



DEMOGRAPHIC CHARACTERIZATION OF OLDER ADULTS WITH CHRONIC KIDNEY DISEASE UNDERGOING HEMODIALYSIS TREATMENT

CARACTERIZAÇÃO SOCIODEMOGRÁFICA DE IDOSOS COM DOENÇA RENAL CRÔNICA EM TRATAMENTO HEMODIALÍTICO

CARACTERIZACIÓN DEMOGRÁFICA DE ADULTOS MAYORES CON INSUFICIENCIA RENAL CRÓNICA EN TRATAMIENTO CON HEMODIÁLISIS

Rita de Cássia Helú Mendonça Ribeiro¹, Solange Diná Facundim², Silvana da Silva Cardoso³, Pedro Augusto Facundim⁴, Camilla Christina Rodrigues⁵, Marlene Esteves⁶

ABSTRACT

Objective: to characterize the demographic profile of older adults with chronic kidney disease (CKD) undergoing hemodialysis treatment. **Method:** descriptive, exploratory and quantitative study conducted with 132 older adults from September 2013 to April 2014. **Results:** the median age was 70.8 (+7.5) years and the majority was composed of male individuals (59.09%). The etiologies with greater distribution of kidney disease were diabetes mellitus, systemic arterial hypertension, and diabetes mellitus associated with systemic arterial hypertension. With respect to duration of treatment, it was observed that the majority of the individuals had been undergoing treatment for more than one year (101 patients; 76.52%) and there were 31 patients (23.48%) who had been undergoing treatment for less than one year. The prevalence of smoking among the patients studied was 113 (85.61%) who reported that they were non-smokers, and 19 patients (14.39%) who were still smoking. The prevalence of alcoholism was insignificant. **Conclusion:** based on the results, this study reinforces the importance of conducting studies geared toward patients with CKD who need public healthcare, thus contributing to the economic and social situation in the city and throughout Brazil. **Descriptors:** Epidemiology; Older Adults; Chronic Kidney Disease.

RESUMO

Objetivo: caracterizar o perfil sociodemográfico de idosos com doenças renais crônicas (DRC) submetidos a tratamento hemodialítico. **Método:** estudo descritivo e exploratório de caráter quantitativo realizado com 132 idosos, no período de setembro de 2013 a abril de 2014. **Resultados:** a média de idade foi de 70,8 (+7,5) anos, sendo mais frequente o sexo masculino (59,09%). As etiologias com maior distribuição da insuficiência renal foram diabetes mellitus, hipertensão arterial sistêmica e diabetes mellitus associada à hipertensão arterial sistêmica. Quanto ao tempo de tratamento, observou-se que a maioria dos indivíduos apresentava mais de um ano de tratamento (101 pacientes; 76,52%) e havia 31 pacientes (23,48%) com menos de um ano de tratamento. A prevalência de tabagismo entre os pacientes estudados foi de 113 pacientes (85,61%) que revelaram que não fumavam e 19 pacientes (14,39%) que continuavam fumando. A prevalência de etilismo foi insignificante. **Conclusão:** a partir dos resultados, este estudo reforça a importância da ampliação de trabalhos voltados para os pacientes com DRC que necessitam da assistência pública, contribuindo assim para a situação econômica e social do município e de todo o Brasil. **Descritores:** Epidemiologia; Idosos; Doença Renal Crônica.

RESUMEN

Objetivo: caracterizar el perfil demográfico de adultos mayores con enfermedad renal crónica (ERC) sometidos a tratamiento con hemodiálisis. **Método:** estudio cuantitativo, descriptivo y exploratorio llevado a cabo con 132 adultos mayores entre septiembre de 2013 y abril de 2014. **Resultados:** la edad promedio fue de 70,8 (+7,5) años, siendo el sexo masculino más frecuente (59,09%). Las etiologías con mayor distribución de insuficiencia renal fueron diabetes mellitus, hipertensión arterial sistémica y diabetes mellitus asociada con hipertensión arterial sistémica. En cuanto al tiempo de tratamiento, se observó que la mayoría de los individuos lo venía realizando hacía más de un año (101 pacientes; 76,52%) y hubo 31 pacientes (23,48%) con menos de un año de tratamiento. La prevalencia del tabaquismo entre los pacientes estudiados fue de 113 pacientes (85,61%) que reportaron que no fumaban y 19 pacientes (14,39%) que continuaban fumando. La prevalencia de alcoholismo fue insignificante. **Conclusión:** basado en los resultados, este estudio refuerza la importancia de llevar a cabo trabajos dirigidos a los pacientes con ERC que necesitan asistencia pública, contribuyendo así a la situación económica y social de la ciudad y de todo Brasil. **Descriptores:** Epidemiología; Adultos Mayores; Enfermedad Renal Crónica.

¹PhD, Nurse, Professor at the Department of General Nursing, Graduate Nursing Program, São José do Rio Preto Regional Medical School (FAMERP). São José do Rio Preto, SP, Brazil. E-mail: ricardo.rita@terra.com.br; ²Nurse, Master's degree candidate, Teacher at the Graduate Nursing Program, Master's Nursing Program, Department of General Nursing, São José do Rio Preto Medical School (FAMERP). São José do Rio Preto, SP, Brazil. E-mail: solangedina@famerp.br; ³Nutritionist, Master's degree candidate, Teacher at the Graduate Nursing Program, Master's Program in Nursing, Department of General Nursing, São José do Rio Preto Medical School (FAMERP). São José do Rio Preto, SP, Brazil. E-mail: silvanacardoso@famerp.br; ⁴Undergraduate student, Medical Program, Camilo Castelo Branco University (UNICASTELO), Fernandópolis Campus. São Paulo, SP, Brazil. E-mail: pfacundim@hotmail.com; ⁵Nurse, São José do Rio Preto Medical School Foundation (FUNFARME). São José do Rio Preto, SP, Brazil. E-mail: ca.c.rodrigues@hotmail.com; ⁶Nurse, Master's degree holder in Health Sciences, Teacher at the Department of General Nursing, São José do Rio Preto Medical School (FAMERP). São José do Rio Preto, SP, Brazil. E-mail: marlene@famerp.br

INTRODUCTION

In Brazil, population aging and the increase in life expectancy have certain characteristics arising from the demographic transition in recent decades that have contributed to changes in the profile of morbimortality.¹ According to the data provided by the World Health Organization, Brazil can already be considered structurally aged, since more than 7% of its population is now 60 years old or older.² The difficulties arising from social living conditions, associated with changes caused by the aging process, make older adults more vulnerable to developing chronic diseases from pre-existing diseases, such as: diabetes mellitus (DM); arterial hypertension; chronic glomerulonephritis; vascular disorders; and infections, which lead to risk for other more serious diseases, among which chronic kidney disease (CKD) stands out.^{3,4} CKD is a public health problem, both in developed and developing countries.⁵ Kidney and urinary tract diseases cause approximately 850 thousand deaths each year and quality of life is impaired due to disability in all age groups, representing the twelfth cause of death and the seventeenth cause of disability.⁶

The final stage of CKD occurs when the patients need a renal replacement therapy (RRT) to survive. RRTs available are dialysis (hemodialysis and peritoneal dialysis) and kidney transplant. The prevalence of CKD in the world population increases about 6% per year. In Brazil, 36.3% of patients undergoing treatment for CKD are 60 years old or older.⁸

Therefore, hemodialysis treatment, together with the progression of CKD, causes limitations and damage to the mental, physical, and functional conditions, as well as to the general well-being, social interaction, and patients' satisfaction.⁷ These limitations—primarily physical—increase with age. The growth of the older adult population and the complications arising from CKD cause relevant implications to public health policies, particularly the high cost of patients undergoing RRTs, since 85 to 95% of these therapies are subsidized by the Unified Health System (UHS).^{2,9}

Cost reduction in hospital and institutional healthcare is one of the reasons that makes the permanence of older adults at their homes under the care of their families the most suitable procedure, both in Brazil and in many other countries.^{10,6} Furthermore, the current healthcare perspective proposes that older adults affected by a chronic condition and with disabilities should be cared for in the

home environment, i.e., where they have always lived and become sick.¹¹

Although few older adults are dependent, it is important to highlight the involvement and participation of the families and/or friends in the provision of care to hemodialysis patients, mostly carrying out health education activities. Health professionals should have a participatory approach to address the doubts and fears that surround this disease and its treatment.¹²

OBJECTIVE

- To characterize the demographic profile of older adults with chronic kidney disease undergoing hemodialysis treatment.

METHOD

This is a descriptive, exploratory and quantitative study conducted with older adults cared for at a hemodialysis service of São José do Rio Preto, State of São Paulo, Brazil. This service provides care to patients with CKD of the UHS and other health plans, currently assisting 296 patients distributed on alternate days from Monday to Saturday in the morning, afternoon and evening shifts.

Of this total of assistances, 138 individuals were older adults undergoing hemodialysis, 19 were submitted to continuous ambulatory peritoneal dialysis (CAPD), and 158 were under the age of 60 years. The participant population of the study was composed of older adults aged 60 years or older, diagnosed with CKD, under treatment in the hemodialysis service abovementioned, and of both sexes, totaling 132 older adults. Six older adults were excluded from the study because they exhibited clinical instability and difficulty in understanding. The data were collected between September 2013 and April 2014 through the application of an instrument relating to sociodemographic characteristics, health, and duration of treatment. The information was tabulated, analyzed in Excel®-like spreadsheets, and subsequently transferred to the Statistica 10 software. Non-parametric tests were used due to the high data dispersion. Mann-Whitney test was used to compare two groups and Kruskal-Wallis test was used to compare more groups, all at a significance level of 0.05. Minitab 15 and Statistica 10 were the software programs used.

The present study was conducted with the permission of the clinical management of the Nephrology Service and approval of the Research Ethics Committee of the São José do Rio Preto Medical School (FAMERP), via

Opinion No. 38179, Protocol No. 0355812.5.0000.5414, and complying with the ethical aspects established by Resolution 466/20126 of the National Health Council.¹³ The patients were approached at the clinic during the hemodialysis sessions. Firstly, they were informed about the research and, shortly after, they were asked to sign the informed consent form in case they accepted to participate in the study. After the patients had accepted to participate, a questionnaire was applied to obtain information relating to the purpose of the study.

RESULTS

The results of the present study are based on the assessment of 132 patients who were subjected to the application of an instrument that assesses sociodemographic data of

patients with CKD undergoing hemodialysis treatment. The variables of the sample characterization were collected in order to characterize these patients.

The average age of the patients was 70.80 years with a standard deviation of 7.50 years and median of 69.00 years. There were discrepant values (outliers) that might have influenced the average age distribution of the patients. However, the data did not follow a normal distribution. The minimum age observed was 61.00 years and the maximum 89.00 years. The predominant race was white, followed by mixed race. With respect to the marital status, the majority of the older adults were married, and the minority were widowed, divorced, and single. Mann-Whitney test was used to analyze those data, as illustrated in Table 1.

Table 1. Percentages relating to the variables of the characterization of the patients assessed in the study.

Sample characterization	No,	%
Sex	132	100
Female	54	40.91
Male	78	59.09
Race	132	100
White	77	58.33
Mixed	55	41.67
Marital status	132	100
Married	91	68.94
Single, divorced or widowed	41	31.06

The assessment of place of residence showed that the older adults lived with their families or alone. Regarding the level of education, a third of the older adults reported

that they had not studied. With respect to family income, they had low incomes depending on the social security, as illustrated in Table 2.

Table 2. Distribution of absolute and relative frequencies of the variables: family income; social security status; level of education; and who they lived with (n=132), registered in the Nephrology Service of São José do Rio Preto Base Hospital, SP, Brazil.

Sample characterization	No.	%
Family income	132	100
1 MW	82	62.12
1.5 MW	14	10.61
2 MW	29	21.97
3 MW	7	5.30
Occupation	132	100
Retired	119	90.15
Pensioner	13	9.85
Education	131	100
No education	50	38.17
Primary education	81	61.83
Live with	132	100
Family	126	95.45
Alone	6	4.55

MW = Minimum wage; at that time, the MW was R\$ 810.00.

With respect to the duration of the hemodialysis treatment, longer duration was observed among patients who had been

undergoing treatment for more than one year (Table 3).

Table 3. Distribution of the older adults with CKD

according to the duration of hemodialysis treatment at the Nephrology Service of São José do Rio Preto Base Hospital, SP, Brazil.

Sample characterization	No.	%
Duration of treatment	132	100
Up to one year	31	23.48
More than one year	101	76.52

The assessment of social habits and underlying diseases showed that most patients were not smokers. Regarding alcohol consumption, it was observed that not all of them consumed alcohol. The three underlying

diseases assessed were DM, SAH, and SAH/DM. The majority of the older adults did not perform physical activities; only a small number of them performed some type of physical activity (Table 4).

Table 4. Prevalence of underlying diseases and social habits of the patients assessed in the study at the Nephrology Service of São José do Rio Preto Base Hospital, SP, Brazil.

Sample characterization	No.	%
Smoking	132	100
No	113	85.61
Yes	19	14.39
Alcoholism	132	100
No	131	99.24
Yes	1	0.76
Physical activity	132	100
No	114	86.36
Yes	18	13.64
Underlying disease	132	100
DM	12	9.09
SAH	29	21.97
SAH/DM	91	68.94

DM = diabetes mellitus; SAH = systemic arterial hypertension.

Cronbach's alpha reliability coefficient allows assessing the stability of responses, i.e., the way in which the various items complement each other in the assessment of different aspects of the same scale. It is an indicator of the internal consistency of the data, i.e., it assesses the items individually and also assesses the scale as a whole based on the individual consistency of each item. Usually, there are items that can be dropped in order to increase the internal consistency of the data. Items are dropped when one of them is not clearly understood by respondents, or it is confusing and difficult to understand. Another explanation is the lack of adhesion to the item on the part of the respondents, i.e., that item is not related to what really occurs to the respondents.

DISCUSSION

The present study showed a larger proportion of older adult men (59.09%) being affected by CKD undergoing hemodialysis treatment. This result is in agreement with that found in a study conducted in Joao Pessoa, State of Paraíba,³ which showed a higher frequency of the disease in male individuals (57.03%) in an older adult population. It is also similar to the result found in a study conducted in Ribeirão Preto, State of São Paulo,⁶ with 62 older adults with higher percentage of CKD in male individuals

(65.02%), and the results of a study conducted in Teresina, State of Piauí,¹⁴ with 138 older adult, of which 62.24% were men.

Another study conducted in Brasilia found that being male was one of the risk factors for the development of chronic diseases, influencing the large number of patients with CKD.¹ These results are not in agreement with those found in studies conducted in Campinas and São Carlos, State of São Paulo, in which there was equality with respect to sex among 100 older adults,²⁰ and, in a study performed at the University Center of The Netherlands with 14 older adults, the majority were women.¹⁴ However, regarding the age group, the average age of this population was around 68.3 ± 6.4 years in the first study and 72.6 ± 7.7 in the second study. In the present study, the average was 70.8 ± 7.5 years, thus showing a slight disagreement between the studies.⁸ Considering the age as a risk factor for the development of CKD, studies conducted with older adults in Guarapuava, State of Paraná, showed that the average age in this population was 68.7 with a variation of ± 6.5 years for women and men.⁷

With respect to marital status, the present study found that 68.94% of the older adults were married and lived with their families, thus not agreeing with the data presented by another study in which only 9,7% of the older adults were married.³ However, data from the

Brazilian Institute of Geography and Statistics show that 70% of the older adult population are married or have married in recent years, taking into consideration that older adults with CKD require greater care and support provided by a caregiver or a family member. In the Nephrology Service of São José do Rio Preto Base Hospital, most services are provided to users of the UHS, which may explain the predominance of older adults in this service.¹⁵

Regarding economic data, the findings of the present study (55.8%) coincide with several studies which found that most older adults have low monthly income, which is around a minimum wage per month coming from retirements.^{11,13} It is known that, for self-care, independence is linked to financial resources and survival in order to maintain a proper treatment. This fact is in line with the findings of the present study, indicating that low monthly income can be associated with the low level of education of the population studied. Thereby, the access to health care and education becomes limited. Chronicity of the disease and hemodialysis treatment may cause stress and limit or prevent the performance of daily activities, such as those relating to work and leisure, due to physical and emotional disabilities, which are common in older adults and impair the quality of life.^{16,7}

With respect to the average duration of hemodialysis treatment, the results found in this study—76.52% of patients with more than one year of treatment, and 23.48% with up to one year of treatment—corroborate data obtained in a study conducted in northeastern Brazil, which found an average duration of one to 78 months. This result is in line with the that of other study conducted in two cities of the State of São Paulo, with duration around 26.7 months in older adults undergoing hemodialysis.^{18,10}

The predominant treatment modality found in the present study was hemodialysis (100%). This data is consistent with those found in other studies. One of those studies conducted in the Federal District found that all the 220 patients had undergone hemodialysis. A second study conducted in Jequié, State of Bahia, found that all patients had undergone hemodialysis treatment, and another study conducted in northeastern Brazil with older adults pointed out that most of them (88.3%) had been submitted to hemodialysis.^{1,16,10}

According to the results presented in the present study, CKD progresses as a public health problem mainly due to population aging and underlying diseases. Physical

impairment in older adults with CKD undergoing hemodialysis is smaller in patients with DM than in those with SAH or SAH/DM. In addition, the social function also exhibited significant differences, with lesser quality of social function in patients with SAH/DM.

With respect to the causes of CKD, the results of the present study are in line with those of a study conducted in Itapipoca, State of Ceará, which found that the main causes of CKD had been SAH and DM.¹⁹ Epidemiological studies conducted with a similar population found that the majority of the older adult sample had SAH or DM.^{21,1} Another study that assessed quality of life of patients undergoing hemodialysis found that the majority were older adults, married, with an income of up to one minimum wage; they did not work, had physical limitations, changes in social life, and unsatisfactory quality of life, which corresponds to the findings of the present study.²¹

An article published in the southern region of Brazil found that the decisive cause of CKD was also associated with pre-existing diseases, such as DM and SAH. The leading cause of hospitalization of these patients undergoing hemodialysis was hypertensive crisis and most of them were men and married, and the characterization data were similar to those of the present study.¹⁷ Similar results were found in a study conducted at the University of Groningen, Groningen, The Netherlands, assessing older adults with CKD undergoing hemodialysis treatment, in which the main comorbidities found were cardiovascular diseases including SAH (75%) and DM (13%).²³

Taking into consideration the data found in the various studies and understanding that the primary healthcare level is not able to meet all the demands of the population on its own, the deployment of the "specialized matrix support" for older adults with degenerative chronic diseases at risk of CKD is strongly recommended. At the same time, specialists in nephrology should be included in the teams of basic health units, providing early referral of these patients to specialists and patient-centered healthcare.²⁴ Such proposals could contribute by making access to various resources and healthcare levels easier, thus ensuring healthcare integrality and legitimacy in the north, northeast, southeast, and south of Brazil.

CONCLUSION

This study reinforces the importance of conducting further studies geared toward older adults with CKD who need public healthcare, thereby contributing to the

economic and social situation in the city and throughout Brazil. The differences observed between men and women undergoing hemodialysis treatment are important to identify patients requiring specific healthcare and to improve the therapy, with a view to improving the quality of life of this population.

REFERENCES

1. Ferraz FHRP, Carvalho PRA, Souza RR. Epidemiologia da doença renal crônica terminal no distrito federal: experiência do hospital regional da asa norte. Brasília Med [Internet]. 2010 [cited 2014 Oct 15];47(4):434-8. Available from: www.sbndf.org.br/site/files/nefrolitiase-artigo.pdf
2. Cherchiglia ML, Machado EL, Szuster DAC, Andrade EIG, Acúcio FA, Caiaffa WT, et al. Epidemiological profile of patients on renal replacement therapy in Brazil, 2000-2004. Rev Saúde Públ [Internet]. 2010 [cited 2014 Oct 17];44(4):639-49. Available from: <http://www.scielo.br/pdf/rsp/v44n4/07.pdf>
3. Madeiro AC, Machado PDL, Bonfim IM, Braqueais AR, Lima FET. Adesão de portadores de insuficiência renal crônica ao tratamento de hemodiálise. Acta Paul Enferm [Internet]. 2010 [cited 2014 Oct 18];23(4):546-51. Available from: <http://www.scielo.br/pdf/apv/v23n4/16.pdf>
4. Guedes KD, Guedes HM. Qualidade de vida do paciente portador de insuficiência renal crônica. Cien Saúde [Internet]. 2012 [cited 2014 Oct 22];5(1):48-53. Available from: <http://www.publicationethics.org/>
5. Pilger C, Rampari EM, Waidman MAP, Carreira L. Hemodiálise: seu significado e impacto para a vida do idoso. Esc Anna Nery [Internet]. 2010 [cited 2014 Oct 24];14(4):677-83. Available from: <http://www.scielo.br/pdf/ean/v14n4/v14n4a04.pdf>
6. Mascarenhas CHM, Reis LA, Lyra JE, Peixoto AV, Teles MS. Insuficiência renal crônica: caracterização sociodemográfica e de saúde de pacientes em tratamento hemodialítico no município de Jequié/BA. Espaço saúde [Internet]. 2011 [cited 2014 Oct 26];12(1):30-7. Available from: <http://www.uel.br/revistas/uel/index.php/espacoparasaude/article/view/9234/pdf>
7. Lugon JR. Doença Renal Crônica no Brasil: um problema de saúde pública. J Bras Nefrol [Internet]. 2009 [cited 2014 Oct 28];31(Suppl.1):2-5. Available from: http://www.jbn.org.br/detalhe_suplemento.asp?id=1321
8. Silveira CB, Pantoja IKOR, Silva ARM, Azevedo RN, Sá NB, Turiel MGP, et al. Qualidade de vida de pacientes em hemodiálise em um hospital público de Belém-Pará. J bras nefrol [Internet]. 2010 [cited 2014 Oct 30];32(1):39-44. Available from: <http://www.scielo.br/pdf/jbn/v32n1/v32n1a08.pdf>
9. Lenardt M, Hammerschmidt KSA, Borgh ACS, Vaccari E, Seima MD. O idoso portador de nefropatia diabética eo cuidado de si. Texto-contexto-enfer [Internet]. 2008 [cited 2014 Nov 02];17(2):313-20. Available from: <http://www.redalyc.org/pdf/714/71417213.pdf>
10. Santos AMD, Lucena NMG, Vale AMT. Caracterização sócio-demográfica de idosos com doença renal crônica submetidos a tratamento dialítico em um hospital filantrópico. Rev bras ciên saúde [Internet]. 2011 [cited 2014 Nov 04];14(4):7-12. Available from: <http://periodicos.ufpb.br/ojs/index.php/rbcs/article/view/9971/5680>
11. Kusomoto L, Marques S, Hass VJ, Rodrigues RAP. Adultos e idosos em hemodiálise: avaliação da qualidade de vida relacionada à saúde. Acta Paul Enferm [Internet]. 2008 [cited 2014 Nov 04];21(esp):152-9. Available from : <http://www.scielo.br/pdf/apv/v21nspe/a03v21ns.pdf>
12. Zambonato TK, Thoné FS, Gonçalves LFS. Perfil socioeconômico dos pacientes com doença renal crônica em diálise na região noroeste do Rio Grande do Sul. J bras nefrol [Internet]. 2008 [cited 2014 Nov 06];30(3):192-9. Available from: <file:///C:/Users/hb2blbmed/Downloads/30-03-05.pdf>
13. Takemoto AY, Okubo P, Bedendo J, Carreira L. Avaliação da qualidade de vida em idosos submetidos ao tratamento hemodialítico. Rev Gaúcha Enferm [Internet]. 2011 [cited 2014 Nov 02];32(2):256-62. Available from: <http://seer.ufrgs.br/RevistaGauchaDeEnfermagem/article/view/18553>
14. Ministério da Saúde (BR). Conselho Nacional de Saúde. Resolução 196, de 10 de outubro de 1996: diretrizes e normas regulamentadoras de pesquisa envolvendo seres humanos. Brasília (DF); 1996. Available from: http://conselho.saude.gov.br/resolucoes/reso_96.htm
15. Souza FF. Avaliação da qualidade de vida do idoso em hemodiálise: comparação de dois instrumentos genéricos [dissertation on the

Internet]. Campinas (SP): Departamento de Enfermagem da Universidade Estadual de Campinas, Faculdade de Ciências Médicas; 2004 [cited 2014 Nov 04]. 167p. Available from:

<http://www.bibliotecadigital.unicamp.br/document/?code=vtls000341252>

16. Magalhaes ACL, Coelho GD, Azevedo MA, Lazzari DD, Jung W. Qualidade de vida de pacientes com insuficiência renal crônica da hemodiálise ao transplante renal. J Nurs UFPE on line, [Internet]. 2013 [cited 2014 Nov 08];7(9):5442-52. Available from:

www.revista.ufpe.br/revistaenfermagem/index.php/revista/article/.../7087

17. Piviato DR, Abreu IS. Principais causas de hospitalização de pacientes em hemodiálise no município de Guarapuava, Paraná, Brasil. Rev Gaúcha Enferm [Internet]. 2010 [cited 2014 Nov 08];31(3):515-20. Available from: <http://www.scielo.br/pdf/rgenf/v31n3/v31n3a15.pdf>

18. Siviero P, Rodrigues RN, Machado JN. Doença renal crônica: um agravamento de proporções crescentes na população brasileira [texto para discussão nº467 on the Internet]. Belo Horizonte (MG): Universidade Federal de Minas Gerais; 2013 [cited 2014 Nov 25]. 17p. Available from:

<http://www.cedeplar.ufmg.br/pesquisas/td/TD%20467.pdf>

19. Sampaio RMM, Coelho MO, Pinto FJM, Osteme EPR. Perfil epidemiológico de pacientes nefropatas e as dificuldades no acesso ao tratamento. Rev Bras Promoç Saude [Internet]. 2013 [cited 2014 Nov 26];26(1):95-101. Available from:

<http://ojs.unifor.br/index.php/RBPS/article/viewFile/2635/pdf>

20. Orlandi FS. O idoso renal crônico em hemodiálise: a severidade da doença e sua relação com a qualidade de vida. J. Bras nefrologia [Internet]. 2008 [cited 2014 Nov 26];30(4):245-50. Available from: www.jbn.org.br/audiencia_pdf.asp?aid2=28&nomeArquivo=30-04.

21. Frazão CMFQ, Ramos VP, Lira ALBC. Qualidade de vida de pacientes submetidos a hemodiálise. Rev Enferm UERJ [Internet]. 2011 [cited 2014 Nov 27];19(4):577-82. Available from:

<http://www.facenf.uerj.br/v19n4/v19n4a12.pdf>

22. Santos I, Rocha RPF, Berardinelli LMM. Qualidade de vida de clientes em hemodiálise e necessidades de orientação de enfermagem para o autocuidado. Esc Anna Nery [Internet]. 2011 [cited 2014 Nov 28];15(1):31-8. Available

from:

<http://www.scielo.br/pdf/ean/v15n1/05.pdf>

23. Visser A, Dijkstra GJ, Kuiper D, Jong PE, Franssen CF, Gansevoort RT, et al. Accepting or declining dialysis: Considerations taken into account by elderly patients with end-stage renal diseases. J nephrol [Internet]. 2009 [cited 2014 Nov 28];11(6):794. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/19967659>

24. Pena PFA, Junior AGS, Oliveira PTR, Moreira GAR, Libório AB. Cuidado ao paciente com doença renal crônica no nível primário: pensando a integralidade e o matriciamento. Ciên saude coletiva [Internet]. 2012 [cited 2014 Nov 29];17(11):3135-44. Available from: <http://www.scielo.org/pdf/csc/v17n11/v17n11a28.pdf>

Submission: 2014/08/12

Accepted: 2015/03/17

Publishing: 2015/04/15

Corresponding Address

Solange Diná Facundim
Rua Anísio José Loca, 157
Bairro Maria Cândia
CEP 15020-330 – São José do Rio Preto (SP),
Brazil