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Health-related quality of life level according to length of treatment in hemodialysis patients / Nivel de calidad de vida relacionada con la salud según antigüedad de tratamiento en pacientes hemodializados

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ABSTRACT

Chronic kidney disease has become a social health problem due to the increase in the incidence of cases and the physical, mental, social, and economic impact that both the disease and long-term renal replacement therapy have on patients. This situation became apparent in a hemodialysis unit and prompted a description of the level of health-related quality of life (HRQoL) of hemodialysis patients in relation to the length of time they have been undergoing treatment. A quantitative approach was taken with 15 adult patients who agreed to participate in the study. A survey was conducted using the WHOQOL-BREF Quality of Life Scale, which measured the overall average HRQoL and its physical-environmental, psychological, and social domains. The questionnaire was completed with relevant sociodemographic information and was pilot tested on five patients. The overall perception of HRQoL among patients showed no differences between a group of patients with more than three years of treatment and another with less than three years, and patients rated their quality of life as normal but expressed feeling somewhat dissatisfied with their health status. In addition, both groups reported rarely having negative feelings. The physical-environmental condition was perceived as normal, with both groups reflecting a greater influence on pain, while those who had been in treatment longer felt a greater need for treatment and had a better perspective on the meaning of life. The social domain revealed a deficit in leisure and activity in both groups; on the other hand, a better acceptance of physical appearance was noted in patients who had been in treatment longer. In the psychological domain, patients with less time in treatment showed dissatisfaction in most indicators, while those with more time shared a deficient assessment of sexual satisfaction but had a better perception of the conditions of the place where they live and the rest of the psychological domains.

Keywords: Chronic Kidney Disease; Hemodialysis; Health-Related Quality of Life.

RESUMEN

La nefropatía crónica se ha transformado en un problema social de salud por el aumento en la incidencia de casos y el impacto físico, mental, social y económico que generan en los pacientes tanto la enfermedad como el tratamiento sustitutivo renal de larga data. En una Unidad de Hemodiálisis se visibilizó esta situación y motivó a describir cuál es el nivel de Calidad de Vida Relacionada con la Salud (CVRS) de los pacientes hemo dializados con relación a la antigüedad del tratamiento que realizan. El abordaje fue cuantitativo sobre 15 pacientes mayores de edad que aceptaron participar del estudio. Se aplicó la técnica de encuesta utilizando como instrumento la Escala de Calidad de Vida WHOQOL-BREF que relevó la media general de CVRS y sus dominios físico- ambiental, psíquico y social, y se completó el cuestionario con información

socio- demográfica de interés; el cuestionario tuvo una prueba piloto en 5 pacientes. La percepción de CVRS general que tuvieron los pacientes no mostró diferencias entre un grupo de pacientes con más de tres años de tratamiento y otro con menos de tres años y los pacientes calificaron su calidad de vida como normal, pero expresaron sentirse un poco insatisfechos con su calidad de salud. Además, ambos grupos expresaron que raramente tienen sentimientos negativos. La condición físico-ambiental tuvo una perspectiva de normalidad donde ambos grupos reflejaron una mayor influencia del dolor, en tanto los más antiguos sintieron mayor necesidad del tratamiento y tuvieron una mejor perspectiva del sentido de la vida. El dominio social reveló un déficit en el ocio y la actividad en ambos grupos; por su parte, pudo relevarse una mejor aceptación de la apariencia física en los pacientes con mayor antigüedad. En el dominio psicológico, los pacientes con menor antigüedad en el tratamiento mostraron insatisfacción en la mayoría de los indicadores, los más antiguos compartieron una valoración deficitaria en la satisfacción sexual, pero tuvieron una mejor percepción de las condiciones del lugar donde viven y del resto de los dominios psicológicos.

Palabras clave: Enfermedad Renal Crónica; Hemodiálisis; Calidad de Vida Relacionada con la Salud.

INTRODUCTION

In the Nephrology Department of the Reina Sofía University Hospital (HURS) in Córdoba (Spain), Merino-Martínez et al.[1] conducted a study to analyze HRQoL in patients on chronic hemodialysis (CHD) and its relationship with anxiety and depression. To this end, the KDQOL-SF questionnaire for HRQoL and the Goldberg Anxiety and Depression Scale were administered to 122 patients. The results showed a median time on HD of 39,5 months, with females showing an association between time on hemodialysis, associated comorbidity, and poorer quality of life. In the KDQOL, the most affected dimensions were Employment Status, Burden of Kidney Disease, Sexual Function, and Sleep. At the same time, the SF questionnaire showed greater difficulties in Physical Role, General Health, and Physical Function. Anxiety and depression were significantly associated with worse scores in all dimensions of the KDQOL-SF questionnaire. The authors concluded that this decrease in quality of life is related to the likelihood of suffering from anxiety and/or depression.[1,2,3]

A documentary study conducted in Ecuador by Cevallos-Tapia et al.[2] aimed to examine the physical, psychosocial, social, and economic conditions of patients undergoing HD therapy in relation to their quality of life. The results showed a complex variety of factors that affect HRQoL, such as age, gender, educational and socioeconomic level, marital status, associated comorbidity, depression, anxiety, and uncertainty about the future. A paradoxical example in contemporary history has shown cases of patients with terminal illnesses who become motivators of life. In terms of economic factors, some answers lie in social solidarity and government support. The study concludes that the social environment plays a central role in providing psychosocial, physical, and economic support, as reflected in patients' perceptions of quality of life.[4,5,6]

In 2017, Rivera-Vázquez and Rojas investigated the "Self-perception of quality of life in patients with chronic renal failure undergoing hemodialysis" at a general hospital in Ciudad Victoria (Mexico). They conducted a quantitative, descriptive, cross-sectional study to assess quality of life in 60 patients undergoing HD treatment, selected using non-probabilistic sampling

based on availability. The Kidney Disease Quality of Life abbreviated version of the KDQOLTM instrument was used, and the results revealed that 40,79 % of patients perceived their quality of life as low, 31,11 % as high, and 28,10 % as average. The physical domain was found to be the most affected (48,3 %), along with the social domain (41,6 %). In contrast, the psychological domain showed promising results, and patients reported feeling calm because they considered the treatment to improve their lives. The authors conclude that analyzing quality of life holistically allows for the individualization of work dimensions for care actions.[7,8,9]

Capote Leyva et al.[3] conducted a study in Havana (Cuba) to evaluate the influence of quality of life on the morbidity of patients undergoing intermittent periodic HD. It was a descriptive, prospective, analytical, cross-sectional study of 84 patients who had undergone intermittent HD treatment for more than 3 months over a 12-month follow-up period. A quality-of-life questionnaire for patients with kidney disease was used as a data-collection tool to assess variables including age, sex, duration of renal replacement therapy, morbidity index, type of morbidity in HD, and hospital admission index. The results showed a predominance of patients under 60 years of age, male, with a high level of education, with high blood pressure as the leading cause of renal failure, and the most frequent morbidities being chills, low blood pressure, high blood pressure, and complications associated with vascular access. It was concluded that the KDQOL-SFTM version 1.3 questionnaire helped assess HRQoL, consistent with international studies, in which lower scores are associated with higher morbidity and hospitalization. Ponce et al.[4] conducted a study grounded in institutional ethnography as part of a qualitative assessment of care for renal patients on hemodialysis, aiming to identify the challenges, dilemmas, and satisfactions experienced by nursing professionals in the Hemodialysis Unit (HDU) during care. Nine nurses with more than one year of experience were selected through purposive sampling and provided information during semi-structured interviews. The results showed that nurses find three different aspects of care challenging: the complex physical and emotional condition of their patients, the interaction with technology to provide care, and the situation of coping with the suffering and death of patients with whom they have established a professional bond over time. In terms of the dilemmas they face, they expressed having to treat patients who refuse treatment and witnessing the personal and family costs of such treatment, despite the quality of life of some patients.

On the other hand, the primary satisfactions are found in collaborative work, in the provision of sufficient resources in UHD's environmental domain, and in the trust and recognition that come with being assigned to a role with so much autonomy. The authors concluded that, in the face of an irreversible health situation, it is important to improve adherence to treatment and self-care. With a study of this type, nursing professionals will benefit by incorporating new knowledge or updating existing knowledge to improve the level of care in the treatment of this disease, while deepening their understanding of patients' needs and their family environments.[10,11,12]

Thus, the background shows that actions aimed at treating depressive and anxiety symptoms, complications, and low adherence to medication in HD patients (in the context of the importance of psycho-emotional and social support) have a beneficial impact on the patient's perception of HRQoL.

Therefore, a study that improves knowledge about the problem is relevant and of interest to both nursing professionals and patients and their families. On the other hand, professional experience has raised the question of whether the length of treatment can affect perceptions of HRQoL, and the theoretical relevance of this study can help fill this knowledge gap.[13,14,15]

What was the level of health-related quality of life according to treatment duration among hemodialysis patients in a hemodialysis unit in the city of Rosario during December 2022?

Objective

To describe the level of Health-Related Quality of Life according to the length of treatment among hemodialysis patients in a Hemodialysis Unit in the city of Rosario during December 2022.

METHOD

Design

This research used a quantitative approach to measure a phenomenon and represent the resulting quantities using statistical tools. A descriptive study was conducted to expose the level of Health-Related Quality of Life of hemodialysis patients and the domains of HRQoL in relation to treatment duration.

In addition, it was cross-sectional, as it addressed what was happening in this group of patients at a specific point in time in December 2022.

Study area

The high-complexity center where the study was conducted is part of a hospital founded more than 100 years ago to meet the demand for health care from immigrants, for themselves and their descendants. It was built on land donated by Dr. Rafael Calzada. In pursuit of the highest standards of quality and efficiency, it established itself as a benchmark for both healthcare and the training of new professionals.[5]

In 1998, the Rosario Medical Association (AMR) took over its management. It became part of the AMR Network, a healthcare and social network founded in 1932 to defend legitimate medical work. Since the change in management, the hospital has undergone modernization and functional adaptation, incorporating new technologies and quadrupling the number of hospital beds.[6,16,17]

The hospital offers a wide range of specialized medical services, including the Nephrology and Hemodialysis Service, which a German company runs considered a world leader and the largest provider of dialysis services in the country, as well as a manufacturer, distributor, and exporter of related products. This UDH, where this research is proposed to be carried out, has a real capacity of 23 chairs per shift for the treatment and care required by the disease during the hours worked. In addition, it is recognized as a high-complexity center, as its treatment aims to improve each patient's quality of life, and it provides continuous training for all active staff through online courses.[18,19,20]

Care is aimed at patients with chronic kidney disease at various stages and links prevention, early clinical action, replacement therapies, and transplantation, while also developing actions in care for patients at risk of advanced kidney disease.

Population

The population consisted of all HDC patients at the research site who attended during the morning shift, totaling 15. As the study population was small, it was possible to access all patients who underwent dialysis in December 2022.

To participate in the field study, participants had to be over 18 years of age and undergoing HDC during the morning shift.

Exclusion criteria included patients who were unable to complete the questionnaire or did not complete the informed consent form.

Data collection techniques and instruments

The survey technique used the WHOQOL-BREF Quality of Life Scale in its Spanish version, adapted by the Andalusian Health Service and validated for the language by Espinoza et al.[7]. The scale consisted of 26 questions that assessed patients' HRQoL in the physical, environmental, psychological, and social domains. The questionnaire was completed with relevant sociodemographic information, including gender, age, date of initiation of hemodialysis treatment, level of education, employment status, type of financial assistance received, cohabiting family members, and caregiver. The instrument was validated in five patients in November, prior to the study, and it was confirmed that the questions were understood and that the questionnaire could be completed in a few minutes.[21]

Ethical considerations

Written informed consent was requested and obtained from all individuals who completed the instrument. When invited to participate in the research, they were provided with information about the purpose, duration, methodology, and criteria for completing their participation, emphasizing their right to withdraw at any time. To preserve the confidentiality of the information provided, all data that could identify the participant was coded to protect personal data, safeguard their identity, and ensure their anonymity. A clear commitment was made to maintain the confidentiality of the personal data of the project participants, both in the processes of obtaining, processing, and storing the data, and in the subsequent publication of the results.[22]

RESULTS

To begin the description of the sociodemographic characteristics of the patients, there were a total of 15 respondents, the majority of whom were men with an average age of 58,9 years (range: 40-79). Slightly more than half of the respondents were 59 years of age or younger.

	Frecuencia	Porcentaje
Género		
Masculino	10	**66,66**
Femenino	5	33,33
Edad		
59 años o menos	8	**53,33**
60 a 69 años	5	30,00
70 años o más	2	13,33
Estudios		
Primarios	4	26,66
Secundarios	7	**46,66**
Terciarios	3	20,00
Universitario	1	6,66

Figure 1. Sociodemographic characteristics of gender, age, and education of the patients surveyed. Absolute frequencies and percentages

The average age (58,9 years) and the predominance of the age group (59 years or younger) were similar to those found by Capote Leyva et al.[3] but lower than those found by Pretto et al.[8], where 60 years was the predominant age for the start of HD in patients. However, we agree with the authors cited on the predominance of males and medium and high levels of education. More than half of the patients surveyed had completed secondary or tertiary education. Merino-Martínez et al.[1] state that cognitive tools improve quality of life.

For its part, the Argentine Society of Nephrology (SAN) has published that the prevalence of CKD increases with age, with an estimated 25 % of people between 65 and 75 years of age, and half of those over 75 suffering from some degree of renal function impairment, always with a male predominance (151 versus 95 ppm, respectively). The average age of HD admission incidents was 59 years in 2020, which represented a significant decrease compared to previous years, according to several authors, as a result of the mortality of older patients during the pandemic.[9]

	Frecuencia	**Porcentaje**
Situación laboral		
Jubilado/a	8	**53,33**
Pensionado/a	4	26,66
Ama de casa	3	20,00
Activo/a	2	13,33
Recibe ayuda		
No	11	**73,33**
Sí	4	26,66
Convivientes		
Cónyuge	8	**53,33**
Familia	3	20,00
Madre o hermano	2	13,33
Solo	2	13,33

Figure 2. Sociodemographic characteristics, employment status, financial assistance, and cohabitants of the patients surveyed. Absolute frequencies and percentages

Continuing the description of the patients' sociodemographic characteristics, slightly more than half are retired. Four patients (27 %) receive additional government assistance in the form of pensions: three are discretionary, and one is for disability. Most patients have emotional support from family members, and the two patients who live alone seek assistance from third parties.

These results confirm the general estimates of a predominance of HD patients living with a spouse or family and who are retired or receiving a pension.[8]

The start dates of treatment ranged from November 2015 to December 2022, spanning 7

years and 2 months (86 months). Thus, there were 8 HD patients between 2015 and 2019 with a treatment duration of 40-86 months (more than 3 years), and seven patients from 2020 to date (December 2022) with a duration of 1-32 months (less than 3 years). To compare the two groups, they will be referred to as long-term patients and short-term patients, respectively.

	Fecha de inicio HD	Meses de antigüedad en HD
Paciente 1	nov-15	86
Paciente 2	sep-16	76
Paciente 3	may-18	56
Paciente 4	jul-18	54
Paciente 5	nov-18	50
Paciente 6	dic-18	49
Paciente 7	jul-19	42
Paciente 8	sep-19	40
Paciente 9	may-20	32
Paciente 10	jul-20	30
Paciente 11	jun-21	19
Paciente 12	oct-22	3
Paciente 13	dic-22	1
Paciente 14	dic-22	1
Paciente 15	dic-22	1

Figure 3. Date of initiation of HD and duration of treatment in the patients surveyed

To determine the HRQoL level and its domains, responses were scored on a Likert scale, summed, and averaged across surveys to obtain the average response category for each indicator.

	Más antiguos	Menos antiguos
Califique su calidad de vida	normal	normal
Satisfacción con su salud	un poco insatisfecho/a	un poco insatisfecho/a

Figure 4. Level of HRQoL perceived by patients according to length of treatment

Regarding HRQoL, patients' quality-of-life ratings showed no difference between groups and were intermediate on the scale (standard). These results are better than those published in Rivera-Vázquez et al.[10], which describe low quality of life in 41 % of the cases studied, or in Pretto et al.[8], which reached an overall average HRQoL level of 63 % of cases.

In terms of satisfaction with their health, there was no difference between the two groups

of patients, and both reached a lower quality-of-life stage (somewhat dissatisfied). It seems important to contrast these results with the warning from Merino-Martínez et al.[1], who acknowledge the importance of using HRQoL measures but propose that these measurements should be compared with the same indicators applied to the non-HD population to more accurately assess perceptions of quality of life and health.

	Valor total respuestas	Media	Valor Likert
Grupo más antiguo	19	2,37	**raramente**
Grupo menos antiguo	20	2,85	**raramente**

Figure 5. Negative emotions perceived in the last two weeks according to the length of treatment of patients

Regarding emotions over the last two weeks, the average response rating for both groups indicated that they rarely had negative feelings. However, those with shorter treatment durations tended to reach the highest perception category (moderately).

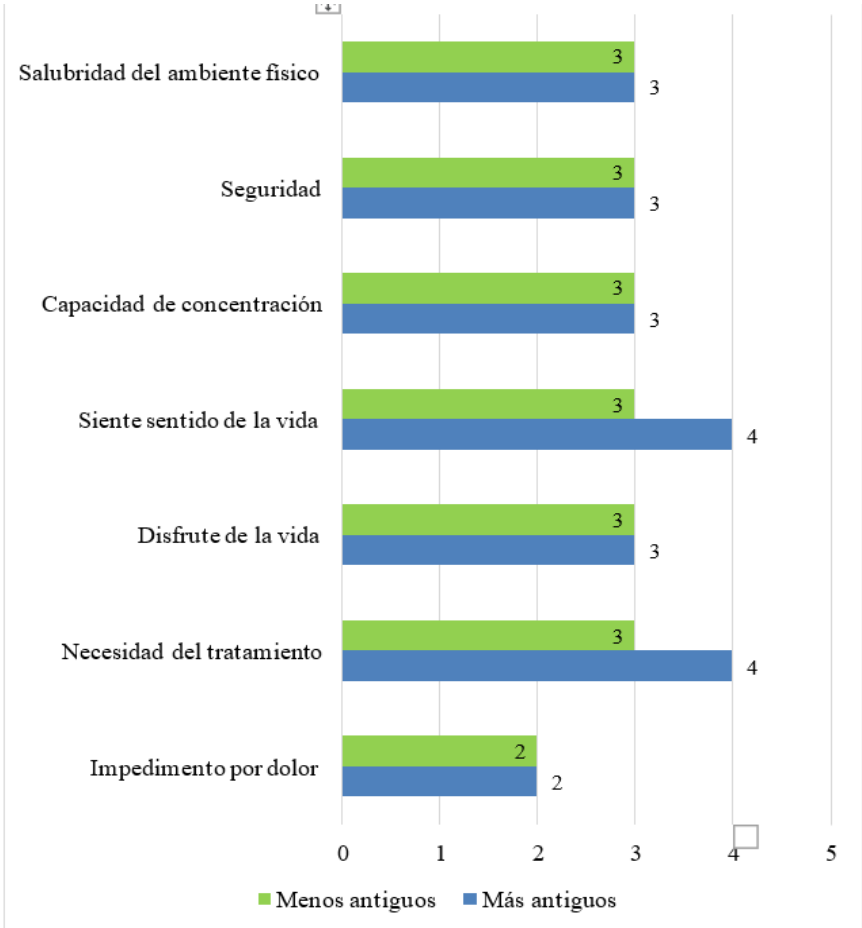

Figure 6. Physical-environmental domain of patients to perform activities in the last two weeks according to length of treatment

Regarding this trend, Pretto et al.[8] warn of the importance of monitoring these types of emotions because they are predictors of depressive symptoms, complications, and low medication adherence. Merino-Martínez et al.[1] agree that psychosocial domains are fundamental and determining variables, where depression is a predictor of HRQoL deterioration.

Regarding their physical-environmental condition over the last two weeks, patients reported that a sense of normality (value 3) predominated in their ability to maintain a healthy environment, ensure safety, concentrate, and enjoy life. Pain represented only a slight (value 2) impediment to performing activities. The oldest patients felt a greater need for treatment, but had a better outlook on the meaning of life (value 4 in both cases).

These results contrast with the findings of Pretto et al.[8] and Merino-Martínez et al.[1], where limitations due to physical problems made the average physical component lower than the other components; or those of Rivera-Vázquez et al.[10], where the physical-environmental domain affected almost half of their study population.

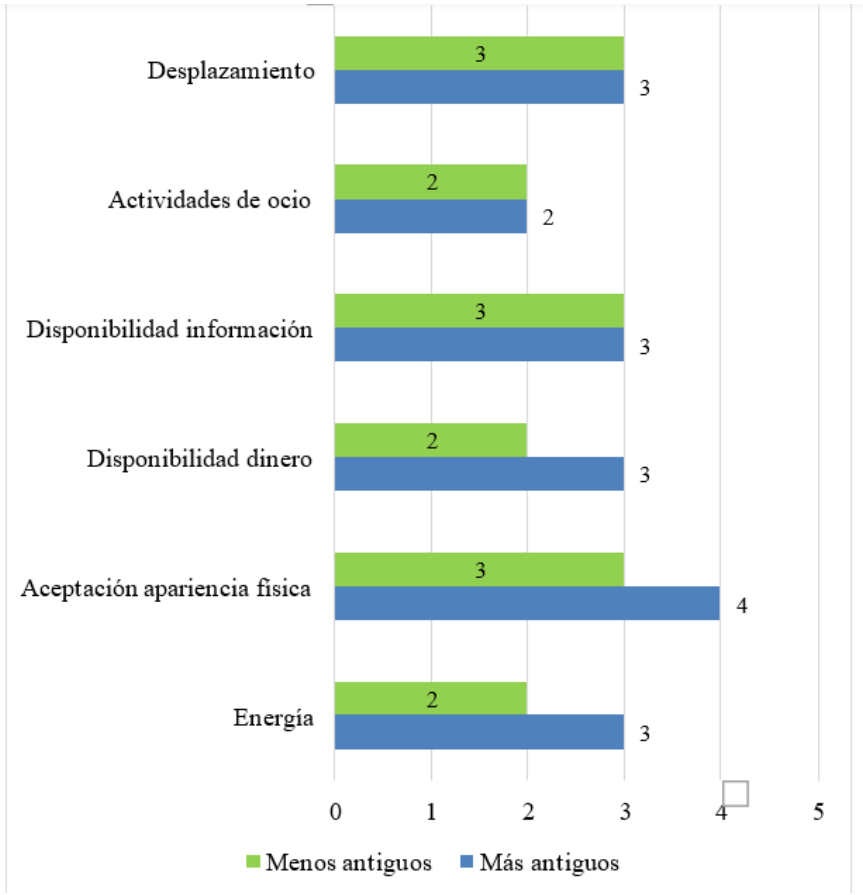

Figure 7. Patients' social domain for performing activities in the last two weeks according to length of treatment

In terms of social functioning, both patient groups were able to engage in only a few leisure activities (value 2). However, their mobility and access to information were at a normal level

(value 3). Patients who had been ill for a shorter period had less money and energy available (a little, value 2) than patients who had been ill for a longer period, who reported normal availability (value 3). Patients who had been ill for an extended period were more accepting of their physical appearance (value 4).

As noted, cognitive tools improved HRQoL, and Merino-Martínez et al.[1] argue that the quality of the patient's social relationships is central in the same way. These cognitive and social factors among patients could explain disparate outcomes, even in very similar clinical and treatment situations. Rivera-Vázquez et al.[10] report that physical deterioration is better tolerated when social skills are developed. Merino-Martínez et al.[1] conclude that the centrality of the social environment in the psycho-emotional, physical, and economic support of HD patients is fundamental to their perception of quality of life and health.

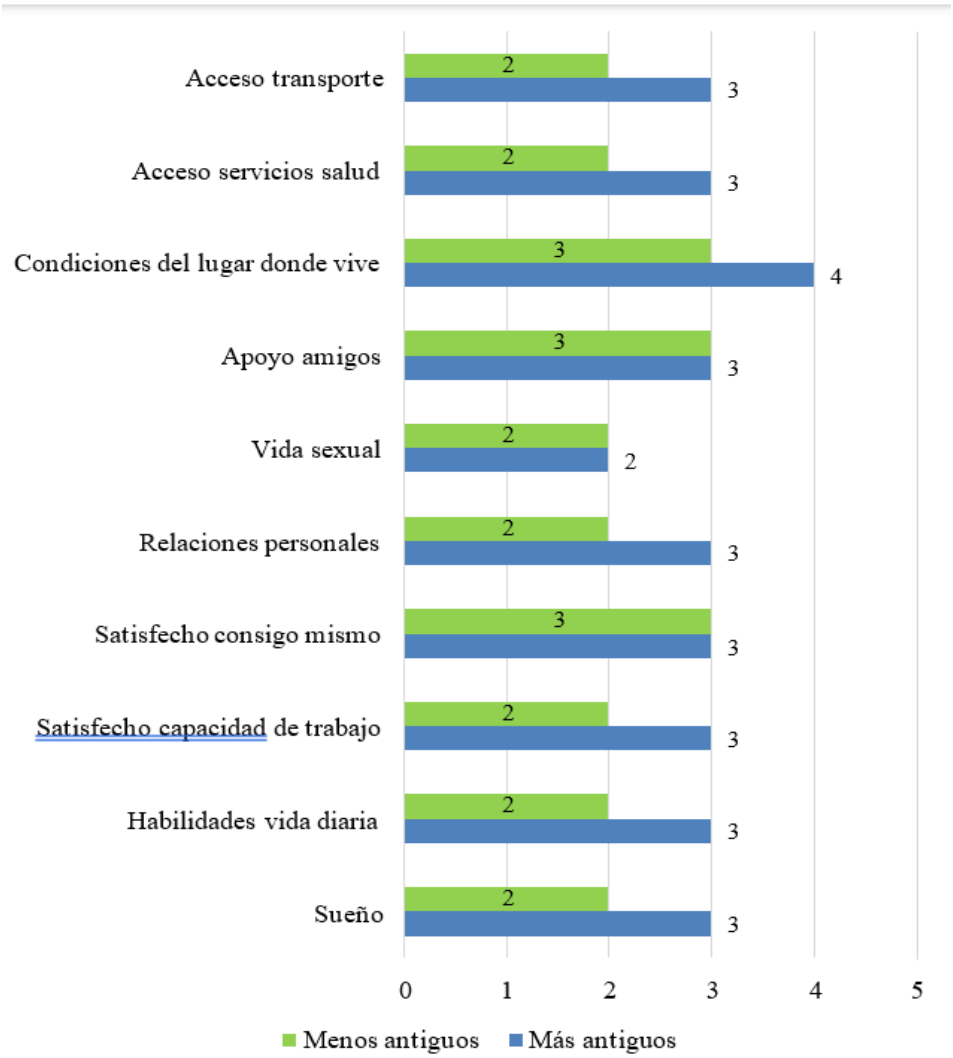

Figure 8. Psychological domain of patients' ability to perform activities in the last two weeks according to length of treatment

Finally, in the psychological domain, once again, those with less experience showed lower levels. Both groups felt somewhat dissatisfied with their sex lives (value 2) and defined the support of friends and satisfaction with themselves as usual (value 3). Patients with longer treatment duration reported access to transportation and health services, personal relationships, and the ability to work and engage in daily life as usual (value 3). On the other hand, patients who had been in treatment for a shorter period of time felt somewhat dissatisfied with these exact psychological domains. Patients who had been in treatment for an extended period also rated their place of residence more highly and reported feeling quite satisfied (value 4).

Partida Ponce et al.[4] believe that the most significant challenge in this type of patient is when both the physical and emotional conditions are complex; sexual function and sleep are often more affected.[1]

CONCLUSIONS

The study population consisted of 15 HD patients who were surveyed. It confirmed national sociodemographic trends: predominance of men aged 59 or younger, with secondary or higher education, living with a spouse or family, and retired or receiving a pension.

The overall HRQoL perception of patients in a hemodialysis unit in the city of Rosario in December 2022 showed no differences between patients with more than 3 years of treatment and those with less than 3 years. Patients rated their quality of life as usual but expressed some dissatisfaction with their health status. In addition, both groups reported rarely having negative feelings.

The physical-environmental condition was considered normal, with both groups showing some influence of pain on daily activities. At the same time, the older patients felt a greater need for treatment and had a better perspective on the meaning of life.

The social domain revealed deficits in leisure and activities in both groups, and in energy and money for daily life among patients who had been in treatment for a shorter period of time. On the other hand, greater acceptance of physical appearance was observed among patients who had been in treatment for an extended period.

In the psychological domain, patients who had been undergoing treatment for a shorter period showed dissatisfaction across most indicators. In comparison, those who had been undergoing treatment for a more extended period of time shared a negative assessment of sexual satisfaction but had a better perception of the conditions of the place where they live.

The data show common perceptions across the two groups with different lengths of hemodialysis treatment, with those who have undergone treatment for more than 3 years showing better psychological and emotional states, physical acceptance, habitat, and sense of life. According to theoretical references, these psychosocial strengths would explain the better results in the physical environmental domain. It may be necessary to allow time during treatment to build and organize both domains.

On the other hand, the deficit in the psychological domain of hemodialysis patients with less seniority should prompt early intervention, given its importance as a predictor of general deterioration and the onset of depressive phenomena. According to other authors' contributions, patients with longer treatment histories may have had.

It is concluded that the data collection technique and the instrument used provided sufficient and comprehensive information to meet the proposed objectives and to gain a better understanding of the patients' perspective.

As a recommendation, the quality of the patient's social relationships includes the social space of HD, so the unit's team attitude is a resource available to patients. The role of nursing includes frequent assessment of functional capacity parameters, which enables nurses, together with the patient, to explore alternatives to meet their needs and improve their HRQoL.

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FINANCING

None.

CONFLICT OF INTEREST

None.

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