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ORIGINAL ARTICLE

EVALUATION OF THE STRESS LEVEL OF CHRONIC KIDNEY DISEASE PATIENTS UNDERGOING HEMODIALYSIS TREATMENT

AValiação do Nível de Estresse de Doentes Renais Crônicos em Tratamento Hemodialítico

EVALUACIÓN DEL NIVEL DE ESTRÉS DE ENFERMOS RENALES CRÓNICOS EN TRATAMIENTO HEMODIALÍTICO

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ABSTRACT

Objective: to evaluate the stress levels in chronic kidney disease patients undergoing hemodialysis treatment. **Method:** this is a descriptive, exploratory and quantitative study, with a sample of 104 patients treated at the hemodialysis sector of a Hemodialysis Clinic in the city Natal/RN/Brazil, from August to October 2010. We have applied the Lipp's Inventory of Stress Symptoms for the Adults (2000) and data were analyzed by means of descriptive statistics, after the research project has been approved by the Ethics Research Committee, under CAAE nº 0066.0.051.294-09. **Results:** 75% of the sample had stress, 56.4% were in the near-exhaustion phase, 20.5% with symptoms of exhaustion, 14.1% in the resistance phase and 9.0% in the warning phase. **Conclusion:** it was found by the Lipp's Inventory of Stress Symptoms for the Adults (ISSL) that most patients had stress and were in the near-exhaustion phase. **Descriptors:** Hemodialysis Hospital Units; Psychological Stress; Nursing Care; Health Care Quality.

RESUMO

Objetivo: avaliar os níveis de estresse em pacientes renais crônicos submetidos a tratamento hemodialítico. **Método:** estudo descritivo, exploratório, quantitativo, com amostra de 104 pacientes, atendidos no setor de hemodiálise de uma Clínica de Hemodiálise em Natal/RN/Brasil, de agosto a outubro de 2010. Foi aplicado o Inventário de Sintomas de Estresse para Adultos de Lipp (2000) e os dados foram analisados pela estatística descritiva, depois de o projeto de pesquisa ter sido aprovado pelo Comitê de Ética em Pesquisa, sob nº CAAE 0066.0.051.294-09. **Resultados:** 75% da amostra apresentaram estresse, 56,4% encontravam-se na fase de quase-exaustão, 20,5% com sintomas de exaustão, 14,1% na fase de resistência e 9,0% na fase de alerta. **Conclusão:** constatou-se por meio do Inventário de Stress para Adultos de Lipp (ISSL) que a maioria dos pacientes apresentou estresse e se encontravam na fase de quase-exaustão. **Descritores:** Unidades Hospitalares de Hemodiálise; Estresse Psicológico; Cuidados de Enfermagem; Qualidade da Assistência à Saúde.

RESUMEN

Objetivo: evaluar los niveles de estrés en pacientes renales crónicos sometidos a tratamiento hemodialítico. **Método:** estudio descriptivo, exploratorio, cuantitativo, en universo de 104 pacientes, atendidos en el sector de hemodiálisis de una Clínica de Hemodiálisis en Natal (RN, Brasil) entre agosto y octubre de 2010. Se aplicó el Inventario de Síntomas de Estrés para Adultos de Lipp (2000). Los datos se analizaron mediante estadística descriptiva, tras aprobación del proyecto de investigación por el Comité de Ética en Investigación bajo protocolo CAAE 0066.0.051.294-09. **Resultados:** 75% de los sujetos analizados presentó estrés, 56,4% se encontraba en fase de casi agotamiento, 20,5% con síntomas de Agotamiento, 14,1% en la fase de resistencia y 9,0% en la fase de alerta. **Conclusión:** se constató por medio del Inventario de Estrés para Adultos de Lipp (ISSL) que la mayoría de los pacientes presentó estrés y se encontraba en la fase de casi agotamiento. **Descriptores:** Unidades Hospitalarias de Hemodiálisis; Estrés Psicológico; Cuidados de Enfermería; Calidad de Asistencia a la Salud.

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INTRODUCTION

Chronic kidney disease (CKD) is a relevant public health problem in Brazil. A study has showed that the prevalence of patients maintained on health care programs intended for the CKF control and treatment practically doubled in the last few years.¹ Accordingly, between 2000 and 2006, the growth in the number of dialysis patients was about 9%, being that the Brazilian Unified Health System - *Sistema Único de Saúde* (SUS) accounted for 89% of the funding for such a treatment.² It is estimated that around two million Brazilians suffer from kidney diseases without being aware of their condition, and this fact was attributed, partially, to the silent and asymptomatic evolution of these illnesses until the kidneys lose approximately 50% of their functional capacity.²

It is known that blood debugging or filtering in the kidney patient can be obtained through kidney replacement therapies, such as hemodialysis and peritoneal dialysis or for a kidney transplantation.³ Routinely, patients on hemodialysis remain on average 40 hours a month in the hemodialysis unit, who initially faces the hard acceptance of the sickness, coupled with feelings of sadness, anger, aggressiveness and hostility and, subsequently, physical wear and emotional stress related to limitations imposed by chronicity conditions of the disease and dependence on the painful treatment with uncertain duration and consequences.⁴

Thus, chronic condition and hemodialysis treatment are sources of stress and have consequences, such as: social isolation, loss of work capacity, dependence on the Social Security, partial impossibility of locomotion and leisure, decreased physical activity, adaptation need, loss of autonomy, changes in body image and, furthermore, an ambiguous feeling between the fear of living and the fear of dying.⁵

Accordingly, stress emerges in a procedural way throughout three steps that are differentiated by means of the symptomatology. At first, the body has an excitation of aggression or of escape from the stressor, which can be understood as an adaptation behavior. In the second step, which is understood as the alert phase, the body modifies its normal parameters and focuses the internal reaction on a certain target organ, by triggering the Local Adaptation Syndrome (LAS), with manifestation of symptoms of the psychosocial sphere, such as: anxiety, fear,

social isolation, appetite oscillation and sexual impotence.⁶⁻⁷ In the third step, the individual is in the near-exhaustion stage, which is characterized by a weakening of the person, who cannot adapt itself or resist in relation to the stressor. Lastly, exhaustion occurs and the body becomes overwhelmed by the excess of activities and the high energy consumption, thus provoking the failure of the organ mobilized by the LAS, which is manifested in the form of organic illnesses.⁶

In this context, nursing assistance in caring of the patient on hemodialysis requires that the professional has technical skills and develops competencies aimed to the full care to the user and its family, as well as its adaptation, paying attention to the changes required by the treatment and chronic condition.⁹

Based on the aforementioned issues and on the professional experience of the authors in this area, the aim of the present study was to evaluate the stress levels presented by chronic kidney failure patients undergoing hemodialysis treatment in a Hemodialysis Clinic in the city of Natal/RN/Brazil.

METHOD

This is a descriptive and exploratory study, with quantitative approach, conducted at the Kidney Institute in the city of Natal/RN/Brazil, which is a clinic intended for the treatment of Kidney Diseases and associated with the Brazilian Unified Health System - *Sistema Único de Saúde* (SUS).

For data collection, we used a structured interview script with questions for sociodemographic characterization and related to the hemodialysis treatment. Moreover, we applied the Lipp's Inventory of Stress Symptoms for the Adults (2000), comprised of a list of physical and psychological symptoms grouped into three frameworks, each frame is matched to a stress phase. This inventory assesses the presence of stress, the stress phase (warning, resistance, near-exhaustion and exhaustion) and the most frequent symptom type (physical or psychological).¹¹

We have used the following inclusion criteria: patients treated at the hemodialysis sector in the period from August to October 2010, of both genders, over 18 years old and who agreed to participate in the research as volunteers by signing the Free and Informed Consent Form. From the Population of 109 users treated at the hemodialysis sector in the period from August to October 2010, five

refused to participate in the survey; hence, we reached a sample of 104 patients.

The results were analyzed by means of descriptive statistics, being that they were presented in tables with frequencies and percentages after the project was submitted and approved by the Ethics Research Committee of the Hospital Universitário Onofre Lopes (CEP-HUOL) under CAAE nº 0066.0.051.294-09 and protocol nº 322/2009, in accordance with the guidelines of the Resolution 196/96 and complementary issues of the National Health Council.¹⁰

RESULTS

The sample consisted of 104 patients on hemodialysis, 53.8% were male and 46.2% were female. Their ages ranged from 21 to 62 years. Regarding the schooling, around 60% had incomplete Elementary School, 25% completed the High School, 10% were illiterate and 5% had incomplete Higher

Education. The prevalent marital status of this population was married (52.8%), followed by singles (27.2%) and separated (20%). As for the occupation, 65% of patients were retired, 25% were working as autonomous and 10% never had any kind of profession. Concerning the income, the family income corresponded to one minimum wage in 35% of the sample and in the remaining 65% corresponded to a range from 2 to 3 minimum wages. With regard to the treatment time, 4% of patients started hemodialysis for less than one year ago, 6% from one to two years, 8% from three to four years, 29% from five to six years and 53% for over seven years.

In the analysis of data obtained by the Lipp's Inventory of Stress Symptoms for the Adults (ISSL), most patients have shown stress signs (75%) and 25% did not present significant stress symptoms, as shown in table 1:

Table 1. Distribution of users served in the Hemodialysis Clinic, according to the stress presence. Natal/RN, 2010. (n=104)

Stress presence	n	%
Yes	78	75,0
No	26	25,0
Total	104	100,0

Source: Research data

From the 78 patients with stress, 9.0% were in the first phase, i.e., the warning phase; 14.1% in the second phase, the

resistance phase; 56.4% in the near-exhaustion phase and 20.5% already showing exhaustion symptoms, as Table 2 shows.

Table 2. Distribution of users served in the Hemodialysis Clinic, according to the stress phase. Natal/RN, 2010. (n=104)

Stress phases	n	%
Warning	7	9,0
Resistance	11	14,1
Near-exhaustion	44	56,4
Exhaustion	16	20,5
Total	78	100,0

Source: Research data

Regarding the factors that hinder the hemodialysis treatment, it was found that 58% reported that is the distance from their residences to the hemodialysis clinic, 32% reported not having any entertainment during the hemodialysis period and 10% said they could not reconcile hemodialysis therapy and secular work.

With regard to the cause of stress during the treatment, 36% of interviewees pointed out to the four hours required for the hemodialysis treatment, 24% referred to the repeated puncture for the introduction of the catheter, 28% reported wanting to go away, but without possibility, and 12% for not identifying improvement in the disease clinical picture after the hemodialysis

section.

As for the feelings expressed throughout the hemodialysis treatment, 38% reported having a willingness to abandon the treatment, 37% felt sad for being submitted to a permanent treatment, 13% were afraid to die when connected to the machine and 12% felt joy for being alive.

DISCUSSION

From the moment a person is faced with the reality of the chronic disease, everyday activities are compromised and the physical debilities cause significant changes, leading the person to become dependent on the treatment and triggering stressful situations in its daily life.¹²

Accordingly, the chronic kidney disease treatment modifies the daily routine of the sick person, since it is not only restricted to the hemodialysis therapy, but includes a set of care in the feeding, restriction of fluid intake, as well as the psychological implications arising from the periodic conduction of hemodialysis sections.¹³

Regarding the main consequence arising from the hemodialysis treatment, most of the surveyed sample highlighted the fact of being unable to work. The changes in lifestyle and the need to stop doing the things that provide enjoyment to the life are highlighted by patients as difficulties resulting from the disease. Among the changes, they emphasized that the inability to work is something that intimidates and marginalizes them. Besides the lack of personal fulfillment, caused by the deprivation of the work, the resulting financial difficulties bring concerns to these people in a deep way.¹²

Regarding the factors that hinder the hemodialysis treatment, it was found that the majority of patients reported that it is because of the distance from their residences to the hemodialysis clinic, which is highlighted in the literature as a cause of stress, as well as it is presented as a factor that has a direct connection with the hemodialysis treatment adherence and the life quality of the patient.¹⁴

Patients reported difficulties in relation to the need to move to another city to perform the hemodialysis sessions. If on the one hand, hemodialysis allows an illusion of independence before the disease, during the time between one dialysis session and the next one, on the other hand, at the time that the patient is "connected" to the machine, the limitations of the disease and its dependence on the apparatus might emerge with all possible intensity.¹²

The treatment interferes with daily living activities (DLA), and this is often a major cause of stress. Some patients presented disorders in the DLA and others in the health/disease process, being that somehow all patients with CKF were affected in their life condition during the treatment.¹⁴

The analysis of data obtained by the Lipp's Inventory of Stress Symptoms for the Adults (ISSL) showed that most patients had stress, and of those, the majority were in the near-exhaustion stress phase. The near-exhaustion phase occurs when a person becomes unable to adapt or resist to the stressor, and it might start through the onset of diseases due to the weakening of the body.

It is important to recognize that the health of the individual who lives with ESRD not only depend on the success of hemodialysis treatment, made possible by the hemodialysis machine, but also on the responses that the health care network can provide to all those health needs, originating or not from the kidney patient condition.¹⁵

In this study, the main cause of stress was attributed to the long-term of the hemodialysis session, around four hours attached to a machine; nonetheless, patients also cited the repeated punctures, non-observance of improvement in the clinical picture of the disease and the willingness to abandon the treatment.

In another study, it becomes evident the fear of the machine, the frequent requests to perform routine procedures, fears before possible side effects of the treatment and the charges from the health professionals team as causes of stress. It should also be highlighted some concerns regarding the preservation of the fistulas operation, water control, food restriction; changes in the daily life activities result in anguish, suffering, stress, by interfering with the everyday life relationship.¹²

Due to the CKD treatment, the patient needs to survive and adapt itself to its new physical condition. Its body starts to have scars generated by fistulas, catheters, examinations and surgeries, the skin becomes pale and dry, besides having multiple and hemorrhagic spots.¹⁶ The change in the body image is reported as one of the difficulties faced by people on hemodialysis. The change in the self-image, with the surgical formation of the arteriovenous fistula or with the double lumen catheter insertion, becomes another factor to be experienced, and it might be a potential causing of psychological disorders, such as stress.¹²

Often, the medication excess provokes changes in the sexual life, because men begin to have difficulties in erection and women in reaching orgasm. Fully follow the oral diet prescribed to hemodialysis patients is one of the great challenges. The special diet might require significant changes in the eating habits and in the behavioral pattern of the patient. Patients with CKD have their physical activity reduced and increase their need for rest, due to treatment, and this is seen as a source of stress.¹⁶

Study showed that women had a greater number of stressors, indicating the interference of the disease in the work, the fatigue and the prolonged treatment - all

physiological stressors - such as the three most frequent factors. In the group of men, physical activity limitations, changes in physical appearance and loss of bodily/physical function were the most frequent factors.¹³ This study has identified repercussions of hemodialysis treatment related to the social support and the stressors linked to the life quality of chronic kidney disease patients; men have better rates of life quality than women who, in turn, are more stressed. Therefore, men have better conditions, since the higher the index of life quality, better conditions has to face the stressors related to the sickness.¹³

A study highlighted the presence of music during the hemodialysis treatment, and it was found that the therapy was positive with regard to the change in the time perception, by promoting feelings of welfare, joy, happiness and relaxation, besides representing entertaining, routine change, absence of symptoms, positive memories, companionship and being a stress reducer.¹⁷ It should be noted the importance and the change that music performs on these patients, demonstrating the need for the implementation of music therapy as a strategy in the nursing care for hemodialysis patients.¹⁷

The study is in line with the national literature, when it realizes just how the treatment time influences in the daily lives of chronic kidney disease patients, by being a stress generator for causing great difficulties to the development of daily living activities, with impacts in their self-esteem (the commitment of the development of DLA makes them feel useless) and also bringing prejudice in their social life, considering that many of them need to travel from neighboring towns for performing the treatment, passing, sometimes, all day away from their household and family members.¹⁷

It should be realized the need of the Nursing being prepared to provide comfort and support for these patients, taking into account that the nurse is the professional who is directly connected with the care to be dispensed during the sessions, which makes it able to pass higher intimacy and trust, if it so wishes.¹⁷⁻⁸

Importantly, the chronic kidney disease patients need a humanized and multidisciplinary care; because, from the time they receive the diagnosis, start to suffer emotional, social and physical tensions, which are stress generators.¹⁶

Investing in the care offered to these

patients is to invest in the improvement of their life quality. The nurse should design goals and objectives that might contribute to the reduction of stressful factors, such as offering a means of distraction throughout the hemodialysis accomplishment, as it was a pretty frequent cited difficulty by the study patients.¹⁹

CONCLUSION

It was found through the Lipp's Inventory of Stress Symptoms for the Adults (ISSL) that 75% of patients had stress, 9.0% were in the first phase, i.e., the warning phase; 14.1% in the second phase, the resistance phase; 56.4% in the near-exhaustion phase and 20.5% already showing exhaustion symptoms. With regard to the cause of stress during the treatment, 36% of interviewees pointed out to the four hours required for the hemodialysis treatment, 24% referred to the repeated puncture for the introduction of the catheter, 28% reported wanting to go away, but without possibility, and 12% for not identifying improvement in the disease clinical picture after the hemodialysis section.

It should be emphasized that nursing professionals should seek to understand the changes brought through the chronicity condition of the disease on the chronic kidney disease patient's life, with a view to promoting technical, ethical and humanistic strategies able to minimize the factors related to the development of stress, such as: qualified listening, welcoming and humanization of the treatment environment. Furthermore, they need to provide clarification to the patients concerning their sickness, transmitting guidelines on complications prevention, strengthening and promoting behavior change adapted to the limitations imposed by the disease, with a view to improving the life quality.

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