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INDICATORS OF QUALITY OF LIFE OF PATIENTS WITH CHRONIC KIDNEY DISEASE STAGE II-IV

¹**Dudar I.O.** (<https://orcid.org/0000-0002-4372-8240>)¹**Loboda O.M.** (<https://orcid.org/0000-0001-8410-6926>)^{1,2} **Krasyuk I.V.**¹ **Alekseeva V.V.** (<https://orcid.org/0000-0001-7930-8144>)¹*SI «Institute of Nephrology of the National Academy of Medical Sciences of Ukraine», Kyiv, Ukraine*²*Bogomolets National Medical University, Kyiv, Ukraine**irina_d@ukr.net*

Relevance. Chronic diseases have a long duration and rather slow progression, and people who have such diseases want not only to live longer, but also to live better. Therefore, quality of life (QOL) is one of the most important health issues for the treatment of chronic diseases.

Objective: to determine the features of QOL in patients with chronic kidney disease (CKD) stage II-IV.

Materials and methods. In 171 patients with CKD of II-IV centuries, in addition to general clinical and laboratory studies, QOL was studied using a questionnaire to assess the quality of life of SF-36. The questionnaire contains 36 questions of the main module, supplemented by multi-point scales aimed specifically at patients with CKD. The answers were evaluated in points - from 0 to 100. The higher the score, the better the patient's QOL. The total components were also calculated: physical total component, mental total component, total points. The obtained research data were subjected to statistical processing, which included parametric (t-test for samples with unrelated variants) and non-parametric (Mann-Whitney method) methods, correlation analysis was used.

Results. Most QOL indicators worsen significantly with the progression of CKD. The indicators of total QOL, as well as the indicator «the impact of the disease on everyday life» are most significantly reduced. Age correlates as much as possible with most indicators of QOL in patients with CKD. With age, the QOL of patients decreases, but the manifestations of the disease increase and the mental and physical condition of patients deteriorates. QOL parameters are probably directly and moderately correlated with hemoglobin levels. Most QOL parameters are significantly moderately correlated with systolic blood pressure and diastolic blood pressure. It is assumed that the correction of anemia and blood pressure control, in addition to a positive effect on disease progression and the occurrence and development of complications, will also improve QOL. There were no significant differences in the assessment of QOL in men and women.

Conclusions. QOL indicators decrease with the progression of CKD. Age, hemoglobin level, blood pressure affect QOL.

Key words: chronic kidney disease, progression, quality of life, SF-36 questionnaire.

Relevance. Increasing life expectancy and advances in medical science have led to problems related to chronic diseases in many countries, including Ukraine. Chronic diseases have a long duration and rather slow progression, and people who have such diseases want not only to live longer, but also to live better. Therefore, quality of life (QOL) is one of the most important health issues for the treatment of chronic diseases.

It is advisable to study the QOL of patients with kidney disease as a typical example of a chronic disease. The daily life of patients with kidney disease is often limited to factors that are common to other chronic diseases, and these factors can easily reduce QOL. In addition, the number of patients with chronic kidney disease (CKD) is growing worldwide [1, 2], in particular in Ukraine [3]. Researchers at the United States Renal Data System Coordinating Center predict that in the coming years, 712 290 patients will have end-stage renal disease each year, 136,166 new cases of CKD and 107 760 cases of death from CKD will be reported [4].

Previous studies of QOL in patients with kidney disease have mainly focused on dialysis patients [5, 6].

Objective: to determine the features of QOL in patients with chronic kidney disease (CKD) stage II-IV.

MATERIALS AND METHODS

The observational study included 171 patients with stage II-IV CKD (59 people with CKD stage II, 57 people with CKD stage III, 55 people with CKD stage IV), aged 24 to 75 years, including 87 men and 84 women. All patients were treated at the Kyiv City Research and Practice Center for Nephrology and Hemodialysis of the Kyiv City Clinical Hospital № 3, which is the clinical base of the Department of Efferent Technologies of the Institute of Nephrology of the National Academy of Medical Sciences of Ukraine.

All subjects, in addition to the generally accepted clinical, laboratory and instrumental research methods, were studied for QOL indicators.

The QOL study was performed using the SF-36 quality of life questionnaire [7]. The questionnaire contains 36 questions of the main module, supplemented by multi-point scales aimed specifically at patients with CKD.

All examined patients filled out a questionnaire with a consistent factor-by-factor evaluation of the results and the calculation of the individual QOL in points (the higher the score, the better the QOL of the patient). Responses were evaluated in points (from 0 to 100).

The results are obtained on scales:

symptom/problems (symptoms of kidney disease) – «symptoms of kidney disease» (12 points: №№ 17-28);

the impact of kidney disease on everyday life – «effect of kidney disease» (8 points: №№ 29-36);

severity of the disease – burden of kidney disease (4 points: №№ 13-16);

SF-12 (№№ 1-12) is a short form of general health assessment.

Also calculate the following total components:

physical total component – «Physical health composite» (№№ 1-5, 8);

mental total component – «Mental health composite» (№№ 6-7, 9-12);

the total amount of points.

The obtained research data were subjected to statistical processing, which included parametric (t-test for samples with unrelated variants) and nonparametric (Mann-Whitney method) methods, correlation analysis was used. Data were processed on a personal computer using computer applications: Microsoft Excel 2007, Statistica 7.0 and the standard version of SPSS 16.0 (USA). Data are presented as mean (M) ± mean deviation (SD). The difference was considered significant when the significance level $p < 0.05$ was reached.

RESULTS AND DISCUSSION

The study examined the relationship between quality of life and its components with disease progression, as well as the relationship with clinical and laboratory parameters such as age, sex, hemoglobin level,

glomerular filtration rate (GFR), systolic blood pressure levels. (SBP) and diastolic blood pressure (DBP).

At the same time, it was found that most QOL indicators significantly deteriorate with the progression of CKD (Table 1). The indicators of total QOL, as well as the indicator «the impact of the disease on everyday life» are most significantly reduced.

It was found that age is most significantly correlated with most indicators of QOL (Table 2).

Table 2

The results of the correlation analysis between SF-36 and the age of patients

Indicators of SF-36	r	p
Total QOL	-0,32	0,001
Symptoms of kidney disease	-0,33	0,001
The impact of the disease on everyday life	-0,1	0,5
The severity of the disease	-0,08	0,6
SF-12	-0,38	0,001
Physical total component	-0,41	0,001
Mental total component	-0,42	0,001

According to the obtained research results, with age the QOL of patients decreases, but the manifestations of the disease increase and the mental and physical condition of patients deteriorates ($p < 0.05$).

Differences in the quality of life index depending on the sex of patients were studied (Table 3).

It should be noted that no significant differences in the assessment of QOL in men and women in our study were found ($p > 0.05$).

Anemia significantly affects the progression of CKD and overall and cardiovascular mortality. We studied the relationship between QOL and hemoglobin levels. The results of the correlation analysis of the relationship between QOL and hemoglobin levels are presented in table 4.

The obtained data show that QOL parameters are probably and directly moderately correlated with hemoglobin levels. That is, in patients with more severe anemia, the QOL values are the lowest.

Table 1

Indicators of SF-36 with the progression of CKD

Indicators of SF-36	Stages of CKD			p
	II	III	IV	
Total QOL	79,4±12,8	74,4±13,6	70,7±11,6	0,001
Symptoms of kidney disease	85,2±12,1	79,5±13,9	74,0±10,9	0,001
The impact of the disease on everyday life	86,9±13,2	83,1±12,9	75,7±14,5	0,001
The severity of the disease	79,7±13,7	72,7±15,1	59,6±12,8	0,001
SF-12	68,1±10,2	62,1±11,5	56,4±10,8	0,001
Physical total component	51,3±10,1	49,8±10,6	41,5±11,5	0,001
Mental total component	40,4±9,8	37,9±10,5	35,1±10,3	0,021

Note: data are presented as M ± SD

Table 3

Dependence of QOL indicators on the sex of patients

Scales SF-36	Points	
	in men	in women
Total QOL	74,6±13,1	74,9±12,6
Symptoms of kidney disease	79,4±12,4	80,6±12,1
The impact of the disease on everyday life	82,8±14,3	84,4±13,1
The severity of the disease	74,8±11,1	76,6±13,9
SF-12	68,6±9,8	64,1±14,2
Physical total component	49,8±12,3	49,6±11,8
Mental total component	37,2±10,2	39,6±10,6

Table 4

Results of the analysis of correlations between SF-36 and hemoglobin levels

Indicators of SF-36	r	p
Total QOL	0,45	0,001
Symptoms of kidney disease	0,31	0,02
The impact of the disease on everyday life	0,34	0,002
The severity of the disease	0,38	0,001
SF-12	0,34	0,007
Physical total component	0,6	0,001
Mental total component	0,51	0,001

Table 6

Results of correlation analysis of the relationship between SF-36 and SBP

Indicators of SF-36	r	p
Total QOL	-0,34	0,001
Symptoms of kidney disease	-0,28	0,001
The impact of the disease on everyday life	-0,16	0,08
The severity of the disease	-0,23	0,02
SF-12	-0,4	0,001
Physical total component	-0,36	0,001
Mental total component	-0,37	0,001

Table 7

Results of correlation analysis of the relationship between SF-36 and DBP

Indicators of SF-36	r	p
Total QOL	-0,48	0,001
Symptoms of kidney disease	-0,31	0,001
The impact of the disease on everyday life	-0,27	0,06
The severity of the disease	-0,29	0,02
SF-12	-0,47	0,001
Physical total component	-0,46	0,001
Mental total component	-0,41	0,001

The results of the study of the correlations between the level of GFR and QOL indicators are given in table 5.

The obtained data correlate with the results obtained in the study of changes in QOL indicators with the progression of CKD, and show that most of the QOL indicators are likely and directly moderately correlated with GFR. That is, patients with more preserved renal function have the highest QOL.

The results of the study of the correlations between the levels of SBP and DBP, on the one hand, and QOL indicators, on the other, are presented in Tables 6 and 7.

The obtained data show that the majority of QOL indicators are significantly moderately correlated with SBP and DBP.

Thus, the obtained data suggest that the correction of anemia and blood pressure control, in addition to a positive effect on disease progression and the occurrence and development of complications, will also improve QOL.

CONCLUSIONS

Most quality of life indicators deteriorate significantly with the progression of chronic kidney disease. The

indicators of the total quality of life, as well as the indicator «the impact of the disease on everyday life» are most significantly reduced.

Age is most significantly correlated with most indicators of quality of life in patients with chronic kidney disease. With age, the quality of life of patients decreases, but the manifestations of the disease increase and the mental and physical condition of patients deteriorates.

Quality of life indicators probably and directly moderately correlate with hemoglobin levels.

Most quality of life indicators are significantly moderately correlated with systolic blood pressure and diastolic blood pressure.

The data suggest that the correction of anemia and blood pressure control, in addition to a positive impact on disease progression and the occurrence and development of complications, will also improve the quality of life.

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ПОКАЗНИКИ ЯКОСТІ ЖИТТЯ У ХВОРИХ НА ХРОНІЧНУ ХВОРОБУ НИРОК II-IV СТАДІЇ

Дудар І.О., Лобода О.М., Красюк І.В., Алексєєва В.В.

¹ДУ «Інститут нефрології НАМН України», Київ, Україна

²Національний медичний університет імені О.О. Богомольця, Київ, Україна
irina_d@ukr.net

Актуальність. Хронічні захворювання мають довгу тривалість і досить повільне прогресування, і люди, які мають такі захворювання, бажають жити не тільки довше, але й жити краще. Тому якість життя (ЯЖ) постає одним з найбільш важливих питань у сфері охорони здоров'я для лікування хронічних захворювань.

Мета: визначити особливості показників ЯЖ у хворих на хронічну хворобу нирок (ХХН) II-IV стадії.

Матеріали та методи. У 171 хворого на ХХН II-IV ст., окрім загальноклінічного та лабораторного дослідження, була вивчена ЯЖ за допомогою опитувальника оцінки якості життя SF-36. Опитувальник містить 36 питань основного модуля, доповнених багатопунктовими шкалами, націленими конкретно на хворих з ХХН. Відповіді оцінювали в балах – від 0 до 100. Чим вищий бал, тим ліпше ЯЖ хворого. Також розраховували сумарні компоненти: фізичний сумарний компонент, психічний сумарний компонент, загальну суму балів. Отримані дані досліджень були піддані статистичній обробці, що включала параметричні (t-тест для вибірок з незв'язаними варіантами) і непараметричні (метод Манна-Уїтні) методи, застосовувався кореляційний аналіз.

Результати. Більшість показників ЯЖ достовірно погіршуються з прогресуванням ХХН. Найбільш суттєво знижуються показники сумарної ЯЖ, а також показник «вплив захворювання на повсякденне життя». Вік максимально значимо корелює з більшістю показників ЯЖ хворих на ХХН. З віком ЯЖ пацієнтів зменшується, проте збільшуються прояви захворювання та погіршується психічний та фізичний стан пацієнтів. Показники ЯЖ вірогідно та прямо помірно корелюють із рівнем гемоглобіну. Більшість показників ЯЖ достовірно помірно корелюють із систолічним артеріальним тиском та діастолічним артеріальним тиском. Припускається, що корекція анемії та контроль артеріального тиску, окрім позитивного впливу на прогресування захворювання та виникнення та розвиток ускладнень, також дозволять поліпшити ЯЖ. Не виявлено достовірних відмінностей в оцінці ЯЖ у чоловіків та жінок.

Висновки. Показники ЯЖ знижуються з прогресуванням ХХН. Вік, рівень гемоглобіну, артеріального тиску впливають на ЯЖ.

Ключові слова: хронічна хвороба нирок, прогресування, якість життя, опитувальник SF-36.

ПОКАЗАТЕЛИ КАЧЕСТВА ЖИЗНИ У БОЛЬНЫХ ХРОНИЧЕСКОЙ БОЛЕЗНЬЮ ПОЧЕК II-IV СТАДИИ

Дударь И.А., Лобода А.Н., Красюк И., Алексеева В.В.

¹ГУ «Институт нефрологии АМН Украины», Киев, Украина

²Национальный медицинский университет имени А.А. Богомольца, Киев, Украина
irina_d@ukr.net

Актуальность. Хронические заболевания имеют большую продолжительность и довольно медленное прогрессирование, и люди, которые имеют такие заболевания, хотят жить не только дольше, но и жить лучше. Поэтому качество жизни (КЖ) выступает одним из наиболее важных вопросов в сфере здравоохранения для лечения хронических заболеваний.

Цель: определить особенности показателей КЖ у больных хронической болезнью почек (ХБП) II-IV стадии.

Материалы и методы. У 171 больного ХБП II-IV ст., кроме общеклинического и лабораторного исследования, было изучено КЖ с помощью опросника оценки качества жизни SF-36. Опросник содержит 36 вопросов основного модуля, дополненных многопунктовыми шкалами, нацеленными именно на больных с ХБП. Ответы оценивали в баллах – от 0 до 100. Чем выше балл, тем лучше КЖ больного. Также рассчитывали суммарные компоненты: физический суммарный компонент, психический суммарный компонент, общую сумму баллов. Полученные данные исследований были подвергнуты статистической обработке, включающей параметрические (t-тест для выборок с несвязанными вариантами) и непараметрические (метод Манна-Уитни) методы, применялся корреляционный анализ.

Результаты. Большинство показателей КЖ достоверно ухудшаются с прогрессированием ХБП. Наиболее существенно снижаются показатели суммарной КЖ, а также показатель «влияние заболевания на повседневную жизнь». Возраст максимально значимо коррелирует с большинством показателей КЖ больных ХБП. С возрастом КЖ пациентов уменьшается, однако увеличиваются проявления заболевания и ухудшается психическое и физическое состояние пациентов. Показатели КЖ достоверно и прямо умеренно коррелируют с уровнем гемоглобина. Большинство показателей КЖ достоверно умеренно коррелируют с систолическим артериальным давлением и диастолическим артериальным давлением. Предполагается, что коррекция анемии и контроль артериального давления, кроме положительного влияния на прогрессирование заболевания и возникновение и развитие осложнений, также позволят улучшить КЖ. Не выявлено достоверных различий в оценке КЖ у мужчин и женщин.

Выводы. Показатели КЖ снижаются с прогрессированием ХБП. Возраст, уровень гемоглобина, артериального давления влияют на КЖ.

Ключевые слова: хроническая болезнь почек, прогрессирование, качество жизни, опросник SF-36