# QUALITY OF LIFE OF THE ELDERLY UNDERGOING HEMODIALYSIS

# QUALIDADE DE VIDA DE IDOSOS EM TRATAMENTO HEMODIALÍTICO

# CALIDAD DE VIDA DE LOS ANCIANOS SOMETIDOS A HEMODIÁLISIS

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Objective: to analyze the quality of life of elderly people undergoing treatment at a hemodialysis center in the municipality of Tangará da Serra, Mato Grosso, Brazil. Method: cross-sectional study conducted with 35 elderly people. Instruments were applied for sociodemographic characterization and evaluation of health conditions – Kidney Disease and Quality-of-Life Short-Form. Results: the majority were men between 60 and 69 years of age, 51.43% of the patients positively evaluated their health and 77.14% reported difficulties in performing activities that required greater physical effort. The alterations observed as a result of the treatment limited the performance of basic and instrumental activities. On the other hand, no significant changes in sleep were identified. Conclusion: the satisfactory results in the variables stimulation of the dialysis team, social function, general health status and sleep quality contributed to the quality of life of the sample studied.

Descriptors: Renal Disease, Chronic. Quality of Life. Aged. Nursing.

Objetivo: analisar a qualidade de vida de idosos em tratamento em um centro de hemodiálise no município de Tangará da Serra, Mato Grosso, Brasil. Método: estudo de corte transversal realizado com 35 idosos. Aplicaramse instrumentos para caracterização sociodemográfica e avaliação de condições de saúde – Kidney Disease and Quality-of-Life Short-Form. Resultados: a maioria era homem entre 60 e 69 anos de idade, 51,43% dos pacientes avaliaram positivamente a sua saúde e 77,14% referiram dificuldades para realizar atividades que exigiam maior esforço físico. As alterações observadas em decorrência do tratamento limitaram a realização de atividades básicas e instrumentais. Em contrapartida, não foram identificadas alterações significativas no sono. Conclusão: os resultados satisfatórios nas variáveis estímulo da equipe de diálise, função social, estado geral de saúde e qualidade do sono contribuíram para a qualidade de vida da amostra estudada.

Descritores: Doença Renal Crônica. Qualidade de Vida. Idosos. Enfermagem.

Objetivo: analizar la calidad de vida de las personas mayores en tratamiento en un centro de hemodiálisis en el municipio de Tangará da Serra, Mato Grosso, Brasil. Método: estudio transversal realizado con 35 ancianos. Se

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aplicaron instrumentos para la caracterización sociodemográfica y la evaluación de las condiciones de salud – Kidney Disease and Quality-of-Life Short-Form. Resultados: la mayoría fueron hombres entre 60 y 69 años de edad, el 51,43% de los pacientes evaluaron positivamente su salud y el 77,14% reportaron dificultades en la realización de actividades que requirieron mayor esfuerzo físico. Las alteraciones observadas como consecuencia del tratamiento limitaron la realización de actividades básicas e instrumentales. Por otro lado, no se identificaron cambios significativos en el sueño. Conclusión: los resultados satisfactorios en las variables estimulación del equipo de diálisis, función social, estado general de salud y calidad del sueño contribuyeron a la calidad de vida de la muestra estudiada.

Descriptores: Enfermedad Renal Crónica. Calidad de Vida. Anciano. Enfermería.

### Introduction

Most countries in the world have already presented population aging as a demographic peculiarity. The Brazilian population has an increasing trend of aging, corresponding to an increase of 18% in the period from 2012 to 2017, which makes this group increasingly significant in the country<sup>(1)</sup>. The consideration not only of the growth of the elderly population, but also the fact that aging is an important process in the life cycle, should be better understood. Therefore, this phase and this public have generated an important increase in research<sup>(2)</sup>.

Although we can reflect on the developmental gains in this stage of life resulting from the various accumulated experiences, most of the literature on health sciences has explored the processes of loss, declines and illnesses to which this population is most susceptible. These studies, they are very important to produce evidence, so that strategies can be developed that make this period healthier and with a higher quality of life, considering the specificities experienced more frequently at this stage.

Even if one takes into account that scientific production on aging cannot reinforce the socially constructed stereotypes about this population and that often associates it with systemic losses, it is important to explore the characteristics of public reference. Regarding the developmental processes that affect the elderly, the greater probability of a decline in functionality due to biological, physical and psychological alterations stands out. Aging is associated with the accumulation of a wide variety

of molecular and cellular damages that, over time, can lead to a gradual loss in physiological reserves, causing an increased risk of contracting various diseases and a general decline in the essential capacity of the individual<sup>(3)</sup>.

Among the most common Noncommunicable Diseases (CND) in senility, Systemic Arterial Hypertension (SAH) and Diabetes Mellitus (DM) are highlighted, which together are pointed out as the main risk factors for the development of renal impairments, heart and cerebrovascular diseases, representing high medical and socioeconomic resulting, above all, from the complications that accompany them<sup>(4)</sup>.

Among these chronic conditions that affect the elderly population and generate greater impact on quality of life is Chronic Kidney Disease (CKD), defined by the presence of a kidney injury due to the physiological decline in glomerular function. Therefore, the elderly are more susceptible to loss of renal function, which happens in a slow and progressive way. The loss of renal function is usually associated with other irreversible and progressive chronic diseases, such as DM and SAH, which are common comorbidities of aging, which justifies the increase in the number of elderly patients undergoing hemodialysis<sup>(5)</sup>.

In view of the above, CKD has a negative impact on health-related quality of life (HRQoL), because the patient usually starts to present symptoms such as weakness, loss of appetite, nausea, vomiting, swelling, pallor, anemia and

shortness of breath. Once the medical diagnosis of CKD is established, one of the treatment options is hemodialysis, which provides blood filtration through a capillary, removing metabolism degradation products and excess fluids<sup>(6)</sup>.

The elderly with CKD undergoing hemodialysis need to live with an incurable disease and with important limitations in daily life that involve not only physical but also psychological aspects, which will have repercussions on their overall quality of life (QoL)<sup>(6)</sup>. Thus, the monitoring of QoL indicators in this population is of paramount importance, since, in addition to being a fundamental aspect of health, it allows to demonstrate its relationship with morbidity and mortality<sup>(7)</sup>.

The impacts of diagnosis and dialysis treatment can cause important limitations not only in physical terms, but also in social and emotional terms, difficulties in occupational performance, water restrictions and special diets, which makes the person fragile and can compromise his daily life, that is, a set of numerous adaptive changes are imposed on patients, which may impact QoL<sup>(8)</sup>. Therefore, it is important to consider the need to assess OoL in CKD patients undergoing hemodialysis treatment in order to understand how these limitations interfere in their daily lives. Thus, the aim of this study was to analyze the quality of life of elderly people undergoing treatment at a hemodialysis center in the municipality of Tangará da Serra, Mato Grosso, Brazil.

# Method

This is a cross-sectional, quantitative and descriptive study. The target audience consisted of 35 elderly patients who underwent hemodialysis at the *Centro Nefrológico* in the city of Tangará da Serra, Mato Grosso, Brazil. In 2020, the municipality had an estimated population of 103,750 inhabitants and a territorial area of 11,601,252 km<sup>(9)</sup>. The *Centro Nefrológico* is managed by the *Instituto Nefrológico de Mato Grosso* (INEMAT) and serves, in addition to

Tangará da Serra, the municipalities of the Middle North region of the state. It has been operating since 2008 and serves more than 100 patients monthly through the *Sistema Único de Saúde* (SUS), health and private plans (10). Inclusion criteria were: male and female individuals; age 60 years or older; treatment at the hemodialysis center. Elderly who were unable to answer the data collection questionnaire due to severe impairment of physical and/or mental condition at the time of collection were excluded. This could be ate in the follow-up of the medical records and in contact with the nursing team of the service.

Data from the study variables were collected by applying a questionnaire with sociodemographic information, such as: gender, race/color, marital status, education and per capita income. Kidney Disease and Quality-of-Life Short-Form (KDQOL-SF<sup>TM</sup>) was used to assess health conditions. This instrument is specifically used to evaluate the life of hemodialysis patients, because, according to the authors, it can provide a broad view of the numerous factors that interfere with the QoL of these individuals. KDQOL-SF<sup>TM</sup> was developed in 1994 by the Kidney Disease Quality Life (KDQOL) Working Group/RAND and subsidized by the University of Arizona (USA)<sup>(11)</sup>.

The KDQOL-SF has 80 items divided into 19 scales. It includes the SF-36 and 43 items on chronic kidney disease. The SF-36 is composed of 36 items divided into eight dimensions: physical functioning, limitations caused by physical health problems, limitations caused by emotional health problems, social functioning, mental health, pain, vitality (energy/fatigue), perceptions of general health and current health status compared to a year ago, which is computed separately. The specific part about kidney disease includes items divided into 11 dimensions: symptoms/problems, effects of kidney disease on daily life, overload imposed by kidney disease, working condition, cognitive function, quality of social interactions, sexual function and sleep. It also includes three additional scales: social support, stimulation of the dialysis team and patient satisfaction. The item containing a scale, which ranges from 0 to 10 for the evaluation of health in general, is computed independently<sup>(11)</sup>. This instrument was validated for the Brazilian context, which allowed its use in the present study<sup>(12)</sup>.

Data collection was performed at the institution in which the patients underwent hemodialysis treatment. The elderly were invited to participate in the study during hemodialysis sessions by one of the researchers of the present study, who was also responsible for data collection and processing. The collection occurred between November and December 2019, in the different shifts of operation of the clinic. There were no refusals or losses. Only one case was excluded, totaling a sample of 35 elderly people representing the screen service.

The organization and registration of the data were performed in the Excel® 2016 Program for Windows®. The Data from KDQOL-SF were transported to the Data Analysis Program Epi Info 7.2.3.1. Descriptive analyses of the data were performed and absolute and relative frequencies were used for categorical and mean, median

and standard deviation variables for numerical variables. The findings were interpreted by comparing them with studies on the subject that report other health services that serve patients undergoing hemodialysis.

Following the guidelines and norms of Resolution No. 466/2012 of the *Conselho Nacional de Saúde*, the project that gave rise to this study was approved by the Research Ethics Committee of the *Universidade do Estado de Mato Grosso*, according to CAAE n. 09703018.8.0000.5166 and Opinion n. 3.264.422.

# **Results**

Regarding the sociodemographic profile, Table 1 summarizes the main indicators. As can be observed, this is a predominantly male sample, concentrated between 60 and 69 years of age, brown in conjugal/loving relationship, with incomplete elementary school and monthly income of up to one minimum wage. Regarding self-assessment of health, most of the interviewees reported that their health was good. When asked about health compared a year ago, some said they were the same.

**Table 1** – Sociodemographic and self-rated health characteristics of the elderly undergoing hemodialysis treatment. Tangará da Serra, Mato Grosso, Brazil – 2019. (N=35) (continued)

Variables	n	%
Sex		
Male	25	71.43
Female	10	28.57
Age Group		
60 - 69	28	80
70 or more	7	20
Race/Color		
Black	9	25.71
Brown	20	57.14
White	6	17.15
Marital Status		
Single	9	25.71
Married	20	57.14
Widowed	3	8.57
Divorced	3	8.58
Education		
Incomplete Elementary School	26	74.29
Complete Elementary School	3	8.57

**Table 1** – Sociodemographic and self-rated health characteristics of the elderly undergoing hemodialysis treatment. Tangará da Serra, Mato Grosso, Brazil – 2019. (N=35) (conclusion)

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Variables	n	%
Education		
Complete High School	5	14.29
Complete College	1	2.85
Income(1)		
≤1 Minimum wage	31	88.57
≥2 Minimum wage	1	2.86
≥3 Minimum wage	3	8.57
City of residence		
Tangará da Serra	22	62.86
Other	13	37.14
Self-assessed health		
Excellent/Very good	12	34.29
Good	18	51.43
Regular	5	14.28
Current health X health one year before		
Much better	5	14.29
A little better	7	20.00
Same	10	28.57
A little worse	9	25.71
Much worse	4	11.43

Source: Created by the authors.

(1) Minimum wage in force at the time of data collection: 998.00 BRL.

Regarding the functional capacity portrayed in Table 2, most patients have difficulty performing activities that require greater physical effort, almost half reported having no difficulty in performing moderate activities, others said they had a lot of difficulty climbing several flights of stairs and walking more than one kilometer.

**Table 2** – Degree of difficulty in performing activities of daily living caused by the current health condition of elderly people undergoing hemodialysis. Tangará da Serra, Mato Grosso, Brazil – 2019. (N=35)

Variables	Much difficulty	Little difficulty	No difficulty
	(%)	(%)	(%)
Activities that require a lot of effort	77.14	20	2.86
moderate activities	20	31.43	48.57
Pick up or load purchases	20.00	28.57	51.43
Climb several flights of stairs	51.43	22.86	25.71
Go up a flight of stairs	8.57	14.29	77.14
Bow, kneel, or bow	37.14	20.00	42.86
Walk more than one kilometer	57.14	14.29	28.57
Walk several blocks	31.43	28.57	40.00
walk one block	8.57	14.29	77.14
Bathing or dressing	2.86	2.86	94.28

Source: Created by the authors.

Regarding the problems faced in their usual activities due to physical health and emotional conditions, such as feeling depressed (Table 3),

the majority reported not having reduced time working or other activities.

**Table 3** – Problems faced at work or other usual activities, due to the physical health and emotional conditions of elderly people undergoing hemodialysis. Tangará da Serra, Mato Grosso, Brazil – 2019. (N=35)

Variables	Yes (%)	No (%)
Reduction of time working or in other activities due to physical health	28.57	71.43
Did less things than you would like due to physical health	42.86	57.14
Difficulty at work or other activities due to physical health	51.43	48.57
Had to make more effort to work or perform other activities	54.29	45.71
Reduction in time working or in other activities due to feeling depressed		71.43
Did less things than you would like because of feeling depressed	48.57	51.43
Worked or performed other activities with less attention than usual		74.29
because of feeling depressed		

Source: Created by the authors.

When asked about the feelings and perception of physical conditions (Table 4), some felt full of vigor, will and strength all the time, others said they did not feel too discouraged and few reported staying calm all the time.

Regarding satisfaction, there were reports of feeling happy all the time and most reported that social and family relationships were not affected at any time due to health treatment.

**Table 4** – Perception of elderly people undergoing hemodialysis in relation to the feelings experienced. Tangará da Serra, Mato Grosso, Brazil – 2019. (N=35)

Variables	Always (%)	Most of the time (%)	Often (%)	Sometimes (%)	A small part o the time (%)	Never (%)
Full of life	28.57	11.43	14.29	22.86	17.14	5.71
Very nervous	-	2.86	8.57	8.57	25.71	54.29
very discouraged	2.86	2.86	8.57	11.43	28.57	45.71
calm and peaceful	37.14	25.71	17.14	11.43	8.58	-
A lot of energy	11.43	11.43	8.57	22.86	42.86	2.85
Depressed	-	-	8.57	20.00	40.00	31.43
Exhausted (very tired)	2.86	5.71	11.43	28.57	28.57	22.86
Нарру	40.00	8.57	14.29	17.14	20.00	-
Tired out	2.86	11.43	8.57	40.00	14.29	22.85
Damaged social and family relationships	2.86	2.86	-	14.29	5.71	74.28

Source: Created by the authors.

Note: Conventional sign used

- Numerical data equal to zero not resulting from rounding.

Regarding the perception of health condition (Table 5), just over half of the elderly interviewed stated that they did not think they would be sick more easily than other people, and that they felt healthy as much as anyone else. Most of them reported that kidney disease interfered too

much in their lives and much of their time was spent with the disease, in carrying out treatment and on specific care. About feeling a burden for your family, there have been reports about this perception.

Table 5 – Perception of the health condition of elderly people undergoing hemodialysis in relation to
other people. Tangará da Serra, Mato Grosso, Brazil – 2019. (N=35)

Variables	True (%)	Gerally true (%)	I do not know (%)	Gerally false (%)	False (%)
I get sick more easily than other people	28.57	5.71	2.86	5.71	57.15
I feel as healthy as anyone	54.29	17.14	2.86	20.00	5.71
I believe my health will get worse	11.43	17.14	14.29	11.43	45.71
my health is excellent	26.47	26.47	2.94	32.35	11.77
My kidney disease interferes too much with my life	74.29	11.43	2.86	5.71	5.71
Much of my time is spent on my kidney disease	71.43	14.29	2.86	2.86	8.56
I feel disappointed in dealing with my kidney disease	40.00	14.29	-	8.57	37.14
I feel like a burden to my family.	42.86	17.14	-	-	40.00

Source: Created by the authors.

Note: Conventional sign used

- Numerical data equal to zero not resulting from rounding.

On the questions of how patients felt and how their lives were been in the last four weeks, 82.86% said that at no time did they isolate or distance themselves from the people around them. About possible difficulties to concentrate or think, exploring an eminently cognitive aspect, 71.43% said that, at no time, they had any difficulty, with few records of mental confusion in a small part of the time (31.43%). Among the respondents, 85.71% reported that all the time they were well related to other people.

In relation to symptoms related to the disease, they reported feeling very uncomfortable: with muscle pain and itching on the skin (25.71%); with cramps (45.71%); with weakness or dizziness (31.43%); and related to exhaustion and a lot of tiredness (28.57%), mainly after hemodialysis sessions. The least reported discomforts were in relation to vomiting and problems with fistulas or catheters.

Regarding the effects of kidney disease on daily life, when asked about the decrease in fluid intake, 25.71% claimed not to bother at all. About the food decrease, 20% bothered a little and another 20% were very bothered. When asked about their ability to travel, 42.86% said that they were very uncomfortable with the fact that they could not make long trips, because they always

depended on the sessions, preventing the visit of relatives who lived more distant, for example.

Regarding the sexual life of the interviewed patients, 77.14% reported that, in the last four weeks, they had no sexual practice and 22.86% said they had no problems having sexual satisfaction or problems getting sexually aroused. Most respondents (74.29%) did not report discomfort with sexual life after treatment, which was also observed in relation to personal appearance (71.43%). Few concerns were reported regarding the stress caused by kidney disease and its treatment, as well as in relation to the dependence of health professionals, such as physicians.

Regarding the sleep routine, 31.43% reported that, at no time, they woke up at night and had difficulty returning to sleep; another 34.28% claimed that they slept for as long as necessary. They were asked to give a score from 0 to 10 for sleep quality, being 0 to 4 very bad, 5 to 8 half term and 9-10 very good. In this evaluation, 54.24% gave scores between 9 and 10, while 5.71% gave scores between 0 and 4.

Regarding patient satisfaction in relation to family and friends, 74.28% were very satisfied with their time with family and friends and 85.71% also reported being very satisfied with the

support they received from friends and family. Regarding working conditions and engagement in the work universe, 94.29% of patients stated that they had not received money to work in the last four weeks and 80% claimed that their health conditions did not allow involvement in a paid work.

About the care received on hemodialysis, 48.57% of the patients interviewed stated that they were very good and 22.85% reported that the care was excellent. Only 11.43% reported that the service was regular. When asked if the hemodialysis team encouraged them to be more independent, 85.57% said yes. When asked if the hemodialysis team helped them deal with kidney disease, 100% said yes.

When asked about their health, they were asked to evaluate it in the general aspect, giving a score from 0 to 10, being 0 to 2 the worst possible, 3 to 8 half-term between worst and best and 9-10 the best possible. In this evaluation, 77.14% gave a score between 3 and 8.

#### Discussion

The sociodemographic characteristics observed in the present study, in which the sample was composed of a majority of males, of brown color and schooling with incomplete elementary school, corroborate the results of other studies (13-14). Regarding marital status, married people predominated. This result coincides with that of other studies, demonstrating that this can, in fact, collaborate positively in home care and in the practice of habitual activities, considering that patients undergoing hemodialysis have compromised autonomy, because CKD causes functional losses that compromise independence and autonomy, especially in the case of elderly patients (15-16).

Regarding socioeconomic conditions, income of up to one minimum wage prevailed, due to the fact that the majority of the elderly undergoing treatment were retired. The socioeconomic conditions of the elderly are very important elements of analysis, because they depend, in most cases, on the continuity of treatment and

all other family expenses<sup>(17)</sup>. The person with CKD faces great difficulty in establishing or maintaining an employment relationship, because they need to leave work to attend hemodialysis sessions. The time that is dedicated to the routine imposed by the treatment, associated with physical and emotional symptoms, interferes in daily activities and psychoemotional issues, preventing an increase in income and may also reflect on their health conditions and QoL.

Regarding the daily activities of the elderly, the majority in this study reported having difficulty at work or in other functions, due to their physical health. It is known that aging is a gradual process, which can result in losses of functional capacity and, together with hemodialysis treatment, have a considerable impact on the functional and physical capacity of the elderly. Thus, it is common for problems and complications, such as sedentary lifestyle, as well as difficulties in the ability to perform daily activities. There may also be a decrease in social interaction and loss of autonomy, because the patient needs the help of other people to perform various activities, which contributes to a decrease in QoL (18). In addition, aging associated with CKD can negatively compromise the performance of ADL and IADL by the elderly (16,19).

Patients with CKD present a life with restrictions that can very often impact their work activity, with direct repercussions on emotional and socializing domains essential for QoL<sup>(16)</sup>. In the present study, 80% of patients reported the impossibility of working as a result of the disease.

On the aspects of the health condition, many patients reported that kidney disease interfered a lot in their lives, that they felt a burden for the family and much of their time was spent with the disease. These results corroborate those of a study conducted in a reference outpatient clinic in CKD in the city of São Paulo (SP), which identified an association between low QoL scores already in the early stages of CKD, in addition to physical and mental impairment<sup>(16)</sup>.

The burden of dealing with an incurable disease, which requires treatment for the rest

of life, such as kidney disease, has numerous repercussions on the patient's life. Among them, greater exposure to symptoms of depression can be listed, for example, because they often feel a burden on their caregivers and manifest more non-adaptive thoughts. This can also be due to the fact that they depend on a continuous treatment considered monotonous and that imposes restrictions on displacements. In physical terms, the effects are often related to considerable losses in health and physical vigor, the manifestation of symptoms such as drowsiness, feeling of discomfort and fatigue during hemodialysis, factors capable of altering QoL (20-21).

In the present study, no difficulties in relation to sleep were reported, a result that differs from the literature<sup>(22)</sup>. Regarding the aspects related to general health, the majority of the elderly self-rated their health as good, with median indicators. A similar evaluation was reported in a study conducted in a *Clínica de Hemodiálise* in a municipality of Bahia, in which the general health status was considered reasonable by 65.7% of the participants<sup>(19)</sup>.

Regarding social and family interactions, they were not impaired in the sample of this study. In a study conducted in Teresina (PI), there was divergence regarding the interference of hemodialysis treatment in family and social relationships. In this study, male individuals stated that the treatment affected, yes, their social and family life, unlike women, who reported no influence of CKD treatment on their interpersonal relationships<sup>(7)</sup>. On the other hand, another study shows that family and social life can be affected and often lead patients to social isolation (23). Social and family interaction are of paramount importance in hemodialysis treatment, because the disease generates physical, social and emotional changes that can lead the patient to isolation and depressive conditions, lowering QoL<sup>(16)</sup>.

Regarding patient satisfaction with the treatment received from the multidisciplinary team, positive results were obtained in this study. It is important that therapeutic actions in the care and care process involve listening that helps the patient to understand and adhere to treatment in their daily lives, also exploring

the environmental conditions that can favor this adherence for a long period. The hemodialysis session is a possibility for the team to interact with the patient and assist him/her in their needs, following the evolution of these demands with each new meeting. It is essential that the care team, composed of a doctor, psychologist, nutritionist and nurse, work in an articulated way to achieve the objectives in the health education process. During the sessions, the actions of the health team can turn to educational methods, such as dialogue on medications, clarification of doubts, guidelines on sports and leisure, with a view to creating satisfactory conditions for patient well-being and improvements in QoL (23-24).

As limitations of this research, it is understood that it reflects a local reality, and this needs to be considered when comparing with other studies and care models aimed at the treatment of this condition. It is also noteworthy that data collection occurred before the beginning of the COVID-19 pandemic. It is essential that the survey can be undertaken based on this new reality and compared with the previous scenario, given that important changes in QoL may have been observed in these patients due to additional restrictions in response to coping with this global health scenario.

The research contributes to the identification by the multidisciplinary health team of points that require greater attention, contributing to the execution of new strategies that may result in the improvement of survival of patients with chronic kidney disease undergoing hemodialysis.

## Conclusion

This study showed that the QoL of the elderly interviewed underwent alterations that contributed to the limitation of basic and instrumental activities. Among the dimensions that were negatively affected were work, renal disease overload and physical function, which can be attributed to both aging and specific circumstances of CKD and its treatment.

On the other hand, there were satisfactory results in the variables of stimulation of the dialysis team, social function, general health status and sleep quality, which contributed to the QoL of the population studied. It is emphasized that professional care, together with family and friends support, fundamental in this process, allowed better coping with the disease and its treatment, reducing the frustrations imposed on the patients' life routine, besides contributing to the improvement in their QoL.

It is recommended to continue this survey and monitor these conditions over time, so that strategies for improving QoL can be implemented according to the needs reported by the population served. Moreover, it is emphasized that QoL should not be understood only as objective markers, represented by the variables outlined here, but that it can be the subject of a broader reflection, with the listening of these patients, their expectations and their care needs in the course of this illness. It is expected that the data gathered here can be compared with the reality of other services, the construction of integrated protocols with a view to promoting QoL with this population.

#### **Collaborations:**

- 1 conception and planning of the project: Ana Karolina Silva Rodrigues, Grasiele Cristina Lucietto and Juliana Fernandes Cabral;
- 2 analysis and interpretation of data: Ana Karolina Silva Rodrigues, Grasiele Cristina Lucietto and Juliana Fernandes Cabral;
- 3 writing and/or critical review: Ana Karolina Silva Rodrigues, Grasiele Cristina Lucietto, Juliana Fernandes Cabral and Fabio Scorsolini-Comin:
- 4 approval of the final version: Ana Karolina Silva Rodrigues, Grasiele Cristina Lucietto, Juliana Fernandes Cabral and Fabio Scorsolini-Comin.

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