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Review

Quality of Life in Dıalysis Treatment Options

Sevda Tüzün Özdemir [1*]

[1] Izmir Kavram Vocational School, Dialiysis Programme, Izmir, Turkey

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Abstract

Chronic kidney disease is an important public health problem in our country as well as all over the world, and the mortality rate in dialysis treatment is 10-30% higher than in the general population. According to the data of the Turkish Nephrology Society for 2021; As of the end of 2020, there are 83,350 patients with end-stage renal disease in total. The quality of life of those diagnosed with end-stage renal disease is lower than the general population and individuals with chronic diseases. In addition, chronic diseases cause sadness, anger, depression, helplessness, fear of death, feeling of uselessness, crying spells, social isolation, fear of being dependent, deterioration in body image, inadequacy and deterioration in quality of life. In dialysis patients, both the conditions caused by the treatment and the perception of chronic disease affect the quality of life negatively. This review was written to evaluate the quality of life in hemodialysis and peritoneal.

Keywords: hemodialysis, peritoneal dialysis, quality of life, depression, pain.

Diyaliz Tedavi Seçeneklerinde Yaşam Kalitesi

Öz

Kronik böbrek hastalığı, tüm dünyada olduğu gibi ülkemizde de önemli bir halk sağlığı problemidir ve genel popülasyona kıyasla diyaliz tedavisinde ölüm oranı %10-30 kat daha fazladır. Türk Nefroloji Derneği 2021 Registry verilerine göre; 2020 yılı sonu itibariyle toplamda 83.350 son dönem böbrek yetmezliği hastası vardır. Son dönem böbrek yetmezliği hastası tanısı alanların yaşam kalitesi, genel toplumdan ve kronik hastalıkları olan bireylerden daha düşüktür. Ayrıca kronik hastalıklar kişilerde, üzüntü, öfke, depresyon, çaresizlik, ölüm korkusu, işe yaramazlık duygusu, ağlama nöbetleri, sosyal izolasyon, bağımlı olma korkusu, beden imajında bozulma, yetersizlik ve yaşam kalitesinin bozulmasına neden olmaktadır. Diyaliz hastalarında, hem tedavinin neden olduğu durumlar hem de kronik hastalık algısı yaşam kalitelerini olumsuz etkilemektedir. Bu derleme son dönem böbrek yetmezliği tedavi modellerinden hemodiyaliz ve periton diyaliz tedavisi gören hastaların yaşam kalitelerini değerlendirmek amacıyla ele alınmıştır.

Anahtar Kelimeler: hemodiyaliz, periton diyaliz, yaşam kalitesi, depresyon, ağrı.

1. Introduction

The advancement of medical technology prolongs the life span by enabling effective diagnosis and treatment in the field of health, and early diagnosis. The long life expectancy causes the incidence of chronic diseases to increase simultaneously (Policies to combat non-communicable diseases and risk factors in Turkey., 2021). Chronic non-communicable diseases (NCDs) account for 71% of all deaths and 80% of the disease burden in the world. According to the World Health Organization (WHO) data, approximately 40 million people die each year with the diagnosis of NCD, and 35% of these deaths are in the 30-69 age group (Evaluation of

* **Corresponding Author:** sevda.ozdemir@kavram.edu.tr
Sevda Tüzün Özdemir, https://orcid.org/0000-0002-9025-8325

the Change in Diabetes, Hypertension, Obesity, Central Obesity, and Central Obesity Frequency According to the Turkish Population Between 2010-2020 in Turkey , 2021). In the 21st century, WHO aimed to "reduce the incidence of non-communicable chronic diseases, the rates of death, incapacity and disability due to these diseases, and to increase the quality of life by increasing the psychosocial well-being of people in order to protect and improve public health all over the world" (Gökçe, 2010).

Chronic kidney disease (CKD), which is on the list of NCDs seen in our country, is an important public health problem in our country as well as all over the world, and the mortality rate in dialysis treatment is 10-30 times higher than in the general population (Policies to combat non-communicable diseases and risk factors in Turkey., 2021). CKD is defined as a progressive, irreversible, chronic loss of kidney function associated with a decrease in glomerular filtration rate due to various reasons (Tuzun Ozdemir and Akyol, 2019). CKD is a chronic disease with a poor prognosis, high mortality-morbidity rates, adversely affecting quality of life, low awareness and early diagnosis, but its progression can be stopped or its progression to advanced stages can be slowed down when diagnosed early (Policies to combat non-communicable diseases and risk factors in Turkey., 2021). Diabetes mellitus, hypertension, glomerulonephritis, polycystic kidney, obstructive nephropathy, amyloidosis, tubulointerstitial nephritis and renal vascular diseases play a role in etiology (Süleymanlar et al., 2021).

According to the Turkish Nephrology Society 2021 Registry data; as of the end of 2020, there are 83,350 patients with end-stage renal disease (ESRD) in total, and 72.7% of these patients preferred hemodialysis (HD), 4.1% preferred peritoneal dialysis (PD) treatment and 23.3% preferred transplantation treatment (Süleymanlar et al., 2021). HD treatment is a treatment model in which the patient's blood is passed through a membrane with the help of a machine, and uremic wastes are cleared in sufficient amounts (Sermenli Aydın, 2019). In this treatment model, either a permanent/temporary catheter or an arteriovenous fistula is opened to access the patient's blood, and the patient's arm is accessed by using 2 fistula needles with a thickness of 14-18 guage for each HD session (Tuzun Ozdemir and Akyol, 2021). In the treatment of PD, the patient fills the dialysis fluid into the abdominal cavity through a silicone catheter placed in the abdomen and replaces this fluid with a new one at certain hourly intervals. The PD treatment model is performed in two different ways. In the continuous ambulatory peritoneal dialysis (CAPD) model, the patient performs 4 daily dialysis exchanges at 4/6 hour intervals during the day, and this exchange is performed with the prescribed 2000-2500cc dialysis fluids. In the instrumented peritoneal dialysis (APD) treatment model, the patient is connected to the dialysis machine at night and the treatment takes place during the night with the help of the machine, according to the prescribed amount (2000-2500cc) and waiting time (45 min-1,5 hour change) (Balli, 2015).

Although the concept of quality of life has gained importance in recent years, it is generally used in definitions such as happiness, well-being, psychosocial adaptation, life satisfaction, but it caused deficiencies in the evaluations in the field of health. Therefore, the concept of health-related quality of life was developed and focused on health, disease, and treatment (Durmaz Akyol, 2016). WHO quality of life; defines it as an individual's perception of their position in life in the context of the culture and value systems in which they live, their goals, expectations, standards and concerns (Kurbun, 2018). In other words, quality of life is defined as a complex concept that includes situations such as physical and psychosocial health, relationship with the social environment, and independence (Durmaz Akyol, 2016).

End-stage renal disease is a life-threatening chronic disease that causes various complications and significant loss of workforce, affecting people of all age groups. Although dialysis treatment, especially hemodialysis treatment, prolongs the life of patients, it negatively affects their quality of life (Alemdar and Çınar Pakyüz, 2015). Dialysis treatment causes negative effects on the cardio-respiratory system, musculoskeletal system, and leads to a decrease in physical-mental health, social interaction, general well-being, economic status, ability to perform activities of daily living, independence and sexual quality of life. The quality of life of those diagnosed with ESRD is lower than the general population and individuals with chronic diseases (Durmaz Akyol, 2016). Especially HD patients have to go to a dialysis center 2 or 3 days a week and stay connected to the HD machine for 4 hours in order to survive. In this case, HD patients live dependent on both the machine and the dialysis personnel (Alemdar and Çınar Pakyüz, 2015). In addition, chronic diseases cause sadness, anger, depression, helplessness, fear of death, feeling of uselessness, crying spells, social isolation, fear of being dependent, deterioration in body image, inadequacy and deterioration in quality of life. In dialysis patients, both the conditions caused by the treatment and the perception of chronic disease negatively affect their quality of life (Varol et al., 2018).

In order to facilitate the adaptation of patients to the chronic disease, treatment and care process, it is important that the nurses responsible for care have sufficient knowledge and equipment and provide patient education. During these trainings, the characteristics of the diagnosed disease, the need for treatment, treatment expectations, possible complications, and the development of self-care skills that will contribute positively to the patient's quality of life and their awareness will be increased (Alemdar and Çınar Pakyüz, 2015).

Quality of Life in Hemodialysis Treatment

Hemodialysis treatment is the most preferred ESRD treatment option in our country (Süleymanlar et al., 2021). In order to receive HD treatment, patients have to stay connected to a machine for certain days and hours of the week (3 days/4 hours) either at their own homes or by going to a center (Alemdar and Çınar Pakyüz, 2015). In addition, HD patients are exposed to arteriovenous fistula (AVF) interventions that cause pain and anxiety an average of 300 times a year and experience various complications related to treatment. AVF intervention performed by providing patient comfort will contribute positively to pain management and increase the patient's quality of life (Tuzun Ozdemir and Akyol, 2021). In HD units for painless AVF intervention, it is mostly aimed to reduce/relieve pain with lidocaine spray, pricolain cream, cryotherapy application to the AVF entry area or lavender inhalation applications to the patient during AVF intervention (Tuzun Ozdemir and Akyol, 2021; Cekic, 2018; Arab et al., 2017). HD patients experience severe pain during the dialysis session, apart from AVF insertion pain. For this purpose, detailed pain assessment, planning treatment and care for pain relief, and determining the localizations of pain and affecting factors are required (Ozyigit, 2016).

Pain experienced due to treatment and disease causes anxiety, depression and deterioration in sleep quality in the patient, and the living standards, dietary habits and social lives of the patients are adversely affected by this process (Gökçe, 2010; Özer and Ateş, 2020; Arslan 2011; Boz and Topbaş, 2021). Çetin Kaya et al. reported that dialysis patients frequently experience depression and anxiety, and regular psychiatric follow-ups and support will increase their adherence to treatment and quality of life (Çetinkaya, 2008). Similar results were found in many studies investigating depression and anxiety levels in HD patients (Durmaz Akyol, 2016; Yorulmaz, 2014; Kaya, 2012).

Due to ESRD, uremic toxins cannot be eliminated from the body and uremic pruritus is frequently observed especially in HD patients (Kücükünal et al., 2015). Studies have reported that uremic pruritus with itching and dry skin is frequently observed in 40-90% of ESRD (Ramakrishnan et al., 2013). Küçükünal et al. as a result of his study, it was determined that uremic pruritis is frequently seen in HD patients, significantly reducing the quality of life of the patients. (Kücükünal et al.22, 2015).

Active participation of patients receiving dialysis treatment in their own self-care; It is very important to know the diagnosis-treatment processes of the disease, to know at what stage they should seek medical help, to improve their own health, to prevent comorbid diseases, and to improve their current health status (Tuzun Ozdemir and Akyol, 2019). When the relationship

between the self-care power of HD patients and their quality of life was evaluated, it was determined that the increase in the self-care power of the patients increased their quality of life (Kurbun, 2018; Alemdar and Çınar Pakyüz, 2015). When the quality of life of HD patients in Turkey and in other countries was compared, it was found that Turkish patients had a higher quality of life (Nisel et al., 2014).

Quality of Life in Peritoneal Dialysis Treatment

Peritoneal dialysis treatment is the least preferred ESRD treatment model in our country (Süleymanlar et al., 2021). In this treatment model, the patient performs the treatment in his own home and takes an active role in the treatment, without going to a different center. For CAPD treatment, dialysis fluid is administered with the help of a permanent silicone catheter inserted into the patient's abdominal cavity, after waiting for a certain time (4-6 hours), it is replaced with a new one, and this process is repeated 4/5 times a day. In the treatment of APD, the patient is connected to the PD machine while lying down, and when he wakes up in the morning (8-12 hours), he is disconnected from the machine and does not perform dialysis during the day (Gökçe, 2010; Balli, 2015).

Taking an active role in the treatment of PD, frequent daytime dialysis changes in CAPD lead to negative effects on body image, self-esteem and sexual intercourse due to PD catheter, leading to anxiety and depression of the patient and may cause negative effects on quality of life (Aguiar et al., 2019). In a published study, PD patients expected that being active in their treatments would have a positive effect on their quality of life, but as a result of the study, it was found that the quality of life of PD patients was worse than other treatment models (Gökçe, 2010). In a study examining the effects of PD on life and mental symptoms, it was found that going to work was difficult for 32% of the patients, social life became difficult for 44.4% and nothing was the same in private life for 46.6%, it has been determined that it is more complex and difficult (Karaca et al., 2012).

Patients receiving APD treatment stay connected to a machine overnight. This situation adversely affects the sleep quality of the patients. Erdogan et al. in their study, sleep disorders were found in 51% of PD patients who participated in the study, and it was stated that the quality of life of patients with low sleep quality was also low (Erdoğan, 2011).

Patient attitudes and behaviors play an important role in chronic disease processes that require long-term care and treatment. The high quality of life of these patients is closely related to the

patient's self-care. In many studies, it was concluded that as self-care power increases, quality of life also increases (Karabulutlu and Tan, 2005).

Comparison of Hemodialysis and Peritoneal Dialysis Treatment Quality of Life

Hemodialysis and peritoneal diaysis treatments, which are among the ESRD treatment models, have their own advantages and disadvantages. In HD treatment, the patient becomes dependent on the hospital or center and the medical care team, while PD patients become dependent on the home. This situation both treatment models negatively affects the patient's social life style, work-school life, sleep pattern and private life (Kaya, 2012). Considering the time spent by the patients for HD and PD treatments; HD patients have to go to the dialysis center for certain hours and days a week, and in this process, they have to spend an average of 15-18 hours a week away from their homes and families. Likewise, patients have to spend an average of 20-22 hours for CAPD treatment and 56-84 hours for APD treatment (Gökçe, 2010). Although HD patients spend longer in treatment than PD patients, the time allocated to treatment within one week is longer in PD treatment (Gökçe, 2010; Kaya, 2012). This affects the quality of life of patients. Oren et al. (2013) in a study in which they investigated quality of life and related factors in chronic HD and PD patients in Turkey, it was found that the PD group had a better quality of life than the HD group, and the quality of life values were determined by age, gender, education, employment status, income, dialysis duration, peritonitis incidence. and were found to be affected by additional diseases.

In addition to being a chronic disease that is difficult to manage, ESRD is also very difficult to manage for patients with treatment options. This situation causes psychological disorders to be seen frequently in patients in both treatment groups. Therefore, it is important to evaluate the patients from a psychiatric point of view while they are being diagnosed and treated, in terms of early diagnosis and treatment of psychiatric diseases and increasing the quality of life of patients (Baykan and Yargic, 2012). Cetinkaya et al. In the study in which they examined depression, anxiety levels and attitudes to cope with stress in HD and CAPD patients, depression findings were found in 33.3% of CAPD patients and 61.3% of HD patients. In the same study, it was stated that depression and anxiety are frequently seen among psychiatric diseases in all dialysis patients, mostly HD patients, and therefore regular psychiatric evaluation should be performed in order to increase the quality of life of patients receiving dialysis treatment (Çetinkaya, 2008). In a study by Paraskevi Theofilou (2011) in which HD and PD patients compared their quality of life, it was reported that HD patients had worse quality of life

in their social relationships, depression rates were higher in both treatment models, but PD patients had more suicidal thoughts and sleep problems compared to HD patients (Theofilou, 2011.). Depression has a negative impact on the quality of life of dialysis patients. Therefore, social support should be provided to dialysis patients (Mistik, 2017).

In the study in which the effects of HD and PD patients' physical performance, physical activity, activity of daily living, depression level and pain levels on quality of life were compared, it was found that all parameters affected both each other and quality of life; It has been determined that different dialysis modalities affect the physical, psychological and social health of their patients at certain rates and at different levels. In addition, it has been stated that regular evaluation of the relevant parameters, physical activity counseling and rehabilitation practices for the results will contribute positively to the patient's quality of life (Sermenli Aydın, 2019). In a study examining the effects of different dialysis modalities on the quality of life of the relatives of the patients, it was determined that the PD treatment option, which provides high self-confidence, freer diet, and fluid-electrolyte balance with active participation in the treatment, offers a higher quality of life even for the relatives of the patients compared to HD treatment (Gökalp, 2021).

Conclusion

In conclusion, because ESRD is a chronic disease, it is difficult to manage for patients. For this reason, studies should be carried out to increase the awareness levels of the society and to develop self-care skills in order to initiate the early diagnosis and treatment process and for a quality life. In addition, patients should be informed about the entire treatment process and options before dialysis treatment, and who should be contacted when necessary. By ensuring that patients actively participate in the treatment process and take responsibility for the treatment, many symptoms that will arise due to treatment will be more controllable. The quality of life of dialysis patients is quite low compared to the general population due to both the disease they are diagnosed with and the dialysis treatment they have to receive continuously. In order to increase the quality of life in dialysis patients to the best possible level, scales for the diagnosis of quality of life should be used at regular intervals and importance should be given to studies that will increase the quality of life. Biochemical parameters should not be taken into account in the evaluation of patients, but a complete evaluation should be made in all aspects. Nephrologist, dialysis nurse/technician, dietitian, psychologist, social worker, physiotherapist should be included in the treatment process with a multidisciplinary approach

model. In addition, nurses/technicians, who are in constant communication with the patient during the dialysis treatment process and are responsible for care, play an important role in preventing complications that may develop in patients and increasing the quality of life of dialysis patients with careful, planned, continuous follow-up and training. Especially dialysis nurses should have sufficient knowledge about the factors affecting the quality of life in dialysis patients. Dialysis nurses can minimize the incidence of factors such as peritonitis, anemia, treatment incompatibility and depression, which negatively affect quality of life and prognosis, with effective care methods and frequent patient education. For this reason, regular in-service trainings to be given to nurses/technicians and medical team are very important.

Ethics in Publishing

There are no ethical issues regarding the publication of this study.

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