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LIFE QUALITY OF DIALYTIC PATIENTS IN A REFERENCE CENTER IN THE AMAZON REGION

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ABSTRACT

Chronic Kidney Disease is a public health problem, whose dialysis greatly alters the patient's quality of life in the face of the changes the disease develops. The aim of this study is to assess the quality of life and the epidemiological profile of chronic kidney patients in a reference center in the Amazon Region. 103 individuals participated, of both genders, aged between 19 and 80 years in dialysis treatment. Two questionnaires were used, one referring to the epidemiological profile of the respondents and the KDQOL-SF™ 1.3, referring to kidney disease and quality of life. It was observed that the prevalent sex was male (56.3%), aged between 50-69 years (49.6%), low education (66.1%), married (44.7%) and length of treatment from 1 to 3 years (54.4%). In the questionnaire, the domains that had the worst scores were: Stimulation of the Dialysis Team, Cognitive Function and Sexual Function. However, the best results were: Social Support, Work Situation and Patient Satisfaction. It was found that the quality of life of the patients studied is impaired in several aspects assessed by KDQOL-SF™ 1.3.

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INTRODUCTION

Chronic Kidney Disease (CKD) has been set as an important public health problem (GONÇALVES *et al*, 2015). In Brazil, it is estimated that, in 2017, 126,583 people were on dialysis. In a regional context, the municipality of Marabá constitutes the reference center for hemodialysis in chronic renal patients in Carajás mesoregion, with an average of 100 visits per day. (THOMÉ, *et al*, 2019). It's necessary to highlight that hemodialysis is the main form of substitute therapy, with a variable duration between 3 to 4 hours per session and, in general, performed 3 times a week (SESSO, *et al*, 2016; LOPES, *et al* 2014). Towards it, it's evident that this pathology provides countless physiological adaptive processes, which, in general, directly affect the patient's quality of life, since the need for dialysis greatly changes his behavior in the face of the physical and psychological changes that the disease develops (FRAZÃO, 2014). In this sense, the term Quality of Life involves a large number of concepts that relate to global

satisfaction, such as good health, appropriate habitation, employment, security, education and leisure. In addition, when related to health, it also considers the physical, social and emotional aspects that are compromised by a disease or treatment (GONÇALVES, *et al*, 2015; SESSO, *et al*, 2016). Thus, hemodialysis treatment, in particular, promotes a rupture in their lifestyle, supporting physical inactivity and functional disability, which directly influence daily activities, sexuality and satisfaction with treatment (PINHO, 2015; GONÇALVES, *et al*, 2015). Thus, assessing physical and mental well-being, work performance and social participation makes it possible to understand a little about the reality of this group of Brazilians who increasingly need the physical and emotional support of all who work with them (MALTA *et al*, 2013). Therefore, the assessment of life quality is fundamental for the perception of the evolution from chronic patients, corroborating, in a unique and positive way, in the treatment of the disease. (COUTINHO and COSTA, 2014; HALL *et al.*, 2020). Thus, the objective of this study is to assess the quality

of life and the epidemiological profile of chronic renal patients in a reference center in the Amazon Region.

METHODOLOGY

This study is observational, descriptive and quantitative. It is noteworthy that the research was approved by the Research Ethics Committee via Plataforma Brasil (CAAE: 07085018.6.0000.8607) and the participants were informed about the research and signed the free and informed consent form (IC). These individuals were approached in a hemodialysis clinic located in a city in southeastern Pará. As for the sample, 103 individuals participated in the study. Inclusion criteria were: individuals over 18 years old, undergoing dialysis treatment, of both genders and who presented without evidence of cognitive impairment, physical or organic difficulties, capable of making it impossible to perform the questionnaires, such as visual loss, asthenia or vertigo at the time of the interview. Two questionnaires were used for data collection, the first referring to the participants' epidemiological profile, containing five questions, namely: gender, age in years, education, treatment time and civil status; and the second referring to kidney disease and quality of life (KDQOL-SF™ 1.3), validated in Brazil and composed by 80 items. KDQOL-SF™ 1.3 includes SF-36 plus 43 items on chronic kidney disease, allocated to 20 domains. This questionnaire is divided into dimensions, which can range from zero which is the worst result to one hundred as the best. For this, it was necessary to use the average, median and standard deviation in order to obtain an accurate assessment of the participants' HRQoL. It is also noteworthy that the SF-36 is composed of 36 questions, grouped into eight spheres: physical functioning, limitations caused by physical health problems, limitations caused by emotional health problems, social functioning, mental health, pain, vitality, perceptions of general health and current health status compared to a year ago. The portion related to kidney disease has items divided into 11 dimensions: 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; it also includes three additional scales: social support, encouragement from the dialysis team and patient satisfaction with the treatment. Later, to achieve the results, statistical analysis was performed using the Biostat 5.3 program, using the Chi-Square Adherence Test for the variables genders, age and civil status. For the variables education and time of treatment, the G Adherence Test was used. The other variables described were analyzed using the Independent T-Student Test.

RESULTS

After analyzing the data, it was observed that the largest proportion was male (56.3%), compared to female (43.7%). Regarding age, they had an average of 54 years, with a greater concentration in the age group between 50 and 69 years (49.6%), ($p = 0.0075$). Therefore, the sample consisted of patients with a low level of education, highlighting those with incomplete elementary education ($p < 0.0001$). Regarding the marital status variable, it was observed that 63.1% of the sample is composed of individuals living with a partner ($p < 0.0001$). Finally, the time that respondents performed treatment ranged from less than 01 to 15 years, with an average of 2.8 years, which represents a very high time span,

with the largest concentration of time being between 1 and 3 years (54.4%) ($p < 0.0001$).

Table 1. Chronic renal patients, epidemiological variables, Marabá, 2018

Gender	Frequency	%
Female	45	43.7%
Male	58	56.3%
Age range (years)	Frequency	%
< 30	9	8.7%
30 - 39	11	10.7%
40 - 49	16	15.5%
50 - 59*	22	21.4%
60 - 69*	29	28.2%
70 or older	16	15.5%
Min / Average \pm SD / Max	19 / 54.0 \pm 14.6 / 80	
Education	Frequency	%
Illiterate/Uneducated	15	14.6%
Incomplete elementary school **	53	51.5%
Complete elementary school	12	11.7%
Incomplete high school	6	5.8%
Complete high school	11	10.7%
Incomplete higher education	1	1.0%
Complete higher education	5	4.9%
Civil status	Frequency	%
Single	18	17.5%
Married*	46	44.7%
Stable union	19	18.4%
Divorced	14	13.6%
Widower	6	5.8%
Treatment time (years)	Frequency	%
< 01	17	16.5%
01 - 03**	56	54.4%
04 - 06	19	18.4%
07 - 09	7	6.8%
10 or more	4	3.9%
Min / Average \pm SD / Max	< 01 / 2.8 \pm 2.9 / 15	

*Chi-Square Adherence Test** G Adherence Test; Source: Research collection

When analyzing the results from the KDQOL-SF™ 1.3 questionnaire, there were statistically significant differences in 6 of the 20 domains referenced in Table 2, which are emotional aspects, pain and social support with higher scores for males, which indicates better quality of life for them. In contrast, in the domains quality of social interaction, cognitive function and symptoms / problems, a higher score was found for females. Regarding the data analysis when referring to the SF-36, it was observed that the domain that addresses the social aspects was the one that reached the highest score (Average = 78.25), showing a low life quality. However, the general health status in the patient's perception and the physical aspects obtained the lowest scores (Mean = 49.25 and 50.45, respectively), showing a better quality of life in these domains. However, when comparing the genders, women had a lower quality of life than men only in the General Health State, see image 01.

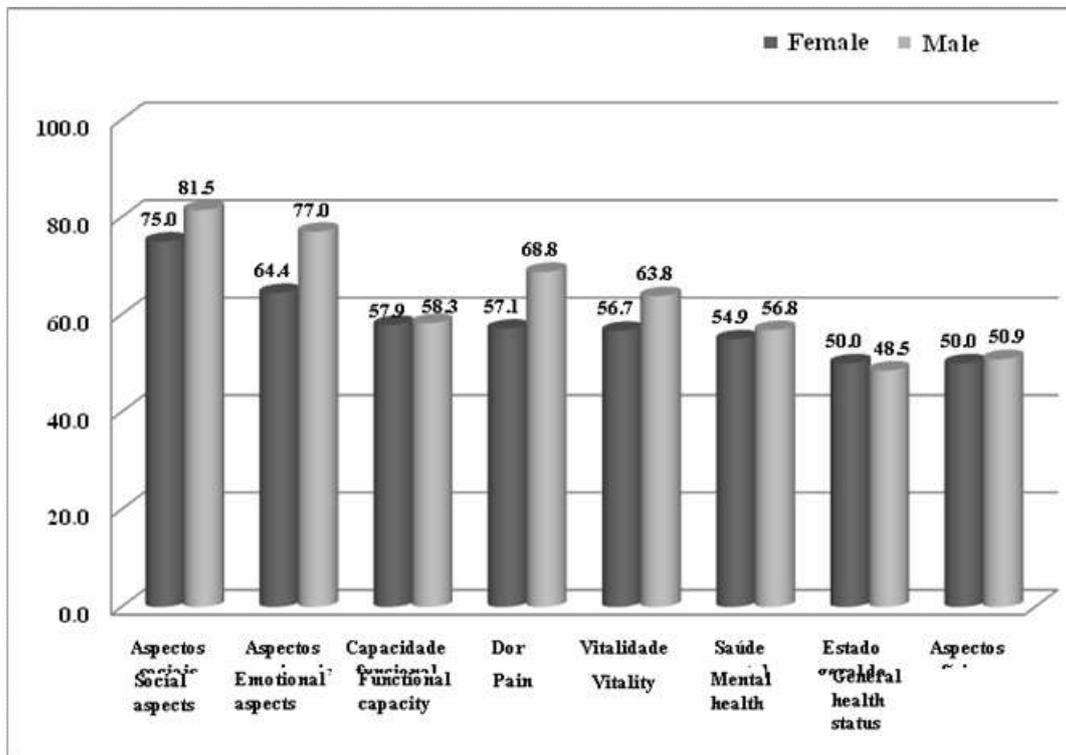
DISCUSSION

Regarding the gender dimension, there is a slight predominance of the male population, in agreement with other similar studies (GONÇALVES *et al*, 2015). The age domain presents a higher concentration in the age group between 50 and 69 years, which is in line with the other researches covered in this study (LOPES *et al*, 2014). Objectively, the dimension that refers to education points to a proportion of patients who, in most cases, did not complete elementary school (51.5%), which when added to illiterate and / or uneducated patients (14.6%) results in 66.1% of the total sample collected, these

Table 2. Chronic kidney patients, according to KDQOL domains, according to Marabá sex, 2018

Domain	Average	Female (n=45)	Male (n=58)	p-value
General health status	49.2	50.0 ± 25.0	48.5 ± 23.4	0.3801
Functional capacity	58.1	57.9 ± 33.4	58.3 ± 29.1	0.4751
Physical aspects	50.5	50.0 ± 43.6	50.9 ± 40.5	0.4589
Emotional aspects	71.5	64.4 ± 42.3	77.0 ± 33.2	0.0470*
Pain	63.7	57.1 ± 32.8	68.8 ± 30.3	0.0323*
Vitality	60.7	56.7 ± 27.0	63.8 ± 22.1	0.0720
Mental health	56.0	54.9 ± 9.5	56.8 ± 9.4	0.1582
Social aspects	78.8	75.0 ± 29.8	81.5 ± 25.0	0.1172
Overload of kidney disease	54.2	54.7 ± 26.6	53.8 ± 21.5	0.4269
Cognitive function	30.5	35.1 ± 21.8	26.9 ± 15.4	0.0181*
Quality of social interaction	51.7	55.7 ± 14.8	48.6 ± 10.6	0.0039*
Symptoms / Problems	37.1	41.0 ± 14.2	34.0 ± 11.2	0.0029*
Effects on daily life	47.0	48.3 ± 15.6	46.0 ± 15.7	0.2363
Sexual function (n=39)	35.4	37.1 ± 24.4	34.1 ± 22.8	0.3492
Sleep	58.3	57.5 ± 15.3	58.9 ± 11.1	0.2946
Social support	89.3	85.6 ± 22.1	92.2 ± 16.7	0.0476*
Work situation	81.1	81.1 ± 12.1	81.0 ± 11.8	0.4871
Global health	64.9	64.2 ± 29.7	65.3 ± 23.9	0.4159
Patient satisfaction	80.3	80.6 ± 20.7	80.0 ± 21.2	0.4438
Stimulation by the dialysis team	28.3	30.2 ± 17.1	26.9 ± 13.0	0.1325

*Independent Student T test
Source: Research collection



* Independent T-student test
Source: Research collection

Image 1. Chronic renal patients, according to the SF-36 domains, according to sex, Marabá, 2018

results are similar to the literature review carried out (PINHO *et al*, 2015). In addition, when analyzing the civil status of the patients in the present study, a predominant sample of individuals living with a partner was observed, a result similar to that of several studies (PINHO *et al*, 2015; LOPES *et al*, 2014). Regarding the analysis of treatment time, it is noted that 54.4% of patients had between 01 and 03 years of hemodialysis, a variable that corroborates with the studies by Lopes *et al* (2014) in which an average time of 3.6 years was found of treatment. It can be inferred that this occurs because the largest percentage of the sample is composed of individuals under 60 years of age, suggesting a short time of development of chronic kidney disease (SILVA *et al*, 2015).

Chronic diseases, especially kidney disease, are known to have a significant impact on the quality of life of their patients. Thus, understanding the individual's perception of his physical, psychological and social aspects is of fundamental importance. In view of this, in this study, it was observed that the domain "Global Health", addressed in KDQOL-SF™ 1.3 as the way that the patient would assess his health, as well as the domains "General Health Status" and "Physical Aspects" referred to in SF-36 showed scores that demonstrate a better quality of life in these domains. This disagrees with most publications that state that chronic kidney disease implies a worsening in the overall quality of life of these patients, mainly due to the continuous hemodialysis sessions and the global malaise generated by it (MELO, 2019).

Still related to the domains that make up the SF-36 questionnaire specifically, the dimension "Social Aspects" was the one that showed the highest score (Average = 78.25), confirming the results of the other studies covered in this work, which affirm that the social experience with other people, interactive activities and personal and community acceptance of kidney disease is extremely compromised with dialysis and directly affects the worsening quality of life of these patients (MADALOSSO et al, 2015). In addition, it is noteworthy that when comparative assessments were made between the genders by the aforementioned questionnaire, it was found that only in the "General State" domain did women obtain a lower average than men, reporting a lower quality of life. This is ratified by Madalosso et al (2016), who also confirms this reality, basing it on the global perception of health that implies a decline in physical health, a reduction in social interactions and inferences about self-esteem. Regarding the analysis of the effects of kidney disease in individuals undergoing hemodialysis using the KDQOL-SF™ 1.3 questionnaire, it was observed that the domains "Social Support", "Work Situation" and "Patient Satisfaction" had the best scores respectively. On the other hand, the domains "stimulation by the dialysis team", "cognitive function" and "sexual function" presented the worst scores.

In this sense, when analyzing the "Social Support" domain, it presented 89.3 points, a result similar to other studies (MADALOSSO et al, 2015 and SANTOS, et al, 2014). It is noteworthy that this dimension is extremely important for dialysis patients, since they need a well-established family and social support network in order to reduce stressful events resulting from hemodialysis therapy, favoring their coping (SILVA, et al, 2016). In addition, 63.1% of the sample in the present study consists of patients who live with a partner, which confirms a more structured family network. Therefore, the domain "Work Situation" presented 81.1 points, this score is in line with the studies by Marinho (2018) and Lopes (2014) that demonstrated a strong negative impact on the quality of life of dialysis patients. It is inferred that this result occurs because most of the interviewees were men who were of productive age and of low schooling, which provides for the need to maintain their jobs even with the need for hemodialysis (GUANARÉ, 2016; MELO, 2019; CRUZ, 2016). However, it is important to emphasize that this result should be analyzed with caution, since the restrictions imposed on dialysis patients, especially on hemodialysis, imply a change in the individual's weekly workload, sometimes requiring retirement due to disability or decrease the pace of work due to complaints of pain, weakness and tiredness (CAVALCANTE, 2015).

The dimension "Patient satisfaction" had the third highest score in the analysis of the results, namely 80.3 points, corroborating with other studies carried out (OLIVEIRA et al, 2016). This domain addresses patient satisfaction with the treatment and care received at the dialysis clinic. In the study by Oliveira et al (2016), the "Patient Satisfaction" and "Stimulation by the Dialysis Team" domains present similar scores, however in the present study, these results were discordant, since the "Stimulation by the Dialysis Team" presented the lowest score on the questionnaire, with 28.3 points. This means that, despite the patients' satisfaction with the treatment, expressed through clinical improvement, they are not encouraged by the dialysis team to seek independence and deal with the disease. Gonçalves, et al (2015) relates this to

the fact that individuals undergoing hemodialysis are more frequent at the clinic and remain in it for prolonged periods, which allows greater situations of stress between patients and employees. However, studies, such as the one by Silva (2017) confront the data presented in the present research, confirming the impact that a complete assistance has in maintaining the adequate team-patient bond, as well as the ability to enable the identification of adverse situations that directly interfere in the treatment and posteriori in the quality of life of these renal patients. As for the domain "Cognitive Function", it presented the second worst score (30.5). This is in line with the study by Guanaré, et al (2016), which found a 76.9% percentile of the individuals studied with some cognitive decline. This can be justified by the mean age of over 40 years of patients undergoing hemodialysis and also by low education, which provides a higher incidence of chronic diseases and worse adherence to treatment, including the medication and dialysis routine, which predicts the greater accumulation of uremic toxins, which worsens the functions of the central nervous system and ratifies this problem (MELO, et al, 2019).

Finally, an important decline in sexual function can be seen in patients with chronic kidney disease in the present study (KDQOL score: 35.4), such a result challenges the research by Lopes et al (2014) that demonstrated a preserved sexual function in dialysis patients. However, it is known that chronic diseases are important factors in worsening sexual performance and satisfaction, whether due to factors inherent in the average age of the patients studied (54 years), such as menopause in women and the reduction of androgen hormones in men, and / or by the accumulation of nitrogenous slugs in the blood in stage 5 patients with Chronic Kidney Disease. (MARTINS, 2015). In addition to Chronic Kidney Disease, the presence of important comorbidities and adjuvant treatment are added, whose side effects of the main drugs, namely calcitriol, ACEI (angiotensin-converting enzyme inhibitors) and BRA (Angiotensin II blockers) include decreased libido (MACEDO and TEIXEIRA, 2016). However, when the domains of the KDQOL-SF™ 1.3 questionnaire were analyzed from a comparative perspective between the sexes, a statistically significant difference was observed in the following dimensions: "Emotional Aspects", "Pain", "Social Support", "Cognitive Function", "Quality of Social Interaction" and "Symptoms and Problems", which are identified in table 02. Faced with this new analysis, the female sex had worse scores in the first three domains and the male sex in the subsequent three. Thus, this study corroborates the study by Silva (2016) that attributes the most labile emotional aspects in women due to the progressive difficulty in taking care of their children and family, as well as work-related limitations, the economic dependence of family members and spouse and body image alteration, mainly attributed to weight loss, presence of arteriovenous fistulas and / or central catheter (SILVA, et al, 2016).

Regarding the "Pain" domain, the present study was favorable to other studies, in which women experienced mild pain more frequently than men (MARQUES, 2016), confirming the worst female score in this dimension ($p = 0.0323$). In general, pain results in daily physical disabilities for patients with chronic kidney disease, being generally of musculoskeletal origin due to the high incidence of bone diseases, progressive loss of muscle mass and cramps during hemodialysis sessions (SILVA, 2013). As for "Social Support", referenced in the applied questionnaire, a worse score was also observed in

women ($p = 0.0476$). This can be attributed to the fact that, historically, the female figure has the social function of care in conjugal relations. Therefore, when women experience the pathological process, they are without adequate social support, since this role is socially attributed to them, justifying this reality (GUEDES, 2009). Add to this that many do not stop exercising their traditional occupations, taking care of the home and children, being exposed to the greatest burden of stress (OLIVEIRA, 2016). Therefore, the worst score in the "Cognitive Function" domain found in this study was in the male gender (score = 29.9; $p = 0.0181$). This corroborates with the global literature, which can be justified by the higher percentage of chronic kidney men surveyed compared to women in most studies (MELO, et al, 2019; GONÇALVES, et al, 2015; LOPES, et al, 2014). In addition, the lower search of this kind to health services and less adherence to early treatment, also favor this reality, as they enhance the deleterious effects of this disease on the central nervous system (MELO, et al, 2019). It should also be noted that no studies were found that prove the greater tendency for cognitive decline in dialysis men compared to women when compared only on the gender parameter. The "Quality of Social Interaction" domain, assessed by the KDQOL-SF™ 1.3 questionnaire, on the other hand, had a higher score for female patients (55.7) with a statistically significant difference between the sexes ($p = 0.0039$). This result reaffirms what was presented in the study by Fukushima, et al (2016), which indicates a better quality of life in the female population in this dimension. Finally, regarding the "Symptoms and Problems" domain, it is common for patients undergoing hemodialysis to present complaints, such as tiredness, malaise, fatigue, weakness and nausea, a situation that makes it difficult to carry out daily activities, and also observe the physical limitations related to walking, running and climbing stairs (SILVA, 2016). In the present study, these symptoms and problems were more evident in men, being statistically significant when compared to women ($p = 0.0029$).

Final Considerations

In this study, it was observed that the prevalent sex was male, aged 50-69 years, low education, married and treatment time from 1 to 3 years. It was found that the health-related quality of life of the individuals studied in this study is impaired in several aspects assessed by KDQOL-SF™ 1.3, since people with chronic diseases are very complex in their physical and emotional aspects. It should be added that, in relation to the application of the questionnaires, many interviewees reported difficulties in understanding the questions, and it is sometimes necessary to modify the language to facilitate understanding. However, several studies demonstrate that KDQOL-SF™ 1.3 is an efficient instrument to assess the quality of life of chronic kidney disease, which was also observed in this study. Thus, the use of this questionnaire in the routine of hemodialysis centers favors the perception of the health team about patients, enabling a better approach to them, as well as the use of assertive behaviors, corroborating to improve the quality of life of these individuals and their better coping with this disease.

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