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Chronic kidney disease: information on southern brazilian patients with kidney disease

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ABSTRACT. The profile of patients undergoing haemodialysis in the dialysis unit of Hospital Santa Casa de Maringá, Maringá PR Brazil, is provided. A questionnaire on social and economic data and underlying diseases prior to the Chronic Kidney Disease (CKD) identified the patients' profile. The project was approved by the Ethics Committee of the institution. Eighty-three patients, with 54.21% males, were interviewed. Age bracket ranged between 20 and 59 years in 65.06% of patients. Only 27.71% maintained jobs after the diagnosis and the start of treatment; 63.86% had an average personal income between 1 and 3 minimum wages; 63.85% did not practice any physical activity. Moreover, 53.01% belonged to the European-Brazilian white group; 20.48% to the Afro-Brazilian brown group; 19.28% to the Afro-Brazilian Negro group; 6.02% to other ethnic groups. Further, 85.54% patients reported having an underlying disease prior to the CKD, namely, 61.45% were hypertensive; 31.33% were diabetics and 20.48% had other diseases. Results show the need of a greater attention to these patients' health care to reduce the negative impacts related to the chronic disease focused.

Keywords: renal insufficiency, dialysis, public health.

Insuficiência renal crônica: conhecendo o paciente nefropata sulbrasileiro

RESUMO. Este estudo teve como objetivo identificar o perfil dos pacientes em tratamento hemodialítico do setor de diálise do Hospital Santa Casa de Maringá - Paraná, Brasil. Para a identificação do perfil destes pacientes foi utilizado um questionário contendo questões que abrangem dados socioeconômicos e doenças de base anteriores à Insuficiência Renal Crônica (IRC). O projeto foi aprovado pelo Comitê de Ética em Pesquisa da instituição. Entre os 83 pacientes entrevistados, 54,21% eram do sexo masculino. A faixa etária variou de 20 a 59 anos para 65,06% dos pacientes. Somente 27,71% continuaram trabalhando após o diagnóstico e início do tratamento. A renda pessoal média ficou entre um e três salários mínimos para 63,86% dos indivíduos. A atividade física está ausente em 63,85%. Quanto à etnia, foi verificado que 53,01% eram brasileiros descendentes de europeus/brancos, 20,48% brasileiros afrodescendentes/pardos, 19,28% brasileiros afrodescendentes/negros e 6,02% declararam como pertencentes à outras etnias. Entre os pacientes, 85,54% declararam possuir outra doença de base anterior à IRC sendo: 61,45% hipertensão arterial, 31,33% diabetes e 20,48% outras doenças. Estes resultados indicam a necessidade de uma melhor atenção ao cuidado da saúde desses pacientes para a redução dos impactos negativos relacionados à cronicidade da doença.

Palavras-chave: insuficiência renal, diálise, saúde pública.

Introduction

Chronic Kidney Disease (CKD) consists of a renal injury with a subsequent progressive and irreversible loss of kidney function. Since it is a silent disease, CKD signs and symptoms appear only at later stages and its consequences are unknown by most carriers (ROMÃO JUNIOR, 2004). At advanced stages, the kidneys fail to keep the organism's internal homeostasis and the patient requires either dialysis or kidney transplant (RIELLA, 1996; LIMA; GUALDA, 2000).

CKD is currently an important public health problem, with approximately 50,128 patients affected by the disease in 2011 (SBN, 2011). Public expenditure on dialysis and kidney transplant program in Brazil is close to 1.4 billion real a year (ROMÃO JUNIOR, 2004).

Haemodialysis, used by patients suffering from CKD, limits the subject's work capacity since each therapy session lasts approximately 4 hours and has to be performed three times a week by most people. Although in Brazil dialysis treatment is provided free by the Brazilian Health System (SUS), the

subject's limited productive capacity causes a decrease in family income and thus a lessening of the necessary conditions for adherence to treatment and health promotion. In the case of most patients, CKD and haemodialysis represent job loss, decreasing social interaction, changes in their role within the family and conflicts at home, the latter being related to economic issues or because the family considers them a burden (ROMÃO JUNIOR, 2004; LARA; SARQUIS, 2004; RAMOS et al., 2008; MEIRELES et al., 2010).

CKD affects subjects in different age groups of both sexes (BREGMAN, 2006; SBN, 2011) and of different ethnic groups (CASS et al., 2002; FEEHALLY, 2003; ROMÃO JUNIOR, 2004; USRDS, 2009; SALGADO FILHO; BRITO, 2006). Besides genetic factors, certain risk factors, such as hypertension and diabetes, also occur in subjects with CKD (GORDAN, 2006).

The identification of risk factors involved in CKD to understand the disease's origin and to propose measures and health education is essential for the disease's prevention and control (BASTOS et al., 2004).

Since it is a highly relevant disease within the Brazilian social and economic context and due to the high incidence of new cases, current investigation identifies the profile of patients undergoing hemodialysis in the dialysis unit of Hospital Santa Casa de Maringá, Maringá, Paraná State, in southern Brazil.

Material and methods

Current cross-sectional study involves 83 haemodialysis patients treated in the dialysis unit of the Hospital Santa Casa de Maringá, Maringá, Paraná State, southern Brazil. Data were collected by questionnaire, between October 2008 and March 2009, which included open and closed questions for information on gender, age, average monthly personal income, ethnicity, profession, physical activity, and hypertension and diabetes as pre-existing risk factors for CKD. The study was approved (Process 212/2009) by the University's Ethics Committee in Research, according to Resolution 196/1996 of the Brazilian Health Council. The patients were duly informed and those who agreed to participate in the study signed a Term of Consent. Results were organized and analyzed by Excel and Statistics 7.0, respectively.

Results and discussion

Table 1 shows the results of this study. Out of 83 CKD patients, 54.21% were male and 45.78% female. CKD prevalence among males observed in current study is corroborated by the 2011 census by the Brazilian Nephrology Society (SBN, 2011) and also by Bregman's investigation (BREGMAN, 2006). The highest incidence of CKD among males may be associated with several factors that include hormonal factors, chronic obstructive pulmonary disease, uncontrolled blood pressure and blood glucose change (MARCOPITO et al., 2005; ALBAAJ et al., 2006).

With regard to age group, 65.06% of the studied population lay between 20 and 59 years and demonstrated that the disease affected a large number of economically active subjects. Many patients had difficulty keeping or getting jobs due to the time spent in treatment, which included transportation to the clinic and a 4-hour dialysis session per day. This was true for 53.01% of the patients interviewed in current study and who did not live in Maringá (Table 1).

Table 1. Frequency distribution for variable 'age' according to variables 'gender' and 'current residence' of CKD patients.

Age bracket	Gender				Current address			
	Male		Female		Maringá		Other towns	
	N	%	N	%	N	%	N	%
20-29	6	7.23	4	4.82	4	4.82	6	7.22
30-39	5	6.02	0	0	1	1.20	4	4.82
40-49	9	10.84	4	4.82	6	7.22	7	8.43
50-59	12	14.46	14	16.87	13	15.66	13	15.66
60-69	10	12.05	6	7.23	8	9.63	8	9.63
70-79	2	2.41	7	8.43	4	4.81	4	4.81
over 80	1	1.20	3	3.61	3	3.61	2	2.40
Total	45	54.21	38	45.78	39	46.95	44	53.01

Survey showed that 75% of patients had jobs before being diagnosed with CKD. After diagnosis and early haemodialysis treatment, 27.71% kept their jobs (Table 2). Labor activities comprised about 50 different types of professions including salesperson, waiter, farmer, teacher, gardener, laborer, motorcycle courier and others. Some studies have shown that occupational stress is associated with impaired work capacity and consequent decrease in the quality of life in CKD patients (BRENNAN et al., 2008; NERI et al., 2009). Neri et al (2009) reported that in the United States more than 70% of patients with chronic disease quitted their jobs in the first year of haemodialysis. Lara and Sarquis (2004) found that 77% of haemodialysis patients in Brazil were unemployed. Limitation to work activity, a fundamental human activity, affected the subject's life quality.

Average personal income ranged between one and three minimum wages for 63.85% of patients interviewed (Table 2). Gordan (2006) noted that low social and economic status might contributed to CKD onset or worsening in this population. The association between inactivity and low income at this stage of the disease suggested the existence of a

social and economic problem. Lara and Sarquis (2004) found that 77% of their patients were jobless and that this could hinder treatment.

Table 2. Frequency distribution for variable 'average income' according to 'current job' in CKD patients.

Average income	Current Job								Total	
	Retired		Housewife		Other		Unemployed			
	N	%	N	%	N	%	N	%	N	%
< 1	7	8.43	1	1.20	1	1.20	2	2.40	11	13.25
1 to 3	24	28.91	7	8.43	15	18.07	7	8.43	53	63.85
3 to 4	0	0	0	0	0	0	0	0	0	0
4 to 6	5	6.02	0	0	3	3.61	0	0	8	9.64
6 to 7	0	0	0	0	0	0	0	0	0	0
7 to 8	1	1.20	0	0	1	1.20	0	0	2	2.40
> 8	1	1.20	0	0	2	2.40	1	1.20	4	4.81
NA*	2	2.40	1	1.20	1	1.20	1	1.20	5	6.02
Total	40	48.19	9	10.84	23	27.71	11	13.25	83	100

*NA = no answer.

Most patients (63.85%) did not practice any physical activity. Some studies have demonstrated the benefits that physical activity may bring to CKD patients including a decrease in morbidity and mortality rates (STACK et al., 2005) and improvement of the body's physiological response to diseases (CHEEMA et al., 2006).

Brazilian population is one of the most heterogeneous in the world. The Brazilian Institute of Geography and Statistics (IBGE, 2010) classifies Brazilians into five ethnic groups: White, Brown, Black, Yellow and Amerindian. Table 3 shows that CKD was more frequent in the European-Brazilian white group (53.01%), followed by the Afro-Brazilian Brown group (20.48%), Afro-Brazilian Black group (19.28%) and other ethnic groups (6.02%). Some studies conducted in Brazil corroborated current findings and showed that the number of CKD-affected Caucasians was superior to that from other ethnic groups (MARQUES et al., 2005; PACHECO et al., 2006). Studies in the USA showed a higher prevalence of CKD among Afro-American people (USRDS, 2009), whereas CKD prevailed among South-Asians and African-Caribbean (TARVER-CARR et al., 2002; FEEHALLY, 2003) and indigenous populations (CASS et al., 2002) in England and Australia, respectively. The above data showed that CKD affected minority groups and poor populations.

Table 3. Frequency distribution for variable 'ethnicity' (according to Brazilian Institute of Geography and Statistics (BIGS) of patients with CKD.

Ethnicity/skin color	N	%
European-Brazilian white group	44	53.01
Afro-Brazilian Black group	16	19.28
Afro-Brazilian Brown group	17	20.48
Others	5	6.02
NA*	1	1.20
Total	83	100

*NA = no answer.

Moreover, 85.54% of interviewed patients claimed to suffer from diseases other than kidney failure: 61.45% were also affected by hypertension; 31.33% by diabetes and 20.48% reported having various diseases such as anemia, lupus erythematosus, osteoarthritis, parathyroid disease and hepatitis C (Table 4). This result is important because the literature reports that CKD is preceded by several pathologies that act as risk factors (SALGADO FILHO; BRITO, 2006). Some authors have established that diabetes mellitus and hypertension are among the main causes for CKD (RIELLA, 1996). Further, other diseases, such as glomerulopathies, polycystic kidney disease, autoimmune diseases, systemic infections, recurrent urinary infections, several types of obstructive uropathy and neoplasms, may be related to the loss of kidney function (HARRISON, 1995).The detection and early treatment of diabetes mellitus and hypertension tend to prevent or delay renal complications that lead to CKD. Frequent monitoring by a multidisciplinary team, efficient health services and frequent periodic examinations could delay and even prevent CKD onset (BASTOS et al., 2004).

Table 4. Diseases associated to CKD.

Other diseases	N	%
Hypertension	51	61.45
Diabetes	26	31.33
Others	17	20.48

Conclusion

Results indicate that CKD was more frequent among males, affecting individuals between 20 and 59 years of age, and constituted a social problem, since it affected them when they were economically active.

Patients had a high prevalence of other base pathologies, such as diabetes mellitus and hypertension, as risk factors for CKD.

CKD and dialysis caused a series of aggravating factors in patients, hindering physical activities, which are considered important for health maintenance.

Current data suggested discussions on health care and guidance of patients with kidney disease to reduce the negative impacts linked to the disease chronicity.

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