

Care in nursing patient acute kidney light from Roy's adaptive theory

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Cuidado en paciente de enfermería luz renal aguda de la teoría adaptativa de Roy

RESUMO

Objetivo: descrever o processo de enfermagem aplicado ao paciente renal pautado na teoria da adaptação. Método: estudo descritivo do tipo estudo de caso de uma mulher diagnosticada com insuficiência renal aguda internada em um Hospital Geral de alta complexidade. O processo de enfermagem pautou-se na teoria da adaptação proposta por Callista Roy e os dados coletados por meio de observação, entrevista e análise de prontuário. Foram respeitados os aspectos éticos e a pesquisa aprovada pelo comitê de Ética. Resultados: A paciente apresentou adaptação a nível fisiológico através da elevação da pressão arterial, edema e fraqueza de membros inferiores; no modo de autoconceito, expresso por ansiedade e baixa autoestima; função de papel, conforme Roy, por meio da interrupção do processo familiar e; no modo interdependência demonstrando interação social prejudicada. Conclusão: O cuidado de enfermagem a luz da teoria da adaptação possibilitou traçar ações integrais, com melhorias significativas para paciente.

DESCRIÇÕES: DPlanejamento de Assistência ao Paciente; Cuidados de Enfermagem; Insuficiência Renal; Teoria de Enfermagem; Assistência Centrada no Paciente

ABSTRACT

Objective: to describe the nursing process applied to renal patients based on the adaptation theory. Materials and methods: This is a descriptive study of the case study type of a woman diagnosed with acute renal failure. Carried out at a high complexity General Hospital in the city of Feira de Santana, Bahia, Brazil. The nursing process was based on the adaptation theory proposed by Callista Roy and the data were collected through observation, interviews and analysis of medical records. The ethical aspects of the National Health Council and the research approved by the Ethics Committee of the State University of Feira de Santana were respected. Results: The patient showed physiological adaptation through increased blood pressure, edema and weakness of the lower limbs; in the self-concept mode, expressed by anxiety and low self-esteem; role function, according to Roy, through the interruption of the family process and; in the interdependence mode demonstrating impaired social interaction. Conclusion: Nursing care in the light of the adaptation theory made it possible to trace comprehensive actions, with significant improvements for the patient. It is believed that the study contributes to more focused and quality care.

DESCRIPTORS: Patient Care Planning; Nursing care; Renal insufficiency; Nursing Theory; Patient Centered Assistance

RESUMEN

Objetivo: describir el proceso de enfermería aplicado al paciente renal a partir de la teoría de la adaptación. Materiales y métodos: Se trata de un estudio descriptivo del tipo de estudio de caso de una mujer diagnosticada de insuficiencia renal aguda. Realizado en un Hospital General de alta complejidad de la ciudad de Feira de Santana, Bahía, Brasil. El proceso de enfermería se basó en la teoría de adaptación propuesta por Callista Roy y los datos se recolectaron mediante observación, entrevistas y análisis de historias clínicas. Se respetaron los aspectos éticos del Consejo Nacional de Salud y la investigación aprobada por el Comité de Ética de la Universidad Estadual de Feira de Santana. Resultados: El paciente mostró una adaptación fisiológica a través de aumento de la presión arterial, edema y debilidad de los miembros inferiores; en el modo de autoconcepto, expresado por ansiedad y baja autoestima; función de rol, según Roy, a través de la interrupción del proceso familiar y; en el modo de interdependencia demostrando interacción social deteriorada. Conclusión: El cuidado de enfermería a la luz de la teoría de la adaptación permitió trazar acciones integrales, con mejoras significativas para el paciente. Se cree que el estudio contribuye a una atención más centrada y de calidad.

DESCRIPTORES: Planificación de la atención al paciente; Cuidado de enfermera; Insuficiencia renal; Teoría de enfermería; Asistencia centrada en el paciente

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Caroline Fernandes Soares and Soares.

Nursing student at the State University of Feira de Santana, Feira de Santana, Bahia, Brazil.

Orcid: 0000-0003-4464-8389.

Fernanda Matheus Estrela.

Nurse. Female doctor. Professor at the State University of Feira de Santana, Feira de Santana, Bahia, Brazil.
Orcid: 0000-0001-7501-6187.

Moniky Araujo da Cruz.

Nurse. Master's student at the Graduate Program in Nursing and Health at the Federal University of Bahia, Salvador, Brazil.
Orcid: 0000-0003-2955-5408.

Andrey Ferreira da Silva.

Nurse. Doctor. Professor at the Federal University of Alagoas - UFAL.
Orcid: <https://orcid.org/0000-0002-1038-7443>.

Tania Maria de Oliveira Moreira.

Nurse. Female doctor. Professor at the State University of Feira de Santana, Feira de Santana, Bahia, Brazil.
Orcid: <https://orcid.org/0000-0002-4541-6750>

Adriana Braitt Lima.

Nurse. Female doctor. Professor at the State University of Feira de Santana, Feira de Santana, Bahia, Brazil.
Orcid: <https://orcid.org/0000-0001-7893-9753>

Carleone Vieira dos Santos Neto.

Family Health Nurse at the Municipality of Salvador, Salvador, Brazil.
Orcid: <https://orcid.org/0000-0003-4565-4924>

INTRODUCTION

Nursing, through professionals, practices their care based on a methodological framework, called the nursing process, which is often based on theory. This method-tool helps nurses to systematize their actions through stages that are operationalized, mostly concomitantly, which provides organization and guarantees a higher quality of care for patients and families. 1

The Nursing Care Systematization (NCS) is all registered care planning, based on the Nursing Process (NP) and is recommended by Resolution No. 358/2009, of the Federal Nursing Council. 2 This assistance must be based on scientific knowledge, which signals the need to understand the concept of acute renal failure, as well as its risk factors, so that nursing care is provided in a comprehensive, humanized and qualified manner.

Acute Renal Failure (ARF) is characterized by the sudden loss of renal function, evidenced by the rapid decrease in the glomerular filtration rate, culminating in an inability to excrete nitrogenous products

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and maintain liquid and electrolyte homeostasis. Some risk factors for developing ARF are chronic illnesses such as diabetes, kidney disease, heart disease, liver disease, or high blood pressure; Advanced age, among others. 3

ARF morbidity and mortality data is growing all over the world, constituting a public health problem. A recent study on the morbidity and mortality of kidney injury in Brazil reports an increase in the incidence of hospital admissions from 1.57% in 2012 to 20.61% in 2016, with mortality around 1.64% in 2012 to 21.21% in 2016. 4 This reality is not exclusively national, a cohort study carried out in Africa with a follow-up of 1798 patients with ARF revealed an increase in the mortality rate of 3.3%, 4.1% in five years. 5 It should be noted that, in most cases, deaths can be avoided when professionals are aware of the signs and symptoms.

This understanding of the disease is salutary for the diagnosis, since the manifestations can also occur in a non-specific way, such as fatigue, anorexia, weight loss, itching, nausea or hemolysis, hypertension, polyuria, nocturia, hematuria or edema. 3

Understanding the nonspecific signs and symptoms of ARF and its early diagnosis, nursing care focused on adaptation and the limitations imposed by it becomes necessary, in order to support the way to take care of these patients.

Considering the increased incidence of cases of this pathology in clinical medicine, as well as the physical, emotional and social changes of acute kidney patients after diagnosis, we perceive numerous adaptive needs, awakening to the importance of the scientific basis that supports the care provided by the nursing team. In the meantime, the adaptation theory proposed by Callista Roy was used in this study, considering that each individual is a system that, faced with a focal stimulus, will assume adaptive behaviors, which can be analyzed by nursing in order to trace their actions and direct their care.⁶

It is noteworthy that scientific production is scarce on nursing theories, especially on the Roy Adaptation Model (RAM), which highlights a scientific gap on this topic. This reality is internationally evidenced, as shown by a study carried out in the USA when it points out that such theory is used in only 12% of projects that address coping and adaptation in the context of field work for nursing practice.⁷ Another study showed that there are few Brazilian publications that refer to the theory of adaptation, the vast majority of which are of an international nature.⁸ It is believed that this study can contribute to elucidate the modes of care based on and guided by a theory of nursing, with the purpose of qualifying the care provided to patients with ARF, since this disease requires care that allows the user to adapt to their new health context. Thus, the objective of this article was: To describe the nursing process applied to renal patients based on the theory of adaptation.

METHOD

This is a descriptive work, of the clinical-qualitative case study type, which focuses on the user's health status, an appropriate instrument for investigating a patient with

a certain pathology, so that it is possible to gather information for further investigation and dialogue with a theory.⁹ The study in question intends to understand acute renal failure, contextualizing care according

Brazil. Data were collected by students of the Nursing in Adult and Elderly Health II curriculum component of the Bachelor of Nursing course at the State University of Feira de Santana (UEFS), during hospital practice in the field of Clinical Medicine, together with the professors of that component.

The participant was a woman with a diagnosis of ARF, without a defined cause, obtained through a total abdominal ultrasound. As proposed by Turato,⁹ the case study allows the choice based on the interest aroused. Thus, considering the high incidence of the pathology in patients admitted to Internal Medicine in Hospitals of High Complexity, it is considered the need for further investigation.

Data collection took place through observation, interviews (nursing history) and medical record analysis. The survey of the history took place in a private room, allowing the information to be kept confidential, in addition to ensuring anonymity, so that the referred patient was referenced with the name of the flower Jasmine.

In order to use the Nursing Care Systematization (NCS) for patients with ARI, we based on the following steps: 1) Nursing History: with patient data collection and the search for basic information about the same through anamnesis and physical examination, in order to define the care of the nursing team; 2) Nursing Diagnosis: grouping and interpretation of collected data, promoting the survey of problems and their adequacy to diagnoses that will guide nursing interventions; 3) Nursing Planning: determining the expected results and what actions will be necessary for that; 4) Nursing implementation: carrying out the intervention actions designed in the previous step; 5) Nursing Assessment: recording of intervention actions and a reflective analysis of the effectiveness and results of these measures, so that care can be improved.¹¹ It should be noted that during all stages of the NCS, the theoretical lens used was anchored in the adaptation theory proposed by Roy.

The patient's clinical history and information collection were obtained by

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to the theory proposed by Roy.¹⁰

The study was carried out between the months of August and September 2019 at a high complexity General Hospital located in the city of Feira de Santana, Bahia,

searching the medical record - checking information relevant to the case, such as laboratory tests, medical prescription and nursing evolution, in addition to other data collection techniques such as: interview with the accompanying family member and physical examination of the patient.

The data triangulation process (observation, interview through the nursing history and analysis of medical records) was carried out based on the five phases of the nursing process, as proposed by Roy. The nursing process based on the theory of adaptation was applied, 10 which proposes that the patient is a psychosocial being with interactions depending on the changes in his life. In addition, this model helps to guide the practice of professionals, directing the

focus of care to the social and physical environment, considering the patient's values and beliefs. This theory proposes that there are four adaptation models: physiological needs, self-concept, functional role, interdependence.

The first model or physiological needs are organized into five basic needs: oxygenation; nutrition; elimination; activity and rest; protection. The second model is the self-concept mode that highlights the psychological and spiritual aspects of the human being. The third model is divided into instrumental behaviors that refer to the set of roles the subject plays in society and expressive behaviors that relate to emotions and feedback. The last model is the mode of interdependence or social mode that re-

late to satisfied affective needs, giving and receiving affection, love, affection, affirmation. 8,10

This theory argues that nursing care should promote adaptation to the four existing models, as it contemplates the individual in their biopsychosocial-spiritual integrity and guides the nursing process into six phases. These are called: behavior assessment, stimulus assessment, nursing diagnosis, goal setting, intervention and assessment. 10

The 1st stage of the nursing process consists of collecting data, which is essential for evaluating the patient's behavior, analyzing Roy's four modes of adaptation. Given the specific circumstances, such as the patient knowing for the first time of

ADAPTATION MODE: PHYSIOLOGICAL

ADAPTIVE PROBLEMS	NURSING DIAGNOSIS	OBJECTIVES	INTERVENTIONS
High BP (160x120mmHg)	Decreased cardiac output Related to: change in blood pressure Associated with: Change in afterload	Hemodynamic stability / restore normotension	<ul style="list-style-type: none"> Monitor heart rate, HR and BP; Monitor laboratory values for electrolytes that may increase the risk of arrhythmias (potassium); <ul style="list-style-type: none"> Perform ECG, in case of arrhythmias; Administer antihypertensive medication according to medical prescription; Monitor water balance
Adventitious respiratory noises (crept) bilaterally; Distended abdomen (C.H=92cm) Lower limb edema	Excessive liquid volume Associated with Committed Regulatory Mechanism Evidenced by: Edema, pleural effusion Ineffective breathing pattern, related to anxiety evidenced by tachypnea	Provide efficient breathing. Minimize patient discomfort/pain/ Reduction of excessive fluid volume	<ul style="list-style-type: none"> Monitor lung sounds; <ul style="list-style-type: none"> Evaluate the BSs; Use of diuretics according to medical prescription; <ul style="list-style-type: none"> Monitor Balance; Assess markers of renal function and urinary output; <ul style="list-style-type: none"> Limit water intake to the prescribed volume; Perform comfort massage in lower limbs with body moisturizer; <ul style="list-style-type: none"> Assess edema in the lower limbs; Check with the nutritionist: low sodium and lipoprotein diet.
Bedridden (weakness in lower limbs)	Impaired physical mobility Related to: decreased muscle control. Evidenced by: postural instability	Promote physical mobility	<ul style="list-style-type: none"> Change position and passive movement in bed; Establish a routine of physical therapy-oriented activities; Perform and teach the patient and companion exercises to stimulate motor function; Help the patient to sit on the bedside.

ADAPTATION MODE: SELF CONCEPT			
ADAPTIVE PROBLEMS	NURSING DIAGNOSIS	OBJECTIVES	INTERVENTIONS
Anxiety	Anxiety Related to: unmet needs Evidenced by: uncertainty and fear	Convey confidence and tranquility / Minimize anxiety	<ul style="list-style-type: none"> Advise that adapting to the new situation takes time and should not be interpreted as rejection; Provide guidance regarding the pathology, changes related to lifestyle habits; Request care support as needed
Low self esteem	Situational low self-esteem Related to: Change in social role Evidenced by: Underestimates the ability to deal with the situation	Provide self-esteem improvement	<ul style="list-style-type: none"> Encourage the patient with case reports of IR with good prognosis; Inform family members about the family member's health status to minimize anxiety; Request care support as needed.
ADAPTATION MODE: PAPER FUNCTION			
ADAPTIVE PROBLEMS	NURSING DIAGNOSIS	OBJECTIVES	INTERVENTIONS
Role distancing	Interrupted family processes Related to: Change in the health status of a family member Evidenced by: Changes in rela- tionship patterns	Changes in relationship patterns	<ul style="list-style-type: none"> Encourage the presence of family members; Optimize peaceful sleep, pain relief, emotional control; Monitor sleep pattern and number of hours slept; Provide a calm and safe environment
ADAPTATION MODE: INTERDEPENDENCE			
ADAPTIVE PROBLEMS	NURSING DIAGNOSIS	OBJECTIVES	INTERVENTIONS
Confrontation/ stress tolerance	Impaired social interaction related to: Environmental barriers Evidenced by: impaired social function	Provide improvement of inter- rupted family processes	<ul style="list-style-type: none"> Seek to understand the feelings of sadness, irritability, fear, apathy; Ask the social worker to be able to visit other family members/friends. Encourage the patient to participate in activities of daily living according to capacity.

Source: Prepared by the authors

his diagnosis of acute kidney disease, it is possible to apprehend the adaptive actions taken by the individual. This phase can be performed by the patient's nursing history

and physical examination. The 2nd stage of MAR refers to the assessment of stimuli, which helps the nursing professional to identify internal or external circumstances

that will act on their behavior. At this stage, the theory states that there are three stimuli, the focal, the contextual and the residual. The first refers to the person's own condi-

tion or the inserted context or how this will impact the assumed behaviors, which were evaluated in the first phase. The contextuels are those elements that directly permeate the focal point, interfere with the individual's adaptation, such as age, gender, family, ethnicity and others. Finally, residuals are indirect stimuli, often not perceived by the person, but which also contribute to the adaptive process.

The 3rd stage or nursing diagnosis is linked to the problems encountered and the elaboration of diagnoses according to the patient's positive or negative adaptation to knowledge of renal failure. This phase will be based on the NANDA taxonomy II (North American Nursing Diagnosis Association) and should be guided by the four adaptation models. The 4th stage or goal setting is the expected results or final behavior that you want to achieve. The 5th stage or intervention is the nursing care itself to achieve the goals. The last phase or evaluation refers to judging the effectiveness of the proposed interventions.

In order to support the research, scientific articles from national and international databases were also used, as well as books that support nursing care, in line with the adaptation theory proposed by Roy.

The ethical aspects of resolution 510/2016 of the National Health Council were respected with regard to the principles of bioethics: non-maleficence, autonomy, beneficence and justice. After clarification about the objective and relevance of the study, we have informed about aspects related to the autonomy to participate or not in the research and the signing of the Informed Consent Form (ICF). The study was approved by the Ethics Committee of the State University of Feira de Santana, under protocol number 3706976/2019.

RESULTS

In view of the proposed objective, the phases of the nursing process were applied, as proposed by Roy. The first stage and second stage, entitled assessment and stimulation of behaviors, consisted of collecting data with Jasmine in order to assess the

behavior and stimuli that will support the development of nursing diagnoses:

Jasmin, 48 years old, female, married, mother of 3 children. Admitted on

As for the physical examination: Found in bed in right lateral decubitus, lucid, time and space oriented, responding to verbal requests, but apathetic and quite anxious, due to the hospital environment and her new pathology [...]

07/11/19 in the yellow room of a hospital of great complexity in the city of Feira de Santana, due to pleural effusion + ascites diagnosed on an outpatient basis - SCI as-

sociated with abdominal pain mainly in the epigastric region, hyporexia and weight loss (5kg in 2 months). She was transferred to the Clinical Medicine Unit on 07/19/19. She reports uncontrolled blood pressure for 6 months, with a history of exacerbated anxiety, with several visits to emergency care units, being diagnosed with renal dysfunction (CDI). She reported having low self-esteem due to frequent edema and the need to hide her legs. Denies fever, jaundice, nausea, vomiting, oral ulcers, joint pain, alopecia, other associated symptoms, previous blood transfusions, DM, drug allergy, smoking, alcoholism. Mother with SAH and DM. On continuous contraceptive use to avoid pregnancy, with three daughters.

As for the physical examination: Found in bed in right lateral decubitus, lucid, time and space oriented, responding to verbal requests, but apathetic and quite anxious, due to the hospital environment and her new pathology, which she understands little. And very depressed due to the lack of interaction with family members and the entire social network of friendship. Tachypnoea, tachycardia, hypertensive, normothermic, pale skin, acyanotic, hypochromic mucosa evolved; Use of a Sorensen catheter in the D subclavian region. Chest: flat and symmetrical, decreased expansion, adventitious noises (crackling) at the base of the right HTX. Abdomen: distended, painless on palpation, RHA present in all quadrants. Upper limbs with preserved physical mobility, using AVP on the dorsum of the right hand, hydrolyzed with 0.9% SF. LL (lower limbs) with reduced physical mobility, presence of bilateral edema (+++/++++). She reports low self-esteem and reports of changes in family interactions, due to the fact of hospitalization. VS: P: 104 bpm; BP: 140X90 mmHg; T: 36.5 °C; R: 21inc/min.

The table below concerns the third, fourth and fifth stages that correspond to the elaboration of diagnoses based on NANDA Taxonomy II by modes of adaptation, according to adaptive problems found, establishment of goals and nursing care/interventions for the effectiveness of

the proposed interventions:

DISCUSSION

The case study of the patient diagnosed with ARI allowed the nursing staff to observe the adaptation through the symptoms she presented, namely: high blood pressure (BP), weakness of the lower limbs (LL), difficulty breathing and edema. Thus, as described by Roy, it is observed that the patient's body adapts physiologically based on basic needs: oxygenation, elimination and activity/rest. 10

In cases of renal dysfunction, there is a progressive loss of the ability to excrete sodium, resulting in saline and volume overload. 12 The excessive volume of fluid in the body compromises the cardiovascular system, causing congestive heart failure and increased blood pressure. 13 This increase in blood pressure is also related to contextual stimuli, since it was identified that the patient's mother was hypertensive. In view of this, it is important to constantly assess the BP and monitor the patient's other vital signs, with the correct administration of prescribed medications. The occurrence of SAH in the patient may have a hereditary character and be a result of this history, however, for Roy, it is up to analyzing the body's adjustment mechanisms to deal with the situations that are given. 10

The adaptive process is also found in our body's mechanism of action which, due to disuse, reverberates in other (mal)functionalities. An example of this is seen in the case patient who has lower limb weakness as a result of being bedridden. The lack of mobilization generates muscle protein degradation and consequent reduction in muscle capacity. 14 Nurses must be aware of such signs and draw up their care plans in order to promote mobilization, even in bed, and, if necessary, communicate the patient's needs to the physiotherapy team.

Linked to the physiological condition of the disease, another area that presents new behaviors is the respiratory system. This, due to edema, decreased respiratory muscle strength and anxiety cause an ineffective breathing pattern. 15 This con-

dition must be understood as a response to renal dysfunction, which, according to Roy's theory, constitutes the focal stimulus, that is, the condition that is under evaluation. This analysis allows nurses to direct

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their care and intervene earlier in the face of exacerbations.

Nursing care must be based not only on the physiological aspect, but also on the

feelings expressed by the person, especially when faced with a newly diagnosed ARF diagnosis and hospitalization. 6 According to the theory, human beings must be attended to in their psychological and spiritual aspects, which is called in the Roy Adaptation Model (RAM) self-concept. 10 When subjected to stressful events, as in the case of the patient, it is essential to broaden the look to dimensions other than the physical one.

In this case study, during the patient's assessment, she expressed insomnia, nervousness, apprehension, apathy and lack of interest in developing a dialogue. Assessing this condition allowed naming low situational self-esteem and anxiety as nursing diagnoses, noting the adaptive mode assumed by the patient in face of her focal stimuli, the ARF. According to Johnson and collaborators and Cox and collaborators, 16-17 patients with renal dysfunction are at risk of developing neuropsychic symptoms, where they often remain underdiagnosed and undertreated, negatively compromising the evolution of the disease, functional capacity, productivity, self-esteem and, consequently, quality of life.

Observing and considering, during the analysis, the change in the environment, changes in the family structure, fear of dying and other subjective aspects leads to an understanding of the behaviors that are assumed by patients. In this context of illness, institutional and psychological support are extremely important to help emotionally deal with the condition of the disease. 18 The nurse's actions may not remove the stimuli, but it is invaluable in alleviating the contextual and residual stimuli that are influencing the focal stimulus. 10 These strategies range from listening carefully to playing and encouraging the expression of feeling.

Contextual stimuli are directly linked to the current experience of the disease (represented by the focal stimulus) and can be represented by the family. 19 In this context, Roy brings the role function aspect, which in the case of the patient was associated with distancing from her function, as an adaptive behavior. Faced with

hospitalization and dependence on care, the patient had a departure from her social role as a mother, caregiver of the home and children. In this sense, "interrupted family processes" was established as a nursing diagnosis, as there was a change in the family's social dynamics, related to the change in the patient's health status, evidenced by changes in relationship patterns, as mentioned above.

It must also be considered that the patient's adaptive responses may be related to residual stimuli, which are not identified by the subject, but which influence their behavior.²⁰ Finally, the mode of interdependence proposed in the adaptation theory concerns social relationships. In the case of the patient, she presented herself in a fragile way, considering the hospitalization process. Although it is not possible to measure

or even apprehend the behavior adopted in response to this stimulus, it is known that the interaction between human beings contributes to improving the quality of life and the clinical picture.¹⁸

CONCLUSION

Nursing care for the acute kidney patient made it possible to visualize it in its entirety, raising its adaptive modes, evaluating its stimuli and drawing up diagnoses that support nursing actions that help to change behavior and improve quality of life. Its capacity for generalization can be considered a limitation of the case study method, considering that renal patients have their specificities, with regard to beliefs, values, attitudes and behaviors, which may differ in each case. There is a positive

impact of the nursing care provided to that patient, based on techno-scientific knowledge, considering the effectiveness of the interventions proposed through the sixth stage of the nursing process or evaluation. With regard to psychological aspects, the patient had reduced anxiety, due to a better understanding of her health status, improving her self-esteem. Thus, the mode of interdependence is considered considering that the affective needs to give and receive affection were constant in the visits received by the patient. However, if we look at the adaptive mode of role function, we can consider few changes in the behaviors that the patient performs in society, because the hospital environment is considered an environment that leads to social isolation.

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