

	Mức độ											
1.	Không đau	1	2	3	4	5	6	7	8	9	10	Đau nhất
2.	Không mệt	1	2	3	4	5	6	7	8	9	10	Mệt nhất
3.	Không buồn nôn	1	2	3	4	5	6	7	8	9	10	Buồn nôn nhất
4.	Không Trầm cảm	1	2	3	4	5	6	7	8	9	10	Trầm cảm nhất
5.	Không lo lắng	1	2	3	4	5	6	7	8	9	10	Lo lắng nhất
6.	Không buồn ngủ	1	2	3	4	5	6	7	8	9	10	Buồn ngủ nhất
7.	Thèm ăn nhất	1	2	3	4	5	6	7	8	9	10	Chán ăn nhất
8.	Cảm giác thoải mái	1	2	3	4	5	6	7	8	9	10	Khó chịu nhất
9.	Thở bình thường	1	2	3	4	5	6	7	8	9	10	Thở hụt hơi nhất
10.	Triệu chứng khác	1	2	3	4	5	6	7	8	9	10	Triệu chứng khác

6

5: Thang đo về bệnh thận và chất lượng cuộc sống Phiên bản rút gọn (KDQOL-SF36)

Khảo sát này gồm nhiều câu hỏi về sức khỏe và cuộc sống của Ông/bà. Chúng tôi quan tâm đến việc Ông/bà cảm thấy thế nào trong mỗi vấn đề sau. Hãy trả lời từng câu bằng cách khoanh tròn ý Ông/bà cho là đúng. Nếu chưa chắc chắn, vui lòng đưa ra câu trả lời phù hợp với Ông/bà nhất.

1. Nhìn chung, Ông/bà thấy sức khỏe của mình là: (khoanh tròn vào số phù hợp với Ông/bà)

Tuyệt vời	*1*
Rất tốt	*2*
Tốt	*3*
Trung bình	*4*
Kém	*5*

2. So với 1 năm trước, nhìn chung sức khỏe hiện nay của Ông/bà nói chung thế nào (khoanh tròn vào số phù hợp với Ông/bà)

Tốt hơn năm ngoái nhiều	*1*
Tốt hơn năm ngoái	*2*
Cũng như năm ngoái	*3*
Kém hơn năm ngoái	*4*
Kém hơn năm ngoái nhiều	*5*

3. Những mệnh đề dưới đây đề cập đến các hoạt động của Ông/bà có thể làm trong 1 ngày. Sức khỏe của Ông/bà hiện nay có làm hạn chế những hoạt động này không? Nếu có thì ở mức độ nào? (khoanh tròn vào số trên mỗi hàng phù hợp với Ông/bà)

	Hoạt động	Có hạn chế nhiều	Có hạn chế chút ít	Không hạn chế gì cả
a.	Các **hoạt động mạnh** như chạy bộ, mang vác đồ nặng, chơi các môn thể thao đòi hỏi vận động nhiều (bóng đá, bóng chuyền, cầu lông...)	1	2	3
b.	Các **hoạt động vừa phải** như đi bộ, lau nhà, dời bàn ghế trong nhà...	1	2	3
c.	**Xách theo hàng hóa** mua được trong khi đi chợ hay siêu thị	1	2	3
d.	**Leo nhiều bậc** cầu thang	1	2	3
e.	**Leo một bậc** cầu thang.	1	2	3
f.	**Cúi gập người**, khom lưng hay quỳ(cúng, lễ)	1	2	3
g.	Đi bộ hơn 1.5 cây số	1	2	3
h.	Đi bộ khoảng nửa cây số	1	2	3

i.	Đi bộ khoảng 100m	1	2	3
j.	**Tự mình** tắm rửa hoặc thay quần áo	1	2	3

4. Trong tháng vừa qua, Ông/bà có gặp trở ngại trong công việc hoặc các sinh hoạt hằng ngày do TÌNH TRẠNG SỨC KHỎE của mình hay không (khoanh tròn một số trên mỗi hàng phù hợp với Ông/bà)

		Có	Không
a.	**Thời gian** làm việc hay các sinh hoạt khác giảm đi	1	2
b.	**Hiệu quả** làm việc kém hơn	1	2
c.	**Bị hạn chế** trong lúc làm việc hay các sinh hoạt khác	1	2
d.	**Gặp khó khăn** trong lúc làm việc cũng như các sinh hoạt khác (chẳng hạn nhu tiêu tốn sức lực nhiều hơn)	1	2

5. Trong tháng vừa qua, Ông/bà có bị trở ngại trong công việc hoặc các sinh hoạt hằng ngày do các vấn đề CẢM XÚC (như trầm cảm hoặc lo lắng) hay không? (khoanh tròn vào số trên mỗi hàng phù hợp với Ông/bà).

		Có	Không
a.	**Thời gian** làm việc hay các sinh hoạt khác giảm đi.	1	2
b.	**Hiệu quả** làm việc kém hơn	1	2
c.	**Không để tâm** lắm trong lúc làm việc cũng như sinh hoạt khác	1	2

6. Trong tháng vừa qua, tình trạng sức khỏe hoặc tâm lý xáo trộn (trầm cảm hoặc lo lắng) ảnh hưởng đến CÁC HOẠT ĐỘNG XÃ HỘI THÔNG THƯỜNG của Ông/bà cùng với người thân trong gia đình, bè Ông/bà, hàng xóm láng giềng hay với các nhóm bạn bè khác ở mức độ nào? (khoanh tròn vào số phù hợp với Ông/bà)

Không hề	*1*
Không đáng kể	*2*
Tương đối	*3*
Khá nhiều	*4*
Rất nhiều	*5*

7. Trong tháng vừa qua, các CƠN ĐAU hoặc NHỨC MỎI trong người đã ảnh hưởng đến Ông/bà ở mức độ nào? (khoanh tròn một số phù hợp với Ông/bà)

Không hề	*1*
Chút ít	*2*
Hơi hơi	*3*
Tương đối	*4*
Khá nhiều	*5*
Rất nhiều	*6*

8. Trong tháng vừa qua, các CƠN ĐAU hoặc NHỨC MỎI trong người đã ảnh hưởng đến VIỆC LÀM HÀNG NGÀY của Ông/bà như thế nào? (khoanh tròn vào số phù hợp với Ông/bà)

Không hề	*1*
Chút ít	*2*
Tương đối	*3*
Khá nhiều	*4*
Rất nhiều	*5*

9. Những mệnh đề dưới đây, Ông/bà cảm thấy thế nào và mọi việc xảy ra như thế nào với Ông/bà trong tháng vừa qua. Với mỗi mệnh đề, hãy đưa ra câu trả lời gần đúng nhất với cảm giác của Ông/bà. (khoanh tròn vào số trên mỗi hàng phù hợp với Ông/bà)

		Mọi lúc	Nhiều lúc	Đôi lúc	Ít khi	Hiếm khi	Hoàn toàn không
a.	*Ông/bà có **hăng hái nhiệt tình** với cuộc sống hiện tại?*	*1*	*2*	*3*	*4*	*5*	*6*
b.	Ông/bà là người hay **lo lắng**?	1	2	3	4	5	6
c.	Ông/bà cảm thấy **buồn chán** đến mức không có gì làm Ông/bà vui lên được?	1	2	3	4	5	6
d.	*Ông/bà cảm thấy **điềm tĩnh và bình thản**?*	*1*	*2*	*3*	*4*	*5*	*6*
e.	*Ông/bà thấy mình **tràn đầy năng lượng**?*	*1*	*2*	*3*	*4*	*5*	*6*
f.	Ông/bà cảm thấy mình **chán nản** và **không hạnh phúc**?	1	2	3	4	5	6
g.	Ông/bà cảm thấy **kiệt sức**?	1	2	3	4	5	6
h.	*Ông/bà thấy mình là người **hạnh phúc**?*	*1*	*2*	*3*	*4*	*5*	*6*
i.	Ông/bà có cảm giác **mệt mỏi**?	1	2	3	4	5	6

10. Trong tháng vừa qua, tình trạng sức khỏe hay tâm lý xáo trộn có ảnh hưởng đến CÁC HOẠT ĐỘNG XÃ HỘI của Ông/bà như thế nào (chẳng hạn đi thăm bạn bè, người thân)? (khoanh tròn vào số trên mỗi hàng phù hợp với Ông/bà)

Mọi lúc	1
Nhiều lúc	2
Đôi khi	3
Hiếm khi	4
Hoàn toàn không	5

11. Hãy cho chúng tôi biết, CẢM NHẬN của Ông/bà về tình trạng sức khỏe bản thân. Hãy chọn phương án chính xác nhất mô tả sự đúng hoặc sai của từng mệnh đề dưới đây. (khoanh tròn vào số trên mỗi hàng phù hợp với Ông/bà)

		Hoàn toàn đúng	Gần đúng	Không biết	Gần như không đúng	Hoàn toàn không đúng
a.	Dường như tôi **dễ bị bệnh** hơn những người khác	1	2	3	4	5
b.	*Tôi **khỏe mạnh** như những người mà tôi quen biết.*	*1*	*2*	*3*	*4*	*5*
c.	Tôi biết sức khỏe của mình **đang đi xuống.**	1	2	3	4	5
d.	*Sức khỏe tôi là **tuyệt vời**.*	*1*	*2*	*3*	*4*	*5*

II. BỆNH THẬN CỦA ÔNG/BÀ

12. Hãy cho chúng tôi biết, những câu sau đây đúng hay sai với Ông/bà. (khoanh tròn vào số trên mỗi hàng phù hợp với Ông/bà).

		Hoàn toàn đúng	Gần như đúng	Không biết	Gần như không đúng	Hoàn toàn không đúng
a.	Bệnh thận của tôi gây **ảnh hưởng** rất lớn Tới cuộc sống của tôi	1	2	3	4	5
b.	Tôi **tốn quá nhiều nhiều thời gian** để đối phó với căn bệnh thận của mình.	1	2	3	4	5
c.	Tôi cảm thấy **hụt hẫng** với căn bệnh thận của mình	1	2	3	4	5
d.	Tôi cảm thấy như là một **gánh nặng** của gia đình	1	2	3	4	5

13. Ông/bà cảm thấy thế nào và cảm thấy mọi thứ như thế nào trong tháng qua. (khoanh tròn vào số trên mỗi hàng phù hợp với Ông/bà).

		Hoàn toàn không	Hiếm khi	Ít Khi	Đôi lúc	Nhiều lúc	Mọi lúc
a.	*Ông/bà **tự tách mình** khỏi những người xung quanh?*	*1*	*2*	*3*	*4*	*5*	*6*
b.	*Ông/bà **phản ứng chậm** với lời nói hay hành động?*	*1*	*2*	*3*	*4*	*5*	*6*
c.	*Ông/bà tỏ ra **khó chịu** với những người xung quanh Ông/bà?*	*1*	*2*	*3*	*4*	*5*	*6*
d.	*Ông/bà **khó khăn** trong tập trung và suy nghĩ?*	*1*	*2*	*3*	*4*	*5*	*6*

e.	Ông/bà đã từng **hợp tác tốt** với người khác.	1	2	3	4	5	6
f.	*Ông/bà trở nên bị **lẫn lộn**?*	*1*	*2*	*3*	*4*	*5*	*6*

14. Trong một tháng qua, những triệu chứng sau đây làm phiền Ông/bà đến mức độ nào? (khoanh tròn vào số trên mỗi hàng phù hợp với Ông/bà)

		Không ảnh hưởng	Ít	Trung bình	Ảnh hưởng nhiều	Rất ảnh hưởng
a.	*Đau cơ*	*1*	*2*	*3*	*4*	*5*
b.	*Đau ngực*	*1*	*2*	*3*	*4*	*5*
c.	*Chuột rút*	*1*	*2*	*3*	*4*	*5*
d.	*Ngứa*	*1*	*2*	*3*	*4*	*5*
e.	*Da khô*	*1*	*2*	*3*	*4*	*5*
f.	*Khó thở*	*1*	*2*	*3*	*4*	*5*
g.	*Ngất hay chóng mặt*	*1*	*2*	*3*	*4*	*5*
h.	*Ăn không ngon*	*1*	*2*	*3*	*4*	*5*
i.	*Mệt mỏi hoặc kiệt sức*	*1*	*2*	*3*	*4*	*5*
j.	*Tê tay chân*	*1*	*2*	*3*	*4*	*5*
k.	*Buồn nôn, đau thượng vị*	*1*	*2*	*3*	*4*	*5*
l.	***Dành cho bệnh nhân chạy thận nhân tạo chu kỳ***					
	*Gặp vấn đề với **đường vào mạch máu***	*1*	*2*	*3*	*4*	*5*
m.	***Với bệnh nhân lọc màng bụng***					
	Gặp vấn đề với chân ống catheter.	*1*	*2*	*3*	*4*	*5*

III. ẢNH HƯỞNG CỦA BỆNH THẬN VỚI CUỘC SỐNG HÀNG NGÀY

15. Một số người cảm thấy KHÓ CHỊU bởi những ảnh hưởng của bệnh thận tới cuộc sống thường ngày trong khi một số khác thì không. Mỗi vấn đề dưới đây của bệnh thận làm Ông/bà lo lắng như thế nào? (khoanh tròn vào số trên mỗi hàng phù hợp với Ông/bà).

		Hoàn toàn không	Ít Khó chịu	Khá Khó chịu	Rất Khó chịu	Cực kỳ Khó chịu
a.	*Hạn chế nước*	*1*	*2*	*3*	*4*	*5*
b.	*Ăn kiêng*	*1*	*2*	*3*	*4*	*5*
c.	*Khả năng **làm việc nhà** của Ông/bà*	*1*	*2*	*3*	*4*	*5*
d.	*Khả năng **đi lại** của Ông/bà (du lịch)*	*1*	*2*	*3*	*4*	*5*
e.	***Phụ thuộc** vào bác sĩ và nhân viên y tế khác.*	*1*	*2*	*3*	*4*	*5*

f.	***Stress hay lo lắng*** *do bệnh thận gây ra*	*1*	*2*	*3*	*4*	*5*
g.	*Đời sống tình dục*	*1*	*2*	*3*	*4*	*5*
h.	*Ngoại hình của Ông/bà*	*1*	*2*	*3*	*4*	*5*

16. Câu hỏi sau mang tính cá nhân và liên quan tới hoạt động tình dục của Ông/bà, nhưng câu trả lời của Ông/bà lại rất quan trọng để hiểu những ảnh hưởng của bệnh thận tới đời sống của Ông/bà. Trong 4 tuần qua Ông/bà gặp vấn đề như thế nào ở lĩnh vực dưới đây? (khoanh tròn vào số trên mỗi hàng phù hợp với Ông/bà).

		Không vấn đề	Vấn đề nhỏ	Một chút vấn đề	Vấn đề khá nghiêm trọng	Vấn đề Nghiêm trọng
a.	***Có ham muốn*** *trong đời sống tình dục.*	*1*	*2*	*3*	*4*	*5*
b.	***Phải kích thích*** *trong sinh hoạt tình dục*	*1*	*2*	*3*	*4*	*5*
c.	***Không sinh hoạt*** *tình dục*	*1*	*2*	*3*	*4*	*5*

17. Hãy đánh giá GIẤC NGỦ của Ông/bà bằng thang đo từ 0 = "rất tồi" đến 10 = "rất tốt". Nếu Ông/bà nghĩ giấc ngủ của mình nằm giữa khoảng "rất tồi" và "rất tốt" hãy khoanh vào 5. Nếu Ông/bà nghĩ trong giấc ngủ của mình ở mức trên 5, khoanh tròn vào ô trên 6 trở đi. Nếu Ông/bà nghĩ trong giấc ngủ của mình ở mức dưới 5, khoanh tròn vào ô từ 4 trở xuống. Từ thang điểm 0 đến 10, Ông/bà đánh giá tổng thể giấc ngủ của mình như thế nào?

Rất tồi										Rất tốt		
	0	1	2	3	4	5	6	7	8	9	10	

18. Trong 1 tháng qua Ông/ bà thường ... (khoanh tròn vào số trên mỗi hàng phù hợp với Ông/bà).

		Hoàn toàn không	Hiếm khi	Ít Khi	Đôi lúc	Nhiều lúc	Mọi lúc
a.	***Tỉnh giấc*** *trong đêm và khó ngủ trở lại?*	*1*	*2*	*3*	*4*	*5*	*6*
b.	Ông/bà **ngủ đủ** so với nhu cầu của Ông/bà không?	1	2	3	4	5	6
c.	*Ông/bà bị sự cố khi* ***thức cả ngày****.*	*1*	*2*	*3*	*4*	*5*	*6*

19. Trong mối quan hệ với gia đình và bạn bè, Ông/bà có hài lòng với... (khoanh tròn vào số trên mỗi hàng phù hợp với Ông/bà).

		Rất không hài lòng	Không hài lòng một chút	Hài lòng một chút	Rất hài lòng
a.	Số **thời gian** mà Ông/bà có thể dành cho gia đình và bạn bè	1	2	3	4
b.	Sự **hỗ trợ** mà Ông/bà nhận được từ gia đình và bạn bè	1	2	3	4

20. Trong một tháng qua Ông/bà có kiếm được tiền không? (khoanh tròn vào vào số phù hợp với Ông/bà).

1	*Có*
2	*Không*

21. Ông/bà không đủ sức khỏe để kiếm tiền phải không? (khoanh tròn vào vào số phù hợp với Ông/bà).

1	Đúng
2	Không đúng

22. Về tổng thể, Ông/bà đánh giá sức khỏe của mình như thế nào? (khoanh tròn vào số phù hợp với Ông/bà).

Không tốt (tồi tệ hơn là chết)				Bình thường						Tốt nhất		
	0	1	2	3	4	5	6	7	8	9	10	

IV. SỰ HÀI LÒNG VỚI CHĂM SÓC Y TẾ TRONG LỌC MÁU CẤP CỨU

23. Hãy nghĩ về sự chăm sóc y tế mà Ông/bà nhận được trong lọc máu. Ông/bà hãy đánh giá về sự than thiện và quan tâm của nhân viên y tế đối với Ông/bà? (khoanh tròn vào số phù hợp với Ông/bà).

Rất kém	Kém	Không tốt lắm	Tốt	Rất tốt	Tuyệt vời	Tốt nhất
1	2	3	4	5	6	7

24. Mỗ phát biểu dưới đây là đúng hay không đúng? (khoanh tròn vào số ở mỗi hàng Ông/bà cho là phù hợp)

		Đúng hoàn toàn	Gần đúng	Không biết	Hầu như sai	Hoàn toàn sai
a.	*Nhân viên lọc máu **khuyến khích tôi độc lập** khi có thể*	*1*	*2*	*3*	*4*	*5*
b.	*Nhân viên lọc máu giúp **tôi đối phó với bệnh thận** của tôi*	*1*	*2*	*3*	*4*	*5*

V. THÔNG TIN CƠ BẢN

25. Ông/bà có đang <u>uống thuốc theo đơn</u> của bác sỹ chuyên khoa (4 ngày hoặc nhiều hơn trong 1 tuần) không? Xin hãy không tính các thuốc như là kháng viêm hoặc Aspirin. (khoanh tròn vào số phù hợp với Ông/bà).

1	Không	*tiếp tục câu 26*
2	Có	*tiếp câu 25a*

25a: Gần đây, Ông/bà đang dung bao nhiêu loại thuốc khác nhau?

Tổng số thuốc là: .....

26. Trong 6 tháng gần đây Ông/bà đã <u>nằm viện</u> trong bao nhiêu ngày?
(nếu không điền số: 0).

Tổng số ngày là: ……..

27. Trong 6 tháng gần đây, Ông/bà có đến bệnh viện thăm khám nhưng trở về nhà trong cùng 1 ngày (<u>không nằm viện</u>)? *(nếu không điền số: 0).*

Số ngày:……

***28.* <u>Nguyên nhân</u> gây bệnh thận của Ông/bà.** *(khoanh tròn tất cả những câu Ông/bà cho là đúng)*

1	Không biết
2	Cao huyết áp
3	Tiểu đường
4	Thận đa nang
5	Viêm cầu thận
6	Viên thận bể thận
7	Nguyên nhân khác

Cảm ơn Ông/bà đã tham gia nghiên cứu này!

PERMISSION FOR USING INSTRUMENTS

Gmail

Vũ Đình Tiến <vudinhtienybm@gmail.com>

(không có chủ đề)

3 thư

Vũ Đình Tiến <vudinhtienybm@gmail.com> 08:22 Ngày 19 tháng 12 năm 2015
Tới: Gzimet@iu.edu

Dear Dr Zimet,

My name is Vu Dinh Tien I'm working in Bach Mai Hospital, Hanoi, Vietnam. I am participating second year Master nursing at Mahidol, Thai lan. I'm going to do a study about " factors related to quality of life among patient with End stage renal disease receiving hemodialysis ". Social support is one of factors that I want to focus among patient with ESRD, I just read about your MSPSS scale that measure social support very effectively and I am really exciting its content. So, I want to ask your permission about using this instrument. Please, help me ! I promise that I only use it for reference, not for any commercial purposes.

Extremely grateful for your support! Wish you have a happy time!

Best regards,

Dinh Tien

Zimet, Gregory D <gzimet@iu.edu> 11:08 Ngày 19 tháng 12 năm 2015
Tới: Vũ Đình Tiến <vudinhtienybm@gmail.com>

Dear Vu Dinh Tien,

You have my permission to use the MSPSS in your research study. I have attached a copy of the original English language version of the scale (with scoring information on the 2nd page) and a document that lists a number of the articles that have reported on the reliability and validity of the MSPSS.

I hope you are successful in your research.

Best regards,

Greg Zimet

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Gregory D. Zimet, PhD, FSAHM

Professor of Pediatrics & Clinical Psychology

Section of Adolescent Medicine

ADDITIONAL STATISTICAL ANALYSIS

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Comorbidity	.230	115	.000	.904	115	.000
Social Support	.168	115	.000	.895	115	.000
ESAS	.097	115	.010	.957	115	.001
Quality of Life	.090	115	.022	.966	115	.005

a. Lilliefors Significance Correction

BIOGRAPHY

NAME	Vu Dinh Tien
DATE OF BIRTH	3rd November 1979
PLACE OF BIRTH	Thanh Hoa Province, Vietnam
INSTITUTIONS ATTENDED	Hanoi Medical University, 1998-2002 Bachelor of Nursing Science Mahidol University, 2015-2016 Master of Nursing Science (Adult Nursing)
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