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SOCIODEMOGRAPHIC AND CLINICAL PROFILE OF CHRONIC KIDNEY PATIENTS IN HEMODIALYSIS

PERFIL SOCIODEMOGRÁFICO E CLÍNICO DE PACIENTES RENAIS CRÔNICOS EM HEMODIÁLISE

PERFIL SOCIODEMOGRÁFICO Y CLÍNICO DE PACIENTES RENALES CRÓNICOS EN HEMODIÁLISIS

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ABSTRACT

Objective: to characterize patients with chronic kidney disease on hemodialysis regarding sociodemographic and clinical aspects. ***Method:*** this is a quantitative, descriptive and cross-sectional study with 220 patients. The data was collected with a questionnaire analyzing them in the program SPSS and presenting them in tables. ***Results:*** it is revealed that of the 220 participants, 123 (55.9%) were males, with a mean age of 58.9 years; 67% (n = 149) were white; 57.3% (n = 126) lived with a partner; 65.5% (n = 144) had low schooling and 83.7% (n = 184) lived in urban areas. The main cause of the disease was arterial hypertension (27.7%) (n = 61); 64.5% (n = 64.5%) and the movement to the treatment occurred through municipal transportation to 46.3% (n = 102). ***Conclusion:*** by means of knowledge of the sociodemographic and clinical profile of the patients undergoing hemodialysis, for the management of the care, which can subsidize strategies for the prevention of the disease and stimulate adherence to the treatment, besides contributing to the scientific progress in Nephrology. *Descriptors*: Chronic Kidney Disease; Renal Dialysis; Patient Profile; Renal Replacement Therapy; Nursing; Nephrology.

RESUMO

Objetivo: caracterizar os pacientes com doença renal crônica em hemodiálise quanto aos aspectos sociodemográficos e clínicos. *Método*: trata-se de estudo quantitativo, descritivo e transversal, realizado com 220 pacientes. Coletaram-se os dados com um questionário analisando-os no programa *SPSS* e os apresentando em tabelas. *Resultados*: revela-se que, dos 220 participantes, 123 (55,9%) eram do sexo masculino, com idade média de 58,9 anos; 67% (n=149) eram brancos; 57,3% (n=126) viviam com companheiro; 65,5% (n=144) tinham baixa escolaridade e 83,7% (n=184) residiam no meio urbano. Registrou-se, como causa principal da doença, a hipertensão arterial 27,7% (n=61); não realizaram tratamento conservador 64,5% (n=64,5%) e o deslocamento para o tratamento ocorria via transporte municipal para 46,3% (n=102). ***Conclusão***: colabora-se, por meio do conhecimento do perfil sociodemográfico e clínico dos pacientes que realizam a hemodiálise, para o gerenciamento do cuidado, que pode subsidiar estratégias para a prevenção da doença e estimular a adesão ao tratamento, além de contribuir para o avanço científico em Nefrologia. *Descritores*: Doença Renal Crônica; Diálise Renal; Perfil dos Pacientes; Terapia Renal Substitutiva; Enfermagem; Nefrologia.

RESUMEN

Objetivo: caracterizar a los pacientes con enfermedad renal crónica en hemodiálisis en cuanto a los aspectos sociodemográficos y clínicos. ***Método:*** se trata de un estudio cuantitativo, descriptivo y transversal, realizado con 220 pacientes. Los datos fueron recolectados con un cuestionario analizándolos en el programa SPSS y presentándolos en tablas. ***Resultados:*** se revela que, de los 220 participantes, 123 (55,9%) eran del sexo masculino, con una edad promedio de 58,9 años; El 67% (n = 149) eran blancos; 57,3% (n = 126) vivían con el compañero; 65,5% (n = 144) tenían baja escolaridad y 83,7% (n = 184) residían en el medio urbano. Se registró, como causa principal de la enfermedad, la hipertensión arterial el 27,7% (n = 61); no realizaron tratamiento conservador 64,5% (n = 64,5%) y el desplazamiento para el tratamiento ocurría vía transporte municipal al 46,3% (n = 102). ***Conclusión:*** se colabora, a través del conocimiento del perfil sociodemográfico y clínico de los pacientes que realizan la hemodiálisis, para el manejo del cuidado, que puede subsidiar estrategias para la prevención de la enfermedad y estimular la adhesión al tratamiento, además de contribuir al avance científico en nefrología. ***Descriptores***: Enfermedad Renal Crónica; Diálisis Renal; Perfil de los Pacientes; Terapia Renal Sustitutiva; Enfermería; Nefrología.

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INTRODUCTION

Chronic Kidney Disease (CKD) is defined as the presence of renal damage or a fall in the glomerular filtration rate, which is an important public health problem, since it has a high incidence of Non-Communicable Chronic Diseases(NCCD).[1]

It is known that the main causes of CKD are Diabetes Mellitus, hypertension, glomerulonephritis, pyelonephritis, recurrent urinary tract infections and nephrotoxic drugs.[2] The diagnosis occurs late, usually, since the first symptoms can take several years to appear. It is thus noticed that people do not immediately perceive the presence of changes that may mean or lead to the loss of renal function and that, with early diagnosis and appropriate treatment, the natural progression and some complications of the disease could be avoided.[3]

Diagnostic confirmation of CKD is performed when the glomerular filtration rate reaches the threshold which is usually 15 ml/min.[1] Among the available treatments, hemodialysis is indicated in advanced cases, which consists of extracorporeal circulation, when the blood penetrates into an artificial semipermeable membrane and an electrolytic solution promotes the filtration of the toxins present in the blood circulation by concentration difference and loss of fluid by pressure exerted on the extracorporeal system.[1] Hemodialysis is included in the modality of Renal Replacement Therapy (RRT), considered of high complexity, which partially replaces the function of the kidneys and enables the patient to have a better quality of life.[4]

It is recorded that, according to the Brazilian Institute of Geography and Statistics (IBGE), more than two million people need RRT and, in Brazil, this number is more than 200,000, and patients, in most cases, they are diagnosed late.[5] It is also estimated that in the country, an annual increase of 35 thousand people with the need to perform dialysis.[5]

When considering this reality, the high number of patients with CKD who require dialysis treatment can be seen, and the need to provide adequate assistance to this contingent is evident. It is important to carry out studies that seek to describe the characteristics of patients with CKD undergoing hemodialysis, treated at the health services, as a strategy to know their specific needs and, also, a resource to identify risk groups, predisposing factors of the pathology and to subsidize the use of appropriate therapies to retard its progression, which may contribute to the reduction of patients' suffering and associated financial costs.

OBJECTIVE

- To characterize patients with chronic renal disease on hemodialysis regarding sociodemographic and clinical aspects.

METHOD

This is a quantitative, descriptive and cross-sectional study carried out at Clínica Renal de Santa Maria Ltda, the largest in the State of Rio Grande do Sul, with two units located in the municipality where patients are treated by the Unified Health System (UHS) and by several private health plans. In the clinic, in addition to hemodialysis, treatment by means of Automated Peritoneal Dialysis (APD).

The sample was selected by the non-probabilistic method or by convenience composing it by 220 patients with CKD in hemodialysis treatment. The following inclusion criteria were listed: 18 years of age or older and undergoing hemodialysis due to CKD. As an exclusion criterion, the patient was defined as presenting self and allopathic alterations that prevented him from responding to the questionnaire. The study population was therefore composed of 290 patients who were being treated in the period from May to September 2016, two were excluded because they were not 18 years old, 29 because they had cognitive alterations, 17 because they were being treated for non-causes and 22 who refused to participate in the study and, therefore, the sample corresponded to 75.86% of patients on hemodialysis during the stipulated period.

A sociodemographic and clinical questionnaire filled out from information obtained in the medical records or from the patients was used as an instrument to obtain data, through an interview conducted by three trained collectors during the hemodialysis session. The data were then organized and inserted in a spreadsheet in the Microsoft Excel program (Office 2016) by means of independent double-digit typing. Data was transferred and analyzed, after the conference of inconsistencies in typing, in the Statistical Package for Social Sciences (SPSS), version 2.1. The variables were analyzed by means of absolute (n) and relative (%) frequencies presented in the form of tables.

This study was based on the ethical aspects set forth in Resolution 466/2012 of

the National Health Council[6], approved by the Research Ethics Committee of the Federal University of Santa Maria (REC/UFSM) under opinion No. 1,610,996. In this sense, the prior authorization of the institution where the study was developed, as well as the signing of the Informed Consent Form to the participants.

RESULTS

It was possible to know the profile of patients with CKD in hemodialysis treatment seen at the Renal Clinic of Santa Maria, identifying aspects of clinical and social reality. The following table shows the socioeconomic and demographic characterization of the patients participating in the study.

Table 1. Socioeconomic and demographic characteristics of CKD patients on hemodialysis. Santa Maria, (RS), Brazil, 2017.

Socioeconomic and demographic variables	n	%
Age		
Less than 40 years	24	11.0
40 |--- 49 years	29	13.2
50|--- 59 years	52	23.6
60 |--- 69 years	55	25.0
More than 70 years	59	26.8
Not informed	1	0.4
Sex		
Male	123	55.9
Female	97	44.1
Color		
White	149	67.8
Brown	36	16.4
Black	30	13.6
Other	3	1.4
Not informed	2	0.8
Marital status		
With partner	126	57.3
Without partner	93	42.3
Not informed	1	0.4
Education*		
Illiterate	15	6.8
IES + CES+IHS	129	58.7
CHS+IHE	50	22.7
Complete Higher Education	25	11.4
Not informed	1	0.4
Type of residence		
Urban	184	83.7
Rural	30	13.6
Not informed	6	2.7
Currently works		
No	198	90.0
Yes	18	8.2
Not informed	4	1.8
Family income		
1 |--- 3 Minimum wages	102	46.4
3 |--- 5 Minimum wages	50	22.7
More than 5 Minimum wages	68	30.9
How many people depend on family income		
1	25	11.4
2	74	33.6
3	60	27.3
More than four	61	27.7
TOTAL	**220**	**100,0**

*Caption: IES + CES+IHS: Incomplete Elementary School + Complete Elementary School + Incomplete High School. CHS+IHE: Completed High School + Incomplete Higher Education.

Among the 220 participants in the study, 123 (55.9%) were male, with a representative age of 70 years or more (59; 26.8%), followed by people who had 60 69 years old (55; 25.0%), with a mean age of 58.9 years. It was pointed out from the data that 126 (57.3%) participants have a partner, that is, they have a stable relationship, while 93 (42.3%) have no partner. It was also observed the predominance of white color (149; 67.8%), followed by brown (36; 16,4%) and black (30; 13,6%); and, the majority of the participants

(144, 65.4%) had less than high school education and 50 (22.7%) had incomplete higher education.

It was also evidenced that 101 participants (45.9%) had up to two children followed by 79 (35.9%) who had three or more children, with a mean number of children of 2.33. The urban area was referred to as the place of residence of 184 (83.7%) patients and, on the monthly income, 102 (46.4%) received from one to three MW and 68 (30.9%) more than five MW, with the average income being 3.6 minimum wages.

The number of people dependent on family income was found to be two people for 74 (33.6%) participants followed by more than four people dependent on income for 61 (27.7%) people, with the mean number of people who depend on income of 2.8. The number of people residing in the same house as the patient was found to be 70 (31.8%) with four or more people in the residence and the average number of residents in the house with the patient was 2,9 people. It was answered, on the labor activity, that 198 (90.0%) members of the research were not working at the moment of data collection.

In this sense, 201 (91.4%) answered that they come from the municipality of Santa Maria / RS or from surrounding municipalities. A total of 102 patients (46.3%) were discharged to the renal clinic, 55 (25%) used their own car with or without a driver, and 26 (11.8%) reported using transport urban collective.

Data on the clinical characterization of patients with CKD who undergo hemodialysis treatment are shown in Table 2.

Table 2. Clinical characteristics of patients with CKD regarding the time of diagnosis, the cause of CKD and associated diseases. Santa Maria, (RS), Brazil, 2017,

Clinical variables	n	%
CKD diagnostic time		
Less than a year	13	5.9
1 |--- 3 years	44	20.0
3 |--- 5 years	32	14.5
More than 5 years	124	56.4
Not informed	7	3.2
Cause of CKD		
Arterial hypertension	61	27.7
Arterial hypertension + Diabetes Mellitus	44	20.0
Diabetes Mellitus	24	10.9
Chronic pyelonephritis	10	4.5
Polycystic kidneys	8	3.6
Lupus	7	3.2
Medication	7	3.2
Hereditary/genetic	5	2.3
Kidney stone	5	2.3
Others	15	6.8
Not informed	34	15.5
Associated diseases/comorbidities		
Cardiovascular diseases	53	24.1
Cardiovascular + metabolic diseases	49	22.3
Metabolic diseases	20	9.1
Blood diseases	17	7.7
Others	9	4.1
Not informed	72	32.7
Total	**220**	**100**

Based on the results obtained, the prevalence of the diagnosis was greater than five years (124; 56.4%), followed by those diagnosed three years ago (44; 20%), with the mean time of diagnosis of 9.9 years. The main causes of CKD are identified as hypertension (61, 27.7%), hypertension associated with Diabetes Mellitus (44; 20%) and Diabetes Mellitus (24; 10.9%). Cardiovascular diseases with the highest incidence (53; 24.1%) were the most frequently mentioned, and among them, the most frequently cited were systemic arterial hypertension (SAH), congestive heart failure (CHF) and acute myocardial infarction (AMI).

Table 3 refers to the characteristics of the participants regarding the accomplishment of hemodialysis treatment.

Table 3. Characteristics of the CKD patients regarding the hemodialysis treatment performed. Santa Maria, (RS), Brazil, 2017.

Variables	N	%
Vascular access for hemodialysis		
Arteriovenous Fistula	193	87.7
Catheter	17	7.7
Prosthesis	2	0.9
Arteriovenous Fistula + Catheter	3	1.4
Not informed	5	2.3
Hemodialysis time		
Less than a year	43	19.5
1 |--- 3 years	54	24.5
3 |--- 5 years	40	18.2
More than 5 years	81	36.9
Not informed	2	0.9
Complications during hemodialysis		
No	111	50.5
Yes	109	49.5
He had conservative treatment		
No	142	64.5
Yes	60	27.3
Not informed	18	8.2
Total	**220**	**100**

The presence of arteriovenous fistula (AVF) as vascular access for hemodialysis was mentioned by the majority of the participants (193; 87.7%). It was reported that 81 (36.9%) performed this modality of treatment for more than five years followed by those who did one of three years ago (54; 24.5%), with an average of time of hemodialysis of 5.8 years. Complications during hemodialysis include 111 (50.5%) participants who reported having no complications and 109 (49.5%) reported having complications such as hypotension, cramps, hypoglycemia and tremors. It was also found that 142 (64.5%) did not undergo conservative treatment for CKD prior to the start of hemodialysis.

DISCUSSION

It is noted, when considering the data presented in table 1, about the sociodemographic characteristics of the studied population, that 55.9% (123) were male, a result that is similar to the information from the Brazilian Society of Nephrology's census of 2016 (BSN) [7] and study [8] in which there is a higher incidence of male patients with CKD and in dialysis programs. One can associate this result with the fact that men tend to diagnose chronic diseases in more advanced stages, as they tend not to adhere to preventive and routine care measures, often due to possible beliefs and values of what is to be masculine.[9] From this perspective, it can contribute to the disease being perceived as a sign of fragility, which is opposed to masculinity, making it difficult for men to recognize the presence of some health problem.[9]

From this perspective, it can contribute to the disease being perceived as a sign of fragility, which is opposed to masculinity, making it difficult to recognize the presence of some health problem.[9] In the case of CKD, the diagnosis is delayed, as a demand, for the initiation of renal replacement therapy as immediate therapy through decisions based on perceptions of this nature and associated with the lifestyle that favors the onset of the disease.

In relation to the age group, it can be observed that the data from the BSN's 2016 census indicate the prevalence of adults aged 45 to 64 years in hemodialysis treatment[7], which differs from that found in this study, since 26.8% (n = 59) reported being 70 or older. When considering the participants who are over 60 years old, a percentage of 51.8% is obtained, which represents more than half of the study population aged 60 years and over.

Results were found in a study[8], which sought to trace nutritional and epidemiological aspects of chronic renal patients submitted to hemodialysis treatment in Brazil, pointing out that the profile of patients has been presenting a high age group. Considering that there is a significant increase in chronic diseases, especially CKD, associated with the high age groups of this population and the longevity of the Brazilian and world population, the available treatments are proving to be more effective and able to offer quality patients. In this perspective, we highlight one of the data mentioned by BSN[7] showing that the current survival rate of hemodialysis patients is around 80%.

It should be noted that the prevalence of patients undergoing hemodialysis and having a partner, as evidenced in this study, was also found in another study, [7] probably because it is the most frequent marital status of people in the most advanced age groups.[8] This fact becomes relevant, considering that patients with a diagnosis of CKD need treatment, often prolonged, that tends to become exhausting for those who live it. It is believed, therefore, that counting on the presence of a partner can represent a source of support, emotional support and be a facilitating agent for coping with the disease and adherence to treatment.

The characteristics of the resident population in the region studied in Rio Grande do Sul are determined by the prevalence of white color, referred by the majority of the study participants, in which the descendants of European colonizers stand out. It is recalled, however, that international epidemiological data must be considered, indicating high rates of CKD in Afro-descendants.[10]

The low level of education of patients on hemodialysis was also detected in a study carried out with this population, [11] which reinforces the relationship between the level of education and certain diseases such as Diabetes Mellitus and CKD. It is believed that, in addition to this aspect, low level of education brings to the fore a population that presents restrictions on the possibility of access and understanding of information about illness and treatment.[11]

The socioeconomic condition was considered in relation to the family income, the number of people that depend on the income and the number of people residing in the household, and the results indicate that the profile of the participants of this study falls into low economic classes. It can be verified, therefore, that the reduction in per capita family income may be associated with the risk of developing CKD, since lifestyle, eating habits and cultural variables can be factors triggering the disease, [12] besides conferring, to these people, a condition of vulnerability and possible impairment of the quality of life.

It is related to the difficulty of developing compensated activities, mainly, the advanced age of the majority of people with CKD on hemodialysis, the low functional capacity and the long time spent for the treatment.[13] It was also pointed out, from this perspective, by the data brought by the IBGE, in 2015, a significant drop in the current occupancy rate and occupancy rates by sex.[14]

It is frequent, although there is a predominance of patients residing in urban contexts, due to illness and the need for treatment in specialized centers, the migration of people residing in rural areas to cities because, because they are geographically distant , seek to facilitate the reach of health services as in the case of hemodialysis.[15] In this circumstance, significant structural and personal changes are generated for the individual and also for his family.

In this direction, we confirm the findings of another study[16] that identified that a large proportion of the patients undergoing hemodialysis depend on the resources of their municipalities, that is, from the municipal transport to carry out the journey to the renal clinic. For this reason, the high dependence of the patients in relation to the transportation offered by the city hall of origin, which, often, is characterized by long and exhausting journeys, factors that may act negatively on the quality of life of the patients.[16]

The results identified in this study are data from the 2016 census of BSN[7], highlighting that the main underlying diagnosis of dialysis patients is hypertension followed by Diabetes Mellitus. Similar causes have also been found in studies[16-17] conducted in João Pessoa/PB and São Paulo, which report arterial hypertension and Diabetes Mellitus as the most frequent comorbidities associated with CKD.

It is recommended, for hemodialysis, that access to the patient's circulation is necessary and can be obtained in three different ways: by making the arteriovenous fistula (AVF), by the catheter implant or by the prosthesis.[18] The AVF is indicated for patients who will undergo hemodialysis for a long period. The AVF is made by a small surgery that aims to make the vein thicker and stronger, which leads to the appearance of a thrill. It is advised that the AVF should ideally be made two to three months before the pre-dialysis treatment.[7]

It is added that the double lumen catheter can be tunable, that is, considered long-stay access since it has cuff and barrier device, not tunable, classified as a short-stay device, being one of the main alternatives in clinical practice, in the national scenario, a frequency of 9.4%, however, it is related to higher rates of infection, hospitalization and morbidity and mortality of patients in therapy.[19]

Significant increase in the use of long-stay devices compared to previous years was observed in the context of the BSN's 2016 census, which consolidates the evolution of

equipment and hemodialysis treatment. It was also demonstrated by the data from the same census, the tendency of the decrease of the use of temporary device or prosthesis for the accomplishment of hemodialysis.[7]

It is reported that the results found in this study are similar to those of the research[20] which identified hypoglycaemia, hypotension, cramps, headache, nausea, vomiting, hypertension, among the main complications presented during hemodialysis sessions, lower limb pain and low back pain. Thus, despite technological advances in hemodialysis treatment in recent years, which allows this procedure to be safe and able to maintain the patient's life for a long time, in 30% of hemodialysis, it can happen complications during the session.

It is described that it was not possible to implement pre-dialysis or conservative treatment in the majority of the participants, considering the stage of the disease at the time of diagnosis. A similar situation was also found in a study[16] that identified that 60% of patients with CKD had only been followed by a nephrologist immediately or only one month before the first hemodialysis session. For this reason, the pre-dialytic treatment is not feasible since the disease is advanced and in stages that do not exempt hemodialytic therapy.[16] Based on this, it can be seen that there is a significant deficit of health care regarding access and clinical follow-up for conservative treatment.

This is a reality in the late diagnosis of CKD, contributing to the progression of the disease. It was observed that in a study[21] that sought to compare patients in follow-up with nephrologist for less than six months before the beginning of dialysis treatment with the others, that the group with early referral had better metabolic control, shorter hospital stay and a higher percentage of cases with permanent vascular access at the start of dialysis. In addition, there was a higher survival rate of patients referred early to the nephrologist in the short and long term. It is inferred, therefore, that the higher morbidity and mortality appear to be related to the worse clinical and metabolic conditions that patients referred late presented at the beginning of hemodialysis.[22]

CONCLUSION

From the obtained results, it was possible to know the profile of the people who undergo hemodialysis in Santa Maria, RS, that is, patients predominantly male, elderly, white, with a partner, with a lower level of education, with two children, living in urban areas, with an average monthly income of 3.6 minimum wages of which 2.9 people are dependent and who are not currently working. The average diagnosis time of 9.9 years and the time of hemodialysis of 5.8 years were verified, being that the arterial hypertension and the Diabetes Mellitus were the main causes of the chronic kidney disease and the majority did not carry out conservative treatment. It was inferred that the cardiovascular and metabolic diseases were the associated diseases and / or comorbidities presented and the arteriovenous fistula constitutes the vascular access most used for the accomplishment of hemodialysis.

In this sense, the relevance of studies that seek to know the characteristics of the patients that perform hemodialytic treatment in the health services is emphasized, considering that this knowledge may subsidize actions for the planning of nursing team assistance, contributing to the reduction of the suffering of the patients since having the diagnosis of CKD often involves a long, exhausting and costly treatment. In addition, there are elements that can contribute to direct initiatives in primary health care and health education strategies aimed at reducing risk factors.

As limitations of the study, the incompleteness of the records in the patients' records and the representativeness of the results, which reflect the reality of a specific service where the study was developed.

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