

ASSESSMENT OF THE QUALITY OF LIFE IN PATIENTS WITH CHRONIC KIDNEY DISEASE IN THE PRACTICE OF HEMODIALYSIS

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ABSTRACT

Chronic Kidney disease (CKD) is defined as abnormalities of kidney structure or function which present more than 3 months and implicates general health. Chronic kidney disease (CKD) is one of the serious problems modern medicines, as it's prevalence and CKD-related problems increasing worldwide. CKD worldwide is 13.4%; According to the statistics, 13,4 % of world population suffer from CKD. Approximately 15% of US adults (more than 1 in 7) have CKD. More than 1.2 million people die due to terminal stage of CKD per year in the world. 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. 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, 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 patients with end-stage chronic renal failure by an average of 10–12 years even without kidney transplantation. 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. Among patients with a diagnosis of uremia, there is often an idea of dialysis as the end of life. And even when, from a medical point of view, the treatment is successful and life takes on a real perspective, returning to a normal life can be a serious psychological problem for the patient.

The term "quality of life" (QoL) was first used by D.R. Elkinton in 1966 in the 'Annals of the Internal Medicine' when discussing the problem of organ transplantation. In recent years, the problem of the quality of life of patients with chronic renal failure (CRF), who are candidates for kidney transplantation, has become increasingly important. CKD and various types of renal replacement therapy represent a chronic stressful situation. The presence of this somatic pathology imposes restrictions on all spheres of life of patients. The quality of life of patients treated with program hemodialysis (HD) is significantly reduced compared to healthy individuals, mainly due to anergy and uncertainty about the future. J. Trhoievic et al. indicate that HD patients have higher fatigue and worse work capacity [8]. M.P. Merkus et al showed that they also had lower levels of physical activity, emotional functioning, and pain severity.

Chronic hemodialysis (CHD) is associated serious changes in the physical, psychological and social spheres. End-stage renal failure, being a typical chronic disease, is at the same time unique due to the specifics of treatment. We can say that a new, "artificial" form of life is being formed, supported by the purification of the patient's blood from toxic metabolic products during HD sessions. There are patients whose life expectancy on dialysis exceeds life expectancy before dialysis. However, addiction to an "artificial kidney" device, the need to spend a lot of time on hemodialysis sessions, limited freedom of movement, a strict diet, the need to drastically reduce fluid intake, disability, lack of communication, changes in appearance are all powerful psycho-traumatic factors that accompany HD treatment.

At the moment, due to the modern renal replacement therapy (RRT) there is a significant decrease in mortality of patients with CKD. The quality of life of patients with CKD is one of the most important aspects in the complex treatment. Patients who receive HD treatment are dependent on the dialysis procedure, medical equipment, staff, diet, drinking regimen, medication, loss of freedom of movement, loss of work, and sexual dysfunction. Additional stress factors associated with the peculiarities of treatment are the constant dependence on the equipment, the need to form a vascular access, which is often noticeable to people around [1]. In most studies of QoL in patients on HD, the dependence of QoL on dialysis experience was confirmed.

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.

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 100 patients with end-stage CKD who were treated with 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 47 men and 53 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 6.8+/-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.

The following indicators were quantified: 1. Physical functioning (PF - Physical Functioning): reflects the ability of a person to perform physical activity during their normal day. 2. Role-Physical Functioning (RP): The physical ability of a person to perform their professional or domestic work. 3. Pain intensity (BP - Bodily Pain): the severity of physical pain and its impact on the ability to carry out daily activities. 4. General health (GH — General Health): patient's subjective assessment of their health 5. Vitality (VT — Vitality): subjective assessment of mood, energy, vitality. 6. Social functioning (SF - Social Functioning): emotional and physical ability to communicate with other people. 7. Role-Emotional Functioning (RE): A person's emotional ability to engage in professional work or work at home. 8. Mental health (MH - Mental Health): a general indicator of positive emotions, characterizes mood, the presence of depression.

RESULTS

Comparison of Quality of Life parameters between women and men showed that "General Health" (GH) scale was higher in women ($p < 0.01$), while "Social Functioning Index" (SF) was higher in men ($p < 0.05$). (See Table 2) Overall indicators of physical and mental components did not differ much by gender. (Table№1)

Table 1

Scales	Women n=53	Men n=47
1. Physical functioning (PF)	44,9+/-26,8	50,3+/-25,2
2. Role-Physical Functioning (RP)	49,3+/-41,7	44,5+/-44,4
3. Bodily Pain (BP)	50,4+/-26,2	50,3+/-24,7
4. General Health (GH)	45,8+/-13,3	32,0+/-24,8**
5. Vitality (VT)	43,8+/-20,6	44,1+/-19,4
6. Social functioning (SF)	58,3+/-23,5	65,3+/-27,2*
7. Role-Emotional Functioning (RE)	34,2+/-44,3	29,4+/-38,1
8. Mental Health (MH)	57,3+/-22,2	55,9+/-21,0

In order to study the influence of hemodialysis duration to quality of life, we divided all patients into 3 groups.

In the 1st group of patients, the lowest indicators were observed in the "Physical role (RP)" ($p < 0.01$) and "Emotional role (RE)" scales. $P < 0.01$.

On the contrary, it has the highest result on the "Pain Intensity (BP)" scale ($p < 0.01$)

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.

Indicators of the quality of life of ESRD patients according to the duration of hemodialysis

Scales	Up to 1 year	2-10 years	More than 10 years

	(n = 25)	(n = 65)	(n = 10)
1. Physical functioning (PF)	45,6+/-18,0	51,9+/- 28,6	37,7+/- 23,9
2. Role-Physical Functioning (RP)	30,8+/-15,1	50,4+/- 34,4	26,8+/- 21,4
3. Bodily Pain (BP)	56,1+/-17,8	55,4+/- 25,0	44,5+/- 26,7
4. General Health (GH)	34,3+/-11,0	37,6+/- 19,0	32,4+/- 17,8
5. Vitality (VT)	44,6+/-17,6	49,3+/- 21,6	41,4+/- 22,1
6. Social functioning (SF)	58,8+/-23,6	62,3+/- 24,7	56,4+/- 25,0
7. Role-Emotional Functioning (RE)	22,1+/-30,8	48,4+/- 42,6	29,4+/- 35,3
8. Mental Health (MH)	54,4+/-14,3	56,0+/- 21,9	53,9+/- 22,1

A detailed analysis of patients complaints revealed that patients most often complained of: loss of strength - 62%; weakness and dizziness - 60%; muscle pain - 59%; skin-itching and shortness of breath - 50%, dry skin - 48%. One of the most significant stress factors in most of patients on program HD is non-ability to travel (81%); of which 67% this factor is of great concern. Also, 74% of patients were concerned about the restriction in fluid intake; 53% - necessity follow a diet; 60% - dependence on medical personnel; 61.0% - unrest associated with kidney disease; 56% - the impact of the disease on appearance. The least significant one was effect of disease on sexual life - 39%

DISCUSSION

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. In the 2nd group, as the duration of dialysis increased, better results compared to others were observed due to adaptation, acceptance of disease, elimination of misconceptions about dialysis, restoration of social relations and adjustment processes. It is possible to observe that the indicators of the quality of life decrease due to medical (comorbidities, complications of dialysis), material problems, limitation of physical activity, increasing intensity of pain, as the dialysis experience of group 3 patients exceeds 10 years.

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.

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