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QUALITY OF LIFE IN PATIENTS WITH CHRONIC KIDNEY DISEASE IN THE V STAGE RECEIVING PROGRAM HEMODIALYSIS AND POSSIBLE WAYS OF ITS CORRECTION

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Abstract. *Chronic kidney disease (CKD) is complex of symptoms caused by the irreversible death of nephrons, which is a constantly progressive kidney damage associated with a gradual deterioration of their excretory and blood-purifying function in primary or secondary chronic kidney diseases. Pathology of the kidney among chronic non-infectious diseases occupies an important place due to a significant prevalence, a sharp decline in the quality of life, high mortality and leads to the need for the use of expensive methods of replacement therapy in the terminal stage - dialysis and kidney transplantation. As you know, CKD is characterized by steady progression with outcome to the terminal stage and the emergence of dependence on "artificial kidney." The prevalence of CKD is comparable to such socially significant diseases as essential hypertension and diabetes. In this regard, an important part is the identification of various aspects of quality of life in patients with CKD in the terminal stage receiving hemodialysis. Therefore, it is of interest to investigate the quality of life (physical condition and psychological health) in patients with CKD receiving program dialysis.*

Key words: *Chronic kidney disease, substitution therapy, programmed hemodialysis, quality of life.*

V БОСҚИЧ СБК РЕЖАЛИ ГЕМОДИАЛИЗ ДАСТУРИДАГИ БЕМОРЛАРНИНГ ҲАЁТ СИФАТИ ВА УНИ ЯХШИЛАШ ЙЎЛЛАРИ

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Аннотация. *Сурункали буйрак касаллиги (СБК) нефронларнинг қаймас нобуд бўлиши натижасида юзага келадиган симптомлар мажмуаси бўлиб, бу буйракнинг бирламчи ёки иккиламчи сурункали касалликларида уларнинг ажратиши ва қонни тозалаш вазифаларининг босқичма-босқич ёмонлашиши билан боғлиқ доимий прогрессив буйрак шикастланиши. Буйрак патологияси сурункали юқумли бўлмаган касалликлар орасида муҳим ўринни эгаллайди, чунки унинг сезиларли даражада тарқалиши, ҳаёт сифатининг кескин пасайиши, юқори ўлим даражаси ва терминал босқичида қиммат ўрин босувчи терапия (диализ ва буйрак трансплантацияси) усулларига эҳтиёж пайдо бўлишига олиб келади. Маълумки, СБК терминал босқичига олиб келадиган барқарор ривожланиши ва "сунъий буйрак" га қарамликнинг пайдо бўлиши билан тавсифланади. СБК тарқалиши гипертония ва қандли диабет каби ижтимоий аҳамиятга эга касалликлар билан таққосланади. Шу нуқтаи назардан, гемодиализдан ўтаётган СБКнинг охириги босқичи бўлган беморларнинг ҳаёт сифатининг турли жиҳатларини аниқлаш муҳимдир. Шу сабабли, диализ дастуридан ўтаётган СБК билан оғриган беморларнинг ҳаёт сифатини (жисмоний ҳолати ва психологик саломатлиги) ўрганиши муҳим аҳамиятга эга.*

Калит сўзлар: *Сурункали буйрак касаллиги, алмаштириши терапияси, гемодиализ дастури, ҳаёт сифати.*

КАЧЕСТВО ЖИЗНИ БОЛЬНЫХ ХРОНИЧЕСКОЙ БОЛЕЗНЬЮ ПОЧЕК НА V СТАДИИ ПРИЕМА ПРОГРАММНОГО ГЕМОДИАЛИЗА И ВОЗМОЖНЫЕ ПУТИ ЕГО КОРРЕКЦИИ

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Аннотация. Хроническая болезнь почек (ХБП) — симптомокомплекс, обусловленный необратимой гибелью нефронов, представляющий собой постоянно прогрессирующее поражение почек, связанное с постепенным ухудшением их выделительной и кровоочистительной функции при первичных или вторичных хронических заболеваниях почек. Патология почек среди хронических неинфекционных заболеваний занимает важное место из-за значительной распространенности, резкого снижения качества жизни, высокой смертности и приводит к необходимости применения дорогостоящих методов заместительной терапии в терминальной стадии. диализ и трансплантация почки. Как известно, ХБП характеризуется неуклонным прогрессированием с исходом в терминальную стадию и возникновением зависимости от «искусственной почки». Распространенность ХБП сопоставима с такими социально значимыми заболеваниями, как гипертоническая болезнь и сахарный диабет. В связи с этим важной частью является выявление различных аспектов качества жизни больных ХБП в терминальной стадии, находящихся на гемодиализе. Поэтому представляет интерес изучить качество жизни (физическое состояние и психологическое здоровье) пациентов с ХБП, находящихся на программном диализе.

Ключевые слова: Хроническая болезнь почек, заместительная терапия, программный гемодиализ, качество жизни.

Relevance. Chronic kidney disease is a consequence of many kidney-related conditions and is quite prevalent in medical practice. The application of modern methods of detoxification and replacement kidney therapy (hemodialysis, peritoneal dialysis) has increased the life expectancy of patients with end-stage chronic kidney failure by an average of 10-12 years, even without kidney transplantation. However, despite therapy advancements, the prospect of lifelong dialysis treatment continues to be accompanied by numerous fears and anxieties among patients facing this treatment. Among those diagnosed with uremia, there is often a perception of dialysis as the end of life.

Even when treatment is medically successful and life gains a real prospect, returning to a normal, fulfilling life can become a significant psychological challenge for the patient.

Inequality in the accessibility of renal replacement therapy

In 2010, worldwide, 2.6 million patients were undergoing dialysis treatment, of which 93% were residents of high and middle-income countries. On the other hand, estimates based on the prevalence of chronic kidney disease

(CKD) suggest that the total number of patients in need of renal replacement therapy (RRT) could range between 4.9 to 9 million individuals. If these estimates hold true, at least 2.3 million patients lack the opportunity to timely access RRT, inevitably leading to increased mortality rates. The widest contribution to the prevalence of CKD, and consequently to the development of end-stage CKD (ESCKD), comes from diabetes and hypertension. However, the provision of RRT to ESCKD patients currently relies less on the prevalence of underlying kidney disease causes and more on two other factors: the gross national income (GNI) per capita and the age of the population in a specific country. Poverty is presumed to be the main barrier to accessing RRT. This is particularly crucial as the expected number of individuals receiving RRT globally by 2030 will increase to at least 5.4 million people, predominantly from developing countries in Asia and Africa with low GNI [1].

CKD is increasingly recognized as a global public health issue and a key determinant of adverse health outcomes. There is compelling evidence that the damage from unrec-

ognized and untreated CKD is particularly significant among vulnerable populations, i.e., those with insufficient financial resources, racial and ethnic minorities, indigenous peoples, and individuals from socially disadvantaged families. [4]

CKD in developing countries

Approximately 1.2 billion people worldwide live in extreme poverty. Poverty negatively impacts lifestyles, restricts access to healthcare, amplifies the adverse effects of environmental factors, and each of these circumstances contributes to disparities in health conditions [1].

In low-income countries, factors associated with poverty such as infectious diseases related to poor sanitation, inadequate access to clean drinking water, environmental pollution, and high concentrations of disease carriers continue to play a significant role in the development of chronic kidney disease (CKD). Despite the increase in diabetic nephropathy incidence, the primary causes of CKD in many countries remain chronic glomerulonephritis and interstitial nephritis. Mortality among hemodialysis patients remains high, primarily due to sepsis - 36.8%, and ischemic heart disease (IHD) - 26.3% [12]. The average age of those who died from IHD was 62.8 years, with the majority (60%) having diabetes mellitus and nearly one-third being tobacco smokers [3].

The high mortality rate among dialysis patients, including in developed countries, motivates the search for potential risk factors to improve patient survival on dialysis. This provides an opportunity to tailor individual approaches to dialysis patients and utilize existing resources rationally, especially in resource-limited settings. The study by E. Fleischmann et al. [1] initially identified significantly higher survival rates among dialysis patients with excess weight and obesity (body mass index, BMI ≥ 27.5 kg/m²) compared to those with normal weight (BMI - 20-27.5 kg/m²) and low body weight (BMI < 20 kg/m²). The data also indicated that for each increase in BMI class, the relative risk (RR) of mortality decreased by 10%. Additionally, overweight patients had significantly lower hospitalization rates than underweight patients [14]. Comorbid condi-

tions may lead to exhaustion and negatively impact the high mortality rate. However, this does not explain why obesity is associated with better survival among dialysis patients. It is possible that increased body mass among dialysis patients leads to improved survival regardless of the cause-and-effect pathways of its development [7].

Among factors contributing to improved survival in hemodialysis patients, residual kidney function could be a favorable indicator [10]. Patient survival was associated with dialysis dose (Kt/V), dialysis frequency, and serum albumin levels. For better survival, a dialysis frequency of no less than three times per week is recommended [9].

In order to reduce mortality rates, it is necessary to assess and enhance the quality of life in patients undergoing programmed hemodialysis.

The term 'quality of life' (QOL) was first introduced by D.R. Elkin in 1966 in the journal 'Annals of Internal Medicine' while discussing organ transplantation issues. In recent years, the issue of QOL in patients with CKD who are candidates for kidney transplantation surgery has become increasingly relevant [4].

CKD and various forms of renal replacement therapy represent chronic stressful conditions. The presence of this somatic pathology imposes limitations on all aspects of patients' lives. The QOL of patients undergoing maintenance hemodialysis (HD) is significantly reduced compared to healthy individuals, primarily due to fatigue and uncertainty about the future.

Some authors suggest that patients undergoing hemodialysis (HD) experience higher levels of fatigue and reduced work capacity [6]. Obi Y., Rhee C.M., Mathew A.T. et al. demonstrated that they also exhibit lower levels of physical activity, emotional functioning, and a higher prevalence of pain syndrome [11].

Chronic hemodialysis (HD) treatment is associated with constant somatogenic vital threats and leads to significant changes in physical, psychological, and social spheres. Renal pathology in end-stage kidney failure, while being a typical chronic condition, is unique due to the specifics of treatment. It could be said that a new 'artificial' form of life

is established, supported by the cleansing of the patient's blood from toxic metabolic products during HD sessions. There are patients whose life expectancy on dialysis exceeds their life expectancy without it. However, being attached to the 'artificial kidney' machine, the necessity to spend extended periods during hemodialysis sessions, restricted freedom of movement, strict diet, the need to drastically limit fluid intake, disability, lack of communication, changes in appearance — all these are powerful psychotraumatic factors accompanying HD treatment [9]. When conducting therapeutic and rehabilitation work with such patients, it is essential to consider the specifics of their quality of life (QOL). Domestic research on QOL issues in patients with chronic kidney disease (CKD) is limited. Although there is a considerable number of foreign publications dedicated to the QOL of HD patients, several questions remain unresolved [8]. Specifically, specialized literature lacks studies on the QOL of CKD patients. There is limited information on the impact of general somatic pathology on individual components of dental indicators of QOL. This will help form an understanding of the most problematic areas in a patient's life, which could serve as targets for psychocorrective interventions. Having information on QOL of the patient is relevant not only for clinical psychologists or psychiatrists but also for the treating nephrologist [11].

The introduction of the Quality of Life (QOL) category into medical practice has been a kind of revolution, allowing changes in the traditional model of healthcare delivery and the ensuing paternalistic 'doctor-patient' relationship. Questionnaires assessing patient satisfaction in various life spheres enable the identification of areas needing improvement in healthcare quality. Consequently, the provision of medical services can be optimized through patient-directed planning and evaluation of their effectiveness. Moreover, it is expressed that patient assessment is equally important and legitimate as the assessment by the physician. Monitoring the QOL of a patient during treatment contributes to improving the dialogue between the patient and the treating physician through feedback. The physician gains insights into the patient's overall satisfac-

tion with life and specific areas of dissatisfaction, leading to the patient feeling heard and considered when therapy is prescribed. Additionally, assessing a patient's QOL using questionnaires may reveal circumstances in the patient's life that neither the physician nor the patient had noticed before.

At present, modern renal replacement therapy (RRT) has resulted in reduced mortality among patients with Chronic Kidney Disease (CKD) [3]. The quality of life (QOL) of these patients has gained significant importance. Patients undergoing hemodialysis (HD) are dependent on the dialysis procedure, medical equipment, staff, dietary restrictions, fluid intake, medication, and often suffer from loss of mobility, unemployment, and sexual dysfunction. Additional stress factors related to the treatment specifics include constant dependence on equipment, the need for vascular access formation, often noticeable to others [1]. In most studies, QOL in HD patients has been confirmed to be dependent on the duration of dialysis, but there are variations regarding the specific durations where QOL indicators were at their lowest or showed improvement [2-6]. A significant decline in values was observed after a dialysis duration of more than 10 years. The physical component scales decreased after a dialysis duration of over 6 years, attributed to intensified factors such as uremic osteodystrophy, myocardial remodeling, and complications related to fistula, etc. According to Russian authors, QOL levels increase up to 5 years of dialysis therapy, followed by a gradual, sometimes substantial decline in both physical and mental components [2].

The aim of the research: To study the Quality of Life (QOL) in patients with Stage V Chronic Kidney Disease (CKD) undergoing programmed hemodialysis.

Materials and methods of the study.

The study included 60 patients with Stage V Chronic Kidney Disease (CKD), specifically chronic pyelonephritis and chronic glomerulonephritis, undergoing hemodialysis (HD) treatment at the Republican Specialized Scientific and Practical Medical Center for Nephrology and Kidney Transplantation between December 2019 and September 2021. The participants were aged between 32 and 65

ears, comprising 37 males and 23 females. The causes of CKD Stage 5 were chronic glomerulonephritis in 73.3% and diabetes mellitus in 26.7%. The duration of hemodialysis was as follows: up to 1 ear - 12 patients, 2-8 ears - 30 patients, more than 8 ears - 18 patients.

The quality of life of the patients was assessed using the SF-36 questionnaire (Appendix 1). The questionnaire consists of 36 items grouped into 8 scales. Scales 1 to 4 reflect the physical health status, while scales 5 to 8 represent key indicators of mental health. Scores for each scale range from 0 to 100, with higher scores indicating better assessments within the chosen scale."

Quantitative assessment includes the following indicators:

1. Physical Functioning (PF): Reflects an individual's ability to perform physical activities during their usual daily routine.

2. Role-Physical Functioning (RP): Assesses a person's physical ability to perform their professional or household tasks.

3. Bodily Pain (BP): Measures the intensity of physical pain and its impact on daily activities.

4. General Health (GH): Subjective evaluation of an individual's overall health status.

5. Vitality (VT): Subjective assessment of mood, energy, and life force.

6. Social Functioning (SF): Evaluates emotional and physical ability to interact with others.

7. Role-Emotional Functioning (RE): Assesses an individual's emotional ability to perform professional or household tasks.

8. Mental Health (MH): Represents overall positive emotions, mood, and presence of depression.

Research findings and their discussion

Parameters	HD up to 1 ear (n = 12)	HD 2-8 ears old (n = 30)	HD over 8 ears old (n = 18)
1. Physical Functioning (PF)	45,6+/-18,0	51,9+/-28,6	52,8+/-24,6
2. Role-Physical Functioning (RP)	4,6+/-15,1	20,4+/-34,4	28,7+/-34,1
3. Bodily Pain (BP)	56,1+/-17,8	55,4+/-25,0	48,1+/-26,4
4. General Health (GH)	37,7+/-11,0	34,0+/-19,0	36,4+/-17,8
5. Vitality (VT)	49,6+/-17,6	44,3+/-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 (RE)	12,1+/-30,8	38,4+/-42,6	19,4+/-35,3
8. Mental Health (MH)	54,4+/-14,3	56,0+/-21,9	53,9+/-22,1

Parameters	Female, n=84	Male, n=61
1. Physical Functioning (PF)	44,9+/-26,8	50,3+/-25,2
2. Role-Physical Functioning (RP)		
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 (RE)	34,2+/-44,3	29,4+/-38,1
8. Mental Health (MH)	57,3+/-22,2	55,9+/-21,0

Conclusions:

The most significant decrease occurs in the 'Physical Functioning' and 'Emotional Role Functioning' scales.

This can be explained by the severe physical and emotional condition of the pa-

tients, which limits their ability to carry out daily activities.

In our study, a sharp decline in quality of life (QOL) was observed among patients undergoing dialysis for up to 1 ear. This fact, in our opinion and that of several authors, is due to a drastic lifestyle change: dependence on di-

alysis procedures, medical equipment, personnel, dietary restrictions, loss of employment, and freedom of movement. Subsequently, the mental component of the scales increased up to 5 ears of dialysis therapy. This is likely associated with psychological adaptation to this type of therapy. However, after a duration of more than 5 ears, a significant decrease in values was noted.

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