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Original Article

Relationship between self-care and depression and anxiety symptoms in individuals undergoing hemodialysis

Relação entre autocuidado e sintomas depressivos e ansiosos de indivíduos em tratamento hemodialítico

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Objective: to evaluating the ability for self-care and its relationship with depression and anxiety symptoms in hemodialysis patients. **Methods:** a correlational, cross-sectional study conducted with 100 participants. The following instruments were used: Appraisal of Self Care Agency Scale – Revised (ASAS-R), which indicates the ability of patients to self-care, and the Hospital Anxiety and Depression Scale, which evaluates the presence or absence of depression and anxiety symptoms. **Results: t**he participants had a mean score of 60.64 (±8.24) on the Appraisal of Self Care Agency Scale - Revised, indicating a good level of self-care agency. A negative correlation of moderate magnitude was found between the ability to self-care and symptoms of anxiety (r=-0.328) and depression (r=-0.387). **Conclusion:** individuals undergoing hemodialysis treatment presented good self-care agency and those with depression and/or anxiety symptoms showed less ability to self-care.
Descriptors: Self Care; Renal Insufficiency, Chronic; Depression; Anxiety.

Objetivo: avaliar a capacidade para o autocuidado e sua relação com os sintomas depressivos e ansiosos de pacientes em hemodiálise. **Métodos:** estudo correlacional, com corte transversal, realizado com 100 participantes. Foram utilizados os instrumentos: Escala Revisada para a Avaliação da Agência de Autocuidado, que indica a capacidade para o autocuidado dos pacientes, e a Escala Hospitalar de Ansiedade e Depressão, que avalia a presença ou não de sintomas depressivos e ansiosos. **Resultados:** os participantes apresentaram um escore médio de 60,64 (±8,24), na Escala Revisada para a Avaliação da Agência de Autocuidado, indicando bom nível de agenciamento para o autocuidado. Verificou-se correlação negativa, de moderada magnitude, entre a capacidade de autocuidado e os sintomas ansiosos (r=-0,328) e também com os sintomas depressivos (r=-0,387). **Conclusão:** indivíduos em tratamento hemodialítico apresentaram bom agenciamento para o autocuidado e aqueles com sintomas depressivos e/ou ansiosos mostraram menor capacidade para o autocuidado.
Descritores: Autocuidado; Insuficiência Renal Crônica; Depressão; Ansiedade.

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Introduction

Chronic Kidney Disease is considered a global public health problem[1]. In 2013, The Brazilian Society of Nephrology registered 100,397 people without treatment for chronic dialysis. The prevalence of patients maintained in care programs aimed at controlling and treating chronic kidney disease has doubled in recent years, with the most common being submission to recurrent hemodialysis programs[2].

Hemodialysis treatment causes a rupture in lifestyle, provoking the need to adapt to this new condition. In particular, it is responsible for restricting daily life, imposing limitations to the individuals that affect biological, psychological and social aspects of their lives[3].

The prevalence of mood disorders due to impositions and limitations are higher in patients with chronic renal disease undergoing hemodialysis when compared to the general population[4]. A study conducted in the United States with 155 patients on hemodialysis and 15 on peritoneal dialysis observed high rates of anxiety and depression, with approximate values from 30.0 to 45.0% of anxiety and 20.0 to 30.0% for depression[5].

Mood disorders present in patients on dialysis pose a high risk of morbidity and mortality, causing compromised adherence to treatment, loss of motivation and concentration, difficulty in understanding information, fatigue and sleep disorders. Thus, individuals with chronic kidney disease need to be instructed about the risks and benefits associated with their treatment, such as the care for arteriovenous fistula or catheter, diet, water restriction, medication use, blood pressure and blood glucose control, among others[4].

Thus, it is essential to stimulate their capacities, abilities and human reaction potential, allowing them to positively adapt to this new way of life and to take control of their treatment[6]. It is with this stimulus that an approach to people with an emphasis on self-care has been an alternative found to not only stimulate individuals and family members to actively participate in the treatment, but to also increase their responsibility for the care results, and consequently achieve the expected treatment results[7].

There is no consensus on the definition of health-related self-care; it is often elaborated based on the observations of what people do on their own to benefit their health, as well as what friends and family provide in the form of care to the sick individual[8].

The present study considers self-care as the individual's ability to perform or practice activities for their own benefit in order to maintain life, health and well-being. It is believed that the individual is competent to exercise self-care[9] when one has the ability to differentiate between factors that must be controlled, to decide what can and should be done, to plan therapeutic treatment and to perform actions toward their own care.

Promoting actions and seeking to engage in activities that increase the ability of self-care is essential for maintaining and developing health promotion (such as healthy eating and adequate sleep), in addition to encouraging self-management skills in some specific diseases (such as correctly taking medications and adhering to treatments). The application of these personal acts could lead to a considerable reduction of individual and government costs since people would be sick less frequently, recover from illness more quickly, and require less medical and health care[10]. This fact justifies the importance of encouraging self-care actions in individuals with CKD (Chronic Kidney Disease), favoring health promotion, maintaining autonomy and quality of life, and obtaining greater adherence and participation by patients in their therapeutic process.

In light of the above, this study aims to evaluate the ability for self-care and its relationship with depression and anxiety symptoms in patients with chronic renal disease undergoing hemodialysis.

Methods

This is a correlational, cross-sectional study developed at a Renal Replacement Therapy Unit in the interior of the State of São Paulo. The sample was obtained by consecutive convenience with a total of 100 participants who met the following eligibility criteria: age of 18 years or older, diagnosed with chronic renal disease in the terminal stage and undergoing hemodialysis treatment.

The following instruments were used for data collection: the Sociodemographic Characterization Questionnaire, the Appraisal of Self Care Agency Scale - Revised (ASAS-R) and the Hospital Anxiety and Depression Scale (HADS).

The Sociodemographic Characterization Questionnaire consists of name, age, gender and education level. The ASAS-R is a scale that was developed for the Brazilian context[11], and it was the first scale aimed at verifying health promotion behaviors in the population and evaluating the level of self-care agency as to its operability. It is composed of 15 questions with items graded using a five-point Likert scale, ranging from 1 (I totally disagree) to 5 (I totally agree). Four of the 15 questions refer to negative aspects, where the score needs to be inverted for data analysis. The score ranges from 15 to 75; the higher the score, the higher the individual's ability to operate self-care. According to the original study[11], the scale showed fit and reliability with the three-factor model: Factor 1 – Having ability for self-care (items – 1, 2, 3, 5, 6 and 10); Factor 2 – Developing the ability for self-care (items – 7, 8, 9, 12 and 13); and Factor 3 – Lack of ability for self-care (items – 4, 11, 14 and 15).

HADS was developed in 1983 and validated for the Brazilian context in 1995[12]. It evaluates the levels of anxiety and depression in patients with pathologies and undergoing outpatient treatment. It contains 14 multiple-choice questions and consists of two subscales; one for anxiety (HADS-A) and one for depression (HADS-D), with seven items in each domain. The score ranges from 0 to 21 on each subscale. For interpreting the values, the higher the score, the greater the severity of the symptoms.

These instruments were applied prior to the hemodialysis session, or when that was not possible, within the first two hours of treatment. Considering the possibility of any participants having visual problems and/or low instructional/education level, the instrument was applied through an individual interview lasting from 30 to 40 minutes from September to November 2014.

Data were entered into an Excel formatted worksheet and transported for analysis in the Statistical Package for the Social Sciences software, version 22.0. Position measurements (mean, minimum and maximum) and dispersion (standard deviation) were calculated for descriptive data analysis. The Kolmogorov-Smirnov test was performed to verify normal data distribution. Also, Pearson Correlation Coefficients (parametric statistical test) was calculated to verify the relationship between ASAS-R and HADS scores. In this study, the magnitude of the correlations was classified according to the proposition: weak (<0.3); moderate (0.3 to 0.59), strong (0.6 to 0.9) and perfect (1.0)[13]. The adopted significance level for the statistical tests was $p \leq 0.05$.

The study complied with the formal requirements contained in national and international standards for research involving human beings.

Results

100 subjects were evaluated, with a predominance of males (66.0%), and most of them were adults (60.0%) with 10 years or more of education (Table 1).

Table 1 - Sociodemographic characteristics of the sample of 100 chronic renal patients

Variable	n(%)	Confidence Interval
Gender		
Males	66 (66.0)	56.0 – 76.0
Females	34(34.0)	24.0 – 44.0
Age group (years)		
22-59	60 (60.0)	50.0 – 70.0
≥ 60	40 (40.0)	30.0 – 50.0
Education level (years)		
Illiterate	03(3.0)	0.0 – 7.0
1 to 4	32 (32.0)	23.0 – 41.0
5 to 9	32 (32.0)	22.0 – 42.0
> 10	33 (33.0)	24.0 – 42.0

The complete results of the ability assessment for self-care are presented in table 2. The mean of the ASAS-R total score was 60.64 (± 8.24). Regarding the internal consistency of this scale, Cronbach's alpha was 0.86, indicating satisfactory reliability. Among the factors evaluated by ASAS-R, the one with the highest score was factor 1, with an average of 25.25 (±3.45), and the lowest score was factor 3 with a mean of 11.45 (±2.35) (Table 2).

Table 2 - Descriptive statistics of the ASAS-R applied to 100 chronic renal patients.

Variable	Mean (± standard deviation)	Median	Variation
ASAS-R total	60.64 (±8.24)	59.0	35-75
Factor 1 - Having ability for self-care	25.25(±3.45)	24.0	14-30
Factor 2 – Developing the ability for self-care	20.62(±3.03)	20.0	10-25
Factor 3 - Lack of ability for self-care	11.45(±2.35)	11.0	06-15

Regarding the correlation between the ability for self-care and the levels of anxiety and depression symptoms, a negative correlation of moderate magnitude with statistical significance was found between ASAS-R and HADS/Anxiety (r=-0.328) and HADS/Depression (r=-0.387), respectively; in addition, between ASAS-R and total HADS (r=-0.429). The higher the ability of self-care, the lower the levels of anxiety and depression (Table 3).

Table 3 - Statistics of Pearson correlation between ASAS-R and HADS (domains and total)

Correlation		HADS		
	Anxiety	Depression	Total	
ASAS-R	R	-0.328	-0.387	-0.429
	p-value	<0.01	<0.01	<0.01

Discussion

Regarding the sociodemographic characteristics of the present study, the data corroborate findings in the national and international literature regarding the characteristics of patients with chronic kidney disease[14].

Regarding the ability for self-care, a study carried out with people affected by diabetes mellitus treated at the Urgent Care Service in Mexico, in the city of Yacatán, identified that 83 presented good ability for self-care and 168 regular ability for self-care. Moreover, the referred research found a directly proportional correlation between the ability of self-care and the level of education. Furthermore, a negative correlation was also found with religion and disease evolution time[15].

Considering the need for nursing orientation regarding the self-care of patients undergoing hemodialysis, a study[6] using Orem's conceptions identified that 43 patients were included in the total compensatory self-care system for orientation necessities, such as: nutritional therapy, fluid intake, hemodialysis complications, anticoagulation, practicing physical activity, emotional problems, association with groups and leisure activities. Guidance to patients and family members about coping with and treating chronic kidney disease is critical.

In order to verify the association of functional

independence and self-care ability with sociodemographic and clinical variables through the Appraisal of Self-Care Agency (ASAS-R) scale and Functional Independence Measure, a study[16] found that the 214 patients with chronic kidney disease undergoing hemodialysis had satisfactory results of functional independence and ability for self-care. The authors also mention that as the functional independence scores increased, the ability for self-care increased. Thus, the greater the ability for self-care, the greater the functional independence of the interviewees. In relation to sociodemographic variables, the aforementioned authors observed that with the increase of age, there was a decline in both ability for self-care and functional independence. Regarding the variable referring to complications related to hemodialysis (arterial hypotension during hemodialysis, anemia, weakness, and cramps, among others) or comorbidities (hypertension, diabetes mellitus and others), the higher these two variables, the lower were the indicatives of functional independence and ability for self-care. Regarding the variable of gender, the mentioned study identified that males presented more functional independence than females.

No published works that address the relationship of self-care with depression and anxiety symptoms in the literature on such topic were found, evidencing the importance of this study since it contributes to this knowledge gap, thus supporting health professionals in the care of individuals with chronic kidney disease undergoing treatment.

The present study made it possible to unveil the sociodemographic characteristics of chronic renal disease patients undergoing hemodialysis, the agency level of these patients for self-care ability, and their relationship with anxiety and depression. Considering the findings of the present study, we observed that chronic renal disease patients in this study obtained a good level of self-care agency, as they have a pathology that demands greater attention, restrictions, knowledge and care which enables them to have better performance in self-care, health maintenance and control of their own treatment. Along with the interviewees, it also enabled us to confirm an inversely proportional relationship between depression and anxiety symptoms and ability for self-care.

A limitation of this research concerns the transversal design of the study which makes it impossible to identify the temporal precedence of the factors studied, compromising the evidence of cause and effect relationships.

Conclusion

Based on the proposed objective, we conclude that most patients with chronic kidney disease presented a good level of self-care ability, and an inversely proportional relationship was observed between depression and anxiety symptoms and ability for self-care.

We hope that this study can sensitize health professionals, and especially the nursing team, to develop strategies to assist in planning and implementing interventions for taking care of these patients.

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Collaborations

Bettoni LC participated in the project design and writing the article. Ottaviani AC participated in the project design, data analysis and interpretation, and in writing the article. Orlandi FS participated in the project design, data analysis and interpretation, in writing the article, the relevant critical review of intellectual content and final approval of the version to be published.

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