

Evaluation of the quality of life of chronic renal patients in hemodialysis - a cross-current study

Avaliação da qualidade de vida de pacientes renais crônicos em hemodiálise – um estudo transversal

Avaliação da qualidade de vida de pacientes renais crônicos em hemodiálise - um estudo transversal

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ABSTRACT

Introduction: Quality of life (QoL) has been widely studied in the health area and chronic health conditions such as chronic kidney disease (CKD) can interfere with functional capacity, independence and, consequently, QoL, by negative implication in the activities of daily living, emotional, social and cultural issues. **Objective:** To characterize patients with CKD in hemodialysis (HD) treatment of a clinic in the west of Santa Catarina, their relationships and sociodemographic variables, and their QoL. **Methodology:** Descriptive cross-sectional study with 116 patients with CKD in HD. To collect data on the questionnaire sociodemographic and a instrument Medical Outcomes Study 36 - Item Short - Form Health Survey (SF-36) were used. **Results:** There was a prevalence of the population aged > 60 years old, Caucasian (74.77%), male (54.31%), of professions related to middle and low class and reduced number of years of study. In relation to comorbidities, Systemic Arterial Hypertension prevailed (38.79%). Regarding QoL, limitations due to physical aspects had lower averages (29.09) and limitations in social activities (73.71). **Conclusion:** Negative QoL have personal, familial, and social repercussions due to the impact of the disease on the routine life activities of kidney patients.

Descriptors: Quality of life, Hemodialysis, SF-36, Kidney disease.

RESUMO

Objetivo: Caracterizar os pacientes com DRC em tratamento de hemodiálise (HD) de uma clínica do oeste catarinense, suas relações e variáveis sociodemográficas, e, a sua QV. **Método:** Estudo transversal descritivo, com 116 pacientes com DRC em HD. Para coleta dos dados usou-se questionário sociodemográfico e o instrumento Medical Outcomes Study 36 –Item Short –Form Health Survey (SF-

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36). **Resultados:** Houve prevalência da população com idade igual ou > 60 anos, caucasianos (74,77%), do sexo masculino (54,31%), destaca-se a presença de profissões relacionadas a classe média e baixa e quantidade de anos de estudo reduzidos. Em relação a comorbidades, prevaleceu a Hipertensão Arterial Sistêmica (38,79%). Quanto à QV, as limitações por aspectos físicos tiveram menores médias (29,09) e limitações em atividades sociais maior média (73,71). **Conclusão:** A QV negativa tem repercussões pessoais, familiares e sociais devido ao impacto da doença na rotina de atividades de vida diária dos doentes renais.

Descritores: Qualidade de vida, Hemodiálise, SF-36, Doença renal.

RESUMEN

Objetivo: Caracterizar a los pacientes con DRC en tratamiento de hemodiálisis (HD) de una clínica del oeste catarinense, sus relaciones y variables sociodemográficas, y su QV. **Metodología:** Estudio transversal descriptivo, con 116 pacientes con DRC en HD. Para la recolección de los datos se utilizó cuestionario sociodemográfico y el instrumento Medical Outcomes Study 36 - Item Short - Form Health Survey (SF-36). **Resultados:** Hubo prevalencia de la población con edad igual o > 60 años, caucásicos (74,77%), del sexo masculino (54,31%), se destaca la presencia de profesiones relacionadas a la clase media e baja y cantidad de años de estudio reducidos. En relación a las comorbidades, prevaleció la Hipertensión Arterial Sistémica (38,79%). En cuanto a QV las limitaciones por aspectos físicos tuvieron menores promedios (29,09) y limitaciones en actividades sociales mayor media (73,71). **Conclusión:** La QV negativa tiene repercusiones personales, familiares y sociales debido al impacto de la enfermedad en la rutina de actividades de vida diaria de los enfermos renales.

Descritores: Calidad de vida, Hemodiálisis, SF-36, Enfermedad renal.

INTRODUCTION

Non-communicable Chronic Diseases (NCCDs) are among the factors that contribute to the reduction of Quality of Life (QOL), interfere in work and leisure, and cause changes in the economic field of families, communities and society in general, intensifying the differences social and contributing to the increase of poverty.¹ Chronic Kidney Disease (CKD) is the group of NCCDs, understood as a clinical syndrome characterized by a significant, slow, gradual and progressive reduction of excretory, endocrine and metabolic renal functions.² It is considered a public health problem and in recent decades has gained greater focus on the part of the health services, due to its high prevalence in the most varied age groups of the population.^{3,4}

The treatment most used when it reaches its terminal phase is Hemodialysis (HD), a mechanical and extracorporeal procedure, which aims to remove toxic substances and excess fluid from the body through a machine.^{5,6} The chronic renal patient undergoing HD constantly coexists with the negation and consequences of the evolution of the disease, in addition to a painful treatment and with the limitations and alterations that have repercussions on their own QOL.⁷

QOL is defined by WHO (2008) as the "individual's perception of his/her position in life, in the context of the culture and value system in which he lives and in relation to his goals, expectations, standards and concerns, involving the context and time of the occurrence of the facts."⁸ The QOL can be assessed, making it possible to know the effectiveness

of the treatments as well as the interventions performed by health professionals, as well as the impact of a disease on the life of the affected, their relatives and the community.^{3,9,5}

In the case of NCCDs, and considering the CKD, it is indispensable the QOL assessment, which is an important indicator of public health and is frequently used to measure how much a disease affects the individual's life.¹⁰ Given the aforementioned, the study's goal was to characterize CKD bearing patients undergoing HD treatment in a clinic from the West of Santa Catarina State, and also to describe their relationships and sociodemographic variables, as well as their QOL. Herein, it will be considered the concept of QOL according to the WHO.

METHODS

It is a descriptive cross-sectional study with a quantitative approach. A study carried out in the western renal clinic that reaches about 183,530 inhabitants, which is a regional reference, offering the modalities of Renal Replacement Therapy (RRT): HD and renal transplantation.¹¹

The population was composed of patients of both genders in HD, over 18 years old, with treatment time over one month (30 days), hemodynamically stable. Patients with communication difficulties that prevented the interview were excluded.

A total of 116 patients were treated between the months of July and September of 2016 during the HD session, presented to the research and the ethical aspects informed by means of brief individual speech. Individuals who agreed to participate/respond signed the Free and Informed Consent Term.

Aiming to collect data about the patients' sociodemographic characteristics, an instrument was developed that sought information on age, income, schooling, religion, labor activity, marital status, life habits, housing, basic disease, municipality of residence and time spent for the displacement.

A sociodemographic questionnaire and the instrument named Medical Outcomes Study 36 - Item Short - Form Health Survey (SF-36) were used to analyze the QOL; each patient was interviewed in a single moment, individually, during the accomplishment of the session of HD, in the same day occupying an approximate time of 30 minutes each individual. Missing information was extracted from the charts by the coordinating nurse. The SF-36 instrument has 36 questions divided into 8 domains. From the domains are pointed out the eight dimensions: functional capacity, physical aspects, pain, general health, vitality, social aspects, emotional aspects, mental health and a comparative issue of the current health condition and that of a year ago. It presents a final score of 0 (zero) to 100 (obtained by calculating the Raw Scale), the lower values correspond to the less favorable health-related quality of life, while the higher scores reflect better QOL. Our data were tabulated, organized into relative and absolute frequencies, presented without a table and analyzed according to the literature consulted.¹²

The data were analyzed through the Libre Office Calc program, where the absolute (n) and relative (%) frequencies were calculated for the categorical variables. After grouping the

answers into SF-36 questionnaire domains, the standardization of the scores attributed to the responses was used, based on the Ware *et al.*,¹³ which brings the form of calculation of each point considered, using instrument in the program Free Office Calc.

The research was approved by the Research Ethics Committee from the *Universidade Federal da Fronteira Sul (UFFS)*, as an amendment to the research project entitled "Chronic renal disease: analysis of the causes of loss of renal function and identification of diseases and substitution treatment" under the *Certificado de Apresentação para Apreciação Ética (CAAE)* [Certificate of Presentation for Ethical Appreciation] No. 49503215.4.0000.5564.

RESULTS

The database consisted of medical records of 116 patients bearing CKD who were undergoing HD. The characterization of the 116 patients presented in **Table 1** was performed, where it was observed that the majority of the patients were male (54.31%), within the age group up to 59 years old (48.27%), and the large majority (96.55%) did not work anymore.

Table 1 - Characterization of CKD patients undergoing hemodialysis

Variable	F (Frequency)	% (Percentage)
Gender		
Female	53	45.69%
Male	63	54.31%
Age Group		
18-59 years old	56	48.27 %
60-69 years old	32	27.59 %
> 70	28	24.14 %
Marital Status		
Married	61	52.58%
Single	15	12.94%
Divorced	14	12.06%
Widow(er)	17	14.66%
Studying Years		
0-1 year	8	6.91%
2-8 years	78	67.24%
Complete High School	15	12.93%
Technical training	5	4.31%
Incomplete College	1	0.86%
Complete College	7	6.03%
Specialization	2	1.72%
Living Alone		
Yes	12	12.34%
No	104	89.65%
Religious		
Yes	102	87.93%
No	14	12.07%
Working		
Yes	4	3.45%
No	112	96.55%

Source: Authors, 2016.

There was a slight predominance of males (54.31%), in the age group 18-59 years old (48.27%); in relation to the marital status, a total of 52.58% of the respondents were married; In relation to the study participants, there was a predominance of time between 2 and 8 years (67.24%), among those interviewed only 12.34% lived alone, 12.07% had no religion, the onset of HD continued to only 3.45% (n = 4) of the interviewees, of the other patients 91% received an appeal through government. With regards to the individuals who continue to perform salaried work, without reporting a drastic negative influence of the CKD, were found as follows: 1 religious representative, 1 administrator, 1 mason, 1 farmer. In relation to the previous profession, the largest portion was farmer 29.32% (n = 34), followed by the housewife 16.38% (n = 19).

In relation to the data not shown in the table: prevalence of white skin color 74.77% (n = 83), the mean age that the patients interviewed started on HD was 53.15 years old. Most interviewees had children (81.04%) (n = 94) and when asked who they lived with, 44.23% (n = 46) shared the house with one other person. Despite restrictions, 8.62% (n = 10) use cigarettes and 5.17% (n = 6) consume alcohol beverages.

The diseases that have appeared as triggers/contributors to kidney failure with a greater number of patients were the following: Diabetic nephropathy 24,14% (n = 28), polycystic kidneys 7.76% (n = 9), and obstructive uropathy 6,90% (n = 8). Considering the comorbidities, they led diseases such as Systemic Arterial Hypertension with 38.79% (n = 45), Diabetes *mellitus* with 24,14% (n = 28), and hepatitis B and C, with 6, 03% (n = 7) and 4.31% (n = 5) respectively. Of the patients, 20% reported having a physical limitation or loss, being the most prevalent: visuals with 52.17% (n = 12) and auditory 13.04% (n = 3).

Considering the specificities in HD, 96.55% (n = 112) performed 3 weekly sessions, 2.59% (n = 3) performed 4 weekly sessions and 0.86% (n = 1) performed 1 weekly session. On the duration of the same occurred a variation between 2 hours and 4 hours, and 45.69% (n = 53) performed 3 hours. The shortest time in HD among respondents was 30 days, and the longest 33 years (396 months).

The interviewees come from several localities, in total there are 20 municipalities, and the municipality more distant from the service, is located 85.5 km away. The municipality with the highest number of patients is the same where the service is located, with 59% (n = 69) patients; are 6 municipalities with 1 patient; 5 counties with 2 patients; 3 municipalities with 3 patients; 1 municipality with 4 patients; 1 municipality with 6 patients; 1 municipality with 10 patients.

With regards to the time spent to travel to the service, the results ranged from 10 minutes to 3 hours and 45 minutes, with a greater predominance between 1 hour and 1 hour and 59 minutes of 52 patients. The transport used for the displacement was for the great majority 73.27% (n = 85) transport offered by the municipality of origin and the offered by the service for those who reside in the municipality of the same, followed by: alone with own vehicle 13.80% (n = 16), family conducts and or taxi 11.21% (n = 13), wandering and line buses 1.72% (n = 2).

When asked about family and caregiver follow-up in the HD sessions, 93.10% (n = 108) answered that they came alone, 5.17% (n = 6) said that sometimes someone accompanies them and only 1.72% (n = 2) comes and stays with follow up.

Concerning the Quality of Life (QOL), obtained through the use of the SF-36 instrument, we obtained the averages of the respective domains as shown in **Table 2**. We highlight the high level obtained for the domains of: Limitations in social activities, pain and health mental, opposite to these are lamentable the levels generated in the other domains, highlighting: Limitation due to physical aspects and limitations due to emotional issues.

Table 2 - QOL of the patients undergoing HD

Variable	Average	Standard Deviation
Functional capacity	40.56	30.44
Limitations due to physical aspects	29.09	40.24
Pain	66.10	31.45
General health status	39.74	14.32
Mental health	63.83	23.69
Limitations due to emotional issues	37.64	40.89
Limitations in social activities	73.71	27.80
Vitality	49.14	21.92

Source: Authors, 2016.

Pondering that there is no parameter (value) to be considered good up to or from it, the intermediate point is added to the value of 50, and of the eight domains in the instrument, five did not reach this value, being below the value medium. In the end, it elucidated a reduced result attributed to QOL of the patients undergoing HD in the aforesaid service.

DISCUSSION

This study confirmed a higher prevalence of CKD patients undergoing HD being males (54.31%). This fact is in agreement with previous researches, where male prevalence was 68%,¹⁴ 58%,¹⁵ and 60%.¹⁶

The study found in the self-reported skin color of the patients coincided with a study previously carried out in the Southeast region of the country, which found the prevalence of individuals with white skin color, followed by brown and black respectively.¹⁴ Skin color may vary according to the region studied, a study conducted in the *Minas Gerais* State found a predominance of brown skin color with 50% in a number of 40 individuals undergoing HD.¹⁶ Considering the southern region of the country where the respective research was conducted, colonization occurred by German and Italian immigrants, which may explain the predominance of the population with white skin color.

Aimed by the Brazilian census of dialysis 0.3% of patients in Brazil are aged between 12 and 18 years old,¹⁵ and in the said service in the modality of HD, there are no individuals in this age group. Considering the results obtained regarding

the marital status, it was evidenced the predominance of married individuals, coinciding with scientific data where 53.6% of a sample with 125 individuals are married.³

In general, family support from close associates is seen as a positive contributing factor in the process, it works as a support in bad circumstances as well as at desired times. A study carried out in 2016¹⁷ pointed out that for patients the support of family and friends brings in strength and courage to continue to fight, mainly because they feel that they are not alone. The CKD can cause in social and family relations both advances and setbacks. Changes in lifestyle, lack of knowledge/information about CKD may deter individuals.¹⁷ The results found did not show interference for the great majority in the domain: limitations in social activities, which reached the value of 73.71.

The study by Martins, Cesariano³ showed the predominance of elementary school with 64.8% (n = 125 individuals) and an average of five years of study, a result similar to that obtained in the research in question. Teaching can make a difference in the ability of patients and their families to adapt to chronic health conditions.¹⁷

Among the patients who reported consuming beverages containing alcohol, were 5.17%; one study¹⁸ found similar data: 3% of 291 patients consumed alcoholic beverages.

With regard to the Body Mass Index (BMI), we found a 3.45% of patients (n = 4), with normal BMI 51.72% (n = 60), 31.9% overweight (n = 37) (n = 2), obesity (level III), 0.86% (n = 1) and obesity (level I).

In the case of salaried work, the results found are in agreement with that presented by Cosson *et al.*,¹⁹ 89.4% of 142 patients did not perform salaried work. In addition to the high costs both socially and economically with HD, there are additional costs with the drugs that they have to use.²⁰

In relation to the disease that led to CKD, we obtained approximate results to those exposed by the Brazilian Society of Nephrology on patients with CKD, which show the most frequent diagnosis of primary renal disease is hypertension (34%) and diabetes *mellitus* (29%), followed by chronic glomerulonephritis (13%) and polycystic kidneys (4%).¹⁵

In the year 2014, the most frequent diagnoses in relation to primary renal disease were: hypertension (35%) and diabetes (29%), followed by chronic glomerulonephritis (11%) and polycystic kidneys (4%); other diagnoses were made in 11% and undefined were 9% of the cases, the data are in line with that presented in recent years.¹⁴

Observing the time of HD treatment, the data are in agreement with the one presented by Cosson *et al.*,¹⁹ where the majority: 110 of the 142 participants are concentrated in the period of up to 5 years of treatment, as well as not found by Lanza *et al.*¹⁶ where the average time undergoing treatment was 40.9 months among 40 participants. The RRT modality, as well as its duration and number of sessions, are based on each patient, the medical professional makes the adjustments after observing the behavior post session.

The majority of patients come from neighboring cities/municipalities, only 59% are from the municipality where the service is located, a result similar to that found in the Abreu, Santos study,²¹ 65% of a total of 60 interviewees were from the

city where the service is located, and the others came from cities in the region, of which 18 (15.52%) resided within the respective municipalities. Considering the displacement, the same can be influenced by the climatic conditions, traffic, schedule, vehicle used, issues that can contribute to making it more time-consuming.

Taking into account the follow-up in the HD sessions, a study found that the majority of patients from 74 (52.1%) arrived and remained unattended in the sector until the end of therapy,¹⁹ the data found in the study were superior, with 93.10% of the patients. The study in question pointed out that many justified this issue as the confidence to go alone, and either because of the family's occupation, not wanting to disturb him, as many exposed the abandonment by the family (children or companions) due to illness and treatment.¹⁹

There were found decreased results regarding the QOL, mainly in the following dimensions: Limitations due to physical aspects, limitations due to emotional issues, general health status. These values were similar to those found in the study by Martins, Cesarino,³ which addressed 125 individuals under treatment for HD in *São Paulo*, the largest differences were in the dimensions of general health status 58.6, emotional aspects 46.1, where the results of the study were higher, for social aspects the average 46.1 was lower than the finding.

The study of Abreu, Santos,²¹ addressed 60 individuals in HD at a service in the *Paraná* State, obtained a mean of 24.2 in the dimension of physical aspects, a result similar to that found in the study, but the other dimensions differed, therefore, they were above 50.

During the period of the research reference, there were found limitations in the application of the SF-36 to the patients, due to the great difficulty of compression of the period of approach of the questions, being that the interview constituted as facilitating factor and did not generate impact in our results. We highlight the receptivity in the service by the nursing team and medical professionals, as well as the acceptance by the patients regarding participation, simple issues that facilitate and result positively in the general context of the research.

CONCLUSIONS

The results of this study showed that the studied population is predominantly male (54.31%), aged 59 years old (48.27%), and the vast majority had to leave work after HD (96.55%). The research made it possible to verify sociodemographic variables and QOL, through the application of the SF-36 instrument. Briefly, the applied methodology allowed to verify the patients' perception about the QOL, and it was observed that it was reduced in several aspects, mainly in relation to the physical capacity and emotional problems, demonstrating that there is a high index of patients with CKD that need monitoring and referral to the specialized team.

Bearing in mind the results, it can be concluded that the planning of actions together (individual, family and healthcare team) are important in order to assuage/reduce their respective reduced QOL levels. Hence, strategies such as health education and physical rehabilitation are proposed to either reverse or alleviate the physical condition in these

patients, facilitating the reduction of mental health problems and facilitating their reintegration into abandoned activities due to the consequences imposed by the disease.

Another aspect raised is the need to carry out new studies in this area, and follow-up the QOL of patients undergoing HD, as we believe that, based on this diagnosis/survey, interventions can be planned and implemented, which may contribute to minimizing the patients undergoing HD, furthermore, improving treatment adherence and other aspects that influence their QOL.

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