

# Quality of life of End-Stage Renal Disease (ESRD) patients receiving hemodialysis: influencing factors and approaches to correction

S.I.Zaripov, N.M.Abdurakhmanova

Tashkent Medical Academy, Tashkent, Uzbekistan

**Abstract:** Chronic kidney disease is one of the serious problems of modern medicine worldwide. Also, the problem of quality of life of ESRD patients is becoming increasingly important, because hemodialysis seriously affects the physical, mental and social aspects of the patients' lives. According to the statistics, 13,4 % of world population suffer from CKD.[1] In the Republic of Uzbekistan, the prevalence of terminal CKD was 97.6 per 1 million population (3,210 patients), 2,753 patients (85.8%) were on hemodialysis (HD), and 457 patients (14.2%) had functioning kidney transplant. [2] Kidney pathology occupies an important place among chronic non-infectious diseases due to its significant prevalence, a sharp decrease in the quality of life, high mortality and expensive replacement therapy methods in the terminal stage - dialysis and kidney transplantation. In this regard, it is of interest to study the quality of life (physical condition and psychological health) in patients with CKD receiving program hemodialysis.

**Keywords:** Chronic kidney disease, hemodialysis (HD), quality of life, end-stage renal disease (ESRD)

## Introduction

Chronic kidney disease is a consequence of many kidney diseases and is quite common in medical practice. The use of modern methods of renal replacement therapy (hemodialysis, peritoneal dialysis) has made it possible to increase the life expectancy of ESRD patients by an average of 10–12 years even without kidney transplantation. [3] However, despite the improvement in therapy, the prospect of lifelong dialysis treatment is still accompanied by many fears and concerns on the part of patients who will have this treatment. The lifelong nature of therapy, dependence on the hemodialysis device, the need to spend a lot of time on HD sessions, limited freedom of movement, a strict diet, reduced fluid intake, disability, lack of communication, changes in appearance are all powerful stress factors that accompany treatment.

Factors affecting the quality of life of patients on HD can be divided into modifiable (characteristics of the mental state - depression, anxiety, asthenia, as well as exercise therapy, protein diet), partially modifiable (presence of concomitant pathology and complications, albumin and hemoglobin levels, personality traits). social characteristics - availability of work, education, income) and non-modifiable (sex, age, duration of the disease and treatment of HD). Correction of modifiable and partially modifiable factors improves the quality of life of patients, making it possible to achieve optimal medical and psychological rehabilitation.[4]

The 36-Item Short Form Survey (SF-36) is an oft-used, well-researched, self-reported measure of health. It comprises 36 questions which cover eight domains of health:

- 1) Limitations in physical activities because of health problems.
- 2) Limitations in social activities because of physical or emotional problems
- 3) Limitations in usual role activities because of physical health problems
- 4) Bodily pain
- 5) General mental health (psychological distress and well-being)
- 6) Limitations in usual role activities because of emotional problems
- 7) Vitality (energy and fatigue)
- 8) General health perceptions. [5]

According to the Such indicators of QoL as physical functioning and the total indicator of physical health it is possible to predict the mortality risk in HD patients. These indicators of QoL, based on self-assessment of patients, are as important predictors of the survival of HD patients as objective clinical and laboratory parameters that identify the severity of the somatic condition.

## Materials And Methods

The study included 120 ESRD patients receiving HD (hemodialysis) at the Republican Specialized Scientific and Practical Medical Center for Nephrology and Kidney Transplantation. The median age was 55.2+/-17.4 (from 27 to 77 years). There were 57 men and 63 women. The cause of end-stage renal disease was: chronic glomerulonephritis - 65%, diabetes mellitus - 31.7%, polycystic kidney disease - 3.3%. Mean length of dialysis period was 6.7+/-4.3. The quality of life of patients was assessed using the SF-36 questionnaire. The questionnaire contains 36 items grouped into 8 scales. Scales from 1 to 4 reflect the state of physical health. Scales from 5 to 8 reflect the main indicators of mental health. The indicators of each scale range from 0 to 100. The higher the value of the indicator, the better the score on the selected scale.

## Results

Comparison of Quality of Life parameters between women and men showed that "General Health" (GH) scale was higher in women (56,8+/-12,3 vs 44,8+/-24,3 p<0.01), while "Social Functioning" (SF) index was higher in men (59,3+/-26,5 vs 65,4+/-27,2 p <0.05). Overall indicators of physical and mental components did not differ much by gender.

In order to study the influence of hemodialysis duration to quality of life, we divided all patients into 3 groups. 1st group-HD duration up to 1 year(35 patients). 2nd group includes 65 patients who have 2-9 years of HD experience. 3rd group-HD duration more than 10 years(20 patients).

In the 1st group of patients, the lowest indicators were observed in the "Role-Physical Functioning" (RP) (30,8+/-15,1 vs 50,4+/-34,4(2nd group) and 36,8+/-21,4(3rd group) p<0.01) and "Emotional role (RE)" scales. (22,1+/-10,8 vs 48,4+/-12,6(2nd group) and 29,4+/-15,3(3rd group)p<0.01.) On the contrary, it has the highest result on the "Bodily pain" (BP) scale (56,1+/-17,8 p<0.01). In group 2, higher indicators were observed compared to others. Group 3 showed the lowest scores on many scales, only the result on " Role-Emotional Functioning (RE)" scale was better compared to group 1.

## Main complaints of patients.

Table 1

N	Complaints	Rate
1.	Loss of strength	63,3%
2.	Weakness and dizziness	60%
3.	Muscle pain	55,8%
4.	Skin-itching	50%
5.	Dry skin	47,5%
6.	Non-ability to travel	83,3%
7.	Restriction in fluid intake	70%
8.	Strict diet	63,3%
9.	Dependence on medical personnel	50%
10.	Changes in sexual life	30%

## Discussion

During the conversation with patients, it became clear that most patients feel lonely, are ashamed of their illness, do not have complete information about diet, often break their diet and need social relations. Most of the patients stated that they were very depressed at the beginning of the practice, because they did not have enough information about the disease, treatment methods, especially hemodialysis practice. It was found that patients undergoing hemodialysis have a low quality of life. The duration of hemodialysis is one of the strongest factors affecting the quality of life, which is directly confirmed by our results. First of all, looking at the physical health scales, we observed lower results in all scales except the pain scale in patients who had just started practice. During the interview, it became clear that the reason for this is sudden change in the usual way of life of patients, need for equipment and medical personnel, fear of death, depression, shame of their illness and other limitations.

## Conclusion

1. Taking into account the sharp decline in the quality of life and the difficulties in the adaptation process in patients with hemodialysis up to 1 year, it is necessary to provide patients with complete information about the disease and its treatment methods, to introduce the principles of dialysis to patients at the stages of 3A-3B of CKD which help to reduce depression and anxiety.
2. Organization of “Hemodialysis schools” on the base of Dialysis centres can solve many health-related, social, mental problems of CKD patients.
3. Based on the pathophysiological mechanisms of the patient, it is recommended to develop special rations by dietitians-nutritionists and apply them to the life of patients.
4. In order to treat and prevent complications and related diseases that occur in patients during dialysis, we recommend that a team of specialists such as endocrinologist, hepatologist, neurologist, cardiologist, hematologist work together on the basis of integration. Because in many cases, patients postpone or do not go to the examination of allied specialists, the lack of integration and communication between specialists of different fields complicates the treatment process, the integrative communication will increase the effectiveness of treatment and as a result the quality and duration of ESRD patients life.

## References

1. Abdurakhmanova, N. M., Zaripov, S. S., & Turaev, I. A. (2023). THE EFFECT OF CLIMATE-GEOGRAPHICAL FACTORS ON RHEUMATOID ARTHRITIS ACTIVITY. *World Bulletin of Public Health*, 18, 67-69.
2. Hill, N.R., Fatoba, S.T., Oke, J.L., et al. (2016) Global Prevalence of Chronic Kidney Disease—A Systematic Review and Meta-Analysis. *PLoS ONE*, 11, e0158765.
3. Yuldashev U.K., Daminov B.T. Organ Transplantation in the Republic of the Uzbekistan. *Exp Clin Transplant* 2019;17(2):20.
4. Спиридонов В.Н., Борисов Ю.А., Лебедева Е.Н. и др. Годы и жизнь (как объективная реальность) на регулярном гемодиализе // *Нефрология*. 2005. - Т. 9, № 3. - С. 35-47.
5. Васильева И.А., Петрова Н.Н., Тимоховская Г.Ю. Качество жизни в оценке эффективности лечения гемодиализом // *Нефрология*. — 2001. -Т. 5, № 3. С. 42-45.
6. Lins L, Carvalho F. SF-36 total score as a single measure of health-related quality of life: Scoping review. *SAGE Open Med*. 2016. Published online 2016 Oct 4. doi: 10.1177/2050312116671725. Accessed 16 January 2020.
7. SI, Z., & Raximova, M. B. (2023). QUALITY OF LIFE IN PATIENTS WITH TERMINAL STAGE RENAL DISEASE RECEIVING PROGRAMMED HEMODIALYSIS. *INNOVATION IN THE MODERN EDUCATION SYSTEM*, 3(26), 228-229.
8. Istamovich, Z. S., Sadullayevich, A. K., & Mirza-Bakhtiyarkhanovna, A. N. (2023). THE SIGNIFICANCE OF AUTOANTIBODIES IN THE PATHOGENESIS OF SYSTEMIC SCLEROSIS (LITERATURE REVIEW). *JOURNAL OF BIOMEDICINE AND PRACTICE*, 8(2).
9. Jumanazarov, S., Jabborov, O., Qodirova, S., & Rahmatov, A. (2022). THE ROLE OF PODOCYTIC DYSFUNCTION IN THE PROGRESSION OF CHRONIC GLOMERULONEPHRITIS.
10. Jabbarov, O. O., Maksudova, M. H., Mirzayeva, G. P., & Rakhmatov, A. M. (2023). The Relationship of Blood Group with Human Diseases. *Web of Semantic: Universal Journal on Innovative Education*, 2(3), 331-334.
11. Fayzullaevna, M. G., Otakhanovich, J. O., Tokhirovna, B. N., Mamatovich, R. A., & Bakhdirovich, J. S. (2022). Gout Therapy With Reduced Kidney Function. *Central Asian Journal of Medical and Natural Science*, 3(6), 198-203.
12. Зарипов, С. И., Тураев, И. А., & Рахимов, С. С. (2022). Quality of life in patients with chronic kidney disease receiving program hemodialysis and possible ways of its correction. *УЗБЕКСКИЙ МЕДИЦИНСКИЙ ЖУРНАЛ*, 3(5).
13. Turaev, S. Z. I., & Rakhimov, S. (2023). ASSESSMENT OF THE QUALITY OF LIFE IN PATIENTS WITH CHRONIC KIDNEY DISEASE IN THE PRACTICE OF HEMODIALYSIS. *Journal of Modern Educational Achievements*, 6(6), 103-109.

- 
14. Мавлонхужаев, А. Н., & Умарова, З. Ф. (2019). КАЧЕСТВО ЖИЗНИ У БОЛЬНЫХ С ХРОНИЧЕСКОЙ ПОЧЕЧНОЙ НЕДОСТАТОЧНОСТЬЮ В 5 СТАДИИ ПОЛУЧАЮЩИХ ПРОГРАММНЫЙ ГЕМОДИАЛИЗ И ВОЗМОЖНЫЕ ПУТИ ЕЁ КОРРЕКЦИИ. Авиценна, (38), 18-20.
  15. Chuasuwan A, Pooripussarakul S, Thakkestian A, Ingsathit A, Pattanapruteep O. Comparisons of quality of life between patients underwent peritoneal dialysis and hemodialysis: a systematic review and meta-analysis. Health Qual Life Outcomes. 2020 Jun 18;18(1):191. doi: 10.1186/s12955-020-01449-2. PMID: 32552800; PMCID: PMC7302145.
  16. Hussien H, Apetrii M, Covic A. Health-related quality of life in patients with chronic kidney disease. Expert Rev Pharmacoecon Outcomes Res. 2021 Feb;21(1):43-54. doi: 10.1080/14737167.2021.1854091. Epub 2020 Dec 17. PMID: 33213186.