Revista de Enfermagem e Atenção à Saúde
REAS

ORIGINAL ARTICLE
DOI: 10.18554/reas.v11i1.4888
e202250

SYMPTOMS OF STRESS AND ANXIETY IN PATIENTS SUBMITTED TO HEMODIALYSIS IN EMERGENCY SERVICE

SINTOMAS DE ESTRESSE E ANSIEDADE EM PACIENTES SUBMETIDOS À HEMODIÁLISE EM SERVIÇO DE EMERGÊNCIA

SÍNTOMAS DE ESTRÉS Y ANSIEDAD EN PACIENTES SOMETIDOS A HEMODIÁLISIS EN SERVICIO DE URGENCIAS

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How to cite this article: Cavalcante ES, Santos KN, Barra IP, Pennafort VPS, Mendonça AEO. Symptoms of stress and anxiety in patients submitted to hemodialysis in emergency service. Rev Enferm Atenção Saúde [Internet]. 2022 [acesso em:____]; 11(1):e202250. DOI: https://doi.org/ 10.18554/reas.v11i1.4888

ABSTRACT

Objective: to investigate the level of stress and anxiety in renal patients undergoing hemodialysis. **Method**: a descriptive, cross-sectional study with a quantitative approach, conducted from July to December 2018 in a mobile emergency hemodialysis service. The instruments used were Lipp's Stress Symptoms Inventory for Adults and the State-Trait Anxiety Inventory. **Results**: 400 patients participated in the study and 79,0% presented stress; of which 52,5% had symptoms of exhaustion and 26,0% symptoms of near exhaustion. All patients had anxiety, 54,0% at high level and 46,0% moderate. **Conclusion**: it is necessary to pay more attention to the multidisciplinary team, especially nursing, about the signs and symptoms suggestive of stress and anxiety for decision making in order to explore possible choices and changes for better coping with hemodialysis treatment, from the perspective "acceptance" and promotion of effective therapeutic strategies.

Descriptors: Renal Dialysis; Stress, Psychological; Anxiety; Nursing Care; Nephrology Nursing.

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RESUMO

Objetivo: investigar o nível de estresse e ansiedade em pacientes renais submetidos à hemodiálise. **Método**: estudo descritivo, transversal e abordagem quantitativa, realizado de julho a dezembro de 2018 em um serviço móvel de hemodiálise de emergência. Foi utilizado o Inventário de Sintomas de Estresse para Adultos de Lipp e o Inventário de Ansiedade Traço-Estado. **Resultados**: participaram do estudo 400 pacientes e 79,0% apresentaram estresse; dos quais 52,5% apresentavam sintomas de exaustão e 26,0% sintomas de quase exaustão. Todos os pacientes apresentaram ansiedade, 54,0% em nível alto e 46,0% moderado. **Conclusão**: faz-se necessária maior atenção da equipe multiprofissional, em especial da enfermagem, acerca dos sinais e sintomas sugestivos de estresse e ansiedade para a tomada de decisão, no sentido de explorar escolhas e mudanças possíveis para um melhor enfrentamento do tratamento hemodialítico, na perspectiva de "aceitação" e de promoção de estratégias terapêuticas eficazes. **Descritores**: Diálise Renal, Estresse Psicológico, Ansiedade, Cuidados de Enfermagem, Enfermagem em Nefrologia.

RESUMEN

Objetivo: investigar el nivel de estrés y ansiedad en pacientes renales sometidos a hemodiálisis. **Método**: estudio descriptivo, transversal con enfoque cuantitativo, realizado de julio a diciembre de 2018 en un servicio móvil de hemodiálises de emergencia. Los instrumentos utilizados fueron el Inventario de síntomas de estrés de Lipp para adultos y el Inventario de ansiedad por rasgos estatales. **Resultados**: 400 pacientes participaron en el estudio y el 79,0% presentó estrés; de los cuales 52,5% tenían síntomas de agotamiento y 26,0% síntomas de agotamiento cercano. Todos los pacientes tenían ansiedad, 54,0% a nivel alto y 46,0% moderado. **Conclusión**: es necesario prestar más atención al equipo multidisciplinario, especialmente a la enfermería, sobre los signos y síntomas sugestivos de estrés y ansiedad para la toma de decisiones con el fin de explorar posibles opciones y cambios para enfrentar mejor el tratamiento de hemodiálisis, desde la perspectiva "aceptación" y promoción de estrategias terapéuticas efectivas.
Descriptores: Diálisis Renal; Estrés Psicológico; Ansiedad; Atención de Enfermería; Enfermería em Nefrología.

INTRODUCTION

Chronic Kidney Disease (CKD) is characterized by the presence of kidney damage associated or not with decreased glomerular filtration (less than 60 ml/min/1.73m²) for a period equal to or greater than three months. For this same period, it is considered that albuminuria, abnormal urine sediments, electrolytes and other abnormalities due to tubular disorders, abnormalities detected by histology and structural abnormalities detected by imaging tests may arise.[1]

Estimates from the Brazilian Society of Nephrology indicate that CKD affects approximately 5.0-10.0% of the world population and its incidence in Brazil has increased. The estimated number of new dialysis patients in 2018 was 42,546, an increase of 54.1% compared to 2009. There

was also an increase in the estimated incidence rate, which was 204 pmp in 2018, 20.0% higher than that observed in 2013. About 92.0% of patients were undergoing hemodialysis.[2] Studies show that the main complications related to hemodialysis are arterial hypotension, arterial hypertension, cardiac arrhythmias, hypoglycemia, hypothermia and coagulation of the dialyzer or extracorporeal system.[3,4]

It is also considered that CKD and hemodialysis cause biochemical, clinical and metabolic disorders, directly or indirectly responsible for high rates of hospitalization, morbidity and mortality, with consequent physiological and emotional impacts in the professional, social, sexual and psychological spheres.[5]

It is agreed that chronic kidney disease and hemodialysis are capable of generating states of stress, depression and anxiety, directly interfering with the quality of life of patients and their families.[6] With regard to the causes of stress during treatment, the highlights are the long duration of the hemodialysis session, repeated punctures of the arteriovenous fistula or for catheter implantation, non-observance of clinical improvement, dependence on family members, changes in body image, willingness to abandon treatment and an ambiguous feeling between the fear of living and dying.[5,7]

Thus, it is considered that the emotional aspect of chronic renal patients dependent on hemodialysis is significantly affected by illness and continuous dialysis treatment. A condition that usually causes stress and anxiety due to the fear of complications during treatment, significant changes in the bio-sociocultural context and fear of the future, factors that can have a deleterious impact on therapeutic adherence and on the return to activities of daily living.

In view of the above, the objective was to investigate the level of stress and anxiety in renal patients undergoing hemodialysis.

METHOD

Descriptive, cross-sectional study with a quantitative approach, carried out in a mobile service for renal emergencies in the city of Natal-RN, Brazil. The service is funded through an agreement between the mobile emergency dialysis service and private health plans. Thus, after dialysis therapy is indicated and the procedure is authorized, the team composed of a doctor and a nurse specialist in nephrology moves to care for patients admitted to hospitals in the private health network. The population consisted of renal patients who underwent

hemodialysis procedures at the service surveyed for six months. The probability sample without replacement was calculated through the calculation for finite populations with a sampling error of 5% and a confidence level of 95% ($Z\infty = 1.96$),

The selection of patients was obtained through consecutive convenience sampling, considering the monthly number of visits for six months. Thus, the simple random sample, for convenience, was composed of patients who met the following inclusion criteria: of both sexes, aged 18 years or older and submitted to the emergency hemodialysis procedure. Patients with impaired verbal communication or using central nervous system depressant drugs, conditions that could make it impossible to participate in the interview, were excluded. To know the sociodemographic aspects, the authors developed an instrument composed of the following variables: sex, age, place of birth, origin, marital status, education, occupational status, family income and time in treatment.

Data were collected from July to December 2018, by a student nurse in the Nephrology Nursing specialization course, through interviews using the Lipp Stress Symptom Inventory for Adults8, composed of a list of physical and psychological symptoms. psychological factors grouped in tables, which corresponded to the phases of Stress (alert, resistance, near-exhaustion and exhaustion).

The Stress Symptom Inventory (ISS) assesses recent stress. It is based on the principles of Selye's theory and evaluates 47 symptoms presented by the subject (whether somatic or psychological)and the stress phase, at different times: last 24 hours, last week, last month, making it possible to identify whether the patient is in the phase of alertness, resistance, near exhaustion or exhaustion. It was developed by Lipp, validated by Lipp and Guevara and standardized by Lipp in 2000, and has an internal consistency of α=0.91.8

Data interpretation was performed according to Selye's classification, in which in the first phase the organism has an excitation of aggression or of escape from the stressor, which can be understood as an adaptation behavior. In the second, called the alert phase, the organism changes its parameters of normality and concentrates the internal reaction in a specific target organ, triggering the Local Adaptation Syndrome (LAS), with manifestation of symptoms such as anxiety, fear, social isolation, oscillation of appetite, sexual impotence. In the third, exhaustion occurs

and the organism is exhausted by the excess of activities and the high consumption of energy, with the failure of the organ mobilized in the SAL, which manifests itself in the form of illness.[9] The fourth phase of the stress process is called near exhaustion. In which,

To assess the level of anxiety, the State-Trait Anxiety Inventory (STAI) was used.Spielberger[10], this scale consists of 20 statements with scores ranging from 20 to 80 points; high scores indicate a high level of anxiety and lower scores indicate a low level of anxiety.11The responses to the inventory were digitized in Excel spreadsheets for Windows Vista and then imported into a database in the Statistical Package for the Social Sciences (SPSS) for Windows 16 program. Data analysis was performed using descriptive statistics, performing the chi-square test to assess the significance of differences in symptom manifestation between the stress phases. Significant statistical differences were considered when $p<0.05$. The ethical precepts of research with human beings were guided by Resolution no. 466/12 of the National Health Council.[12] The research obtained the favorable opinion of the Research Ethics Committee of the Federal University of Rio Grande do Norte (UFRN), according to nº 2,754,933 and with Certificate of Presentation for Ethical Assessment (CAAE) 88028518.3.0000.5537.

RESULTS

A total of 400 patients on hemodialysis participated in the study, of which 54% were male. The most frequent age group was that of patients aged between 51 and 74 years (49.2%). As for marital status, 59.0% were married and professionally active (45.0%). The most frequent level of education was complete elementary school (43.0%), with family income between 04 and 05 minimum wages (52.5%). Most patients had between 01 and 05 years of hemodialysis treatment (79.0%).

Table 1. Sociodemographic characterization of renal patients on hemodialysis. Natal, RN, Brazil, 2018. (n=400)

Variables		no	(%)
Sex	Feminine	184	(46.0)
	Male	216	(54.0)

Age years)	18-30	44	(11.0)
	31-50	159	(39.8)
	51-74	197	(49.2)
Marital Status	Single	88	(32.0)
	Married	237	(59.0)
	widower	36	(9.0)
	Others	39	(9.8)
occupational status	No Profession / Unemployed	135	(34.0)
	Retired	82	(20.5)
	professionally active	183	(45.5)
education	No education/illiterate	28	(7.0)
	Incomplete Elementary School	36	(9.0)
	Complete primary education	172	(43.0)
	Incomplete high school	40	(10.0
	Complete high school	60	(15.0)
	University education	64	(16.0)
Family income	01 Salary	35	(8.8)
	02 to 03 Salaries	152	(38.0)

	04 to 05 Salaries	210	(52.5)
	More than 5 salaries	3	(0.7)
	less than 1 year	64	(16.0)
treatment time	01 to 05 years	316	(79.0)
	more than 05 years	20	(5.0)
	TOTAL	**400**	**100.0**

Source: Survey data, 2018.

In the analysis of the data obtained by the Inventory of Stress Symptoms for Adults of Lipp (ISSL), 78.7% of the patients presented stress and 21.3% did not indicate significant stressful symptoms. Of the patients with stress, 34 were in the first phase, that is, the Alert Phase (8.5%), while 13.0% were in the second phase, the Resistance, 26.0% in the Near-exhaustion and 52.5% had symptoms of Exhaustion. Regarding the five questions answered by patients during the hemodialysis process, 48% reported uncertainty about the cure and effectiveness of the treatment, 37.0% reported fear of complications and 15.0% mentioned fear of being out of the job market. As for the current cause of anxiety, 50.0% reported the absence of leisure, while 37.0% emphasized that the worst consequence of the treatment was the limitation to work.

Table 2. Distribution of users treated at the Renal Emergency Service according to the stress phase. Natal, RN, 2018. (n=400)

Stress Phases	**no**	**%**
Alert	34	8.5
Resistance	52	13.0
Exhaustion	210	52.5
near-exhaustion	104	26.0
Total	400	100.0

Source: Research Data, 2018.

As for the feelings expressed during the hemodialysis, 28.0% reported the desire to leave, 35.0% sadness, 13.0% concern with home problems, 11.0% remain calm during treatment and 13 .0% fear of dying connected to the machine. It was identified that the Chi-square test did not show a significant association between the presence of stress and gender ($\chi 2$ =0.34, p=0.57). It was observed that, in relation to the other variables (age group, marital status, education, occupation and family income), there were also no significant associations. As for anxiety, all patients presented this symptom, in 54% it was classified as high and in 46.0%, as moderate. There was also no significant difference between the sexes or by age group. In the evaluation regarding the causes of anxiety, it was revealed that most patients, that is, 52.0% believed that the time spent on hemodialysis was primarily responsible for the emergence of anxiety traits. Since 26.0% of the patients reported that when the end of the hemodialysis session was approaching, time did not seem to pass, another 4.0% attributed the condition of not being able to do anything else as a cause of anxiety. It is also added that 18.0% of the patients highlighted as a cause of anxiety, feeling physically ill during hemodialysis and not improving after treatment.

DISCUSSION

From the analysis of the sociodemographic data of the 400 participants, a certain homogeneity regarding gender was observed, in which 54.0% were male and 46.0% were female, most were married and were in the age group between 22 to 74 years. A study carried out in 2016 found a similar sociodemographic profile in terms of age, with an average age of 51 years, however, 62.4% of the participants were men.[13]

Regarding education, most had complete or incomplete elementary education. Attention was drawn to the occupation situation, 54.5% were unemployed or retired (20.5%), with an average income between two to five minimum wages. It is also noteworthy that 79% had been on dialysis for more than a year, inferring that the experience with hemodialysis treatment imposes daily challenges that make it difficult to maintain or enter the formal job market.[14]

In the analysis of data obtained through the Symptom Inventory Lipp's Stress Assessment Methods for Adults (ISSL), it was found that most patients had stress with physical and psychological symptoms varying in the four phases. It is

noteworthy that stress is a complex and global reaction of the organism, involving physical, psychological, mental and hormonal components, which develop in stages, or phases.[8]

The alert phase can be considered positive for human productivity, as it consists of increased motivation, 8.5% of patients were in this phase. In addition, this phase indicates that the person entered and exited the stress process without causing harm to their health.[7,9] Some patients were in the resistance phase (13.0%), which, according to Lipp8, is the phase of resistance. in which the patient tries to fight stress to maintain internal homeostasis.

It is noteworthy that 26.0% of patients with stress were in the phase of near exhaustion and 52.5% in exhaustion, which is worrying. It is known that the symptoms of the phase of near exhaustion demonstrate the beginning of the weakening of the organism in the face of stress, which may favor illness.[8]

Studies have shown that in this phase of stress, the illness process begins and the organs with greater genetic or acquired vulnerability begin to show signs of deterioration.to. If exhaustion is not relieved by removing stressors or using coping strategies, stress reaches its final stage.[8,9]

A similar study identified that 71.0% of chronic renal patients on hemodialysis had and stress. Regarding symptoms, 4.0% were in the first phase of stress installation (alert phase); 47.0% had symptoms of the resistance phase; 13.0% in the phase of near exhaustion and 7.0% already had symptoms of exhaustion. Regarding the nature of the symptoms, they observed a predominance of psychological symptoms compared to physical symptoms or both.[11]

As for the feelings and symptoms manifested, the patients highlighted the desire to leave, sadness, pain in the punctures of the fistula toarteriovenous or central venous catheter implantation, concern with everyday problems, doubts about the effectiveness of the treatment and fear of dying connected to the machine. They also stated that the duration of the session and the idle time in hemodialysis are the main triggering factors of anxiety.

Dialysis treatment, although it is now considered a common and bearable procedure that guarantees the continuity of life, is also experienced as a prison by patients, thus configuring a dual relationship between them and hemodialysis. The rigidity of the treatment compromises and causes multidimensional changes in their lives.[14]

Other researchers corroborate when they state that hemodialysis causes a rupture in patients' lives, with multiple psychological repercussions, including in the family context, especially when they are elderly and depend on family members in carrying out daily activities.[15,16] In this perspective, it is important that caregivers/family members are also considered in the therapeutic plan developed by the multidisciplinary team.

Corroborating the aforementioned authors, it is emphasized that stress is not the pathogen responsible for diseases. However, chronic exposure to a stressful situation may lead to weakening organic and psychological, so that diseases with genetic predisposition can manifest. Furthermore, the stress itself can worsen the patient's existing clinical condition, such as high blood pressure, for example.[7,11] It was observed that the daily and leisure activities were the most affected. Another investigation also identified the negative influence of chronic kidney disease related to physical limitation in the development of usual activities, with significant emotional repercussions. Situation that requires psychological follow-up in the maintenance of mental health, having as a predominant feeling when facing the disease: the hope of cure.[17] On the other hand, despite the complexity of hemodialysis treatment and its psychic implications for the patient both in the hospital environment and at home , some strategies have shown satisfactory results in reducing symptoms of stress and anxiety, with significant improvement in the quality of life of these patients and their caregivers.

In this context, the use of integrative and complementary therapies stands out in nursing care, such as music therapy during hemodialysis sessions, indicated in the treatment and prevention of depression, with a significant reduction in anxiety levels, pain relief, improvement in functional capacity and a sense of well-being.[6] Other studies recommend aromatherapy, through the inhalation of lavender oil as a non-pharmacological treatment option, with fewer adverse effects, for the treatment of anxiety and insomnia in patients undergoing hemodialysis.[18]

Another interesting strategy that may contribute to the reduction of stressors in this population is the development of educational activities during hemodialysis, through booklets or other instructional resources, in order to facilitate learning in adherence to dialysis treatment and promote greater autonomy and safety in performing daily care.[19]

Knowledge about the factors that generate stress and anxiety, as well as positive strategies by nursing, can guide the planning of care for patients undergoing hemodialysis therapy in a way that promotes a reduction in the negative effects of the stress generated by the disease and treatment, involving investment in educational programs for patients and their families, which address self-care, ways of coping with treatment, spiritual support and physical exercises, which can contribute to improving the quality of life and health outcomes of these people. Based on these recommendations, this experience can be re-signified and also enhance changes and new opportunities in life.[13,14]

In this perspective, the area of Nursing in Nephrology may Aim for differentiated nursing care, capable of identifying other demands of renal patients undergoing hemodialysis in emergency services, in addition to the prescribed dialysis schedule. By valuing the symptoms of stress and anxiety in this population, the nursing team in particular will develop an individualized care plan in order to alleviate the stressors associated with hemodialysis. This plan should promote changes, through a more pleasant, welcoming environment and the promotion of knowledge for better understanding, acceptance of treatment and greater autonomy in self-care to face the causes of these symptoms.

CONCLUSION

It was observed that the majority of patients undergoing hemodialysis in the service of emergence presented stress, highlighting symptoms of exhaustion and near exhaustion. All patients had high or moderate anxiety. The presence of stress was mainly attributed to the fear of complications during the session, duration of treatment while they are connected to the machine and also to the fact that they are out of the job market.

This reality signals the need for emotional support for the patient undergoing hemodialysis by the multidisciplinary team, especially the nursing team, due to the direct and continuous contact during the dialysis session. We emphasize the importance of qualified listening in this process, as it allows the patient to speak about their complaints, doubts and fears regarding illness, treatment and changes in the family context, thus, nursing will be able to unveil other care demands, such as emotional overload. In this way, it will be possible to seek therapeutic and educational strategies in order to minimize the impact of the disease and hemodialysis, favoring the re-

signification of the experience and the new way of living.

The limitations of this study were operational, since some interviews suffered interference regarding the location and dynamics of the mobile emergency service, since the space of the work station was small, consisting of complex technological equipment and with audible and visual alarms. It is also noteworthy that listening to the speeches was also impaired due to the use of face masks by the patients, being necessary at times to ask the patient to repeat their report for better understanding.

These difficulties are recognized, however, the results obtained are no less relevant and important. The authors' feelings and empathy towards these patients are combined, considering them as unique and significant people in this context. In view of the above, it is recommended to expand the research to a larger sample of patients on hemodialysis, and replication in other specialized sites, including with a view to comparing data related to stress.

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https://www.scielo.br/j/reben/a/Z9Why8yvrCpLPGTHvWLXPDv/?format=pdf&lang=en

RECEIVED: 08/24/20
APPROVED: 04/02/22
PUBLISHED: 04/22