

Quality of life, clinical and sociodemographic aspects of individuals with chronic kidney disease undergoing hemodialysis**Qualidade de vida, aspectos clínicos e sociodemográficos de indivíduos com doença renal crônica em hemodiálise****Calidad de vida, aspectos clínicos y sociodemográficos de individuos con enfermedad renal crónica en hemodiálisis****Received: 15/05/2020****Approved: 30/11/2020****Published: 18/04/2021****Juliana Elisa Baldin¹****Ananda Aidar Souza²****Mayara Simões³****Isabel Aparecida Porcatti Walsh⁴****Marilita Falangola Accioly⁵**

This is a cross-sectional, quantitative and descriptive study, carried out in Uberaba-MG, Brazil, from August 2016 to February 2017. It aims to evaluate and correlate sociodemographic and clinical aspects with the quality of life of individuals with chronic kidney disease undergoing hemodialysis. The following instruments were applied to 51 participants: questionnaires with sociodemographic/clinical information and the *Kidney Disease and Quality of Life Short Form 1.3*, punctuated by the "Scoring Program (v2.0)". Normality tests and inferential correlation analysis were performed. The domains with the best results were "Sexual Function", "Cognitive Function" and "Support of the dialysis team", and the worst were "Work situation", "Role of physical limitation" and "Physical Health". The domains "Physical Functionality" and "Physical Health" were negatively correlated with age ($r = -0.521$ and $r = -0.380$, respectively) and "General Health" and "Effects of Kidney Disease" with dry weight ($r = -0.319$ and $r = -0.502$, respectively). These results indicate a compromised quality of life, requiring general attention to these individuals in conjunction with actions that promote better general health conditions.

Descriptors: Quality of life; Renal insufficiency, Chronic; Renal dialysis.

Este é um estudo transversal, quantitativo e descritivo, realizado em Uberaba-MG de agosto de 2016 a fevereiro de 2017, com objetivo de avaliar e correlacionar aspectos sociodemográficos e clínicos com a qualidade de vida de indivíduos com doença renal crônica em hemodiálise. Utilizou-se os seguintes instrumentos, aplicados em 51 participantes: questionários com informações sociodemográficas/clínicas e o *Kidney Disease and Quality of Life Short Form 1.3*, pontuado pelo "Scoring Program (v2.0)". Foi realizado testes de normalidade e análise inferencial de correlação. Os domínios com melhores resultados foram "Função Sexual", "Função Cognitiva" e "Apoio da equipe da diálise", e os piores "Situação de trabalho", "Papel da limitação física" e "Saúde Física". Os domínios "funcionalidade física" e "Saúde Física" correlacionaram-se negativamente com idade ($r = -0,521$ e $r = -0,380$, respectivamente) e "Saúde Geral" e "Efeitos da doença renal" com peso seco ($r = -0,319$ e $r = -0,502$, respectivamente). Esses resultados indicam o comprometimento da qualidade de vida, necessitando de atenção geral a esses indivíduos junto a ações que promovam melhores condições gerais de saúde.

Descritores: Qualidade de vida; Insuficiência renal crônica; Diálise renal.

Este es un estudio transversal, cuantitativo y descriptivo realizado en Uberaba-MG, Brasil, entre agosto de 2016 y febrero de 2017, con el objetivo de evaluar y correlacionar aspectos sociodemográficos y clínicos con la calidad de vida de individuos con enfermedad renal crónica en hemodiálisis. Se aplicaron los siguientes instrumentos a 51 participantes: cuestionarios con informaciones sociodemográficas/clínicas y el *Kidney Disease and Quality of Life Short Form 1.3*, puntuado por el "Scoring Program (v2.0)". Se realizaron pruebas de normalidad y análisis inferencial de correlación. Los dominios con las mejores puntuaciones fueron "Función Sexual", "Función Cognitiva" y "Apoyo del equipo de diálisis", y los peores fueron "Situación laboral", "Función de la limitación física" y "Salud Física". Los dominios "Funcionalidad física" y "Salud Física" se correlacionaron negativamente con la edad ($r = -0,521$ y $r = -0,380$, respectivamente) y "Salud general" y "Efectos de la enfermedad renal" con el peso seco ($r = -0,319$ y $r = -0,502$, respectivamente). Estos resultados indican un deterioro de la calidad de vida, que requiere una atención general a estas personas junto con acciones que promuevan mejores condiciones de salud.

Descritores: Calidad de vida; Insuficiencia renal crónica; Diálisis renal.

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INTRODUCTION

Chronic kidney disease (CKD) is characterized by abnormalities in the structure and/or function of the kidneys for more than three months, presenting mainly a glomerular filtration rate (GFR) of less than 60/min/1.73m, one or more kidney injury markers: albuminuria (albumin/creatinine ratio > 30 mg/g), urinary sediment abnormality, electrolyte or other abnormality due to tubular disorder, abnormalities in histology, structural abnormalities detected by imaging, history of kidney transplant¹.

In turn, chronic kidney failure (CKF) is considered the terminal phase of CKD, when the kidneys are no longer able to reach their normality and present loss of kidney function and becoming incompatible with life, with a GFR under 15/min/1.73m¹.

In this phase, there is a need to start the treatment of choice for kidney function. Hemodialysis (HD) is the most used in Brazil nowadays, which is defined as a process of filtering and blood clearance of undesirable substances, such as creatinine and urea that need to be eliminated from the bloodstream due to the inefficiency of the filtering mechanism².

Although HD increases survival, these individuals can develop side effects, such as: general muscle weakness, anemia, depression, arterial hypertension, metabolic changes, cardiorespiratory changes, among others, which can lead to reduced functionality and cardiovascular conditioning, directly interfering with their quality of life (QOL)¹.

The definition of QOL is not universal and, according to the World Health Organization (WHO)³, QOL is described as the "*an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns*". David Felce⁴ defined QOL as "*general well-being that comprises objective descriptors and subjective evaluations of physical, material, social, and emotional wellbeing together with the extent of personal development and purposeful activity, all weighted by a personal set of values*", that is, even if there is no specific definition for the term, there are objective indicators, related to social standards, and subjective, seen from the perception that the individual builds in relation to the environment in which they live, such as: well-being, happiness, love, basic needs, economic and social development, are some of the objective and subjective paradigms, characterized by society that can determine QOL⁵.

However, in recent years, when assessing QOL in groups of specific pathologies or treatments, the term Health Related Quality of Life (HRQOL) has been used, which can be defined as: "*self-identified aspects of well-being that are related or affected by the presence of disease or treatment*"⁶ or as "*a subset of the important or most common ways in which health or health care impacts well-being*"⁷, which are still confusing definitions, as they permeate the definitions of "Health" and "Quality of Life"⁵. Even so, it is a term already widely used to explain how health affects empirically estimated QOL using statistical techniques using instruments such as the Kidney Disease and Quality of Life Short Form (KDQOL-SFTM 1.3)⁸.

Thus, HRQoL has been studied in the population with CKD, as it has been shown to be a predictor of morbidity and mortality in these individuals regardless of disease progression⁹. The number of individuals with CKD worldwide has been increasing significantly, generating an important public health problem, as well as data such as HRQOL have been considered by management. According to the Census of the Brazilian Society of Nephrology, this number increased from 91,314 to 122,825 in the last five years².

For the CKD population, one of the most used instruments to assess HRQOL is the KDQOL-SFTM 1.3 questionnaire, which includes items such as: symptoms/problems, effects of kidney disease on daily life, overload imposed by kidney disease, work condition, cognitive function, quality of social interactions, sexual function and sleep, social support, stimulation of the dialysis team and patient satisfaction⁸.

The use of a tool like this allows the effects of the disease in relation to the QOL and functionality of these people, and it can be gauged and measured in a broad way, providing a more appropriate reading for the diagnosis or the offer of more appropriate health services.

Thus, the present study aimed to assess and correlate sociodemographic and clinical aspects with the quality of life of individuals with chronic kidney disease undergoing hemodialysis.

METHODS

This is a cross-sectional, quantitative and descriptive study, carried out from August 2016 to February 2017, with individuals who had a diagnosis of CKD already on CRF and who were undergoing substitution treatment by hemodialysis. The selection was made by convenience and maximization, in three centers that offered hemodialysis in the city of Uberaba, MG and respected the number of subjects in the evaluation sites and the inclusion and exclusion criteria.

In the three sectors in which the assessment was carried out, 51 of the individuals met the inclusion criteria, that is, CRF undergoing HD treatment for at least one month, of both genders, aged over 18 years. Individuals who presented psychiatric and/or cognitive disorders that prevented them from understanding and performing the required activity were not included, identified by consulting the medical records and interviewing them.

HRQOL was assessed through an interview with the Kidney Disease and Quality-of-Life Short-Form (KDQOL - SF™) 1.3 instrument, which was translated into Portuguese and culturally adapted for use in the Brazilian population in 2003. It is a specific instrument to assess the quality of life in chronic end-stage renal disease, applicable to individuals who are on some type of dialysis program, consisting of 80 items and divided into 19 scales¹⁰. The KDQOL includes the SF-36 (Medical Outcomes Study 36 - Item Short-Form health Survey) in a generic way and is supplemented with multi-item type scales, geared to the needs of chronic kidney individuals. The final score for each dimension varies on a scale from 0 to 100, with the highest score reflecting better health-related quality of life¹⁰.

Sociodemographic and clinical data were collected from data from the participants' medical records. The variables collected were those that most comprehensively portrayed the evaluated population, namely: gender, age, marital status, educational level, work situation, individual income, time of diagnosis and hemodialysis, dry weight (the lowest weight tolerated to the end of the dialysis session, reached by the gradual weight reduction of the patient, in which there are minimal signs and symptoms of hypovolemia or hypervolemia), initial weight (pre-dialysis weight), final weight (post-dialysis weight), initial and final urea, and potassium.

Initially, a data survey was carried out, based on the clinical records of each participant. Subsequently, during blood filtration in HD, the HRQoL data collection was performed using the instrument (KDQOL-SF™). The participant was submitted to the interview guided by the instrument and the interviewer marked the questions according to its answers, and then checked with the interviewee if they were correct (choice made by the participant's fear of preserving their arteriovenous fistulas). After collection, the data were transcribed in Excel® spreadsheets and entered twice.

The statistical analysis was carried out in an exploratory way, based on descriptive measures. Nominal variables: gender, marital status and work situation, were represented in numbers and percentages, and numerical variables according to measures of centrality (mean and median), and dispersion (standard deviation, minimum and maximum) for the characterization data of the sample and the KDQOL - SF™ 1.3 instrument, which was scored using the KDQOL-SFTM 1.3 Scoring Program (v2.0), made available by RAND Corporation in an Excel® program spreadsheet.

To correlate HRQOL with: age, individual income, time of diagnosis, time on hemodialysis, dry weight, initial weight, final weight, initial urea, final urea and potassium, the numerical data were evaluated using the Pearson or Spearman method, according to the normality test Kolmogorov Smirnov and Shapiro Wilk, using the statistical program "Statistical Package for Social Sciences (SPSS) v.24" for analysis.

This study was approved by the Research Ethics Committee of the Universidade Federal do Triângulo Mineiro, under number 948,994.

RESULTS

51 individuals participated, aged between 22 and 90 years (54.58 ± 15.84), mostly male (60.78%), in a romantic relationship (39.21%) and retirees (80.39%), who had on average 7.45 years of study, with an individual monthly income equivalent of 1.54 minimum wages (R\$ 788.00 in 2015), diagnosed on average 71.05 months and under treatment for 59.93 months. As for the clinical values collected, the averages were: dry weight 67.73 kg, initial weight 70.20 kg, final weight 67.61 kg, initial urea 129.72 mg/dl, final urea 47.89 mg/dl, and potassium 5, 43 mEq/l (Table 1).

Table 1. Participants with chronic kidney disease undergoing hemodialysis. Uberaba, 2017.

Variables	N						
Gender							
Male	31					60.78	
Female	20					39.22	
Marital status							
In a romantic relationship	20					39.21	
No romantic relationship	31					60.78	
Current job							
Retired	41					80.39	
Other	10					19.61	
		Maximum	Mean	Median	SD	Minimum	N
Age(years)		90	54.58	54	15.84	22	51
Years of education		30	7.45	6	5.66	0	51
Individual income (minimum wages)		12	1.54	1	1.7	0	51
Time of diagnosis (months)		240	71.05	60	59.16	2	51
Time of hemodialysis (months)		228	59.93	36	59.20	1.5	51
Dry weight (kg)		119	67.73	65	17.97	40	51
Initial weight (kg)		123.9	70.20	66.1	18.53	41.4	51
Final weight (kg)		119.5	67.61	63.5	18.08	40	51
Initial urea (mg/dl)		240	129.728	131	39.54	64.1	50
Final urea (mg/dl)		139	47.89	43.5	27.24	4	50
Potassium (mEq/l)		7,5	5.43	5.2	0.86	3.74	50

%= Percentage ; n= number; SD= standard deviation.

Table 2 presents the results related to HRQOL, by domains and in percentage. The domains that showed the best results were "Sexual Function" (94.08), "Cognitive Function" (93.73%) and "Support from the dialysis team" (88.73%). On the other hand, the worst were the domains "Work situation" (8.82%) and "Role of physical limitations" (26.47%).

It is noteworthy that the Sexual Function domain obtained a sample of 19 individuals, as only those who reported sexual activity in the last four weeks responded to this domain.

Table 2. Health-related quality of life, participants with chronic kidney disease undergoing hemodialysis. Uberaba, 2017.

Domains	No. of items in scale	Max	Mean	Median	SD	Min	N
List of problems/symptoms	12	100.00	71.65	72.92	17.07	37.5	51
Effects of kidney disease	8	100.00	70.47	75.00	19.95	25.0	51
Burden of kidney disease	4	100.00	55.02	50.00	28.56	0.00	51
Work situation	2	100.00	8.82	0.00	25.90	0.00	51
Cognitive function	3	100.00	93.73	100.00	12.03	46.67	51
Quality of social interaction	3	100.00	87.84	93.33	16.42	33.33	51
Sexual function	2	100.00	94.08	100.00	14.65	50.00	19

Sleep	4	100.00	65.13	67.50	25.61	10.00	51
Social support	2	100.00	83.66	100.00	21.98	16.67	51
Dialysis team support	2	100.00	88.73	100.00	24.27	0.00	51
Global health	1	100.00	61.96	60.00	22.89	0.00	51
Patient's satisfaction	1	100.00	63.07	66.67	17.74	16.67	51
Physical functionality	10	100.00	54.12	60.00	31.09	0.00	51
Role of physical limitation	4	100.00	26.47	0.00	38.21	0.00	51
Pain	2	100.00	64.31	67.50	36.11	0.00	51
General health	5	90.00	52.65	55.00	27.85	0.00	51
Emotional well-being	5	100.00	65.02	68.00	22.89	4.00	51
Role of emotional limitation	3	100.00	70.59	100.00	43.02	0.00	51
Social function	2	100.00	83.09	100.00	27.59	0.00	51
Disposition/fatigue relation	4	100.00	50.49	50.00	25.77	0.00	51
SF-12 Physical Health	-	58.33	36.35	36.27	11.14	16.27	51
SF-12 Mental Health	-	64.54	50.25	52.06	10.04	25.36	51

Max= maximum; SD=standard deviation; Min= Minimum; no= number

Table 3 shows the correlations between HRQOL with sociodemographic and clinical variables of the evaluated participants. There were no significant associations between gender, marital status and current job and the HRQOL domains.

The domains of physical functionality and physical health were negatively associated with advancing age, while the domain of social function was positively associated with age. Worse results for the domain "General Health" and "Effects of kidney disease" were correlated with higher values of dry weight, starting weight and final weight, while "Burden of kidney disease" was negatively associated with dry weight. The "Work Situation" domain showed better results for participants with a longer diagnosis time.

Better results regarding the "sexual function" domain were observed with lower values of final urea and worse results regarding "sleep" for higher potassium values. Patient Satisfaction was significantly higher with higher initial weight, initial urea and final urea.

Table 3. Correlations between health-related quality of life with sociodemographic and clinical variables of participants with chronic kidney kidney disease undergoing hemodialysis. Uberaba, 2017.

	Age	Income (individual)	Time of diagnosis	Time of treatment	Dry weight	Initial weight	Final weight	Initial urea	Final urea	Potassium
List of problems/symptoms	-0.058	0.003	0.047	0.023	-0.072	-0.098	-0.054	0.163	0.014	0.121
Effects of kidney disease	0.247	-0.090	-0.148	-0.188	-0.502**	-0.532**	-0.494**	-0.212	-0.141	-0.012
Burden of kidney disease	-0.028	0.029	0.105	0.064	-0.285*	-0.253	-0.272	0.015	0.089	0.064
Work situation	-0.049	0.167	0.302*	0.189	-0.038	-0.017	-0.035	-0.033	-0.138	0.015
Cognitive function	-0.127	0.045	0.018	0.006	0.031	-0.010	0.030	0.235	0.173	-0.162
Quality of social interaction	0.268	0.017	-0.049	0.064	-0.227	-0.259	-0.224	-0.199	-0.045	-0.002
Sexual function	-0.116	0.303	-0.090	0.031	-0.381	-0.384	-0.395	-0.247	-0.595**	-0.008
Sleep	-0.066	0.179	-0.021	-0.026	0.040	-0.014	0.049	0.104	0.011	0.314*
Social support	0.274	0.249	0.035	0.092	0.014	0.085	0.024	-0.024	-0.084	-0.046
Dialysis team support	0.023	0.117	0.091	0.166	-0.194	-0.094	-0.199	0.028	0.072	-0.065
Global health	-0.163	-0.008	0.084	0.166	-0.203	-0.108	-0.195	-0.084	-0.086	0.255
Patient's satisfaction	0.088	0.196	0.063	-0.026	0.248	0.301*	0.262	0.316*	0.418**	0.255
Physical functionality	-0.521**	0.215	0.135	0.126	-0.207	-0.180	-0.208	0.173	-0.024	0.170
Role of physical limitation	-0.156	-0.079	-0.054	-0.046	-0.156	-0.129	-0.158	0.173	-0.088	0.040
Pain	0.012	0.077	-0.091	-0.011	-0.136	-0.156	-0.129	-0.011	-0.006	-0.015
General health	0.006	0.032	0.091	0.043	-0.319*	-0.332*	-0.312*	-0.030	0.013	0.088
Emotional well-being	0.018	0.189	0.124	0.223	-0.063	-0.107	-0.051	0.034	-0.028	0.136
Role of emotional limitation	0.231	0.119	0.234	0.226	0.089	0.128	0.088	0.036	0.114	-0.074
Social function	0.323*	0.024	-0.016	-0.088	-0.184	-0.225	-0.184	0.038	0.012	-0.144
Disposition/fatigue relation	-0.264	0.123	0.204	0.120	-0.041	-0.029	-0.031	0.260	0.198	0.191
SF-12 Physical Health	-0.380**	0.052	0.037	0.046	-0.238	-0.246	-0.237	0.126	-0.058	0.117
SF-12 Mental Health	0.176	0.172	0.213	0.180	-0.015	-0.024	-0.009	0.023	0.146	-0.023

* The correlation is significant at the 0.05 level (2 ends);

**The correlation is significant at the 0.01 level (2 ends).

DISCUSSION

In the present study, a higher proportion of male participants with CRF was found, as observed in other studies with the Brazilian population undergoing hemodialysis^{11,12}.

The mean age was (54.58 ± 15.84 years), and similarity was also observed with other studies that used the KDQOL-SF as a research instrument^{12,13}.

As age advances, there is an increase in chronic diseases, including cardiovascular diseases, cancer, diabetes mellitus, and chronic respiratory diseases, which act in an evolutionary manner, it is justified that CKD also affects more adults and the elderly¹⁴. Thus, considering the population aging, it is expected that the number of patients with CKD will increase, justifying promotion actions, early diagnosis and adequate treatment.

Other clinical values collected were the averages: dry weight 67.73 ± 17.97Kg, initial weight 70.20 ± 18.53Kg, final weight 67.61 ± 18.08Kg, initial urea 129.72 ± 39.54mg/dl, final urea 47.89 ± 27.24mg/dl, and potassium 5.43 ± 0.86mEq/l.

In individuals with CKD, the containment of fluids and sodium is necessary to make it possible to control blood pressure, extracellular volume and prevent excess weight between hemodialysis sessions. The relative interdialytic weight gain has been positively associated with the average concentration of dialysate sodium, the risk of mortality was high in the interdialytic weight gain relative ≥ 5.7%, and the risk of hospitalizations due to fluid overload was high in the relative interdialytic weight gain ≥ 4%, resulting in large public health expenditures, requiring strategies for better control in relation to this index¹⁵.

Thus, comparing the values found in another study¹⁵ with the findings of the present study on weight between dialysis, the final interdialytic weight was within the normal range, equivalent to an increase of 3.68% of the average interdialytic gain, representing a value safe, but it needs attention because it is close to the limit for hospitalization risks due to fluid overload. In addition, it was also found that dialysis was effective, since the dry weight values were similar to the final weight.

Based on dry weight, residual diuresis and the amount of water intake, the water balance is controlled and the individual's hydration is evaluated. This is weighed as soon as it arrives at the hemodialysis center, being called the initial or pre-session weight and determines the amount of fluids to be removed during the session, subtracting its dry weight. When the session ends, the individual is weighed again, that is, the final or post-session weight is obtained, and the fulfillment of the filtration goal is verified. Thus, dry weight is the ideal weight after a hemodialysis session. With this weight, the person with CRF should feel good, with minimal signs and symptoms of hypovolemia or hypervolemia¹⁶.

There was a reduction in urea levels considering pre and post HD period, showing its effectiveness. However, even with this decrease in the values presented, there are still divergences when compared to the values recommended as reference (10-40mg/dL)¹⁶, urea is still higher in relation to the reference values and this may be an indication of that the individual is worsening their glomerular filtration capacity, especially when associated with increased creatinine¹⁷. It is important to adopt a strict diet for this population, since protein restriction can improve the condition of individuals with CKD and this can reduce the formation of uremic toxins such as urea and others.

In the present study, the highest HRQOL score was for "Sexual Function" (94.08%), results similar to that described in another study with the same assessment instrument¹⁸. However, another investigation¹⁷ showed a high prevalence of erectile dysfunction in an individual with CKD, especially in the terminal phase, which should lead to caution in the interpretation of this result. In addition, it must be considered that the domain "sexual function" was answered only by 19 participants who reported an active sexual life in the last four weeks and, possibly because of that, presented good results. In addition, better results with respect to the "sexual function" domain were observed with lower values of final urea.

The second dimension with the best perception was “Cognitive function” (93.73%). Cognitive function or cognitive functional system is understood as the phases of the information process, such as perception, learning, memory, attention, vigilance, reasoning and problem solving. Thus, cognitive skills reflect the skills that make the subject qualified and able to interact with the environment in which they live and with society, allowing basic functions such as object discrimination, the recognition and identification of concepts, problem solving and compliance rules, in addition to the construction of mental processes¹⁹.

The improvement of cognitive skills and jobs that their maintenance and improvement are important to allow individuals to direct behaviors and goals and solve problems based on the choice of strategies. However, considering that cognitive impairment and dementia commonly occur in patients with CKD, especially at an advanced stage, constant evaluation for the identification and adequate control of these deficits is very important in the positive impact of the patient's evolution²⁰.

A meta-analysis study showed a significant increase in physical and cognitive performance and a positive change in the behavior of elderly people with cognitive impairment and dementia, confirming that the practice of physical exercise can be an important protector against cognitive decline and dementia in elderly individuals²¹. Thus, it is important that HD centers produce actions and incentives for the regular practice of CKD physical exercises. However, there was no association between this domain and the assessed sociodemographic and clinical aspects.

“Support from the Dialysis team” also had a high score (88.73%), in line with another study¹³. This aspect, associated with the fact that there was no association between this domain and the sociodemographic and clinical aspects evaluated is a promising result, since the appropriate care for chronic kidney patients by the sector team, regardless of the clinical condition and personal aspects, implies motivation and cooperation of the individual towards treatment, providing a positive perception of health, directly interfering with better HRQoL values, which can also be used as a strategy to provide better HRQoL to CKD²².

The greatest compromise in HRQoL was in the domains “Work situation” and “Role of physical limitation”.

Most individuals with CKD quit their jobs due to illness, retiring early and drastically decreasing family income. These events require several changes in the routine of these people, taking some time to adapt, which may be one of the explanations for the correlation between better results in the “Work Situation” domain and longer diagnosis time.

The maintenance of working life can bring reason and meaning to the lives of these individuals, highlighting the need for public policies so that kidney patients with physical and psychological conditions could maintain their employment under special conditions and consistent with their treatment needs, with encouragement from the government to companies to start taking such measures²³.

As for the impairment in the perception of the “Role of physical limitation”, it is known that, despite substantially prolonging the survival of individuals, those with CKD undergoing HD have reduced muscle strength, anemia, heart disease, depression, arterial hypertension, changes metabolic and respiratory disorders, among other disorders, leading to loss of functionality and conditioning of these individuals²⁴.

The domains of physical functionality and physical health were negatively associated with advancing age. This result is justified, since aging is linked to a group of physiological changes. In addition to the changes resulting from the disease itself, with age, there is a decrease in lean body mass that reflects a decrease in muscle strength and power, which can influence autonomy, well-being and HRQoL²⁵.

In contrast, the social function domain was positively influenced by age. This domain is related to the satisfaction with personal relationships (friends and family), the support and support received and the social interaction, and it is essential for better living, which has been

associated with an increase in the sense of well-being and improvement in physical functioning, exerting a positive influence on health and mortality conditions^{25,26}, as it is known that negative emotional states in CKD are superior predictors to the physical components in HRQOL, highlighting the importance of psychological monitoring for these individuals during treatment²⁷. In addition to the need for programs to engage in activities that increasingly allow it to maintain and encourage social interaction.

Worse results for the domain "General Health" and "Effects of kidney disease" were correlated with higher values of dry weight, starting weight and final weight, while "Burden of kidney disease" was negatively influenced by dry weight. The negative influence of dry weight in these domains of HRQOL may be related to the fact that it is higher between hemodialysis sessions, which may demonstrate the non-acceptance of hemodialysis individuals to dietary limitations, worsening general health. In this sense, a study found that individuals with an interdialytic weight gain of less than 5% in relation to dry weight may have feelings of well-being²⁸.

The difficulty in following the restricted diet can cause damage to health, as the hypervolemia can develop left ventricular hypertrophy, high blood pressure and be related to mortality from cardiac and vascular involvement in this population. In addition, excessive fluid removal can cause muscle cramps and cardiac and cerebral ischemia²⁹.

Patient satisfaction was shown to be significantly higher with higher initial weight, initial urea and final urea. Likewise, a study³⁰ indicated that food consumption was correlated with the level of HRQOL, presenting itself higher in those individuals who had a higher energy consumption. This work also addresses that the difficulty of maintaining a diet with water and food restrictions correctly, increasing the consumption of calories, carbohydrates, proteins, fibers and calcium brings a better HRQOL³⁰. However, this data needs to be interpreted with caution as consumption made incorrectly aggravates the effects of the disease.

CONCLUSION

Older chronic renal patients undergoing hemodialysis present better results in social function and greater impairment of functionality and physical health.

Effects of kidney disease are negatively influenced by higher values of dry, initial and final weights. Lower levels of satisfaction of individuals are influenced by higher initial weight and lower levels of initial and final urea. General health is negatively influenced by higher values of initial and final dry weights. Greater burden of disease is associated with lower dry weight.

HRQOL has become a fundamental concept for comprehensive care for CKD patients, being a useful variable to assess the effectiveness of treatments and to predict possible complications regarding the physical, mental and emotional health of these individuals. With wide-ranging data in relation to health, prevention and treatment strategies can be created for the group, since there was a decline in functionality and physical health with age, worse social function scores for those younger.

When it is also verified that younger people have worse results in terms of their work situation, support for financial education, professional courses that enable home work and negotiation with companies for flexible working hours become viable options to improve this score.

There is a need for global attention to these individuals and systematic health education actions. Still, the support of health professionals and the dialysis team, can have a beneficial influence on this population.

As a limitation in this study, there is the fact that the sample is non-probabilistic, since its reduced number restricts the results found only to the evaluated population. It is suggested, therefore, that further studies be carried out with larger samples, with a view to enriching the findings about QOL of chronic kidney patients and, thus, new therapeutic approaches that may improve the living conditions of these individuals, which would allow better effective treatment

follow-up and possible prediction of the need for new conducts, directly impacting public health management for CKD.

At the same time, this work shows perspectives for future studies and also interventional possibilities in the group and places surveyed.

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Associate Editor: Vania Del Arco Paschoal

CONTRIBUTIONS

Ananda Aidar Souza and **Mayara Simões** participated in the writing. **Juliana Elisa Baldin** worked in data collection and analysis. **Isabel Aparecida Porcatti Walsh** contributed to the writing and reviewing. **Marilita Falangola Accioly** participated in the design, writing and reviewing.

How to cite this article (Vancouver)

Baldin JE, Souza AA, Simões M, Walsh IAP, Accioly MF. Quality of life, clinical and sociodemographic aspects of individuals with chronic kidney disease undergoing hemodialysis. *REFACS* [Internet]. 2021 [cited in *insert day, month and year of access*]; 9(2):438-49. Available from: *insert access link*. DOI: *insert DOI link*

How to cite this article (ABNT)

BALDIN, J. E.; SOUZA, A. A.; SIMÕES, M.; WALSH, I. A. P.; ACCIOLY, M. F. Quality of life, clinical and sociodemographic aspects of individuals with chronic kidney disease undergoing hemodialysis. *REFACS*, Uberaba, MG, v. 9, n. 2, p. 438-49, 2021. DOI: *insert DOI link*. Available from: *insert access link*. Access in: *insert day, month and year of access*.

How to cite this article (APA)

Baldin, J.E., Souza, A.A., Simões, M., Walsh, I.A.P., & Accioly, M.F. (2021). Quality of life, clinical and sociodemographic aspects of individuals with chronic kidney disease undergoing hemodialysis. *REFACS*, 9(2), 438-49. Retrieved in *insert day, month and year of access* from *insert access link*. DOI: *insert DOI link*.

