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Health self-assessment by individuals with chronic kidney disease in dialysis therapy

Autoavaliação da saúde de indivíduos com doença renal crônica em terapia dialítica

Autoevaluación de la salud de individuos con enfermedad renal crónica en terapia dialítica

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ABSTRACT
Objective: to examine health self-perception and associated factors in individuals with chronic kidney disease in dialysis therapy. **Method:** in this quantitative, cross-sectional study of 42 patients attending the nephrology unit of a public hospital in Recife, Pernambuco, from May to August 2016, data were collected by semistructured interview and analyzed by descriptive and inferential statistics, after approval by the research ethics committee. **Results:** 29 patients (69%) self-assessed their health as poor, but no association was found with sociodemographic and clinical characteristics ($p<0.05$). **Conclusion:** the high prevalence of self-assessed poor health reflects the need for educational information and self-care for a better understanding of health status and consequent adherence to therapy.
Descriptors: Chronic renal disease; diagnostic self-assessment; social impact; health indicators.

RESUMO
Objetivo: analisar a autopercepção de saúde e os fatores associados dos indivíduos com doença renal crônica em terapia dialítica. **Método:** estudo transversal, quantitativo, com 42 pacientes assistidos na unidade de nefrologia de um hospital público em Recife/PE, no período de maio a agosto de 2016. Os dados foram coletados por meio de entrevista semiestruturada, analisados por estatística descritiva e inferencial, após aprovação do Comitê de Ética em Pesquisa. **Resultados:** a autoavaliação de saúde ruim esteve presente em 29 (69%) pacientes, porém sem associação com as características sociodemográficas e clínicas ($p<0,05$). **Conclusão:** a alta prevalência da autoavaliação de saúde ruim reflete a necessidade de informações educativas e autocuidado para uma melhor compreensão do estado de saúde e consequente adesão terapêutica.
Descritores: Doença renal crônica; autoavaliação diagnóstica; impacto social; indicadores de saúde.

RESUMEN
Objetivo: analizar la autopercepción de salud y los factores asociados de los individuos con enfermedad renal crónica en terapia dialítica. **Método:** estudio transversal, cuantitativo, junto a 42 pacientes asistidos en la unidad de nefrología de un hospital público en Recife/Pernambuco, en el período de mayo a agosto de 2016. Los datos fueron recolectados por medio de entrevista semiestructurada, analizados por estadística descriptiva e inferencial, después de la aprobación del Comité de Ética en Investigación.**Resultados:** la autoevaluación de mala salud estuvo presente en 29 (69%) pacientes, pero sin asociación con las características sociodemográficas y clínicas ($p <0,05$). **Conclusión:** la alta prevalencia de la autoevaluación de mala salud refleja la necesidad de informaciones educativas y autocuidado para una mejor comprensión del estado de salud y consecuente adhesión terapéutica.
Descriptores: Enfermedad renal crónica; autoevaluación diagnóstica; impacto social; indicadores de salud.

INTRODUCTION

The chronic kidney disease (CKD) greatly impacts public health. Recent research shows that the incidence of kidney disease grows in the world at a rate of 10% a year. In Brazil, in 2015, over 1.5 million people were under some type of renal replacement therapy (RRT)[1].

As for the economic aspect of maintaining RRT treatments, in January 2017, the resources destined to nephrology in RRT, including but not limited to hospitalization, transplants and medicine, reached the amount of R$ 3.9 billion Brazilian Reais, benefiting individuals with chronic renal disease who depend upon the publicly funded health care system in Brazil, known as SUS, or Unified Health System (SUS)[2] for their treatment.

This landscape requires professionals and managers to plan actions towards health attention taking into consideration the multifactorial character of CKD, as, in addition to having financial impact, the dialytic process also causes disruption to individuals` daily lives and demands them to adapt to an orderly life and fully committed to the RRT.

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The health self-assessment ("Autoavaliação de Saúde" or "AAS" *in the Portuguese acronym*) is a useful indicator of the health care needs, and is based on personal knowledge and believes, in objective and subjective aspects, comprising biological, psychological and social aspects, and being an important estimative of morbimortality[3].

Several factors are associated with the AAS and recognizing such factors may contribute to developing strategies which improve patients' health under dialytic treatment[4].

In this framework, professionals need to understand what the patients' perception towards their health is, how they deal with CKD and how much it interferes in the patients' life conditions, subjectivity and selfcare. Thus, health professionals can better manage each case and pursue a satisfactory outcome of the clinical condition[5].

This study aimed to analyze AAS and the associated factors in individuals with CKD under dialytic therapy.

LITERATURE REVIEW

The CKD has taken on a global importance due to the exponential increase in the registered cases of the disease. Brazil occupies the first place in the prevalence of RRT patients and the proportion of the Gross Domestic Product (GDP) invested in health[6].

According to the Brazilian Nephrology Census, in 2017, the estimated total number of patients under dialysis were of 126,583 in the country, of which, 91,2% of those patients were undergoing hemodialysis (HD)[2,6].

For the diagnosis of the CKD, it is necessary the presence of one of the following criteria, for a period longer than three months: markers of kidney damage (one or more), albuminuria (over 30 mg/24h; ratio albumin/ creatinine 30 mg/g); abnormalities in the urinary sediment, electrolyte disturbances and others due to tubular lesions; abnormalities detected via histological exam; structural abnormalities detected via imaging exams; kidney transplant history, or reduced Glomerular Filtration Rate (GFR) (lower than 60 ml/min/ 1.73 m^2)[7].

The peritoneal dialysis (PD) and the hemodialysis (HD) are both RRT, however, the HD is more used in world scale due to, among others, the several issues with transplant programs - whether because of the lack of organs or because of issues with an adequate structure for organ collection and its usage. About 5,900 transplants are performed every year[2].

Due to health care injustice, some obstacles pose on the way of the idea of health care equality, as for instance, the treatment routine, which is determined by economic factors, affecting how people are provided with health assistance[5].

The RRT has high social and economic importance. In addition to the dialytic procedure, the patients bearing CKD demand usage of supplementary medicine therapy and face a complex therapeutic diet, which comprises food and water restrictions[9].

Such type of therapy can arouse harmful feelings, in the face of a treatment which, sometimes, causes pain, unease, physical deformities and which consumes a good part of an individual's day, inhibiting their freedom and autonomy[10].

The AAS is a reliable source to be gauged in order to estimate CKD patients' general state of health, built on each individual's priorities when self-assessing their own health. It is possible to understand the reality of patients undergoing such treatment through the humanized care, proportionating to the individuals who need to undergo treatment, a viable choice which also addresses their life's biopsychosocial aspects[4].

Self-care refers to autonomous activities performed by the individual to maintain life, health and well-being, benefiting physical, psychological, interpersonal and social aspects[11].

The adoption of healthy lifestyles is still unusual among the Brazilian population. However, the association between healthy behaviors and AAS is indicative that the population starts to make a relation between positive evaluation of their health to self-care practices that improve their well-being and quality of life (QoL)[12].

As the renal failure progresses and patients start to present symptoms that interfere with their daily activities, their perception directly influences quality of health, and the treatment outcomes can be negative, even leading to patients abandoning therapy[13].

It is thus understood that education transforms reality through its potential of providing reflection on one's health, by directing individual's conscience to positive actions, whether the individual is healthy or ill. That results in increased autonomy and, consequently, improvements in QoL. The psychological and social difficulties as a consequence of renal failure and treatment are commonly reduced when health professionals educate and encourage individuals to be independent[14].

METHODOLOGY

This is a cross-sectional study with a quantitative approach, conducted at the nephrology unit of the Hospital das Clínicas of the Federal University of Pernambuco (HC-UFPE), in the city of Recife, Brazil, which treats patients who have acute or chronic renal failure and follows-up on their conservative treatment, either for HD or PD.

The convenience sampling included all 42 patients suffering from nephropathy and under dialysis (HD or PD), all of them being over 18 years of age, literate, undergoing dialysis treatment for over 2 months and assisted in the service from May to August 2016. Patients with medical records of neurodegenerative disease and in use of medication that compromised cognition were excluded.

The data was collected through a semi-structured interview, conducted by nurses and undergraduate students of Nursing at the UFPE, all previously trained. The patients were approached in the HD room or in the reception room, after the signature or fingerprint collection for the Term of Free and Informed Consent (TFIC).

For collecting data, we used an instrument organized in blocks of thematic sets, composed of sociodemographic, clinical and AAS variables. Sociodemographic and clinical variables included: sex, age, total years of education, marital status, family arrangement, dialysis mode and type of access. AAS was categorized as *good*, included the individuals who answered excellent or good and as *bad* for those who answered regular or bad.

The data analysis took place via entering it into an Excel spreadsheet for Windows®, in double entry, checked with VALIDATE, module of the Program Epi-info® version 6.04, to check consistency and validation. The data was then transferred to the Statistical Package for the Social Sciences (SPSS) software, version 18.0.

In order to evaluate the sociodemographic and clinical profile of the patients, the frequencies and their respective percentages were calculated. The AAS results were estimated and its association with sociodemographic and clinical characteristics of the individuals was investigated, using Pearson's Chi-square Test of Independence or Fisher's Exact Test. In all analyzes, the significance level of 5% and 95% confidence intervals were adopted.

This study followed all ethical principles and the project was developed after approval by the Ethics and Research Committee of UFPE under the CAAE 51953815.0.0000.5208.

RESULTS AND DISCUSSION

Of the 42 individuals with chronic renal disease on dialysis, 26 (61.9%) were female, 17 (40.5%) were in the age group of 18 to 39 years, 20 (47.6%) had attended to more than 12 years of education, 23 (54.8%) had a companion and only 2 (4.8%) lived alone. As for the dialytic modality, 30 (71.4%) were under HD and 12 (28.6%) were under PD treatment. The predominant type of dialysis access was the permanent one - 35 (83.3%).

Bad AAS was present among 29 (69.0%) of the interviewees. This result corroborates other studies conducted in Belo Horizonte / MG, with values of 349 (50.5%) and 883 (54.5%) [4,5]. The AAS results are shown in Figure 1.

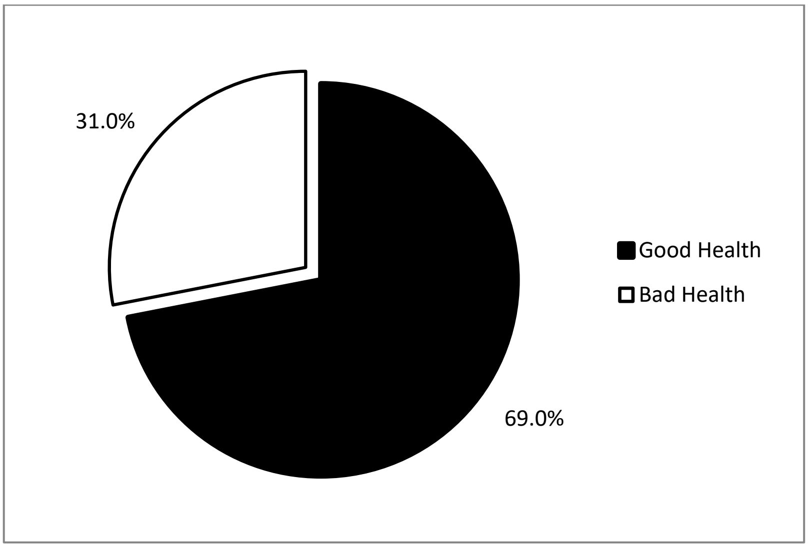

FIGURE 1: Health self-assessment of individuals with chronic kidney disease in dialytic therapy. Recife, PE, Brazil, 2016.

The distribution of sociodemographic and clinical variables and the evaluation of their association with bad AAS are specified in Table 1.

TABLE 1: Sampling and group distribution of bad health according to sociodemographic and clinical factors of individuals with chronic kidney disease in dialytic therapy. Recife, PE, Brazil, 2016.

		health self-assessment as bad		
Variables	**f**	**f**	**%**	**p-value**
Gender				
Male	16(38.1)	10	34.5	0.510(*)
Female	26(61.9)	19	65.5	
Age group (years)				
18-39	17(40.5)	13	44.8	0.698(*)
40-59	15(35.7)	10	34.5	
60 or more	10(23.8)	6	20.7	
Marital status				
Married	23(54.8)	14	48.3	0.207(**)
Not married	19(45.2)	15	51.7	
Family Arrangement				
Lives alone	2(4.8)	1	3.4	0.528(*)
Does not live alone	40(95.2)	28	96.6	
Total years of education				
<4	2(1.0)	1	3.4	1.000(*)
4-7	10(5.1)	7	24.1	
8-10	10(5.1)	7	24.1	
11 or more	20(10.1)	14	48.3	
Dialysis modality				
Hemodialysis	30(71.4)	22	75.9	0.463(*)
Peritoneal dialysis	12(28.6)	7	24.1	
Access type				
Permanent	35(83.3)	22	75.9	0.079(*)
Temporary	7(16.7)	7	24.1	

(*)Fisher's Exact Test; (**) Pearson's Chi-Square Test

Among the patients studied, it was observed that female subjects within the youngest age group (18 to 39 years), without a companion, but, co-residing with other people, having a higher education level, having HD as dialysis therapy, with temporary access, had a prevalence of self-assessing their health as bad.

However, the sociodemographic and clinical variables were not significantly associated with the outcome, in the univariate analysis.

The female gender was prevalent among the subjects showing bad AAS, which differs from another study made in the city of Belo Horizonte / MG with patients on RRT, receiving attention at dialysis units and at high complexity transplantation centers, in which the male gender was predominant[4, 5].

The National Health Survey conducted nationwide in the years of 2013 and 2014 found that bad AAS was prevalent among women. From this data, we can state that results of the influence of gender in AAS are contradictory and more research is needed to better understand the relationship between gender and AAS.

From a gender perspective, it is inferred that bad AAS among women may be related to their role in society - to the maintenance of traditionally female roles, such as the responsibility of both taking care of home and children as well as participating in the paid labor market, exposure to increased physical and mental stress, resulting in worse AAS compared to men[4].

As for age group, in this study, bad AAS prevailed among the youngest. Two studies conducted in Belo Horizonte/MG, involving HD patients, showed divergent results regarding the association between bad AAS and age. While one of the studies found association of bad AAS in more advanced age groups[4], the other did not find a statistically significant association between bad ASS and age group[3].

HD has effects on QoL that weaken biopsychosocial aspects of individuals` lives, however, those are more intense for the younger. In this age group, individuals aim to achieve goals related to social life and the building of their own family, their education and professional career, among others, being harmed by the demanding responsibility and commitment to their treatment and due to living with an uncertain future, depending on a machine to survive.

In a study carried out with young patients, in Rio Grande do Sul at two HD clinics, the problems most reported by the patients were associated to the time spent for the HD treatment, difficulties in maintaining professional and social life, feelings of worthlessness, loss of freedom , changes induced by DRC in their plans for the future and changes in habits, such as traveling and practice of sports[15].

The CKD and its treatment can lead to limitations in the lives of individuals, damaging their daily life and routine, and consequently, compromising their physical and psychological aspects, with effects of a personal, familiar and social order [16].

The non-participating in the labor market can be the greatest misfortune for the renal patients in productive age, as there are higher professional expectations in this age group, comparing to the limits imposed to reach them, due to the difficulty in reconciling treatment with their formal employment and social life[17].

Since there may be problems in maintaining stability in the labor market, it is necessary to seek government assistance, which often offers lower income than the income before illness; financial problems can affect not only individuals, but also impact family life and influence other aspects of life, such as eating, recreation, transportation, treatment quality and others[17].

As for marital status, bad AAS prevailed among unmarried individuals. On the other hand, other studies made in the States of Bahia and Paraíba observed the predominance of married people, who find support from family and friends as aid in the adaptation to the disease, due to having people close and finding assistance at all times, invigorating individuals and improving QoL for all [18-21].

However, regarding family arrangement, bad AAS predominated among individuals who lived with their companions. When it comes to evaluate the associations between family characteristics and health, some authors suggest considering the influence of variables such as gender, socioeconomic status and socio-cultural context[20, 22].

Family support shows itself relevant for a treatment that requires a lot of time and dedication from patients. Family members need to be guided and understand the need of co-responsibility, both, between the patient and the health care team, as well as between the individuals who live with patients, so the results of interventions can have positive effects on QoL.

The relationship of trust with the family constitutes support and security in the face of the biopsychosocial disorders resulting from the disease and dialysis[21]. In addition to that, they contribute to the reduction of depression and mortality rates, serving as a means of social support and to improve the patient's QoL in RRT[4, 5].

In the present study, individuals with higher levels of education had a bad AAS prevalence, differing from other studies made in the State of Mato Grosso do Sul and Minas Gerais, which found the prevalence of bad AAS among individuals with lower levels of education, corroborating other studies conducted throughout Brazil, through the National Health Survey, which have pointed out association between social inequality and negative AAS results[3,5,13,23,24].

Education has multiple advantages towards health. Individuals with higher educational levels are less likely to expose themselves to disease risk factors, given their greater access to information on health and, in general, greater access to economic and social resources, favoring their health conditions.

Among socioeconomic indicators, the educational level is probably the most used, since it is considered more stable than the work status and income, which, unlike education, may vary over time[3, 5].

Education is a basis for the development of biopsychosocial aspects. The higher the educational level, the greater the professional opportunities, a fact which allows adequate socioeconomic development necessary to meet the physical, biological and mental needs patients may have.

Provided patients have a well-established financial situation, it is possible to have a healthy diet associated with physical activity practices, adequate housing, as well as easy access to health services and medical resources, conditions considered imperative for the well-being and QoL of individuals.

However, in this study, socioeconomic variables were not associated with bad AAS, such results probably arising from the sampling size.

Regarding clinical variables, the prevalence of AAS was bad among HD patients when compared to those in PD treatment. When considering the progression of CKD, the limitations imposed by the HD routine interferes with daily activities. In later stages, symptoms may impair routine, formal employment and, consequently, affect QoL.

PD is less invasive and equivalent to HD. It keeps individuals away from undesirable symptoms in a therapy that allows their stay in the family environment[25]. However, despite the technological progress reached, there are still complications associated with PD. Its long-term efficacy is limited by complications ranging from the most common, such as bacterial peritonitis, to sclerosing encapsulating peritonitis, feared for its severity[24].

CKD poses as a major challenge to patients since its diagnosis, as, patients usually need to rely on a totally unknown machinery to them in order to survive. In addition, it is necessary to adapt to a regulated diet and restricted water consumption, together with the use of numerous medications.

These individuals then have to deal with typical symptoms of the progressive development of the disease, which undermines their interaction with the daily activities they previously had.

The temporary type of access was prevalent among patients with bad AAS compared to the permanent type. However, no studies were found to address specific associations between such variables.

In the daily life of these patients, negative feelings, such as fear of the prognosis of disability, economic dependence and altered self-image are frequent [25].

The physical restriction imposed to one of the arms due to arteriovenous fistula (AV), or discomfort caused by the catheter in the neck, result in changes in the performance of daily and professional activities of the patients leading to them feeling more insecure about self-care[23].

Self-image is impaired and can cause damage to mental health, compromising treatment. Patients recognize the need for AV in hemodialysis, however, they report negative feelings and bitterness against their dependence on the fistula in order to survive[23].

Depending on a device, which is not part of the natural structure of the body, is generally destabilizing, even if that device or access is a means to life, as individuals live in a society where perfection is demanded, and even when patients are capable of coping with the impacts of treatment, the solution is often seen as an alteration of self-image, which represents one more obstacle to their daily activities.

The multi-professional's health team must be attentive and intervene offering health education activities, suggesting, when necessary, psychological counseling for patients with greater difficulties in adaptation.

The research results related to AAS allow understanding factors associated with bad AAS, which facilitates the promotion of necessary care, and, thus, generates hypotheses to be tested in longitudinal studies, seeking to improve the QoL of those individuals[3].

CONCLUSION

Bad AAS was prevalent among the interviewees, however, it was not associated with the sociodemographic and clinical characteristics examined.

As a health indicator, the AAS enables nurses to identify groups of risks of newly diagnosed individuals and those who have difficulty adapting to self-care measures, even after years of receiving diagnosis.

In view of this panorama, educational and self-care actions, such as guidelines on correct hand hygiene, use of face mask during RRT, the technique for the peritoneal dialysis procedure, food and water control and recognition of the intensity of side effects should be offered to CKD patients.

These approaches should address the biopsychosocial needs of individuals and make them understand their health status, facilitating adherence to therapeutic procedures and, consequently, the positive outcomes of the selected RRT.

It is hoped that this study will have future developments and may subsidize the health practice, based on the interdisciplinary approach, involving the nursing and the health team in the recognition of adequate biopsychosocial support for each individual, according to their specific needs, eliminating or controlling weaknesses which might undermine the success of dialytic treatment.

Among the limitations of this study, we highlight small sampling, which prevents the generalization of its findings. It is recommended that other studies are made, with a larger sampling size so as to better investigate the association between AAS and socio-demographic and clinical characteristics.

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