2. REVIEW OF LITERATURE

2.1 Literature related to stress and coping

Miige Ersoy-Kart, and Ozgna Guldii (2005), Vulnerability to stress, perceived social support, and coping styles among chronic hemodialysis. The aim of this study was to investigate how coping mechanisms differ between hemodialysis patients and healthy people. The sample consisted of 110 adults (55 hemodialysis patients and 55 age and sex-matched healthy subjects). The shorter coping style scale, the vulnerability to stress scale, and the multi-dimensional scale of perceived social support were used. The results revealed that the hemodialysis patients were more vulnerable to stress and used emotion-oriented coping styles more than the healthy group.

Steven D. Weisbord, Linda F. Fried, et al (2005), Prevalence, severity and importance of physical and emotional symptoms in chronic hemodialysis patients. This study sought to assess symptoms and their relationship to quality of life and depression. Dialysis symptom Index was used to assess the presence and the severity of 30 symptoms. A total of 162 patients from three dialysis units were enrolled, the median number of symptoms was 9.0 (interquartile range 6 to 13). Dry skin, fatigue, itching, and bone/joint pain each were supported by $\geq 50\%$ of patients. Seven additional symptoms were reported $>33\%$ of patients. 16 individual symptoms were described as being more than “somewhat bothersome”. Overall symptom burden and severity were correlated directly with impaired quality of life. And depression, physical and emotional symptoms are prevalent, can be severe, and are correlated directly with impaired quality of life and depression in maintenance hemodialysis patients.
Takaki J, Nishi T, et al (2005), possible interactive effects of demographic factors and stress coping mechanisms on depression and anxiety in maintenance hemodialysis patients. The aim of this study was to assess the possible interactive effects of age, sex, duration of hemodialysis (HD). Uremic patients (N=416), regularly undergoing HD for more than 1 year were investigated. Regression lines illustrating significant (P<0.05) interactions were constructed. The decrease in depression accompanying the increase in task-oriented stress coping was greater in highly educated patients than it was in the other patients. Anxiety levels decreased when patients had both high income and demonstrated a range of task-oriented stress coping mechanisms. For patients undergoing HD for long duration or with a relatively high income, decreased depression and anxiety accompanying a decrease of emotion-oriented stress, coping was greater as compared with other patients.

Harwood L, Locking – Cusolito et al (2005), Preparing for hemodialysis: Patient stressors and responses. This qualitative study explored stressors experienced by individuals with chronic kidney disease (CKD). Individuals on hemodialysis were asked to share their recollections regarding stressors they experienced as they approached dialysis. Content analysis was used and the following themes emerged; (a) stressors (b) emotional responses (c) learning, preparation and acceptance, and (d) Regret and dissatisfaction. The result of this study has important implications for patient education and support in the care of patients with CKD.
Jacob S, Locking – Cusolito H. (2004), Thirst, distress and inter-dialytic weight gain: how do they relate? Thirst is a frequent and stressful symptom experienced by hemodialysis patients. Several studies have noted a positive relationship between thirst and interdialytic weight gain (IDWG). The purpose of this study was to examine the relationship between thirst distress (the negative symptoms associated with thirst) and IDWG. The pilot research project results showed that in a small sample of 20, there was a mildly positive, though not statistically significant, correlation between thirst distress and IDWG ($r=0.117$). Subjects showed a wide variety of thirst management strategies including: limiting salt intake, using ice chips, measuring daily allotment, performing mouth care, eating raw fruits and vegetables, sucking hard candy and chewing gum. This pilot research project showed that given an alpha of 0.05 and a power of 80%, requires a sample of 39 subjects to detect a 20% change in IDWG.

Watnick .S. et al (2003), The prevalence and treatment of depression among patients starting dialysis. The aim of the study was to assess the prevalence of depressive symptoms in patients with end stage renal disease starting dialysis therapy ($n=123$). Multi center prospective cohort study at 14-dialysis center was conducted between November 2000 and July 2001 using Beck’s Depression Inventory (BDI). The result showed that depressive symptoms are very common at the dialysis therapy, and specific characteristics are associated with a greater burden of depressive symptoms.
Fernandao Valderrabano (2003), Pre-dialysis survey on anemia management. The pre-dialysis survey on anemia management (PRESAM) was designed to assess the care given to pre-dialysis patients in the 12 months before haemodialysis or peritoneal dialysis between 1 August, 1999 and 6 April, 2000. All adult patients who entered one of the 779 participating centers in 21 European countries. Israel or South Africa was included, except for patients who underwent dialysis only during an acute episode. In addition to demographic characteristics, the study examined the prevalence of anemia. Anemia management including the use of iron supplementation and epogen source of referral to the dialysis center, comorbidity and major clinical events.

Result shows, a total of 4333 new dialysis patients were included in the survey. At the first visit to the dialysis center, 68% of the patients had a hemoglobin (Hb) concentration < 11.0 g/dl; Hb concentration was positively correlated with creatinine clearance rate ($r= 0.43, p<0.01$). Patients who received epotein had a mean Hb concentration of 8.8 g/dl. Only 26.5% of the patients received epotein before dialysis. The length of time under the care of nephrologists was associated with meeting the European Best Practice Guidelines (EBPF) target Hb concentration, as well as receiving epotein. To conclude, few pre-dialysis patients met the EBPG target for Hb concentration, despite regular nephrology care.

Biff. F. Plamer (2003), “Sexual dysfunction in men and women with chronic kidney disease and end-stage kidney disease”. Sexual dysfunction is a common finding in both men and women with chronic kidney failure. Common disturbances include erectile dysfunction in men; menstrual abnormalities in women, and decreased libido and
fertility in both sexes. These abnormalities are primarily organic in nature and are related to uremia as well as the other comorbid conditions that frequently occur in the chronic kidney failure patient. Fatigue and psychosocial factors related to the presence of a chronic disease are also contributory factors. Disturbances in the hypothalamic-pituitary-gonadal axis can be detected before the need for dialysis but continues to worsen once dialytic therapy is initiated.

Chen YS, Wu Sc et al (2003), Depression in chronic hemodialyzed patients. A total of 108 chronic stable hemodialysed patients were studied for signs of clinical depression. Depression was measured by using “The Taiwanese depression Questionnaire (TDQ). After analyzing various possible factors three dimensions were studied: affective change; somatic complaint and cognitive disturbance. Diabetic patients were also found to have higher depression scores and affective change scores than those without diabetes. The elderly experienced more somatic complaints, and patients without jobs also tend to have higher depression scores. Findings suggested that the depression found among chronic haemodialyzed patients was not a result of the physical conditions, but a result of psychosocial problems.

Takaki J, Nishi T, Shimoyama H. et al (2003), Interactions among a stressor, self-efficacy, coping with stress, depression and anxiety in maintenance hemodialysis patients. The purpose of this study was to assess the interactive effects of stressors, coping with stress and self-efficacy on depression and anxiety in maintenance hemodialysis patients (n=453). The regression lines illustrating significant (P<0.05) interactions predict that itching HD Patients with low-efficacy will be more
depressive and anxious than non-itching patients. In HD patients who report a high degree of emotion-oriented coping, itching patients will be more anxious than non-itching patients. These new findings may lead to the development of specific and focused interventions for depression or anxiety in maintenance of HD Patients.

Nancy G. Kutner, Rebecca Zhang et.al (2002), psychosocial predictors of non-compliance in hemodialysis and peritoneal dialysis patients. A multi centre cohort of 119 haemodialysis (HD) patients and 51 peritoneal dialysis (PD) patients was studied. Approximately one-third of both HD and PD patients were non-compliant on at least one indicator. No significant association was found between dialysis modality (HD vs PD) and non-compliance. Logistic regression models identified a significant association between smoking and each non-compliance indicator.

Alan J Christensen and Shawna L. Ehlers, (2002), Psychological factors in End-Stage renal disease: An emerging context for behavioural medicine research. Patient non-adherence and psychological distress are highly prevalent among ESRD patients and both have been found to contribute to greater morbidity and earlier mortality in this population. A range of factors have been examined as potential determinants of adherence and adjustment. Evidence suggests that adherence and adjustment are maximized when a patient’s preferred style of coping is consistent with the contextual features or demands of the renal intervention the patient is undergoing.
Auslander GK, Buchs A (2002), Evaluating activity intervention with hemodialysis patients in Israel. This paper examines the results of an innovative activity based on intervention aimed at reducing some of the psychological repercussions of hemodialysis. A modified withdrawal/reversal design was employed to compare patients participating in the intervention and those who did not, at two points in time. The findings confirmed that dialysis patients, in general have relatively high levels of psychological distress; difficulty adhering to the treatment regimen and poor self rated health. Patients participating in the group activity were more anxious and had lower levels of interdialytic weight gain than the non-participants. After the intervention was terminated, the levels of psychological distress, hostility and phobic anxiety among patients in the treatment group dropped, while their weight gain continued to be less than that of non-participating patients.

Williams SW et al (2002), Correlates of sleep behaviour among hemodialysis patients. The aim of the study was to correlate sleep disturbance of patients with hemodialysis. A cohort study was conducted in adult patients. Univariate analysis reveals, waking up during night (57%) and waking up too early (55%) were the most commonly sleep problems. Multivariate analyses consistently indicated that levels of pain, depressive symptoms and physical functioning were consistently associated with the seven sleep disturbances. To conclude sleep disturbances are common in patients with end stage renal disease. Physical and mental well-being were consistently related to sleep disturbances.
Curtin RB et al (2002), Hemodialysis patient’s symptom experiences: effects on physical and mental functioning. Dialysis patients experience numerous symptoms, some serious in terms of medical outcomes and all serious in terms of potential reduction in functional well-being. This cross sectional study used self-reports of hemodialysis patients to catalogue symptoms: hypothesizing that frequently experienced symptoms, regardless of acuity, negatively affect functioning and well-being.

Data were collected from 307 randomly selected hemodialysis patients from 14 dialysis facilities. Twenty-two of the 47 symptoms, queried had mean experience score of \( \geq 1 \) on a scale of 0-4, that is, were experienced by patients at least “little of the time”. Seventeen of these 22 symptoms were significantly correlated (\( \leq 0.01 \)) with the SF–36 physical component summary (PCS) scale, mental component summary (MCS) or both. All but four of these 17 symptoms (dry mouth, itchy skin, lack of appetite and restless legs) clustered around fatigue / sleep, sexual concern, or mobility. Linear multiple regressions showed age, diabetes, the fatigue or sleep and mobility clusters and itchy skin to negatively associated with MCS. Because previous research has shown the PCS and MCS to be associated with morbidity and mortality, management of common, non-acute symptoms may have long – term benefits for hemodialysis patients.

Wojtasiak E., (2001), How patients with end-stage renal disease manage their condition. The main research problem is to answer the following question: what ways of coping with situations of end-stage renal disease are used by the studied patients? To measure strategies of
coping questionnaire (WCK), devised by Folkman and Lazarus was used. As examined group, the men with end-stage renal disease (N=113), including patients with a transplanted kidney (N=54) and dialyzed patients (N=59) was chosen. The findings showed that there were no perceptible, statistically essential differences in the applied strategies, evaluated by means of WCK, between patients with a transplanted kidney and the ones dialyzed. One of such common features for the situation of both groups of patients is a real, continuous threat of losing life. The situations studied are uncontrollable situations that can actually be influenced by nobody.

Welch JL et al (2001), Stressors, coping and depression in hemodialysis patients. The aim of the study was to examine relationship among stressors, coping and depression and test mediating role of coping. By using convenient sampling, 86 patients were selected and data were collected at two points. The tools used were depression scale and Hemodialysis Stressor Scale (HSS) and coping strategy indicator. The result concludes, at time one more psychosocial stressor was associated with greater use of problem solving, social support and avoidance coping. Both avoidance coping and more psychosocial stressors at time were related to time two. Finally, avoidance coping was found to explain much of the relationship between psychosocial stressors and depression.

Barrett BJ et al (2001), clinical and psychological correlated on somatic symptoms in patients on dialysis. To examine the relationship of psychological and clinical factors to these symptoms, 191 interviews were done with patients on hemo and peritoneal dialysis. The severities of eight somatic symptoms (tiredness, sleep disturbances, cramps, pruritus,
headache, nausea, dyspnea and joint pain) of dialysis patients were measured. Indices of affect and quality of life were obtained, as well as demographic, clinical and laboratory information. The severities of each symptom; tiredness; pruritus; sleep disturbance and cramps. It also concludes that the strongest correlate of common somatic symptoms in dialysis patients is affect disturbance, and that therapy aimed at improving the affect may improve the symptoms.

Alvaren et al (2001), Physical symptoms and emotional disorders in patients on a periodic hemodialysis programme. The objective was to establish the frequency and severity of somatic symptoms and emotional distress (anxiety and depression) among chronic hemodialysis patients and to study the relationship as well as their influence on perceived health status. The patients answered the following questionnaire 1) Physical symptoms 2) A measure of anxiety (STAI), 3) A measure of depression (BDI). The findings showed the most frequent and severe symptoms were tiredness, itching, thirst, bone and joint pain and sleep disturbance. The severity of symptoms positively associated with female sex and presence of clinically relevant degree of anxiety / depression. To conclude, somatic symptoms are common among patients on chronic hemodialysis and they appear to be associated with emotional distress that influences significantly the perceived health status.

Mok E, Tam B. (2001), “stressors and coping among chronic hemodialysis patients in Hong Kong.” The purpose of the study was to determine the stressors and coping methods of chronic hemodialysis patients in Hong Kong. Relationship among treatment related stressors, coping methods and length of time on hemodialysis were explored. Fifty
subjects completed the Hemodialysis Stressor Scale (HSS) and Jalowiec Coping Scale (JCS). Results revealed that limitation of fluid was the most frequently identified stressor, followed by limitation of food, itching, fatigue and cost. The most common coping methods are ‘accepted the situation because very little could be done.’ Followed by ‘told oneself not to worry because everything would work out fine’ and ‘told oneself that the problem was really not that important. The findings of this study can further facilitate nurse practitioners in providing support, information and alternative solutions when assisting patients in coping with long-term hemodialysis.

N Aleida, et al (2001), Nirmala Niketan College of home science, New marine lines & Seth GS medical college, Parle, Mumbai. Stressors, coping strategies and extent of coping in ESRD patients and their relatives. Although dialysis has saved and continues to save many lives, the emotional impact of severe kidney dysfunction does not end with dialysis. The diagnosis of uremia once made impose new stresses on both patients and their family members.

This study which addresses the stressors and coping strategies and the extent of coping of ESRD patients and their relatives has been undertaken in view of the fact that there is limited foreign and virtually no Indian research on the same, sixty subjects (30 adult patients undergoing dialysis treatment in a public hospital in Mumbai and 30 relatives, one of each patient.) constituted the sample. The study employed an interview schedule tapping nine stress areas and coping strategies and a coping inventory assessing five dimensions of coping effectiveness for both patients and relatives. An overwhelming majority
of patients reported experiencing stress regarding physical symptoms (100%), food restriction (96%), fluid restriction (90%), hospitalization (90%), and dialysis (83.33%) and finance (80%). Getting resigned to the situation was the coping strategy generally employed by them.

A large majority of the relatives reported experiencing stress regarding finance (80.95%) and hospitalization of the patient (80%). Getting resigned to the situation was the coping strategy generally employed by them. The concordance with respect to the patient’s problem and the relative’s perception of the same was highest for physical symptoms (96.66%) and the lowest for recreational/social problems (3.33%). Overall, a majority of both patients (70%) and relatives (73.33%) were found to be exhibiting a high degree of coping effectiveness. Points for intervention strategies with patients were indicated. Research examining stressors and coping strategies of patients as a function of age, gender, socio economic status and length of time of dialysis was recommended.

Welch. J.L. (2001), Stressors, coping strategies and extent of coping in End stage Renal Disease patients and their relatives. The study employed an interview schedule tapping nine stress areas, coping strategies and a coping inventory assessing the five dimensions of coping, effectiveness for both patients and relatives. Majority of patients reported experiencing stress regarding physical symptom (100%), food restriction (96.66%), fluid restriction (90%), hospitalization (90%), dialysis (83.33%), and finance (80%), getting resigned to the situation was the coping strategy generally employed by them. A large majority of the relatives reported experiencing stress regarding finance (96.66%), changes in family roles
Impaired gonadal functions are prominent in uremic men, whereas the disturbances in the hypothalamic-pituitary axis are more subtle. By contrast, central disturbances are more prominent in uremic women. Therapy is initially directed toward optimizing the delivery of dialysis, correcting anemia with recombinant erythropoietin, and controlling the degree of secondary hyperparathyroidism with vitamin D. For many practicing nephrologists, sildenafil has become the first line therapy in the treatment of impotence. In the hypogonadal men whose only complaint is decreased libido, testosterone may be of benefit. Regular gynecologic follow-up is required in uremic women to guard against pregnancy while on dialysis. Successful transplantation is the most effective means of restoring normal sexual function in both men and women with chronic kidney failure.

Njah .M. et al (2001), “Anxiety and depression in the hemodialysis Patients”. The study evaluates the important features of minor psychiatric disorders. Goldberg test (GHQ) was applied on 109 chronic hemodialysis patients and interview reveals that anxi – depression morbidity is frequent. The result of the adaptation test to stress, patients preserve a good mood but concerns by decreasing order the lodging and the environment of the patients, the relation with the parents, friends, and the conjoined and medical care. This work, if it raises problems relatively unknown by the importance of multi disciplinary in order to assure holistic care and to improve the quality of patients on dialysis.
N Almedia, et al (2000), Nirmala Niketan college of home science, new marine lines & Seth GS medical college, Parle, Mumbai “Functions, stressors and coping strategies of ESRD health care team.” The study focused the functions, stressors, symptomatology and coping strategies of the ESRD health care team. Sixty subjects (14 doctors, 24 nurses, 14 dialysis technicians, 4 dieticians and social workers) currently working with ESRD patients in public hospitals in Mumbai constituted the samples. Responses of the subjects to 70 functions, 12 stress areas and a range of symptoms and coping strategies were elicited with the interview method. Data was analyzed using SPSS version 7.5. For only 50% of the functions, there was a consensus in terms of performance and assignment of function by personnel. While dieticians and social workers were less informed about the functions of the other personnel, their reverse was also true. The mean stress was 82.01 (SD=53.77) with the highest score in the area of dealing with problem patients (M=2.58) and lowest in the area of inter personnel relationship with staff (0.44). Overall ANOVA indicated significant differences in stress across the personnel categories F (4, 55) =10.378 (P=.000). Doctors were most stressed than nurses (p=.000), technicians (p=.000), dieticians (p=.001) and social workers (p=.000). Chi – Square revealed significant differences among personnel in the stress experienced in certain areas. Doctors were more stressed than other personnel in the areas dealing with problem patients, being responsible for the patient’s life and overload. The mean symptomatology score was 16.7 9 SD = 15.7) with quite a few reporting anger 63.34) and irritability (60%), talking to colleagues and getting resigned to the situation were the most reported coping strategies.
Kimmel .PL (2000), Psychosocial factors in adult end stage renal disease patients treated with hemodialysis: correlates and outcomes. Few data have been generated regarding the factors associated with successful patient adjustment. The challenges for the next thirty years include, understanding the relationship of psycho social factors to demographic and medical factors, in large end stage renal disease patients and the refinement of association between psycho social factors and patient outcome, including adjustment, compliance, morbidity and mortality.

Mc Cann. K. (2000), Fatigue in persons with renal failure who require maintenance hemodialysis. The study examined the symptoms of fatigue experienced by a group of 39 adult hemodialysis patients. A descriptive co relational study design was utilized to examine fatigue from inductive approach, considering relevant physiological, psychological and situational variables based on the review of literature. Data were collected using a structured self-report questionnaire and biochemical data from retrospective monthly blood tests.

The results indicated that high levels of fatigue are experienced with correspondingly low levels of vitality, in all the areas measured: General fatigue, reduced motivation, reduced activity and mental fatigue by adult hemodialysis patients. Depression was significantly associated with physical health status; sleep problems; symptoms and anxiety.

Kathleen McCann, & Jennifer R.P. Boore (1999), Fatigue in persons with renal failure who require maintenance hemodialysis. This study examined the symptom of fatigue as experienced by a group of 39 adult hemodialysis patients. Data were collected using a structured self-report questionnaire and biochemical data from retrospective monthly
blood tests. The results of the study indicated that high levels of fatigue are experienced with correspondingly low levels of vitality, in all the areas measured – general fatigue; physical fatigue; reduced motivation; reduced activity and mental fatigue by adult hemodialysis patients. Fatigue was significantly associated with the presence of symptoms such as sleep problems; poor physical health status and depression. Depression was significantly associated with physical health status, sleep problems and symptoms of anxiety.

Cristovao. F. (1999) “Study on stress, coping and quality of life among chronic Hemodialysis patients”. This study identified the most significant stressors perceived by the individuals undergoing hemodialysis due to chronic renal failure, the coping methods used most often by the patients and their quality of life, 75 patients aged between 18 – 65 years old were taken for the study. Results showed that patients perceived high level of stress and psycho-social stressors are as problematic as physiological ones. Patients used problem-oriented method more often than affective-oriented method.

Welch, JL et el, (1999), Factors associated with treatment related stressors in hemodialysis patients. The objective of this study was, to describe the treatment-related stressor of in-center hemodialysis patients. The finding revealed that the greatest stressors were fluid restriction and length of dialysis. All stressors to become more intense over time with some specific stressors increasing significantly. Patients new to dialysis and those with more education had relatively more stressors. Nurses need to be educated about factors that are stressful to patients, so they can support them appropriately.
Susanne Heiwe and Madeleine abrandt Dahlgren (1999), living with chronic renal failure: coping with physical activities of daily living. The aim of this study was to describe and analyze qualitatively different coping strategies used by these patients to be able to perform physical activities in their daily lives. Three overarching coping strategies were discerned and categorized through the analysis: scheduling; adjusting pace and avoiding. The strategies were problem-focused, and the patients used active, avoidant and social-support coping strategies.

Mathers T.R. (1999), Effects of psycho – social education on adaptation in elderly hemodialysis patients”. Pilot study was done to determine whether the application of psychosocial education session had an effect on the adaptation level of elderly hemodialysis patients by experimental methods. Data was analyzed by utilizing t-test and descriptive statistics. No significant difference was found between the scores of the pretest and post -test when comparing the groups. The application of psychosocial educational session did not have significant effects on the adaptation level of elderly hemodialysis patients.

Lev EL, Owen SV (1998), A prospective study of adjustment to hemodialysis. This study was aimed to examine (a) changes in subject’s self-care, self-efficacy over time and (b) the relationship of subject’s self-care, self-efficacy with adjustment to hemodialysis. Sixty-four subjects were recruited to the study. Data were collected on three occasions: Twenty-eight subjects completed 3 occasions of data collection. (a) baseline –within 100 days of beginning treatment (b) 4 months after beginning treatment and (c) 8 months after beginning treatment. Eta-squared estimates showed generally positive changes occurring overtime
in subject’s self-care, self-efficacy, health status, mood distress, symptom distress, dialysis stress and perceived adherence to fluid restriction. Changes were more positive at 4-months than at 8-months after enrollment. Significant correlations (P<0.05) occurred between self-care, self-efficacy and mood states, health status, symptom distress, and perceived adherence to fluid restrictions, correlations occurred more frequently between self-care, self-efficacy and mood states than between self-care, self-efficacy and other measures of adjustment.

Courts NF, (1998), Psycho social adjustment of male on three types of dialysis. Purpose of this comparative descriptive study was to explore the anxiety, depression and psychosocial adjustments of males. Patients on three types of dialysis. Home hemodialysis, in center hemodialysis and peritoneal dialysis and to identify perception of stressors on home hemodialysis and in in-center hemodialysis. Result reveals home hemodialysis demonstrated higher psychosocial adjustments. Information about psychosocial adjustment of patients on each type of dialysis provides information for nurses as they guide patients in choosing dialysis type.

Gurklis JA. (1998), Identification of stressors and use of coping method in chronic hemodialysis patients. To explore relationship among treatment related stressors, coping methods and length of time of hemodialysis. Although Baldree et al reported no significant difference in rating of physiological and psychosocial stressors. But the result of this study showed physiological stressors are more troublesome than psychosocial stressors.
Cormier – Diaglem (1997), “Support and coping of male hemodialysis patients”. A descriptive – co relational study was conducted to describe coping strategies used by males with chronic renal failure who are dependant on hemodialysis. Findings revealed, both problems – focused and emotion – focused forms of coping were used, patients primarily used problem – focused coping, seeking social support. Overall, the participant’s perceived relatively high levels of reciprocity with the members of their social networks.

Lok P. (1996), “Stressor, coping mechanisms and quality of life among dialysis patients in Australia”. The aim of this study was to determine the significant stressors and coping methods, which are related to quality of life in dialysis patients. The study found that high stressors were found in patients with hemodialysis than Chronic Ambulatory Peritoneal Dialysis (CAPD). Problem solving methods were considered to be more effective than affective oriented method. This study can further facilitate nurse practitioners in providing support, information alternative solution and in assisting patients to better utilize problem-solving methods to enhance their quality of life.

Blake C.W. (1996), Coping strategies and styles of hemodialysis patients by gender. The purpose of this study was to examine the relationship of greater to coping strategies of patients on hemodialysis, non-experimental, retrospective design. A result reveals, no statistical significant difference between gender and coping strategies of patients on hemodialysis. However, the data suggest that male and female hemodialysis patient’s predominantly used emotion- focused coping strategies. The variables of length of time on hemodialysis, age reduction could have on education on the choice of coping strategies for men and women.
Tucker C.M. et al (1986), Assessment-based group counseling to address concerns of chronic hemodialysis patients. The study concluded that it is important for nurses to play key role in group counseling to address patients concerns. It was also concluded that group counseling should be planned and executed in ways that actively involve patients and allow them to participate in skill development and in life enhancement rather than to get the help with personal problems—a motivator that is often stigmatized.

Klang et al (1996), Patients with chronic renal failure and their ability to cope. The aim of the study was to describe uremic patient’s use of coping strategies and their sense of coherence. Forty-eight chronic renal failure patients from a Swedish hospital were selected, Jalowiec Coping Scales (JCS – 40) and Sense of Coherence Scale (SOC). Result shows that patients used a variety of coping strategies. There was significant distinction between the pre dialysis patients and those on the dialysis treatment and concerning the use of strategies and coping style. The result revealed significant correlations between JCS and SOC scores, age and duration of kidney disease. Knowledge of the patients commonly used coping strategies and sense of coherence are important when nursing care is being planned for the patient.

Gurklis JA. (1995), Chronic hemodialysis patients’ perception of stress, coping and social support. A descriptive survey design was used. Result revealed that subjects used multiple coping methods such as, acceptance, maintaining control, seeking support and staying active to handle stressors, which include physiological complications, psychological concerns about hemodialysis and restrictions. Subjects positively evaluated their support and discussed their concern for more support.
Courts N.F. (1994), Stress inoculation education and counseling with patients on hemodialysis. A single experimental design with multiple, repeated measures was used to investigate the effects of the cognitive behavioral intervention of Stress Inoculation Education (SIE) and counseling on anxiety, depression, psychological adjustments to illness and perception of hemodialysis stressors. The analyzed data suggested that SIE and counseling were effective in decreasing some problems for all study patients.

Korniewicz D.M et al (1994), Evaluation of a hemodialysis patient education and support program. This study examines the effects of a Hemodialysis Education and Support Program (HSEP) on patient’s physical and psychological adaptations to end stage renal disease. Result of the study indicated that nurses should have an impact on the patient learning experience by providing support and one-to-one teaching sessions and actively involving patients in their own care. Additionally, nurses can facilitate active patient learning through enhanced teaching methods.

Rothlisberger .C (1993), Coping with illness by dialysis and tumor patients. Article present the coping of cancer patient and patients with chronic renal failure is analyzed and compares with each other. Finding reveals that the patients preferred these same strategies and rejected the same one was a surprising outcome, the only difference was found in the freely reported impairments of the diseases.

Carbonell Masia C. et al (1993), Variables associated with psychosocial adaptation of chronic renal failure patients undergoing treatment. Nine variables were related with the psychosocial adaptation.
Marital status; religious belief; education level; occupation; the age and the evaluation of treatment by patients. From the statistical analysis and from the interpretations of signs and values of the related variables, the influence of them on the psychosocial adaptation was demonstrated.

Hoothay .F et al (1990), Life satisfaction and coping of diabetic hemodialysis patients. Descriptive study was conducted; the mean satisfaction rating for the anticipated future was almost as high as the past, despite experiencing a long-standing downward health spiral. Content analysis of the interview suggested coping pattern of people who are living with the chronic disease.

Baldree KS. Et al, (1982), Stress identification and coping patterns in patients on hemodialysis. The types and severity of stressors and methods of coping with stress were assessed for 35 patients on hemodialysis. Results indicated that stressors experienced by the hemodialysis patients: psychological stressors have an impact equal to that of physiological stressors. Fluid restriction was ranked, as the highest psychological stressor and the top physiological stressor were muscle cramps and fatigue. Patients used problem oriented coping method than affective oriented method.

The types and severity of stressors and methods of coping with stress were assessed for 35 patients on hemodialysis. Coping was measured with a tested scale and stress was evaluated with a scale developed for the study. Test – reliability of the stressor scale was satisfactory (r = 0.71)
Patients on dialysis for one to three years indicated the greatest amount of stress. Patients used problem-oriented coping methods significantly more than affective-oriented methods ($t = 7.06$, $p < 0.001$). Optimism and controlling the situation were the two most common coping methods and putting the problem out of one’s mind and blaming someone else were the least important coping tools.

### 2.2 Literature related to stress, coping and quality of life

Sesso R et al (2003), Impact of socio economic status on the quality of life of end stage renal patients. Socio Economic Status (SES) has been associated with the incidence of end stage renal disease, however, the impact of SES on the quality of these patients were prospectively evaluated at the beginning of dialysis treatment and reassessed ($n=90$) after an average of seven months, multivariate analysis showed that SES continued to significantly affect all quality of life dimensions. SES is an important factor associated with quality of life on patients with end stage renal disease.

Lacovides et al (2002), Relationship of age and psychosocial factors with biological ratings in patients with end stage renal disease undergoing dialysis. The aim of the study was to investigate the relationship between age, emotional state, life satisfaction, sexual functioning and method of dialysis in patients suffering from end stage renal disease. Eighty two patients were selected, in which 56 were hemodialysis patients and 26 CAPD, Zung Depression Rating Scale (ZDRS), Life Satisfactory Inventory (LSI), and the Lasry Sexual Functioning Scale (LSFS) were used. No significant differences were detected in depressive symptomatology, sexual functioning and life
satisfaction between patients undergoing hemodialysis or CAPD. Age was positively related with satisfaction from general quality of life, frequency of sexual activity, tiredness and feelings of usefulness.

Baiardi F. et at (2002), Effects of clinical and individual variables on quality of life among chronic renal failure patients. The purpose of this study was to assess the effects of baseline characteristics of patients with chronic renal failure and its treatment on quality of life. A cross sectional study was conducted using SF- 36 during individual interview and questionnaire was used to investigate health status. The multivariate analysis showed that chronic renal failure treatment and age affected their quality of life, for the following parameters. Physical activity, body pain, general health and vitality. The study concluded that age and diabetes have a strong influence on the quality of life and that long period of treatment, with the absence of any prospect of resolving the clinical situation, has a negative effect on the quality of life in uremic patients.

Loos C, et al (2002), effect of end stage renal disease on the quality of life of older patients. The objective of the study was to assess the effect of chronic renal failure on quality of life. A controlled cross sectional study was conducted in all 13 dialysis units in units in French Lorraine region and six departments of Nancy Hospital. One hundred sixty nine older patients with End stage renal disease who were starting first dialysis (mean age + /SD = 76.2+ / -5.1) and 169 ages – age – and sex – matched non-CRF controls. Quality of life was assessed using short form of health survey 36 – item (SF – 36) self-administered questionnaire.
Information on comorbid conditions, clinical symptoms and laboratory findings was obtained from medical records. Result shows the mean QOL scores ranged from 11.2 (role limitation due to physical function (RP) dimension) to 55.5 (social function) in ESRD group, and form 22.0 (RP) to 54.3 (mental health) in the non CRF group. Among ESRD patients, factors related to QOL scores (physical function (PF) and vitality dimensions) were the conditions under which dialysis was initiated and co morbidity. Patients whose first dialysis was unplanned had 10.4 fewer points in the PF dimension than those in whom it was planned (p =0.14), to conclude, if dialysis initiation is planned, ESRD in older patients has no more effect on QOL than others diseases. However, patients whose dialysis is unplanned have severely impaired QOL. These results represent an argument for improving the predialysis care of older renal failure patients to optimize conditions at first dialysis.

Zhang JP et al (2001), Family support and quality of life among hemodialysis patients. Sixty chronic renal failure patients who had received hemodialysis for three months or longer were interviewed with the quality of life questionnaire and social; support from family scale. The results were that hemodialysis patients had a lower quality of life and there was a positive correlation between family support and the patient’s quality of life. The result suggests that both the patient’s condition and their family background should be estimated so as to improve the quality of life of chronic renal failure patients who had received hemodialysis.

Suet – Ching WL (2001), The quality of life for Hong Kong dialysis patients. The aim of the study was to measure the quality of life of dialysis patients. The Chinese dialysis QOL scale was used on 180
patients undergoing dialysis. The result reveals, patients undergoing dialysis experienced multiple physical, social, economic and psychological changes. The marital status, type of modalities and age appear to have no relationship with the quality of life. The priority of health care services should therefore be to provide support in the areas of family, social life, information and employment.

White Grenger B.F. (1999), Study on bio – psycho social impact of end stage renal disease. The experience of dialysis patients and their partners. Phenomenological study was conducted to investigate the bio – psychosocial impact of end stage renal disease on dialysis. The result of this study indicates that nurses need to recognize and respond to the tremendous emotional impact that chronic illness and its treatment can have on families in a era where it is possible to sustain life for years with the use of life support technology.

Merkus MP, Jager KJ, et al (1999), Physical symptoms and quality of life in patients on chronic dialysis. This study was aimed to identify the impact of demographic, clinical, and dialysis characteristics on physical symptoms and perceived quality of life. The study population consisted of 120 incident chronic hemodialysis and 106 peritoneal dialysis patients. Nine physical symptoms were assessed with a self-administered questionnaire. This study results revealed that the most common symptoms in hemodialysis and peritoneal dialysis were fatigue (respectively 82 and 87%) and itching (73 and 68%).

In hemodialysis only a medium to high Co - morbidity- age risk index was associated with greater symptom burden. In peritoneal dialysis a lower percentage lean body mass, a lower GFR, and past episodes of
under-hydration were associated with greater symptom burden explained a substantial additional amount of impaired physical and mental quality of life on top of demographics and clinical status.

Merkus MP et al; (1999), Physical symptoms and quality of life in patients on chronic dialysis: results of the Netherlands cooperative study on adequacy of dialysis (NECOSAD). Little attention has been paid to the value of dialysis adequacy for patient’s quality of life. Investigators studied the impact of demographic, clinical and, dialysis characteristics on physical symptoms and perceived quality of life. Study population consisted of 120 in center chronic hemodialysis and 106 peritoneal dialysis patients, starting dialysis treatment in 13 Dutch areas. Data were collected 3 three months after start of dialysis. Nine physical symptoms were assessed with a self-administered questionnaire. Patient’s self-assessment of QOL was measured with the 36 items MOS short form (SF36).

Results showed that the most common symptoms in HD and PD were fatigue (82 and 87% respectively) and itching (73 and 68%). In HD only a medium to high comorbidity age risk index was associated with greater symptoms burden. The explained variance by these variables was only 12% in HD and 21% in PD. However, greater symptoms burden was explained with substantial additional amount of impaired physical and mental QOL on top of demographics and clinical status. Dialysis variables were associated neither with symptoms nor with QOL.

It was concluded that symptoms burden could be explained to a limited extent by demographic and clinical i.e. to explain one – third of perceived QOL. This underlines the importance of symptom reduction in order to improve the quality of life of patients undergoing dialysis.
Lindqvist et al (1998), Study on coping strategies and quality of life among patients on continuous ambulatory potential dialysis (CAPD). Study describes coping strategies and quality of life. A descriptive – comparative design was chosen. Data collection was performed through questionnaire and interview. The findings suggest that provision of support and information in assisting patients to utilize adequate coping methods to enhance their quality of life.

Hyde. C (1998), Quality of life and coping in home hemodialysis patients. Approximately 4034 Australians are currently receiving dialysis therapy due to end stage renal disease and of these 627 are performing hemodialysis within the home environment. The study reported the psychological stressors were more troublesome than psychological stressors. Subjects used problem-oriented method to handle stress.

Wolcott DL (1998), Quality of life in chronic dialysis: a critical comparison of continuous ambulatory peritoneal dialysis (CAPD) and hemodialysis. A cross sectional study was conducted to assess their current medical, psychological and social status (n=33). The CAPD group had higher quality of life, lower illness and modality related stress and non-significant lower mood disturbance. The group did not differ in self – esteem or health locus of control. CAPD subjects reported higher frequency of participation in community activities, better relationship with physicians and other patients and were more likely to be currently vocationally active. The quality of life of CAPD patients is superior to chronic hemodialysis.
Killingworth A et al (1996), the quality of renal dialysis patients: trying to find the missing measurement. The physiological status of the individual renal patient is monitored regularly to ensure adequate dialysis is maintained, however, the psychosocial status of the renal patient is not subject to the same amount of attention. This study aimed to determine the Quality of Life and psychosocial status needs of a sample of renal dialysis patients (n=170), and to consider methods of routine clinical assessment and evaluation. Difficulties with psychosocial adjustment and physical symptoms were demonstrated. These findings provide evidence for the need to routinely assess psychosocial status in this patient population. There are some scales, which could be incorporated into standard settings and used as outcome measures to assess the effectiveness of interventions and for planning and resource allocation purposes.

Porter GA (1994), Assessing the outcome of Rehabilitation in patients with end-stage renal disease. Assessing the rehabilitative/restorative process requires the definition of desired outcome. Traditionally, medicine has defined the desired outcome of treatment as curing disease. End-stage renal disease (ESRD) cannot be cured by applying current biotechnology. Thus, to assess treatment interventions in patients with ESRD, the desired outcome must be expanded to incorporate the broader components of health, which include physical, mental, and social well being or quality of life. Based on this expanded definition of health, desirable treatment outcome in patients with ESRD include employment of those able to work, individual control over the effects of kidney disease and dialysis, enhanced fitness, improved communications with caregivers and family.
Improved compliance with the dialysis regimen, and resumption of many activities enjoyed before the initiation of dialysis. Broadening the definition of desired outcome requires new measurement techniques. Measurement of instrument for health status must evaluate the fixed disease, which imposes certain limits on expected outcome; mutable health status, which represents the focus of intervention; and factors unrelated to healthcare, which will modify the scope of intervention that can be prescribed. Health-care status involves both self-reported evaluation and physical assessment. The reporting forms should be comprehensive, convenient, controlled, and valid. Such forms can be targeted to gain information about the natural evolution of a disease or disability process, to evaluate the effectiveness of treatment or other interventions on altering the disease or disability outcome and to measure the quality of care.

Tucker CM (1991), Quality of life of patients on in center hemodialysis versus continuous ambulatory peritoneal dialysis. This study compared chronic hemodialysis and CAPD patients on several of quality of life variables: dietary adherence; self esteem; hope; well being; marital happiness; emotional support persons and participation in social, recreational and work activities. Statistically, significant differences in quality of life variable due to treatment modality or demographic variables were not found. However, CAPD patients did engage in significantly more in social and recreational activity than hemodialysis patients. It appears that quality of life across racially different groups of hemodialysis and CAPD patients is comparable.
Fox E et al (1991), Quality of life for patients with end stage renal failure. The assessment of health status and quality of life among chronically ill patients in an area of current scientific interest. The findings conclude that the quality of life index has some discriminative validity for these patients and its use may contribute to informed decision making for both patients and doctors.

Deniston OL (1989), Assessment of quality of life in end-stage renal disease. Ten different multi-item indexes and nine single –item measures were used to assess the quality of life of patients undergoing one of four major modalities of treatment for end-stage renal disease (ESRD). Assessments were made on a population-based sample of Michigan patients with onset of ESRD after November 1, 1981, during the period May 1984 to September 1986.

The nature of these measures is described and correlations among them are reported. The correlations suggest that these indexes tend to represent either function of feeling, with moderate relationships within the two clusters but little between them. Findings are also reported in terms of age, race and sex. Depending on the measure chosen to assess quality of life, different conclusions about the relationship of quality of life to these demographic characteristics will be reached. These conclusions may help readers think more critically about the nature of quality of life in arriving at judgments of the relative validity of these different measures.
2.3 Other related literature

Mukkader Mollaoglu (2006), Perceived social support, Anxiety and self-care among patients receiving hemodialysis. A descriptive – correlational study design was used to analyze the baseline data of a group of hemodialysis patients (n=140). The results revealed that social support and anxiety were significant predictors of self-care after controlling for the effect of time on dialysis. Results indicated that patients who perceived higher levels of social support and lower levels of anxiety were more likely to have higher level of self-care.

Hagren B, Pettersen IM et al (2005), Maintenance hemodialysis; Patient’s experiences of their life situation. The aim of this study was to examine how patients suffering from CKD (Chronic Kidney Disease) on maintenance hemodialysis experience their life situation. The focus was on how treatment encroaches on time and space and how patients experience care. Data were collected by interviews from 41 patients between the age of 29 to 86 years who participated in the study. A content analysis was used to identify common themes that describe the patients’ experiences of their life situations. Three main themes were identified: ‘not finding space for living’, ‘feelings evoked in the care situation’ and ‘attempting to manage restricted life’.

The first theme ‘not finding space for living’ consisted of two sub-themes: “struggling with time-consuming care and feeling that life is restricted”. The second theme “feelings evoked in the care situation” consisted of two sub-themes: “sense of emotional distance” and feeling vulnerable. The patients in their study indirectly expressed an existential struggle, indicating that encroachment of time and space were important
existential dimensions of CKD. The findings indicated that care-givers were not always aware of this thus inducing a sense of emotional distance and a sense of vulnerability in the patients.

Cheng YS, Chiang CK, et.al (2005), Sexual dysfunction in female haemodialysis patients: a multicenter study. Sexual function is one aspect of physical functioning. This study was conducted by use of self-reported questionnaires (n=578). Results revealed that the age, Beck Depression Inventory (BDI) score and serum triglyceride levels were the independent factors of dysfunction in each sexual functional dimension. Patients with higher Index of Female Sexual Function (IFSF) scores had significantly higher scores in physical functioning and mental health (P=0.007 and 0.018 respectively). Patients with higher intercourse satisfaction had significantly higher general health scores (P=0.001).

Thomas V. Pernerger, Michel Leski et.al (2005), Assessment of health status in chronic hemodialysis patients. Hemodialysis patients (n=83) had significantly lower scores than general population, especially physical functioning (P<0.001) and general health (P<0.001), but their mental health was similar (P=0.13) : All 12 KDQOL (Kidney Disease Quality Of Life) dialysis – specific scores correlated significantly with the SF 36 (short – form 36) mental summary score, but only 6 correlated significantly with the SF-36 physical summary score. Open comments suggested that dialysis itself is the chief problem confronting dialysis patients, but also that the predicament of end-stage renal disease may have a positive impact on the lives of some patients.
H.E. Liu (2005), Fatigue and associated factors in hemodialysis patients in Taiwan. The purpose of this correlational study with systematic sampling was to explore fatigue and associated physiological, psychological and situational factors in 119 Taiwanese HD patients. Results indicate that levels of fatigue were mild. The adequate health and quality of life are the main treatment goals in patients with end-stage renal disease (ESRD), yet health and functional status of chronic hemodialysis patients are often less than optimal. Despite the importance of this issue, it remains unclear how to best measure health status and QOL in dialysis patients.

P. Ravani, B. Barrett et.al (2005), Factors associated with unsuccessful utilization and early failure of the arterio-venous fistula for hemodialysis. Arterio-venous fistula survives longer than grafts and catheters. This study was aimed to determine, whether fistula created in patients referred to a nephrologists less than 3 months before dialysis start, show higher risk of unsuccessful use and early failure. Among the 535 subjects enrolled, 513 received a fistula, without considering revisions, 119 fistulae (23.2%) were not successfully used and 61 (11.9%) failed early. Independent predictors of unsuccessful utilization were late referral (odds ratio 2.15 (95% confidence interval 1.2 3, 3.75), vascular diseases (1.86 [1.16, 2.97]), absence of treated hypertension (2.07 [1.17, 3.68]) and heart failure limited to late referrals (10.75 [4, 28.82]). Late patient referral and presence of cardio-vascular diseases, particularly heart failure are potentially modifiable risk factors for short-term outcomes improvement of hemodialysis fistulae.
Shzo Koshikawa (2003), Clinical effect of short daily in-center hemodialysis. The safety and efficacy of short daily hemodialysis has been reported in the USA and Europe, but there is no report on its efficacy in Japanese patients undergoing hemodialysis. Methods: twenty-three outpatients (14 men and 9 women, 55.8±9.6 years old and 11.1±6.6 years on dialysis) undergoing hemodialysis 3 times/week participated in this study. After 4 weeks baseline observation under conventional hemodialysis, they were subjected to short daily in-center hemodialysis (DHD, 6 times/week) for 12 weeks and then a week follow-up observation period under conventional hemodialysis. Results: The main pre-dialysis systolic and diastolic blood pressure significantly decreased in the DHD period.

Antihypertensive drugs could be discontinued or the dose was reduced in 6 of 11 patients treated with such drugs. The hematocrit level tended to increase in the DHD period, and recombinant human erythropoietin could be discontinued or reduced in 7 of 14 patients. Localized skin rash caused by the adhesive tape and lidocaine patch at the blood access was observed in only two patients, but no other adverse events associated with DHD were noted. Conclusion: These result indicated that DHD is safe and more useful than conventional 3-times/week hemodialysis for Japanese patients undergoing hemodialysis.

Perneger TV, Leski M, et.al (2003), Assessment of health status in chronic hemodialysis patients. This study was aimed to compare three ways of assessing health status in chronic hemodialysis patients: generic questionnaire compared with population norms, disease-specific questionnaire and open questions (n=83). Results revealed that
hemodialysis patients had significantly lower scores than general population, especially physical functioning (-1.2 standard deviation (SD) units, P<0.001) and general health (-1.2 SD, P<0.001), but their mental health was similar (-0.2 SD, P=0.13). Open comments suggested that dialysis itself is the chief problem confronting dialysis patients, but also that the predicament of end-stage renal disease may have a positive impact on the lives of some patients.

Michael Allon and Michelle L. Robbin (2003), Increasing arterio-venous fistulas in hemodialysis patients: problems and solutions. National guidelines promote increasing the prevalence of fistula use among hemodialysis patients. The prevalence of fistula among hemodialysis patients reflects both national, regional, and local practice differences as well as patient-specific demographic and clinical factors. Whether a mature fistula achieves long-term patency depends on the ability to prevent and correct thrombosis. An optional outcome is likely when there is (1) a multi-disciplinary team approach to vascular access (2) Consensus about the goals among all interested patients (nephrologists, surgeons, radiologist, dialysis nurses) (3) early referral for placement of vascular access (4) restriction of vascular access procedures to surgeons with demonstrable interest and experience (5) routine, pre-operative mapping of the patient’s arteries and veins (6) close, ongoing communication among the involved parties (7) Prospective tracking of outcomes with continuous quality assessment. Implementing these measures is likely to increase the prevalence of fistulas in any given dialysis unit.
Margery O et.al (2002), Sexual Dysfunction: Using Nursing Diagnoses to Direct the Care of Renal Dialysis Patients and Renal Transplant Recipients. Sexual dysfunctions are problems of endemic nature for persons who are uremic. This article discusses how the staff nurses, without advanced preparation in sexual counseling, were able to intervene and provide sexual health guidance. An assessment guide and care plan is suggested for addressing sexual problems using the structure of the NANDA diagnoses of Sexual Dysfunction and Altered Patterns of Sexuality. Annon’s four-level intervention model for sexual problems is used to demonstrate how the staff nurse can: help patients to maintain sexual health with a positive attitude toward sexuality and sexual behavior; give permission for patients to enjoy sexuality; provide information about possible changes in sexual function, offer limited suggestions, as needed and make proper referrals.

Sexual dysfunction and/or altered sexual patterns are problems of endemic nature for uremic persons. Men and women on dialysis, not only have less sexual function than they did before renal failure; they also have less than the patients with other chronic physical illness. About 70% of men on dialysis and 43% of those with renal transplants are partially or totally impotent. Both men and women on dialysis and 43% of those with renal transplants are partially or totally impotent. Both men and women on dialysis and renal transplant recipients have diminished sexual interest.

Sexual problems have been defined as a malfunction of any part of an individual organism or life in such a way as to cause his/her sexual life to appear to him/her as unrewarding or inadequate or to be potentially
harmful to another individual and therefore to himself. To appreciate the full meaning of this definition, an understanding of the concept of sexuality is needed. Sexuality is not just overt sexual behavior. This phenomenon is a deep, pervasive aspect of the total human experience, present to some degree from birth to death. A healthy, positive sense of sexuality contributes to life in ways such as: establishing a link with the future through children; providing a means of physical release and pleasure; supporting feelings of self-worth; contributing to an individual’s identity; allowing communication of subtle, gentle, and intense feelings and binding people together.

The following definitions of sexual health developed by the World Health Organization provide goals for nursing interventions when a patient’s life quality is adversely affected by this arena of experience: “Sexual health is the integration of the somatic, emotional, intellectual, and social aspects of sexual beings in ways that are positively enriching and that enhance personality, communication and love. The central theme of sexuality provides a similar basis for the nursing diagnoses of sexual dysfunction and altered sexuality patterns. Sexual dysfunction is the state in which problems with sexual function exist whereas, altered sexuality patterns is the state in which an individual or partner expresses concern regarding an individual’s sexuality. These conditions can both be present or exist separately. Sexual dysfunction can include all or any of three disorders: disorders of sexual desire, disorders of arousal and disorders of orgasm.
Altered sexuality patterns evolve from any of the following psychosocial factors, environmental factors, and cognitive deficiency regarding responses to illness or prescribed medical treatment.

Hagren et.al (2001), The hemodialysis machine as a lifeline: experiences of suffering from end stage renal disease. The aim of this study was to describe patients’ experiences of suffering from end stage renal disease. The theoretical basis for the study was to view suffering at three levels. The first level was related to sickness and treatment. The second was related to the care provided and the third level was related to each person’s unique life experience and existence. Interview was conducted among 15 patients between 50 – 86 years of age. The findings reveal two main themes: the first, “the hemodialysis machine as a lifeline consisted of three sub themes: ‘loss of freedom; ‘dependence on the care giver’, and ‘disrupted marital, family and social life’. The second, ‘alleviation of suffering, consisted of two sub themes: ‘gaining sense of existential optimism’ and ‘achieving a sense of personal autonomy’.

The study concluded, the lives of patients on hemodialysis, the main areas of suffering were related to loss of freedom expressed as dependence on the hemodialysis machine as a lifeline and the caregivers. The time consuming and tiring dependence on the hemodialysis machine and maintaining autonomy by being seen as an individual by the caregivers.

King K (2001), Vocational rehabilitation in maintenance dialysis patients. When Congress was considering extending medical coverage to those with chronic renal failure, it was predicted that 100% of these individuals would be vocationally active. Unfortunately, the actual
vocational rehabilitation rate for this population is much below these earlier predictions. A comprehensive review of the literature establishes that there are variables that affect the employability of those on dialysis. This variable can be grouped into four main categories: demographic, psychological, medical and occupational. In addition, there are barriers to enhanced vocational rehabilitation for individuals receiving dialysis therapy. These can be grouped accordingly: workplace, financial, dialysis facility/personnel; vocational rehabilitation and labor market. Enhanced research efforts, intervention with employees and vocational rehabilitation programs, change within the social Security system and modification of renal team practices could all serve to enhance the vocational rehabilitations status of individuals with chronic renal failure.

Jamshid Roozbeh MD, Ali-Reza Serati, et.al (2006), Arterio-venous fistula thrombosis in patients on regular hemodialysis; A report of 171 patients. This study was designed to evaluate the risk factors for arterio-venous fistula thrombosis (n=171). Results revealed that within the 14 months of follow-up, 36 episodes of arterio-venous fistula thrombosis occurred in 31 patients (18-1%). According to fistula site, the survival of brachio -cephalic fistulas were significantly (P=0.007) better than radiocephalic ones (1 & 3 year survival were 95% and 87% for upper and 88% and 72% for lower ones respectively).

Puntriano M. (1999), The relationship between dialysis adequacies and sleep problems in hemodialysis patients. The research examined the relationship between the incidence of sleep problems and hemodialysis adequacy (kt/V) in hemodialysis patients. In addition, this study identified demographic variables that may be related to sleep problems of
hemodialysis patients. The Research design was cross-sectional, descriptive, and correlational. A convenient sample (n=50) included 25 males and 25 female hemodialysis subjects from a private, for profit ambulatory dialysis clinic. The primary researcher interviewed subjects using a questionnaire that included demographics and questions regarding sleep habits. Two significant results were found. Four subjects in the study aged 65 and older, increased dialysis adequacies were associated with a decreased number of awakenings at night. Second, women, regardless of age and education, reported using more sleep medications than men. Overall, this study did not find a relationship between sleep problems and dialysis adequacies. Further research is needed to increase awareness and understanding of the complexities of sleep problems in renal patients.

Mittal S, (1997), chronic renal failure in India, a prospective study of all new cases of chronic renal failure (CRF) including in-service referrals was done at our hospital over a period of one year from May 1994 to April 1995. The diagnosis of CRF was based on clinical, laboratory, and radiological features. Kidney biopsies were done when indicated. The patients were subdivided into various etiologic groups of primary renal disease according to Standard criteria. There were a total of 835 cases of CRD with a median age of 43 years (from 10 days to 90 days); 67.8% of them were men. Glomerulonephritis (28.6%), diabetic nephropathy (23.2%) and interstitial nephritis (16.5%) were the most common causes of CRF, followed by obstructive nephropathy (6.4%), benign nephrosclerosis (4.1%) and polycystic kidney disease (2%).
However, in patients more than 40 years of age, diabetic nephropathy was the most common cause (36.8%). The cause of CRF was unknown in 16.2% of the cases. One hundred and twenty one patients (14.5%) had an acute deterioration of their underlying renal dysfunction at presentation. This was most commonly due to accelerated hypertension (26.1%); infection (22.4%); volume depletion (20.1%), and drugs (14.9%). Anti-inflammatory drugs were the most common drugs responsible for the acute decline in renal function. One year after their initial presentation, of the 512 patients (61.3%) with end stage renal disease, 12.5% had died, 17% had received a kidney allograft, 12.7% were on some form of maintenance dialysis, and 295 patients were lost to follow-up. Of the 323 patients with less severe illness; 7 died, 209 were on outpatient treatment, and 107 patients were lost to follow-up. We conclude that the pattern of CRF in India does not differ greatly from that in the developed countries. However, it carries a poorer prognosis due to late referral and limited availability and affordability of renal replacement therapy in India.

Mani MK (1993), chronic renal failure in India. In a series of 2028 patients with chronic renal failure, the diseases leading to renal failure, the presence or absence of reversible factors and their nature, and the rate of decline of renal function of the most common conditions have been described and analyzed. Seven diseases: chronic interstitial nephritis (27.85%); diabetic nephropathy (26.76%); chronic glomerulonephritis (18.20%); benign nephrosclerosis (10.6%); chronic pyelonephritis (7.29%); focal glomerulosclerosis (3.2%) and autosomal dominant polycystic disease of the kidneys (2.07%), accounted for 95.43% of all the glomerular sclerosis progressing most rapidly, diabetic nephropathy
slightly slower, and the others at a less alarming pace. However, once serum creatinine had reached 177 mmol/L there was an inexorable decline in renal function and the end stage was reached in almost all patients. These diseases were studied in greater detail and the results are presented here. It was found that there was a great variation in the rate of decline of renal function in the different groups with chronic glomerulonephritis.

Lundin AP, Sterin RA, (1987), Fatigue, acid-base and electrolyte changes with exhaustive treadmill exercise in hemodialysis patients. Aerobic conditioning exercises have been shown to be beneficial for maintenance hemodialysis patients. Serum biochemical changes in 7 patients during and after treadmill exercise to patient exhaustion was evaluated. At exhaustion, only mild changes from baseline rest values were noted in arterial PH (7.39 ±0.03 –7.33±0.04) and lactate (0.94+/0.3-5.73+/2.68 mmol/l) despite normal exercise-induced intracellular fluid shifts as evidenced by albumin concentration increases (44.9+/2.89-49.3+/3.1 g/l). Stepwise regressions showed that depression, age, and urea reduction ratio were significant predictors for overall fatigue and two of its dimensions.

Laura K et al, (1983), Sexual Dysfunction: The Teaching of Renal Dialysis and Transplant Recipients. Sexual dysfunctions receive limited attention in education programs for dialysis and transplant populations. This article addresses how the staff nurse, without advanced preparation in sexual Counseling, can function as a teacher providing sexual health guidance. Using the structure of the NANDA diagnoses of Sexual Dysfunction and Altered Patterns of Sexuality and the PLISSIT
intervention model, learning goals and teaching strategies are identified. Teaching, which falls within the preview of the first three levels of the PLISSIT model, can be accomplished through active listening, using communication which elicits feelings, demonstrating acceptance; giving permission to discuss the topic; providing basic information about sexual complications; helping patients to identify their goals and assisting with limited problem solving. Competent staff nurses have such skills, knowledge and awareness.

Smith et.al (1980), The quality of maintenance therapy for end-stage renal disease. A review of social adjustment and rehabilitation. Prior to 1972, ESRD patients selected for maintenance dialysis or renal transplantation were generally young, emotionally and socially well adjusted, and physically healthy. Following the enactment of Public Law 92-603 (1972), which extended Medicare coverage to virtually all ESRD patients, the criteria for the selection of patients were substantially liberalized. During the past decade, maintenance therapy has increasingly been provided for severely debilitated ESRD patients whose reported levels of rehabilitation have been less than desired. While the majority of the current ESRD patient. Population has not been restored to their premorbid levels of individual and social functioning; recent studies suggest this may be the result of initiating rehabilitation efforts too late in the disease process. For optimal social functioning to be achieved by ESRD patients, it is concluded that psychosocial intervention and support must be initiated at the time ESRD is diagnosed and be focused on the maintenance rather than rehabilitation, of the patients’ functioning.
Osberg JW (1980), Research issues in psychological studies of chronic dialysis. Research examining the psychological and psychosocial effects of chronic dialysis has produced numerous controversial issues, such as the role of denial in emotional adjustment and the relationship of intelligence of vocational rehabilitation in dialysis patients. Inconsistent findings leading to these controversies are attributable in part to variance in research design and to shortcomings in methodology and reporting of data. The present article briefly reviews methodological factors not previously addressed in critiques of dialysis research, focusing on subject selection, subject description, illness measures, and assessment procedures, conditions of testing, comparison groups, and data analysis. It is concluded that consideration of these factors in the design and conduct of studies will enhance the quality of research in this area.
2.4 CONCEPTUAL FRAMEWORK FOR PATIENTS UNDERGOING HEMODIALYSIS

Physical and emotional symptoms are among the principal manifestations of chronic illness and play a pivotal role in patients experiencing with life limiting disease. Studies of cancer and HIV population have shown the symptom burden that is substantial and has a strong inverse relationship to health related quality of life; this similar relationship exists in the chronic hemodialysis population.

The rigors of thrice weekly dialysis, metabolic derangements that are common in those with end stage renal disease (ESRD) and psychosocial and vocational impact of dialysis dependence likely, contribute to many symptoms that are known to occur in patients who are on hemodialysis and to the decrements in health related quality of life observed in these patients population. For example, fatigue, which stems in part from anemia to renal failure, affects the hemodialysis patients and contributes to impaired health related quality of life.

The patients undergoing hemodialysis encounter stress. In the physical world, stress can be seen as the progress towards structural failure, it can only be measured by reference to its effects on a structure. If materials were deformed or failed, there would be nothing to observe, and stress would not measure anything. Therefore it seems reasonable to suggest that what we generally mean by stress is a measure of tendency of a force to cause damage or change of state to a structure (Gorden 2000).
In this study, the stress has two sub components namely, physical and psychosocial stressors. Physical stressors that alarm the body to the state of arousal such as muscle cramp, fatigue, itching etc. and the psychosocial stressors are: limited fluid intake, limited activities and cost factor etc.

Coping appears to carry a sense of success or failure. Webb (1996) states that success or failure is not central to the concept of coping: all reactions are some forms of coping. Everyone copes with life events. What is to be debated is the effectiveness of those responses. Moreover, the value judgments that may be attached to those responses help to alleviate the stress. A response to a situation will be influenced by a number of factors, Folkman and Lazarus (1980), Murphy, Jalowiec et al (1981), identified two approaches: problem-focused methods of coping and affective oriented methods of coping, where the problem is evaluated and action implied to alter or manage the situation and emotion-focused, which is more indirect, with an emphasis on regulating the emotional response. They considered that coping was a process that changed over time and across situation.

This framework which had been developed encompasses the amalgamation of three concepts; Sister Callista Roy’s adaptation model; Betty Neumann’s System Model and Imogene King’s Goal attainment theory through general system model. Based on the patient’s biographic data and personality, the perception and reflection to the stimuli varies, that may lead to positive or negative perception. The physical, psychosocial stressors are the stimuli that induced distress among the vulnerable clients, which led to emotional disequilibrium and thus the quality of life was compromised among hemodialysis patients.
As the patient continues with the hemodialysis, interpersonal relationship developed between the nurse, health care providers and the patients. When this relationship became trustful, healthy interactions progressed which further enhanced the patient to discuss the procedure of hemodialysis (HD), its side effects, complications and the patient’s responsibilities in maintaining hemodialysis.

During the course of interaction they enter into the process, where the nurse attempted primarily to prevent the patient from landing into stress by educating the patient about the limited fluid and food intake, regular exercise to maintain the patency of fistula, reduction of side effects of hemodialysis and prevention of complications etc, where the patient adhered to the health teaching which helped to maintain stress free life which was a component to maintain the optimal quality of life. When the patient failed to prevent the problems at the primary level, they land up in stress which was mandatory for health care providers and nurses to adopt the secondary preventive measures.

The stress has two components as physical and psychosocial stressors. Now, these patients were exposed to certain coping methods, which helped them to overcome stress. The coping methods were classified into two; patients should intellectually understand the problem and try to find a solution scientifically which was being defined as problem oriented method of coping, such as to look at the problem objectively, accept the situation as it is, and try out different ways of solving the problem etc.

On the other aspect, the patients used emotion as an option to reduce their stress level which we spell out as affective oriented method of coping such as prayer, worry and try to put the problem out of their
mind etc. If there was a failure of secondary prevention, this led to dejection which desired tertiary preventive dimension. When the above mentioned strategies were not successful, the patients developed depression, where they were in need of measures like psychotherapy, counseling, and anti-depressant etc., which were the rehabilitative aspects of patient-care. All these were the result of transaction of information between the nurse and patient at various levels of prevention where the patient was contemplated as core.

The mutual transaction of information helped to achieve the desirable goal set for the well-being of the patient. When the patient ratified the appropriate coping strategies to attain the desirable goal by means of adaptive responses and maintained the stress-free life to attain optimal quality of life. If certain factors were preventing, the patient developed maladaptive response which encountered stress.

These patients further require assessment to find their need for reinforcement to habituate oneself to adhere to the treatment and associated care to accomplish adaptive responses. It is the nurse’s role to ensure feedback by reassessing at every stage of hemodialysis process to help the patient and family in leading a stress-free life.

To conclude, the nurses working in the hemodialysis unit, should be aware of the patient and family needs and plan the Nursing interventions keeping the different levels of preventions in mind, to restore the excellence of nursing practice, which promotes the standard of patient care and endorses the holistic nursing practice in India.