Adults and elderly on hemodialysis evaluation of health related quality of life

Adultos e idosos em hemodiálise: avaliação da qualidade de vida relacionada à saúde

Adultos y ancianos com hemodiálisis: evaluación de la calidad de vida relacionada a la salud

Luciana Kusumoto[1], Sueli Marques[2], Vanderlei José Haas[3], Rosalina Aparecida Paterzani Rodrigues[4]

ABSTRACT

Objectives: To categorize adults and elderly people in hemodialysis treatment residing in Ribeirão Preto, SP, Brazil. To evaluate and describe the differences in the Health-Related Quality of Life (HRQOL)of these patients. **Methods**: Cross-sectional and population study with 194 patients in hemodialysis in four dialyses services in the city. The instruments used were: Mini Exam of Mental State to characterize the population and Kidney Disease and Quality of Life-Short Form (KDQOL-SF™). **Results**: There were 132 adults and 62 elderly individuals in the study. Differences between the two groups' average scores were found with statistical significance in the KDQOL-SF™ dimensions: physical functioning, role-physical, role-emotional, Burden of kidney disease and dialysis staff encouragement. **Conclusion**: Chronic renal failure and hemodialysis are related to the HRQOL of adults and elders. The results can support the health professionals' actions in providing the care to the patients' imminent needs, prevent complications and aim at a better HRQOL.

Keywords: Quality of life; Renal dialysis; Renal insufficiency, chronic; Health of the elderly**;** Aged

RESUMO

Objetivos: Caracterizar os adultos e idosos em hemodiálise residentes em Ribeirão Preto-SP. Avaliar e descrever as diferenças na Qualidade de Vida Relacionada à Saúde (QVRS) desses pacientes. **Métodos**: Estudo seccional e populacional com 194 pacientes em hemodiálise em quatro serviços de diálise do município. Os instrumentos utilizados foram: para caracterização da população, Mini Exame do Estado Mental e Kidney Disease and Quality of Life-Short Form (KDQOL-SF™). **Resultados**: Dos pacientes, 132 eram adultos e 62 idosos. Foram encontradas diferenças entre os escores médios dos dois grupos, com significância estatística nas dimensões do KDQOL-SF™: Funcionamento físico, Função física, emocional, Sobrecarga da doença renal e Estímulo da equipe de diálise. **Conclusão**: A insuficiência renal crônica terminal e a hemodiálise se relacionaram com a QVRS dos adultos e idosos. Os resultados podem subsidiar a atuação dos profissionais da saúde para atender as necessidades iminentes, prevenir complicações, enfim almejar uma melhor QVRS.

Descritores: Qualidade de vida; Diálise renal; Insuficiência renal crônica; Saúde do idoso; Idoso

RESUMEN

Objetivos: Caracterizar a los adultos y ancianos con hemodiálisis residentes en Ribeirão Preto-SP. Evaluar y describir las diferencias en la Calidad de Vida Relacionada a la Salud (CVRS) de esos pacientes. **Métodos**: Estudio seccional y poblacional realizado con 194 pacientes con hemodiálisis en cuatro servicios de diálisis del municipio. Los instrumentos utilizados fueron: para caracterización de la población, Mini Examen del Estado Mental y Kidney Disease and Quality of Life-Short Form (KDQOL-SF™). **Resultados**: Del total de pacientes, 132 eran adultos y 62 ancianos. Se encontraron diferencias entre los escores medios de los dos grupos, con significancia estadística en las dimensiones del KDQOL-SF™: Funcionamiento físico, Función física, emocional, Sobrecarga de la enfermedad renal y Estímulo del equipo de diálisis. **Conclusión**: La insuficiencia renal crónica terminal y la hemodiálisis se relacionaron con la QVRS de los adultos y ancianos. Los resultados pueden brindar subsídios para la actuación de los profesionales de la salud para atender las necesidades iminentes, prevenir complicaciones, en fin desear una mejor CVRS.

Descriptores: Calidad de vida; Diálisis renal; Insuficiencia renal crónica; Salud del anciano; Anciano

[1] PhD, Professor in the Escola de Enfermagem de Ribeirão Preto da Universidade de São Paulo – USP – Ribeirão Preto (SP), Brasil.

[2] PhD, Professor in the Escola de Enfermagem de Ribeirão Preto da Universidade de São Paulo – USP – Ribeirão Preto (SP), Brasil.

[3] Physicist, Professor PRODOC/CAPES Professor in the Escola de Enfermagem de Ribeirão Preto da Universidade de São Paulo – USP – Ribeirão Preto (SP), Brasil.

[4] Full-Professor in the Escola de Enfermagem de Ribeirão Preto da Universidade de São Paulo – USP – Ribeirão Preto (SP), Brasil.

Corresponding Author: **Luciana Kusumota**
Av.: dos Bandeirantes, 3900 - Monte Alegre - Ribeirão Preto - SP
Cep: 14040-902. E-mail: kusumota@eerp.usp.br

Received article **23/08/2075** and accepted **16/10/2007**

INTRODUCTION

The terminal chronic renal insufficiency (TCRI) is a chronic, progressive, debilitating disease that incapacitates and has a high mortality rate. Furthermore, its incidence and prevalence has increased in the worldwide population[1-2]. In Brazil, despite the scarce epidemiologic data regarding TCRI, it is estimated that there are currently 1.2 million people with renal insufficiency[3].

It is a known fact that the population with TCRI has increased over the last years. This has occurred mainly because the general population has aged and there has been an increase in the number of patients with hypertension and diabetes mellitus, which are currently the major causes of TCRI in Brazil[3-4].

Population aging consists of one of the factors that justify the growing number of patients in dialysis treatment over the last years. The increase in people's life expectancy and the advancement in treatments has determined a tendency for continuous increase in the number of aged individuals with TCRI, starting dialysis. In Brazil, in 1999, 26% of patients on dialysis were 60 years old or more[5].

TCRI is the result of a compromised renal function, which causes multiple signs and symptoms resulting from the renal incapacity to maintain the body's internal homeostasis[3]. The occurrence and intensity of TCRI signs and symptoms depend on the degree of renal compromising and other underlying conditions, like the presence of other chronic diseases and/or reduction in the renal function due to anatomic and physiological changes, characteristic of aging [6-7].

The forms of TCRI treatment available, to partially replace renal functions are: dialysis, which is subdivided in hemodialysis and peritoneal dialysis, and renal transplant. These treatments maintain one's life, but do not cure TCRI[6].

Hemodialysis is the most common dialysis treatment nowadays[3]. It consists of the dialysis done by a machine that filters one's blood outside the body. The prescribed treatment is an average of three sessions per week, with three to five hours per session, depending on individual needs[6].

The TCRI progression and treatment by hemodialysis imply restrictions and harms to patients' physical, mental, and functional health conditions, as well as to their general well-being, social interaction, and satisfaction[8-9]. The limitations of patients on hemodialysis, mainly physical, tend to increase with age, since the elderly have the fragility due to the process of aging and are more prone to the occurrence of multiple comorbidities[8-10].

The patients' affected live aspects have been studied using the quality of life (QOL) assessment. As for the aspects associated with diseases and/or treatments, these have been studied by measuring the Health-Related Quality of Life (HRQOL)[8-10]. Studying the HRQOL is an attempt to quantify, in scientific quantifiable terms, the consequence brought by diseases and treatments, according to the patients' subjective perception[10]. In addition, the HRQOL makes it possible to approach patients with TCRI about the relevant dimensions that may be compromised and can also direct specific actions in the care delivered to these patients[10]. There are several instruments that assess HRQOL, including the Kidney Disease and Quality of Life Short-Form (KDQOL-SF™), which is probably the most complete questionnaire available in Brazil to asses the HRQOL of patients with TCRI on dialysis[11].

The KDQOL-SF™ is an instrument that include the MOS 36 Item Short-Form Health Survey (SF36) as a general measure that evaluates the individual's overall health and consists of eight domains on physical and mental health: functional capacity (10) items, limitations caused by physical health problems (4 items), limitations caused by mental/emotional health problems (3 items), social function (2 items), emotional well-being (5 items), pain (2 items), vitality (4 items), and General health perception (5 items). As a supplement to the SF36, there is a multi-item scale that addresses individuals with TCRI on dialysis and includes 43 items about renal disease: symptoms/physical problems (12 items), effects of the renal disease in their daily life (8 items), Burden of kidney disease (4 items), work status (2 items), cognitive function (3 items), quality of social interactions (3 items), sexual function (2 items), and sleep (4 items). It also includes two items regarding social support, two items about support from the dialysis team, and one item about patient satisfaction. The KDQOL-SF™ scores range between 0 and 100; lower scores correspond to a less favorable HRQOL, while higher scores reflect better HRQOL[11].

This instrument was subjected to the process of translation, cultural adaptation, and validation for the Brazilian culture[12]. This instrument was chosen because it includes general health aspects besides permitting a comparison between populations and having aspects specific to the renal disease.

It is important to identify the HRQOL of patients on hemodialysis treatment and describe the possible differences between adults and aged individuals, so as to direct the planning of nursing care to the studied groups.

OBJECTIVE

To characterize the population of adult and elderly patients on hemodialysis, residents of Ribeirão Preto (São Paulo State), also evaluate and describe the differences in these patients' HRQOL.

METHODS

Type of study and location: sectional and population study performed with adult and elderly (60 years or more) patients under treatment by hemodialysis, in four Dialysis Services in Ribeirão Preto - SP.

Subjects: Patient inclusion criteria: at least 18 years of age; resident of Ribeirão Preto-SP, and have TCRI under treatment by hemodialysis for at least six months. Exclusion criteria: patients over 60 years of age with cognitive assessment scores below 20 points for illiterate individuals; 25 points for 1-4 years of education; 26.5 points for 5-8 years of education; 28 points for 9-11 years of education; and 29 points for elderly individuals with more than 11 years of education[13]. The research of a population that included elderly individuals required the use of a cognitive assessment scale to ensure participants understood the items of the HRQOL instrument used. A total 194 patients were included in the study.

Data collection: performed from November 2004 to March 2005, by interviewing the patients during their hemodialysis sessions in a stable procedure.

Instruments used:

- Socio-demographic, economic, and clinical characterization.
- Assessment of the HRQOL: the translated version of KDQOL-SF™, adapted to the Brazilian culture[11-12].
- Cognitive assessment: Mini Mental State Examination (MMSE)[13].

Ethical aspects: after receiving consent from the four studied services, the project was submitted to and approved by HCFMRP–USP the Research Ethics Committee, and patients provided written consent.

Data analysis: the analysis program available by the KDQOL-SF™ Working Group and the Statistical Package for the Social Sciences 11.5 were the software used to generate the univariate frequency analyses, contingence tables, and comparison of HRQOL means.

RESULTS

Patient characterization

Twenty-one patients were excluded before initiating the study: 12 presented an unsatisfactory cognitive assessment, and nine had been on hemodialysis treatment for less than six months. There was a loss of 21.8% (54 patients), 16 of which refused to participate, 12 died, 10 were hospitalized, six had a renal transplant, seven were transferred to other services, and three were transferred to peritoneal dialysis. Therefore, 194 patients took part in this study: 132 adults and 62 elderly individuals, with ages ranging between 19 and 85 years, and the age group 50-59 years with the highest distribution of patients (51 or 26.3%).

In terms of gender, 123 (63.4%) were men and 71 (36.6%) were women. Most patients (124 or 63.9%) were white. As to education, it was verified that 128 (66.0%) could read and write, and had between one and eight years of education. Most patients (120 or 61.8%) had a partner, 145 (74.7%) lived with their family, and 28 (14.4%) lived only with their spouse. Table 1 displays the participants' main socio-demographic and economic characteristics.

Regarding the time they had been in hemodialysis treatment, the median was 30.0 with a variation between 6 and 269 full months. For 188 (96.9%) patients, the vascular access used was the Arteriovenous Fistula (AVF).

In terms of their clinical profile, the average number of comorbidities for each patient was 3. It was observed there was a significant difference of 2.5 comorbidities for adults and 3.8 for the elderly, as shown in Table 2.

The patients reported physical complication associated with the TCRI and hemodialysis treatment, with emphasis on anemia (89.7%), cramps (71.1%), weakness (54.6%), pain (54.6%), hypotension during hemodialysis (54.6%), and itching (51.5%), and others. There were, in average, 5.7 physical complications per patient – 5.9 for adults and 5.1 for elderly patients.

Health-related quality of life

The general and specific dimensions of the KDQOL-SF™ obtained internal consistency, measured by Cronbach α coefficient, with values close to 0.70, except for the dimensions work status ($\alpha = 0.5678$) and quality of social interaction ($\alpha = 0.5494$). The Cronbach á value obtained for the whole instrument was 0.94, which determines there was consistency in the patients' answers to the KDQOL-SF™ questions.

As observed in Table 3, differences were found between the mean scores in the scale's dimensions for adult and elderly patients, with statistical significance for: physical functioning, role-physical, role-emotional, burden of kidney disease, and dialysis staff encouragement.

The data from Table 4 have the aim to describe the items that compose the affected dimensions, which were questioned to patients, to verify the real differences between the two studied groups. The results showed that for the dimensions physical functioning, role-physical, and burden of kidney disease, all items received lower average scores for elderly patients, with no exceptions. This means that this group has a worse HRQOL compared to adults, for these dimensions.

When considering the items that compose the dimensions role-emotional and dialysis staff encouragement, the inverse occurred. Elderly patients obtained the higher mean scores compared to adults,

i.e., they had a better HRQOL for these specific dimensions.

Differences were identified between the groups of studied patients, when verifying the relations between the affected HRQOL dimensions and the clinical variable comorbidities. The data on Table 5 reveal that for both adult and elderly patients, scores decreased as the number of comorbidities increased. This confirms the initial perception that comorbidities were negatively associated with the HRQOL of adults and elderly individuals.

Table 1 – Of the socio-demographic and economic variables of the 132 adults and 62 elderly individuals under hemodialysis treatment

Variables	Adults		Elderly		Total	
	n	%	n	%	n	%
Gender						
Female	46	34.8	25	40.3	71	36.6
Male	86	65.2	37	59.7	123	63.4
Skin color						
White	76	57.6	48	77.4	124	63.9
Brown	30	22.7	10	16.1	40	20.6
Yellow	3	2.3	0	0	3	1.6
Black	23	17.4	4	6.5	27	13.9
Education (years in school)						
None/less than 1 year	4	3.0	9	14.5	13	6.7
1-8	84	63.6	44	71.0	128	66.0
9-11	24	18.2	5	8.1	29	14.9
12+	20	15.2	4	6.4	24	12.4
Income (MS)*						
1 or less	29	22.0	15	24.2	44	22.7
+1-3	39	29.5	17	27.4	56	28.9
+3-5	18	13.6	15	24.2	33	17.0
5+	31	23.5	8	12.9	39	20.1
No income	15	11.4	7	11.3	22	11.3
Work						
Unemployed	87	65.9	50	80.6	137	70.6
Employed	45	34.1	12	19.4	57	29.4
Retirement						
No	73	55.3	20	32.3	93	47.9
Yes	59	44.7	42	67.7	101	52.1
Total	**132**	**68.0**	**62**	**32.0**	**194**	**100.0**

* The minimum salary (MS) at the time was R$260,00

Table 3 – Mean values and standard deviations (SD) of the KDQOL-SF™ dimensions between adult (132) and elderly (62) patients under hemodialysis treatment and t-test for the comparison between the two groups

Dimensions (number of items)	Adults Mean	SD	Elderly Mean	SD	P
Physical functioning (10)	65.6	28.1	46.2	28.7	0.000*
Role-physical (4)	41.5	35.2	31.5	30.3	0.044*
Pain (2)	63.5	28.2	58.8	30.5	0.285
General health (5)	56.3	24.7	58.1	22.6	0.624
Emotional well-being (5)	66.7	24.0	71.4	23.3	0.204
Role-emotional (3)	60.4	40.6	74.2	31.6	0.011*
Social function (2)	66.4	29.3	59.9	30.6	0.157
Energy/fatigue (4)	64.5	24.3	60.2	24.6	0.261
Symptoms / problems list (12)	80.1	14.3	77.6	17.4	0.337
Effects of kidney disease (8)	63.0	19.7	68.4	18.7	0.070
Burden of kidney disease (4)	49.0	29.6	35.3	31.8	0.004*
Work status (2)	35.6	41.2	27.4	34.7	0.152
Cognitive function (3)	79.2	21.4	84.3	19.2	0.115
Quality of social interaction (3)	78.1	20.2	83.1	18.6	0.098
Sexual function (2)	77.8	28.7	89.1	14.1	0.081
Sleep (4)	70.8	21.4	68.8	20.3	0.532
Social support (2)	81.6	25.4	83.9	24.7	0.553
Dialysis staff encouragement (2)	77.8	31.8	87.9	24.3	0.016*
Patient satisfaction (1)	72.5	20.1	68.3	18.5	0.166

* Statistically significant for $p<0.05$, in the hypothesis that the studied group comprised a probabilistic sample of a population with similar characteristics.

Table 2 - Comorbidities of the 132 adults and 62 elderly individuals under hemodialysis treatment

Comorbidities	Adults		Elderly		Total	
	n=132	%	n=62	%	n=194	%
Visual disorders and blindness	89	61.4	56	38.6	145	100
Hypertension	95	67.9	45	32.1	140	100
Others	44	58.7	31	41.3	75	100
Hearing loss	24	48.0	26	52.0	50	100
Cataract	16	38.1	26	61.9	42	100
Diabetes *mellitus*	19	47.5	21	52.5	40	100
Hepatic disease	17	65.4	9	34.6	26	100
Bone diseases	16	72.7	6	27.3	22	100
Benign neoplasm	9	69.2	4	30.8	13	100
Cerebrovascular disease	4	36.4	7	63.6	11	100
Acute myocardial infarction	3	33.3	6	66.7	9	100
Malignant neoplasm	2	33.3	4	66.7	6	100
Heart failure	3	60.0	2	40.0	5	100
Total	**341**	**58.6**	**241**	**41.4**	**582**	**100**

Table 4 – Scores of the dimensions per KDQOL-SF™ items – for 132 adults and 62 elderly individuals under hemodialysis treatment.

Dimensions	Items	Adults (n=132)		Elderly (n=62)	
		Mean	SD	Mean	SD
Physical functioning	3a Activities require much effort	26.1	35.2	8.1	22.5
	3b Moderate activities	68.2	40.6	43.6	38.9
	3c Lift and carrying grocery bags	62.5	38.8	37.9	35.9
	3d Climb several stair flights	47.4	42.5	33.1	41.4
	3e Climb one stair flight	76.9	36.8	59.7	39.3
	3f Incline, kneel, or bend over	64.8	44.4	35.5	44.7
	3g Walk for more than one kilometer	59.5	43.3	41.9	46.3
	3h Walk several kilometers	74.2	37.8	54.8	44.1
	3i Walk one block	83.3	33.1	66.9	39.4
	3j Take a showed or get dressed	92.8	23.2	80.7	35.5
Role-physical	4a Reduced time at work due to physical health	56.8	49.7	46.8	50.3
	4b Accomplishes less than wanted due to physical health	23.5	42.6	21.0	41.0
	4c Difficulties in their type of work	38.6	48.9	24.2	43.2
	4d Difficulties to work or perform another activity	47.0	50.1	33.9	47.7
Role-emotional	5a Reduced work time due to emotional problems	59.9	49.2	80.7	39.8
	5b Accomplishes less than wanted due to emotional problems	48.5	50.2	64.5	48.2
	5c Worked or performed activities with less attention	72.7	44.7	77.4	42.2
Burden of kidney disease	12a Renal disease interferes life	32.8	39.5	17.7	35.2
	12b Spends a lot of time with the renal disease	29.7	38.7	24.2	38.7
	12c Feels disappointed with the renal disease	58.3	43.7	45.2	47.7
	12d Feels like a burden to the family	75.2	37.8	54.0	46.7
Dialysis staff encouragement	24a The people from the dialysis service encouraged my becoming independent	74.1	37.0	85.5	28.1
	24b The people from the dialysis service helped me deal/cope with the renal disease	81.6	33.4	90.3	25.4

Table 5 – Mean scores of the KDQOL-SF dimensions, according to the number of comorbidities for groups patients adults and elderly individuals under hemodialysis treatment

Age/ Number of comorbidities		Mean scores (SD) of KDQOL-SF ™				
Age	Number of comorbidities	Physical functioning	Role physical	Role emotional	Burden of kidney disease	Dialysis staff encouragement
Adults	0	90.0 (10.0)	66.7(38.2)	66.7(57.7)	60.4(37.7)	95.8(7.2)
	1-3	71.6(23.1)	45.3(34.5)	63.5(39.9)	49.7(27.9)	77.2(32.2)
	4+	45.9(32.9)	28.0(34.1)	50.5(40.9)	45.8(34.2)	78.0(32.0)
Elderly	0	90.0(-)	100.0 (-)	100.0(-)	100.0(-)	100.0(-)
	1-3	54.8(25.6)	37.5(34.6)	80.6(29.4)	34.4(31.8)	80.7(33.6)
	4+	39.5(28.8)	25.7(24.6)	69.4(32.8)	34.1(30.7)	92.2(14.8)

DISCUSSION

TCRI is currently considered a serious and growing public health problem, considering the increase in its incidence and prevalence in the general population. This increase in the rate of renal disease can be attributed to population aging, the increase in chronic diseases, like hypertension and diabetes mellitus, which are the two main causes of TCRI, as well as the increase in these people's survival rate, due to improvements in dialysis therapy and renal transplants[4,10,14].

From a sociodemographic perspective, in this study, 132 (68.0%) patients were adults (ages ranging between 18 and 59 years) and 62 (32%) were elderly individuals (60 years old or more), which indicated there is a greater proportion of elderly individuals in dialysis that in the general population, which is 26%[4]. It is important to stress that the general tendency is to have a continuous and progressive increase of elderly individuals with chronic renal disease. The age group with the largest distribution of patients was between 50 and 59 years, which means that, in less than one decade, these patients

will be considered to be aged.

An important aspect is the existence of a network for informal support. The fact that most patients live with a partner and with their families can contribute to having domicile care, since TCRI contributes for functional losses that compromise independence and autonomy, which often makes them partially or totally dependent of the care from other people[15], which occurs more often among the elderly.

In relation to economic data, the low monthly income informed by the patients (64% received 5 MS or less) is linked to the means of obtaining income, such as the lack of a formal job, no retirement, disease-help, and donations. Work is relevant in the lives of people with professional self-fulfillment, as well as the financial value in maintaining the family institution, especially for the adults.

CRI and its treatment do not represent a direct and absolute impediment to work, but they do cause important limitations to adult and elderly patients, which often cause withdrawals and retirements due to the disease[16].

The TCRI and its treatment, most of the times, cause physical and emotional incapacities, and both interfere in the lives of adults and elderly individuals, limiting or impairing their performing daily activities.

Several studies have addressed age as a variable that can affect the HRQOL[8-9,17-18]. In this study, when the differences between the adult and the elderly regarding HRQOL are analyzed, it is observed that this variable was associated negatively mainly with the dimensions related to the physical health for the elderly.

Regarding the KDQOL-SF™, the dimension physical functioning consists of ten items that assess the limitation to perform daily activities caused by their health condition. It questions the degree of difficulty they experience to perform different activities, ranging from strenuous activities to self-care. The dimension role-physical addresses the limitations for the type and quantity of work and other activities, due to physical problems. The dimension burden of kidney disease evaluates the extension at which the renal disease becomes a frustration and interferes in the patient's life. These three dimensions are inter-related and are directly dependent on physical health, to be better or worse evaluated by the patients.

Patients with TCRI on hemodialysis often complain about the lack of energy, a feeling of discouragement and fatigue, which probably reduces the scores of the abovementioned dimension. This justifies lower measurements for the elderly, due to the changes in their health condition due to the process of aging itself, associated with the disease and the treatment.

With the process of aging, there is a continuous and progressive reduction in one's capacity to maintain the body's homeostatic balance. This decline can reach elevated levels to the point of reducing organic functions that, when interacting with simultaneous pathological processes, are responsible for the clinical presentation of the disease, frequently more serious in the elderly than in adults[19].

Due to this physiological decline due to aging, the elderly experience a gradual and progressive reduction in their functional capacity. This may limit their performing everyday activities, and consequently present worse HRQOL for dimensions associated with physical health.

The literature has shown that the elderly have had similar results in HRQOL assessments, with dimensions addressing physical health reaching lower scores compared to dimensions for mental health[8-10,17,20-21].

When describing higher mean scores, i.e., better HRQOL for the dimensions role-emotional and Dialysis staff encouragement for the elderly, it can be inferred that aging makes patients adjust better to their disease and treatment, especially in the emotional aspect. This is because the dimension role-emotional evaluates the limitations in the type and quantity of work and habitual activities for the patient due to their emotional health, and the dimension Dialysis staff encouragement assesses the extension at which the professionals from the dialysis team encourage their independence and 'dealing' with the renal disease.

On the other hand, the fact that the disease and treatment have a chronic character can develop, in the elderly, a condition of conformism and acceptance of their health condition. This reflects on pseudo positive evaluations of the role-emotional, as well as of the interpersonal relationships established with the health teams that look after them.

Elderly chronic patients with non-transmissible diseases develop dependency on other people for seeing to their needs, since they face changes in the social, economic, physical, and emotional aspects. In turn, they probably need and receive a greater degree of attention and support from family and friends for the care. Family participation is indispensible for informal support to elderly with TCRI on hemodialysis.

Adults, on the other hand, deal with sensations of frustration and impotence, which lead to dissatisfaction and harmed emotional aspects, associated with the overload of the disease and the socioeconomic context, determined by the condition implied by having a chronic renal disease[10].

It is important to stress the need to explain the results of the relation between HRQOL and the occurrence of comorbidities in adult and elderly patients. It was verified that the patient's mean KDQOL-SF™ dimension scores decreased as the number of

comorbidities increased. This indicates that the comorbidities negatively affected the studied patients' HRQOL.

The occurrence of non-transmissible chronic diseases is directly associated with lower HRQOL scores in a population[10]. Comorbidities have also been studied as a factor that compromises HRQOL[10,21].

Diseases that cause TCRI as well as those that advance simultaneously, as complications, can cause physical, emotional, and social incapacities for the patients involved. The averages of 2.5 and 3.8 comorbidities for adults and elderly patients, respectively, have a relevant clinical significance, since besides the TCRI, adult and elderly patients have, approximately, two and four other diseases, respectively. This demands for more health care and results in a worse HRQOL.

CONCLUSION

HRQOL is an important aspect in people with serious limiting chronic diseases that are submitted to long and painful treatments, and present more vulnerability to comorbidities, as the case of patients on hemodialysis. The comparison between adult and elderly HRQOL is important in order to assess the impact of the disease and treatment over one's life conditions. This allows for directing these patients' health care in both the individual and collective aspects.

The KDQOL-SF™ has shown to be an instrument capable of assessing the HRQOL of adult and elderly patients on hemodialysis, detecting differences between the dimensions for both age groups.

Adults showed better HRQOL according to physical health aspects, while elderly patients assessed better the emotional aspects as well as the interpersonal relationship with the health team.

This study shows that there is a need to improve the research on functional and cognitive capacity and HRQOL of chronic elderly renal patients, as well as to compare them to the general elderly population in a view to analyze the influence of independent variables on HRQOL.

REFERENCES

1. Organização Mundial da Saúde. Fatos sobre doenças crônicas não-transmissíveis. Geneva:OMS; c2003. [citado 2003 Mar 10]. Disponível em: http://www.who.int/hpr/ncd.facts.shtnl
2. Lessa I. Outras doenças crônicas não-transmissíveis de importância social. In: Lessa I. O adulto brasileiro e as doenças da modernidade : epidemiologia das doenças crônicas não-transmissíveis. São Paulo: Hucitec/ABRASCO; 1998. pp.181-201.
3. Oliveira MB, Romão JE Jr, Zatz R. End-stage renal disease in Brazil: epidemiology, prevention, and treatment. Kidney Int Suppl. 2005; (97):S82-6.
4. Romão Junior JE, Pinto SWL, Canziani ME, Praxedes JN, Santello JL, Moreira JCM. Censo SBN 2002: informações epidemiológicas das unidades de diálise do Brasil. J Bras Nefrol. 2003; 25(4):187-98.
5. Sesso R. Inquérito epidemiológico em unidades de diálise do Brasil. J Bras Nefrol. 2000; 22 (3 Suppl 2):23-6.
6. Riella MC. Princípios de nefrologia e distúrbios hidroeletrolíticos. 4a ed. Rio de Janeiro: Editora Guanabara Koogan; 2003.
7. Nussenzvelg I. Envelhecimento renal. In: Carvalho Filho ET, Papaléo Netto M. Geriatria: fundamentos, clínica e terapêutica. São Paulo: Atheneu; 1994. p.221-5.
8. Kutner NG, Jassal SV. Quality of life and rehabilitation of elderly dialysis patients. Semin Dial. 2002; 15(2):107-12.
9. Gil Cunqueiro JM, García Cortés MJ, Foronda J, Borrego JF, Sánchez Perales MC, Pérez Del Barrio P, et al. Calidad de vida relacionada con la salud en pacientes ancianos en hemodiálisis. Nefrologia. 2003; 23(6):528-37.
10. Valderrábano F, Jofre R, López-Gómez JM. Quality of life in end-stage renal disease patients. Am J Kidney Dis. 2001; 38(3):443-64. Review.
11. Hays RD, Kallich JD, Mapes DL, Coons SJ, Carter WB. Development of the kidney disease quality of life (KDQOL) instrument. Qual Life Res. 1994; 3(5):329-38.
12. Duarte PS, Ciconelli RM, Sesso R. Cultural adaptation and validation of the "Kidney Disease and Quality of Life – Short Form (KDQOL-SF1.3)" in Brazil. Braz J Med Biol Res. 2005; 38(2):261-70.
13. Brucki SMD, Nitrini R, Caramelli P, Bertolucci PHF, Okamoto IH. Sugestões para o uso do mini-exame do estado mental no Brasil. Arq Neuropsiquiatr. 2003; 61(3B):777-81.
14. Sesso R. Epidemiologia da doença renal crônica no Brasil e sua prevenção [texto na Internet]. São Paulo. Secretaria de Estado da Saúde. Coordenadoria de Controle de Doenças. Centro de Vigilância Epidemiologia; s.d.[citado 2007 Mar 10]. Disponível em: ftp://ftp.cve.saude.sp.gov.br/doc_tec/cronicas/irc_prevprof.pdf
15. Belasco AG, Sesso R. Burden and quality of life of caregivers for hemodialysis patients. Am J Kidney Dis. 2002; 39(4):805-12.
16. Carreira L, Marcon SS. Cotidiano e trabalho: concepções de indivíduos portadores de insuficiência renal crônica e seus familiares. Rev Latinoam Enferm. 2003;11(6):823-31.
17. Ortega F, Rebollo P. Health related quality of life (HRQOL) in the elderly on renal replacement therapy. J Nephrol. 2002; 15(3):220-4.
18. Harris SA, Lamping DL, Brown EA, Constantinovici N, North Thames Dialysis Study (NTDS) Group. Clinical outcomes and quality of life in elderly patients on peritoneal dialysis versus hemodialysis. Perit Dial Int. 2002; 22(4):463-70.
19. Papaléo Netto M. Processo de envelhecimento e longevidade. In: Papaléo Netto M. Tratado de gerontologia. 2a ed. São Paulo: Atheneu; 2007. p. 3-14.
20. Walters BA, Hays RD, Spritzer KL, Fridman M, Carter

WB. Health-related quality of life, depressive symptoms, anemia, and malnutrition at hemodialysis initiation. Am J Kidney Dis. 2002; 40(6):1185-94.

21. Loos C, Briançon S, Frimat L, Hanesse B, Kessler M. Effect of end-stage renal disease on the quality of life of older patients. J Am Geriatr Soc. 2003; 51(2):229-33.