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Frazão, Cecília Maria Farias de Queiroz; Paiva, Maria das Graças Mariano Nunes de; Silva, Fernanda Beatriz Batista Lima e; Lira, Ana Luisa Brandão de Carvalho; Bezerra, Clarissa Maria Bandeira; Sá, Jéssica Dantas de

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Federal University of Rio de Janeiro State



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## RESEARCH

### Pacientes renais crônicos em hemodiálise: um estudo sobre o modo psicossocial da teoria de Roy

Chronic kidney patients in hemodialysis: a study on the mode of psychosocial theory of Roy

Los pacientes renales crónicos en hemodiálisis: un estudio sobre el modo psicossocial de la teoría de Roy

Cecília Maria Farias de Queiroz Frazão<sup>1</sup>, Maria das Graças Mariano Nunes de Paiva<sup>2</sup>, Jéssica Dantas de Sá<sup>3</sup>, Clarissa Maria Bandeira Bezerra<sup>4</sup>, Fernanda Beatriz Batista Lima e Silva<sup>5</sup>, Ana Luisa Brandão de Carvalho Lira<sup>6</sup>

#### ABSTRACT

**Objective:** Identifying the adaptive problems of Roy's psychosocial model in patients on hemodialysis. **Method:** a cross-sectional study, conducted with 178 patients at a dialysis center in northeastern Brazil. **Results:** there were identified three adaptive problems, two from the self-concept mode: sexual dysfunction and low self-esteem; and one from the way of role performance: failure on role. **Conclusion:** the adaptive problems failure on the role, sexual dysfunction and low self-esteem refer to the presence of a chronic disease and invasive treatment, since these conditions directly affect the lifestyle of the individual. **Descriptors:** Nursing theory, Renal dialysis, Chronic renal insufficiency.

#### RESUMO

**Objetivo:** Identificar os problemas adaptativos do modo psicossocial do modelo de Roy em pacientes renais crônicos em hemodiálise. **Método:** Estudo do tipo transversal, realizado com 178 pacientes de um centro de diálise do nordeste do Brasil. **Resultados:** Foram identificados três problemas adaptativos, sendo dois do modo de autoconceito: disfunção sexual e baixa autoestima; e um do modo de desempenho de papel: falha no papel. **Conclusões:** Os problemas adaptativos falha no papel, disfunção sexual e baixa autoestima se remetem à presença de uma doença crônica e a um tratamento invasivo, uma vez que essas condições afetam diretamente no estilo de vida do indivíduo. **Descritores:** Teoria de enfermagem, Diálise renal, Insuficiência renal crônica.

#### RESUMEN

**Objetivo:** Identificar los problemas adaptativos del modo psicossocial del modelo de Roy en pacientes renales crónicos en hemodiálisis. **Método:** es un estudio transversal, realizado con 178 pacientes en un centro de diálisis en el noreste de Brasil. **Resultados:** fueron identificados tres problemas adaptativos, siendo dos en el modo autoconceito: la disfunción sexual y la baja autoestima; y uno del modo desempeño de roles: el fallo en el role. **Conclusión:** Los problemas adaptativos de fallo en el role, disfunción sexual y baja autoestima se refieren a la presencia de una enfermedad crónica y tratamiento invasivo, ya que estas condiciones afectan directamente el estilo de vida de la persona. **Descriptor:** Teoría de enfermeira, diálisis renal, Insuficiencia renal crónica.

<sup>1</sup> Nursing Department. Nurse. Master's degree in nursing. Doctoral student of the Postgraduate program in nursing of the Federal University of Rio Grande do Norte. <sup>2</sup> Nursing Department. Nurse. Master's degree Student of nursing, Postgraduate program of the Federal University of Rio Grande do Norte. <sup>3</sup> Nursing Department. Nurse. Master's degree Student of nursing, Postgraduate program of the Federal University of Rio Grande do Norte. <sup>4</sup> Nursing Department. Nurse from the Federal University of Rio Grande do Norte. <sup>5</sup> Nursing Department. Nurse. Master's degree Student of nursing, Postgraduate program of the Federal University of Rio Grande do Norte. <sup>6</sup> Nursing Department. Nurse. Doctorate. Professor of the Nursing Department and of the Postgraduate program of the Federal University of Rio Grande do Norte. Funded by Universal edict of the National Council for Scientific and Technological Development, with the number of Process 483285/2010-2. Nursing diagnoses in patients undergoing hemodialysis: related to the Theory of Roy and the NANDA International, 2012, Federal University of Rio Grande do Norte.

## INTRODUCTION

**T**he number of people undergoing dialysis treatment for a Chronic Kidney Disease (CKD) grows every year. In the last decade, in Brazil, there was an increase of approximately 115% of patients on dialysis, totaling in the year 2010 a quantity of 92.091 patients. Of this total, 89,7% were being treated by hemodialysis.<sup>1</sup> This consisting in artificial filtration of toxins from the blood and the remove of excess water from the body, being performed on average three times a week lasting four hours.<sup>2-3</sup>

Patients undergoing hemodialysis experience several changes in their daily lives, such as food and water restriction and limitation to perform work, physical and leisure activities.<sup>4</sup> Therefore, hemodialysis may result in user's feelings of discouragement, a fact that contributes to reducing welfare and discouraging biopsychosocial treatment.<sup>5</sup>

Thus, these customers experience situations that require physical, psychological and social changes that are influenced by the type of confrontation of each individual. This can lead to negative when non-adhesion treatment and, consequently, the onset of complications.

In this context, the nurse must act in the identification of the physical and psychosocial needs of this clientele, through clinical reasoning based on a theory of nursing. Therefore, in order to achieve this goal, it is believed that the theory that best fits in the care of chronic kidney patient on dialysis is the Adaptation Model Sister Callista Roy.

The Adaptation Model considers that the environment is responsible for issuing stimuli that affect the person, and that, from their coping mechanisms emits adaptive or ineffective responses. These are categorized into four adaptive modes, namely: physical, physiological, self, paper performance and interdependence. This work proposes to study the last three modes, which together constitute the psychosocial aspects.<sup>6</sup>

In this context, considering the importance of positive coping in chronic renal patients undergoing dialysis treatment highlights the need for nurses to develop strategies that provide adaptive responses. Thus, the study has aimed to identify the adaptive problems of the psychosocial aspects of the Theoretical Model of Roy in chronic renal failure patients on hemodialysis.

## METHOD

Transversal study realized in a dialysis clinic of northeastern Brazil, which represents a particular entity convening to Unified Health System for the provision of the dialysis service. The study population consisted of 330 hemodialysis patients in the clinic. The sample was

calculated using the formula for finite populations, taking into account the confidence level of the study 95% ( $Z\alpha = 1,96$ ), the sampling error of 5%, the population size of 330 individuals and the prevalence of adaptive problems of a conservative value corresponding to 50%. From the application of the formula, found a sample size of 178 individuals.

The inclusion criteria were: have a medical diagnosis of chronic kidney disease; be registered and subjected to dialysis in the clinic said; aged 20-65 years; and be in proper physical and mental condition to participate in the study at the time of collection. And the exclusion criteria were: chronic renal failure patients with other non-related kidney framework that could change the profile of adaptive problems diseases. Patient selection was for convenience consecutively.

Data collection took place from October 2011 to February 2012, through the interview scripts and physical examination, built based on the adaptation modes of the Adaptive Model<sup>6</sup> of Roy.

Data analysis occurred through clinical reasoning to identify the adaptive problems of psychosocial aspects of Roy, identifying individual behavior and environmental stimuli. Then we constructed a database in Excel where we applied descriptive statistics, generating data of absolute and relative frequency.

The study was approved by the Research Ethics Committee (Protocol No. 115/11-P CEP / UFRN), with Certificate of Appreciation Presentation for Ethics (CAAE in 0139.0.051.000-11) and received funding through the universal edict of the National Council of Scientific and Technological development (Case 483285 / 2010-2).

## RESULTS E DISCUSSION

The study included 178 subjects; being 93 (52,2%) male and 85 patients (47,8%) were female. The age ranged between 21 and 65 years old, averaging 46.6 years old. Regarding education, the average was 8,5 years, ranging between 0-19 years of study. The majority (62,9%) people had a partner and had religious bond (69,1%). The monthly family income, calculated on the minimum wage (R\$ 622,00 at the time of collection), ranged between 1 and 30 wages. It is noteworthy that 164 (92,1%) people had income of only a minimum wage, equating all patients benefit from social security.

Concerning adaptive problems of the psychosocial mode of the Roy Adaptation Model, there were identified two mode of self: sexual dysfunction and low self-esteem; and in performance mode: Paper flaw in paper as present in Table 1 is emphasized that the adaptive problems were identified from the behaviors emitted by individual and environmental stimuli related to disease and treatment. And that there were no issues identified in the interdependence mode.

Table 1 - distribution of problems, behaviors, focal and contextual stimuli in patients on hemodialysis according to the Adaptive Model of Roy. Natal/Rio Grande do Norte, 2013.

Problem of Adaptation/Adaptive Mode	Present	
	n	%
<u>Failure on the role/Role performance mode</u>	76	42,7
Focal stimulation		
Complexity of treatment	76	42,7
Contextual stimulus		
Does not do full therapeutic adhesion	76	42,7
Behaviors		
Ineffective behaviors	76	42,7
Verbalized difficulties to achieve the goals of treatment	76	42,7
<u>Sexual dysfunction/Way self-concept</u>	50	28,1
Focal stimulation		
Chronic kidney disease	50	28,1
Contextual stimulus		
Loss of libido	50	28,1
Behaviors		
Decrease in the frequency of sexual intercourse	50	28,1
Decrease in interest of sexual intercourse	50	28,1
<u>Low self-esteem/self-concept Mode</u>	22	12,3
Focal stimulation		
Chronic kidney disease	22	12,3
Contextual stimuli		
Physical wear	22	12,3
Emotional Burnout	22	12,3
Residual stimulus		
Feeling of worthlessness	22	12,3
Behavior		
Self-destructive reports	22	12,3

In the Roy Adaptation Model, the individual is considered a holistic system that emits adaptive or ineffective responses. These responses are identified through the behavior of the individual to stimuli emitted by the environment. The stimuli may be focal, contextual and residual. The focal are those that immediately face the person, being the highest level of change. The contextual stimuli are all present in the other situation that contributes to the effect of the focal stimulus. And the residuals are characteristic constituents of the person, which interfere in the situation, but show up in an obscure way. Finally, the behavior of the resulting stimuli were organized by Roy in adaptive modes.<sup>6</sup>

The performance mode role has focused on the roles that people occupy in society, in search of their own social integrity. Thus, the health and disease can be influential factors on the performance of individuals' role. And the adaptive problems involved in this mode are: transition from ineffective role, away from prolonged role, role conflict, role ambiguity from outside the group stereotypes and fails on the role.<sup>6</sup>

In this study, 42.7% of clients demonstrated the problem adaptive failure on paper, where the focal stimulus was, the complexity of treatment, contextual, not complete adherence and behavior were ineffective behaviors and verbalized difficulties to achieve goals treatment.

The adaptive problem failure can happen on paper by changing the habits of life of individuals, dietary, behavioral and psychosocial changes imposed by the disease and treatment regimen, which ultimately influence the expected for disease control results and total adherence to treatment.<sup>4-5,7</sup>

The time and frequency of hemodialysis, four hours and three times per week, respectively, side effects such as nausea, vomiting, cramps, chest discomfort and

hypotension, as well as dietary, behavioral and psychosocial changes are some contributing factors for not compliance, and consequently to the adaptive problem faults on the role.<sup>8-9</sup>

Furthermore, the customer is faced with changes in their daily lives, from the treatment and the disease, which directly impact on their professional duties and family member.<sup>4</sup> Thus, the understanding that the individual has in relation to social support and quality of life, involving physical limitations and changes in social life, are affected by disease and treatment.<sup>10</sup>

In this context, we emphasize that the role of nursing, to observe the changes caused by adaptive failure problem on paper, and intervene providing guidance for the individual and their family, that promote the inclusion of these patients in their daily and social activities.

Besides that, the nurse can provide educational actions aimed at physical, psychological and social rehabilitation of these individuals, according to their new routine, in order to reduce feelings of frustration, making it useful and responsible for implementing activities daily life and work, fostering their self-esteem and improved quality of life.<sup>4,8-9</sup>

Problems were also identified in the way of self-concept, which is related to the psychological and spiritual aspects of the person. This mode is divided into physical self and I person.<sup>6</sup>

In self-concept mode, the problem sexual dysfunction was identified in 28.1% of respondents, with the focal stimulus, chronic kidney disease, contextual stimuli, loss of libido and how behaviors decreased in frequency and interest in sexual intercourse.

Sexual dysfunction is characterized by sensation, body image and the way to meet his own body and the degree of satisfaction with the same.<sup>7</sup> Studies show that erectile dysfunction is common in individuals with chronic kidney disease, and the major causes: organic disorders, emotional and living conditions imposed on the sick males seek strategies to address the limits of sexuality, especially: drug therapy, group therapy and guidelines for a healthy sex life, provided by health professionals, well as support from family and friends.<sup>12-3</sup>

Another research reveals that loss of libido affects more women than men who perform renal replacement therapy. And that the main causes of sexual dysfunction are psychological factors, and most of the clientele would be designed to treat sexual dysfunction.<sup>14</sup>

So, as a way to help patients affected by the problem adaptive sexual dysfunction, nursing should advise on the importance of conducting a therapy that assists in the reduction or absence of adaptive problem. Should also seek and discuss methods that help to combat sexual dysfunction in both men and women.

Besides professional assistance, patients must relinquish own prejudices and conservatism to assist in solving the problem. Thus, the nurse should focus its assistance on promoting comprehensive health of the individual, including sexuality, intervening to contribute in reducing sexual deficit, to meet all basic human needs.<sup>14</sup>

Still in the mood of self-concept, the study shows that 12.3% of clients demonstrated the adaptive problem of low self-esteem, with the residual focal stimulus, contextual, and behaviors, chronic kidney disease, physical and emotional exhaustion, feelings of worthlessness and self-destructive reports, respectively.

Low self-esteem is to estimate the individual has of himself, his self-assessment, expectations and values, the desire to be different, their feelings and beliefs.<sup>15</sup> In this

context, the sentiments expressed that prevailed in this study to low self-esteem were sadness, fear, anger and anxiety.

Feelings of sadness, weakness and uncertainty are common in patients on dialysis. The sadness is related to chronic disease, dialysis treatment, and changes in their daily lives, favoring the individual, feeling fatigued and unable to participate in family and social gatherings. And the feelings of uncertainty and fear are related to life, death, dialysis and the future.<sup>16</sup>

In addition to the reported feelings, low self-esteem is caused by the limitations imposed by physical and emotional problems, provided by seven chronic kidney disease and its treatment, which affect the daily lives of these.<sup>4,17</sup> Note also, as a factor of low self-esteem, changes in the body, provided the venous accesses, such as arteriovenous fistula (AVF) and catheters, as well as changes in the development of daily activities imposed by the physical limitation of an upper extremity due to FAV.<sup>4</sup>

Another cause of low self-esteem damage is the reduction of economic and professional activities of these clients, because failing to establish or maintain employment relationship, possibly due to prolonged hemodialysis, the existence of physical complaints of fatigue, tiredness and malaise.<sup>4;16-7</sup>

Thus, nursing professionals should promote actions that seek to increase the self-esteem of these individuals, encouraging them to have an active life in basic activities of daily living and leisure, promoting the biopsychosocial welfare of the individual, by reducing limitations imposed by chronic kidney disease and hemodialysis.

Study reveals that individuals undergoing hemodialysis report that the support of family and friends, and the stimulus of hemodialysis team, are relevant factors for motivation and coping at this stage of his life.<sup>18</sup>

It is therefore necessary that nursing seek to know individuals on hemodialysis as a holistic being, in order to realize the changes experienced and plot strategies aligned with the reality in which they find themselves. It is expected that the adaptive problems identified contribute to a better adaptation and, consequently, a greater treatment adherence and quality of life of these patients.

## CONCLUSION

There were identified adaptive problems in the psychosocial aspects of the Roy Adaptation Model in patients with chronic kidney disease on hemodialysis predominant role for failure (42,7%), followed by sexual dysfunction (28,1%) and low self-esteem (12,3%). These problems relate to the presence of a chronic disease with an invasive treatment, since these conditions directly affect the lifestyle of the individual.

Thus, when comparing the survey data and relate them to the literature, it becomes possible to direct nursing care to this population, in order to contribute to the understanding of the disease process and the changes undergone by the treatment, with emphasis on major

adaptive problems, the psychosocial aspects of the theoretical model of Roy found in hemodialysis patients.

Thus, it is up to the nursing professional, acting in care, focusing on major adaptive problems found in this clientele, intervening with aid in the coping process, relief of stress factors and provides comfort and improved quality of life.

It is pointed out as a limitation of this study the fact that no adaptive problem has been identified in the interdependence mode. Thus, it is important to conduct new studies seek contemplate these modes, in order to achieve all this in theory Roy modes.

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Contact of the corresponding author:  
Maria das Graças Mariano Nunes de Paiva  
Departamento de enfermagem. Universidade Federal do Rio Grande do  
Norte. E-mail: [gracinhamariano@hotmail.com](mailto:gracinhamariano@hotmail.com)