REVIEW ARTICLE

Psychological Aspects in Chronic Renal Failure

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Abstract

Background: Chronic Renal Failure (CRF) is a public health problem that tends to take dimensions of epidemic and has serious impact on quality of patient's life.

Aim: The aim of the present study was to review the literature and to explore the psychological impact of dialysis on the quality of life of people with chronic renal failure.

Material - Method: Literature review based on studies and reviews derived from international (Medline, PubMed, Cinahl, Scopus) and Greek (Iatrotek) data bases concerning psychological problems of people with renal failure. The collection of data conducted from March to December 2012. Also, were used keywords such as haemodialysis, psychological factors, social status, economic status, renal failure, quality of life, as well as articles by the National Documentation Centre, which provided valid and documented data from global research and epidemiology.

Results: According to the literature, Chronic Renal Failure is associated with long-term psychological effects on patients undergoing haemodialysis. A chronic illness, such as kidney failure, is a continuous process since these patients try to accept their new image and to adapt their lifestyle to dialysis treatment. Patients with kidney disease undergoing regular dialysis face difficulties in maintaining their employment, their social life, their financial flexibility and their limitation of liquids and foods.

Conclusion: Complexity and chronic nature of the disease affect the quality of life of patients with CRF and their health and reduce their life expectancy. So, the role of the Nephrology Nurse is highly important for the implementation of effective nursing interventions and psychological support during their treatment.

Keywords: Dialysis, chronic renal failure, quality of life, psychological factors

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Introduction

Chronic Renal Failure (CRF) is an irreversible and progressive kidney failure where body fails to maintain metabolic and electrolytic balance, resulting in uremia, metabolic acidosis, anemia, electrolyte imbalances and endocrine disorders.[1] Its main causes are diabetes, hypertension, glomerulonephritis, and polycystic kidney disease.[2]

Haemodialysis is the most frequent treatment method for CRF. However, it has been argued that a number of restrictions and modifications accompany this treatment, which have a detrimental impact on the quality of patient's life and affect individuals' physical and psychological well-being.[3]

Chronic Renal failure is a continuous psychological process for patients and their families in order to accept their new image and to be adjusted to the new condition of haemodialysis.[2] The quality of life of patients requiring dialysis is affected significantly, since it is associated with changes in their daily habits and in their lifestyle for both themselves and their

families. At the same time, their physical health, their functional status, their personal relationships and their social and economic status are greatly affected.[1,4]

STRESSORS OF PATIENTS UNDERGOING HAEMODIALYSIS

Many authors have dealt with the stressors of individuals with chronic renal failure undergoing regular dialysis, since they increase both the psychological and socio-economic problems of these patients. The most common stressors are financial difficulties, changes in social and marital relationships,[2] regular hospital admission, inability of holiday vacation, restriction of leisure time, relationships with nursing and medical staff, fear of disability or death, increased dependence on artificial kidney machine, uncertainness about the future and physical fatigue.[3-9]

Furthermore, according to Gerogianni,[3] limitation of liquids and foods is the most frequent stressor for these patients. That is because the daily consumption of fluids should not exceed of 500 ml per day due to the risk of causing pulmonary edema. An equally distressing factor is the requiring effort to follow the dietary guidelines, as the excessive intake of potassium and phosphorus is responsible for causing heart failure and possible itching or renal osteodystrophy respectively.[3]

A recent research study conducted in Greece by Kaitelidou et al.,[10] showed that unemployment is a significant stressor for haemodialysis patients. According to that study, 60.2% of patients receiving dialysis were not able to keep their profession and 36.7% had to retire after the beginning of dialysis. Loss of employment is responsible for the appearance of intense anxiety and problems of sexual function while employment positively affects the psychological status and libido of spouses.[3,11]

Also, Ormandy argues that stressors affecting sexual appetite of patients are body image issues (weight loss, muscle wasting, change of skin color, visible signs of venous puncture) after starting dialysis.[3,12] Another one significant stressor is fatigue, which can negatively affect a person's ability to work and to participate in various daily activities. Physical or mental fatigue can be caused by sleep disorders or fatigue after dialysis.[3]

INDIVIDUAL PSYCHOLOGICAL FACTORS OF PATIENTS UNDERGOING HAEMODIALYSIS

Psychopathology

Psychopathology of patients undergoing haemodialysis plays an important role in the final outcome of renal disease and in occurrence of psychiatric symptoms. Social or family support of the patient and medical staff support are very important factors, as they affect patient's compliance to the disease. In a patient with such a chronic health problem, a powerful 'Ego' tries to mobilize adaptable strategies of the disease, while a weak 'Ego' is leading him to the development of psychiatric disorders, non-compliance with the treatment and usually disruption of interpersonal and family relations.[13]

Personality

Psychosocial patient's compliance with a regular haemodialysis program depends on the personality of the patient in conjunction with the support received from health professionals, family and social environment. [13,14]

According to the research study of Koutsopoulou et al.,[14] about the effect of chronic dialysis on the personality of patients with CRF, patients who are forced to join in a program of periodic dialysis, exhibit personality disorders, which are different, regarding gender and age. Specifically, these patients, before the enrollment in a program of CRF, are facing a health problem as most people with a chronic problem. After the beginning of dialysis, they exhibit considerable psychological personality disorders, such as alexithymia, neuroticism, introversion and psychotism.[14]

Perception of disease

Depression

Depression is the most common psychological complication which has serious impact on the quality of life of haemodialysis patients and their caregivers, affecting negatively their social, economic and psychological well-being[15].

Depression is associated with important aspects of the clinical course, including mortality, increased number of hospital admissions, reduced compliance with drugs and reduced quality of life.[16] However, Hedayati et al.[17], and Hedayati et al.[18], in a research study report that depression is responsible for the highest annual mortality of haemodialysis patients in Pakistan, compared with patients in Western countries.

The incidence of depression is 73% and most of the patients are included in the category of moderate to severe depression.[19] Personality traits and cognitive evaluation of each patient have a strong correlation with the occurrence of depression in patients with end stage renal failure. The association between psychosocial factors and depression depends on gender, age and type of dialysis.[16]

Depression occurs more frequently in patients with CRF mainly between the third to ninth year of treatment and affects females with greater frequency. Also, depression manifests mainly with sadness, anxiety, depressed mood, poor self-esteem, pessimism about the future, decreased libido, sleep disorders and limited appetite.[20] Moreover, during the period of starting a dialysis program, one in 500 patients attempt a suicide or violates the dietary rules.[21]

Periods of adjustment

During the period of adjustment to the dialysis procedure, patient is going through three periods:
a) The period of honeymoon, beginning 1-3 weeks from the first dialysis
b) The period of frustration that takes about 3-12 months and
c) The long period of adjustment.

In honeymoon period, patients with acute renal impairment accept with relatively greater ease the process of dialysis and their dependence from the artificial kidney machine and the health professionals.[22] On the other hand, patients with progressive decline of CRF come upon intense fear and anxiety for any disability or death and concern about professional and social decline or financial problems. During this period, coexisting sleep disorders, depressive symptoms and intense concern about the loss of autonomy, employment, family role and sexual function.[13]

During the period of discouragement and frustration, patients feel strongly symptoms of grief, sadness and exhaustion. Typically, a domestic, private or professional stressful event is the first opportunity for the patient to pass at this stage. This stage manifests itself in outbursts of anger and aggression of the patient towards the family or the unit staff.[22]

Finally, the long-term period of adjustment is characterized by partial acceptance of dialysis limitations by the patients were they experience periods of satisfaction and depression.[22]

Self-Esteem

Additionally, patients with chronic kidney disease have difficulties in participating in sports and social activities. This has a negative effect on feelings of autonomy and self-esteem.[23] Regarding the psychosocial picture of patients undergoing chronic dialysis program, self-esteem seems to be moderate to high, in patients who have interests, to those of them who are in good economic condition and being employed.[24]

According to the theory of self-determination, autonomy is one of the basic human psychological needs contributing to daily well-being and psychological well-being.[25] When the fulfillment of autonomy need is hampered by various factors,

patients experience poor self-esteem and bad psychological condition.[26,27]

PHYSICAL FACTORS OF PATIENTS UNDERGOING HAEMODIALYSIS

Anemia

Anemia is the most common complication of CKD. According to existing data from the U.S. (National Health and Nutrition Examination Survey), the incidence of anemia in patients of 3rd Stage of CKD is 5.2%, in patients of 4th stage is 44.1%, and in end -stage renal disease patients is universal. Furthermore, in certain patient groups, such as African Americans and patients with diabetes, the incidence of anemia is greater in all stages of kidney disease.[28] Anemia appears clinically as fatigue and / or depression, due to reduced secretion of erythropoietin by the kidneys and adversely affects the quality of life of these patients.[13,29] Key components of quality of life of patients, such as motor activity, sleep, morbidity, social activity, emotional relationships, anxiety, depression and mental satisfaction are being influenced favorably by correcting anemia.[30]

The administration of erythropoietin, folic acid, vitamin B12, vitamin complexes and iron is important in the treatment of anemia and iron deficiency while transfusions are recommended for severe anemia.[28]

Pain

The appearance of chronic pain in dialysis patients is usually in rate 37% to 50%, while 82% of them show a moderate to severe intensity pain. The etiology of pain is multifactorial and may be either due to the process of dialysis (puncture, muscle cramps, headaches) or due to the existence of accompanying systemic diseases and painful syndromes. Pain is the most common symptom - discomfort of patients which causes significantly impaired quality of life. This is because the incidence of chronic pain is associated with the onset of affective disorders (anxiety, depression), social disorders (isolation, negligence) and economic impact (e.g. inability to keep the job). [31]

BEHAVIORAL FACTORS OF PATIENTS UNDERGOING HAEMODIALYSIS

Compliance

In the field of periodic dialysis, wellbeing and patient's health depend on the active participation of patient in the treatment program and the compliance with medical instructions, requirements regimen and recommendations.

Patient's compliance in the treatment process is very important as it affects the prognosis of a chronic illness such as End Stage Renal Disease (ESRD) and thus the quality of life of those patients.[32] Compliance, involves adherence to a treatment regimen (dialysis schedule, duration of treatment, special diet, fluid limitation, right medication), changes in behavior, habits and lifestyle and sometimes adjustment of the personality aspects to the dialysis treatment.[33,34,35]

A percentage of haemodialysis patients do not comply with medical instructions, medication and dosage, monitoring of the planned treatment, completing the required treatment time, restriction of fluids and dietary restriction.[5] Reduced compliance is often a result of a depressive phenomenon and associated with increased mortality and poor medical results.[5,36]

Also, a research study of Tijerina[36] on psychosocial factors affecting the compliance of Mexican - American women during the dialysis procedure, classifies poverty, long-term periodic haemodialysis, immigrant status, loss of identity and family dysfunction among the factors affecting patients' compliance in the dialysis treatment. Regarding poverty, patients who are of low income are compatible in the use of limited resources, buying low-cost drugs, using low-cost health services and not following specific dietary restrictions.

Finally, frequent hospitalization of haemodialysis patients and long life medication are routine situations that overwhelm patients, remind them constantly that they are suffering from this disease and urge them to drift. However, patient is the first one who will ultimately decide to follow or not the directives, to take or not drugs, to the right dosage and timing.[37]

Diet - Eating disorders

Poor nutrition is a major factor of quality of life because it increases the rate of morbidity and mortality and reduces physical activity.[38] Malnutrition, weight loss and subsequent increased loss of energy of these patients are being presented with fatigue, discomfort and exhaustion. In the mean time, there is an increased susceptibility to infections as stockpiles of body protein and fat are in low levels.[22] Problems of malnutrition such as anorexia, due to uremia, hypoalbuminemia and reduced intake of protein, appears to be exacerbated by the presence of depressive symptoms.[13,39,40] Furthermore, there is evidence for a molecular mechanism causing cachexia in patients with CRF.[41,42]

Also, in patients with ESRD who are adapted to dialysis program, the levels of TNF- a, a cytokine associated with cachexia, and cortisol, a stress hormone associated with depression and deregulation of carbohydrate metabolism, are higher.[43-45]

Home dialysis offers patients adequate nutrition and lack of dietary restrictions, contributes significantly to the improvement of malnutrition factors and has a direct impact on the quality of life of haemodialysis patients.[38]

Exercise

Any type of systematic exercise, implemented in a proper manner and methods, can be a safe supplement, and non- pharmaceutical therapeutic agent for patients with CKD on dialysis. Physical exercise is positively associated with quality of life. That is because it makes patients more active 'physically', in terms of their general fitness and reduces the severity of complications that occur during dialysis. The beginning of exercise in those patients need to be progressive and individualized according to the limitations of the patient (type of exercise, frequency of exercise, exercise intensity) and the pathophysiological condition. For this reason, patients on haemodialysis should be encouraged to exercise individually and collectively with the limitations imposed by their health condition.[38,46]

Sleep

Sleep disorders are a very common problem for dialysis patients and have occupied many researchers in the past. In a research study of Ju-Yeh Yang et al.,[47] 85% of haemodialysis patients didn't have good quality of sleep. The main psychosocial factors affecting the quality of sleep are major depression, educational level, occupational status and marital status.

It is also important to note that dependence of haemodialysis patients from the artificial kidney machine, the medical and nursing unit staff and their family and loss of control of physical function leads to insomnia and permanent stress.[21]

Sexual dysfunction

Sexual dysfunction is a frequent and common problem in patients with CRF as 50% of men with ESRD and 55% of women undergoing dialysis report difficulty achieving orgasm.[48,49] A case - control study of Yun Seob Song et al.,[50] on sexual function and quality of life of women in Korea with CRF on dialysis, reports that 70% of patients display sexual dysfunction. According to that study, sexual dysfunction is higher in women on haemodialysis or peritoneal clearance due to the lack of sexual interest.

Sexual dysfunction is a group of disorders characterized by physical and psychological changes and result in weakness for satisfaction in sexual performance and decreased quality of life. In terms of gender, women undergoing chronic dialysis have a lower quality of life and significantly greater sexual dysfunction compared with healthy women.[51] Also, sexual disorders greatly affect the quality of life of many men and their partners and have negative impact on their self esteem and on their interpersonal relationships.[48]

This condition has been shown to be significantly more common in men and women with renal disease than in the general population.[52] Men more often have problems with the features of sexual dysfunction, such as difficulty in sexual arousal, erectile dysfunction, premature or delayed ejaculation and difficulty in achieving orgasm.[49] At the same time, women have very frequent abnormalities of the menstrual cycle or decreased libido.[13] In the meanwhile, on haemodialysis Korean women hormonal disorders and premature menopause are often problems.[50] In CKD, problems in the sexual area are closely related to reducing of the frequency of sexual intercourse, impotence and reduced libido.[8]

Another important problem of chronic patients is the fear of loss of sexual partners, as expressed by a patient: “Maintaining my relationship is the first thing on your mind, just overcoming health problems. This is the most important test you have to experience, how he will react while watching a woman with bandages, unable to help herself. Even if there is love, there are things that remind him of your situation”.[30]

These possible problems may be due to various physical and psychological factors. Such factors are hormonal disorders (hyperthyroidism, hyperprolactinemia, hypogonadism in men and changes in hypothalamic pituitary in women), anemia, bone disorders, psychosocial factors (depression, denial of illness, anxiety, low self-esteem, social isolation, negative perception of body image, fear of disability and death, job loss, financial difficulties), autonomic neuropathy, medication and coexisting diseases (diabetes, cardiovascular disease, malnutrition).[3,52]

Conclusion

This literature review has been conducted in an attempt to explore the main psychological factors in people with CRF undergoing haemodialysis. It is obvious that a significant proportion of those patients are prone to many of the psychological factors that the nature of the disease causes. So, the role of the Nephrology Nurse is highly important for the implementation of effective nursing interventions during the treatment. At the same time, it is of high importance the provision of psychological support towards the patients undergoing haemodialysis, which can be achieved with customized and continuous assessment and evaluation of each patient’s needs.

Psychosocial interventions would be better to begin at diagnosis, should be adapted to the progress of the disease and focus on physical, psychological and social functioning of people. Psychosocial nursing interventions aim to facilitate the compliance of patients to their lifestyle changes and to dialysis process. They include assessment, encouragement and support. Assessment determines the patient's needs, identifying potential problems and gathering information for a treatment plan that can be provided and therefore focuses on the effect of the disease on the patient. Also, the role of health professionals is to encourage patients to accept the treatment limitations, take self-care, enable patients taking responsibility for their health and fulfill their obligations towards family and society.

Finally, the therapeutic relationship should take the form of a 'mutual participation', where patient has to actively participate in treatment and comply with medical instructions. In addition, patient has to acquire knowledge relevant to the management of disease, receive support and training or teaching of health professionals in order to achieve improved health-related quality

of life. At this point, it is worth mentioning the close cooperation of the members of the multidisciplinary treatment team (nutritionists, psychologists, machine technicians). Also, patients' involvement in support networks or rehabilitation activities and participation in a program of physical activity or in educational programs can help these people to create new supportive relationships, to achieve social recognition and appreciation and to prevent social isolation. In the meanwhile, individualized psychotherapeutic interventions for patients who report depressive symptoms and anxiety disorders and the development of psychiatric services in primary and secondary health care in patients undergoing regular haemodialysis would help those patients.

Moreover, the promotion of health programs towards patients suffering from CRF should enhance their confidence and ability to self-care and focus more often on mental health issues afflict them (depression, anxiety and suicide ideation). At the same time, intervention and counseling to units' staff through educational programs would raise awareness and promote the biopsychosocial approach to the disease and the patient.

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