

Systematization of the Nursing Care of the Polytraumatized Patient Accordingly to Calista Roy's Theory

Sistematização da Assistência de Enfermagem à Paciente Politraumatizado à Luz da Teoria de Callista Roy

Sistematización de la Atención de Enfermería al Paciente Politraumatizado Según la Teoría de Calista Roy

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RESUMO

Objetivo: Sistematizar a assistência de enfermagem à luz da teoria de Callista-Roy no cuidado ao paciente politraumatizado. **Método:** Trata-se de um estudo do tipo qualitativo de abordagem descritiva e exploratória na modalidade de caso clínico, realizado por estudantes de Enfermagem da Universidade Estadual de Feira de Santana no Hospital Geral Clériston Andrade na Clínica Ortopédica. A prática ocorreu em setembro de 2023, onde foram coletados dados e prestados cuidados à paciente. **Resultados:** Foi aplicada a Sistematização de Enfermagem, sob perspectiva da teoria de Callista-Roy, onde a coleta de dados foi realizada por meio do prontuário e contato direto com a paciente. Segundo a teoria, foram identificados os modos de adaptação físico-fisiológico, identidade de autoconceito, interdependência e desempenho de papel. Por fim, com base nas informações colhidas, foram realizados o planejamento, implementação e avaliação das condutas adotadas. **Considerações finais:** Portanto, através da aplicação da sistematização de Enfermagem e do Modelo de adaptação é possível observar a importância do exercício profissional da Enfermagem no processo de cuidado holístico, a fim de garantir as melhores condições de recuperação que passam o físico, como também na fundamentação teórico-prática do trabalho de enfermagem. **Descritores:** Saúde do adulto; Cuidados de Enfermagem; Teoria de Enfermagem; Traumatismo Múltiplo.

ABSTRACT

Objective: Systematize nursing assistance based on Callista-Roy's theory in the care of polytraumatized patients. **Method:** This is a qualitative study with a descriptive and exploratory approach in the form of a clinical case, carried out by nursing students from the State University of Feira de Santana at Clériston Andrade General Hospital in the Orthopedic Clinic. The practice took place in September 2023, where data were collected, and care was provided to the patient. **Results:** The Nursing Process was applied from the perspective of Callista-Roy's theory, with data collection performed through medical records and direct contact with the patient. According to the theory, modes of physical-physiological adaptation, self-concept identity, interdependence, and role performance were identified. Finally, based on the gathered information, planning, implementation, and evaluation of the adopted measures were carried out. **Final considerations:** Therefore, through the application of the nursing process and the Adaptation Model, it is possible to observe the importance of the nursing profession in the holistic care process, aiming to ensure the best conditions for recovery that go beyond the physical, as well as in the theoretical-practical foundation of nursing work.

Descriptors: Adult Health; Nursing Care; Nursing Theory; Multiple Trauma.

RESUMEN

Objetivo: Sistematizar la asistencia de enfermería a la luz de la teoría de Callista-Roy en el cuidado del paciente politraumatizado. **Método:** Se trata de un estudio cualitativo con enfoque descriptivo y exploratorio en forma de caso clínico, realizado por estudiantes de enfermería de la Universidad Estatal de Feira de Santana en el Hospital General Clériston Andrade en la Clínica Ortopédica. La práctica tuvo lugar en septiembre de 2023, donde se recopilaron datos y se brindó atención a la paciente. **Resultados:** Se aplicó el Proceso de Enfermería desde la perspectiva de la teoría de Callista-Roy, con la recopilación de datos realizada a través de expedientes médicos y contacto directo con la paciente. Según la teoría, se identificaron modos de adaptación físico-fisiológica, identidad del autoconceito, interdependencia y desempeño del rol. Finalmente, con base en la información recopilada, se llevaron a cabo la planificación, implementación y evaluación de las medidas adoptadas. **Consideraciones finales:** Por lo tanto, mediante la aplicación del proceso de enfermería y el Modelo de Adaptación, es posible observar la importancia de la profesión de enfermería en el proceso de atención integral, con el objetivo de garantizar las mejores condiciones de recuperación que van más allá de lo físico, así como en la fundamentación teórico-práctica del trabajo de enfermería. **Descriptores:** Salud del Adulto; Atención de Enfermería; Teoría de Enfermería; Traumatismo Múltiple.

Introduction

In the Brazilian context, the Systematization of Nursing Care (NCS) is private to nurses and should be based on theories in the field of nursing to meet the use of scientific evidence. Thus, the nursing theory chosen by the professional serves as a theoretical framework to support patient care through the nursing process (NP), aiming at the most appropriate interventions to achieve better results.¹

In view of the various theories of nursing, there is Callista Roy's theory of Adaptation, which is based on promoting the adaptation of the individual to their health, quality of life or the process of death with dignity. For this, there are four modes of adaptation in which Roy defined, namely: physical/physiological, self-concept, interdependence and role dependence. According to Roy, the individual is a being that is composed of the physical, mental, social and spiritual in which environmental stimuli can affect him, as well as can be incorporated into that environment and adjust to it².

Callista Roy's theory provides guidance for nurses to provide care through the NP, taking into account the individual who is being cared for and the internal and external factors that may influence their recovery². Under this orientation, the elements that nurses use to systematize care are: investigation of stimulus and behavior, nursing diagnosis, goal planning, intervention and evaluation. These elements are in constant synchrony, since the nursing process is continuous, which can facilitate holistic care³.

According to the Ministry of Transport, in 2023, 519,301 cases of traffic accidents were registered throughout Brazil, and 4000 accidents in Feira de Santana alone, which can result in various injuries and multiple traumas⁴. Polytrauma is an event that results in a loss of physical and motor capacity, which generates several injuries in the individual, with young people and those of productive age being the most affected by accidents, falls or violent actions that generate various traumas⁵. Nursing care for polytrauma patients is not limited only to the scope of physical recovery but also in their biopsychosocial state, promoting systematized, humanized and continuous care aimed at a comprehensive recovery.⁶

In patients who are victims of polytrauma, the areas of mental, physical, spiritual health and social identity are affected, which require nurses to have a holistic view that encompasses comprehensive care. Thus, the objective is to systematize Nursing Care for polytrauma people based on Callista Roy's theory of adaptation.

Method

TrataIt is a qualitative study with a descriptive and exploratory approach in the modality of a clinical case linked to the research project "Meaning of Becoming Responsible for Care in the Education Process of Nursing Students" of opinion n° 3.706.976 CEP/UEFS, a study that contributes in a unique way to science by exploring a problem and providing information for a more specific investigation, It can be carried out from the observation of a smaller number of participants using as a method interviews, fiscal groups or ethnographies.⁷ Prepared by nursing students from the State University of Feira de Santana

(UEFS), referring to the period of hospital practice carried out in September 2023 at the Clériston Andrade General Hospital (HGCA), the research setting. The clinical care provided to the study subject occurred on 09/20 in the morning shift and 09/26 in the morning and afternoon shifts, both dates referring to the first practical field in the orthopedic clinic of the HGCA - characterized by providing care to patients with multiple traumas, mainly in the lower limbs, mostly caused by car accidents -, under the supervision of Professor Fernanda Matheus.

The fictitious name of "Blue" was chosen by the authors due to the patient's affinity for the color in order to maintain the patient's confidentiality and privacy.

The study subject was the patient Azul, female, 26 years old, self-employed, resident of Itaberaba - BA, victim of a car accident secondary to improper overtaking at a yellow light while driving a motorcycle and side collision with a car. She reports loss of consciousness at the time of the accident, referral to the UPA in her vicinity, referral to the Regional Hospital of Itaberaba (SIC) and transfer to the HGCA, where she was admitted on 09/16/23 and remains under medical care.

To conduct the data collection, a form prepared by the group was used as an instrument containing information necessary to be analyzed, such as clinical history, pre-existing diseases, previous treatments, medications in use, results of laboratory and imaging tests relevant to the case, list of diagnostic problems and suspicions. As a data collection technique, a moment of conversation was implemented with the patient and her mother, who accompanied her during the hospital stay, where difficulties and obstacles consequent to the patient's clinical status were observed, as well as evaluation of the clinical history told.

As a source of data, we used the medical records, considerations of the head nurse present at the time of the practice about the evolution of the patient since her arrival at the orthopedic clinic and the anamnesis/physical examination performed by the team on the days of practice at the orthopedic clinic. To make the therapeutic choices, the NCS was applied from the perspective of Callista Roy and his adaptation model.

Roy's theory considers the patient subject as a holistic and adaptable system that generates different cognitive and behavioral responses when faced with a stimulus. The answers presented can be physiological, self-conceptual, role function and interdependence. The nursing process (NP) based on Callista Roy's theory is based on care planning based on 6 phases: behavior assessment, stimulus assessment, nursing diagnosis, goal setting, intervention and evaluation; becoming fundamental for nursing care practice, since the use of specific theoretical bases helps in the organized reflection on complex phenomena that make up hospital practice.⁸⁻⁹

The construction of the clinical case was authorized by signing the acceptance form, delivered at the time of the clinical visit and signed by the mother due to the client's bed restriction. The study participant was calm and adept at the proposed interventions, facilitating the process of collecting information. The ethical principles of autonomy, beneficence, non-maleficence and justice, as described in the ICF, were respected.

Results

The phases of the Nursing Process were applied to the patient according to Callista Roy's Adaptation Theory. The data obtained from the Nursing History were the basis for the evaluation of the patient, in order to identify the current problems, elaborate Nursing Diagnoses (Chart 01) and plan the best interventions (Chart 02).

Timeline

16/09 - 9:00 Motorcycle accident due to improper overtaking of a yellow light and side collision with a car, being taken to the General Hospital of Itaberaba.

11:00 a.m. She was referred to the UPA of Itaberaba, which sent her back to the General Hospital of Itaberaba due to the complexity of the eye injury.

1:00 p.m. She was referred to the HGCA, where she was treated in the yellow room of the Emergency Department, presenting perforation below the left eye, mouth and nose with a compressive dressing, abrasions in the MSE, secretive splint in the MSD, MIE with deformity and open fracture, lucid and oriented, eupneic in AA.

8:00 p.m. Taken to CC for an oral and maxillary procedure.

17/09 - 02:00 Referred for osteosynthesis surgery in MIE, waiting in the Operating Room for a vacancy in ICU

11:00 Admitted to ICU

18/09 - Admitted to Orthopedic Clinic, receiving postoperative care.

09/20 - Day of care, reported pain in lower limb of intensity 5/10. Family history of hypertension (grandmother) and neoplasia (aunts and uncle), denies previous comorbidities, continuous use of medications or drug allergies. Refers to an up-to-date vaccination card. On physical examination: BEG, BATCH, conscious, responsive, flushed, hydrated, presence of lesion in the left eye, abrasions on the nose and mouth, impalpable ganglion in the supraclavicular and infraclavicular and axillary regions; symmetrical and expansive thorax; distended abdomen, absent RHA, presence of abdominal tympanism; MSE with the presence of abrasions and AVP infused with sodium lactate, MSD in a cast due to fracture, well-perfused extremities, MIE with dressings and nails secondary to osteosynthesis and presence of edema (+++/IV) and scar referring to lipoma excision at 2 years of age (maternal SCI). It does not report alterations in the genital region, menorrhagia present, presence of SVD with 700 mL of hematuria, and discomfort due to the use of the device. Constipation for 5 days, but ejections present, abundant and darkened at the time of care. Using antibiotics, analgesics, anticoagulants and hydroelectrolyte solution. SSVV: BP: 130 x 80 mmHg, S: 83 bpm, full and arrhythmic, HR: 80 bpm, RR: 21 inc/min, eupneic in AA, T: 36.0 °C, Weight: 67 kg, Height: 1.60, BMI: 26.17 kg/m².

Laboratory tests showed alterations in: Hb 11.1 g/dL (12 - 16 g/dL), Ht 33.5% (35 - 46%), VGM 78.6 fL (80 - 100 fL), Leukocytes 21,000/mm³ (4,000 - 10,000/mm³), Neutrophils 83% (50 - 70%), Segmented 78% (54 - 62%), , Typical lymphocytes 15% (20 - 35%), Monocytes 1% (3 - 8%).

Table 1 - Nursing Diagnoses based on the NANDA-I taxonomy by Callista Roy's Adaptation Theory. Bahia, Brasil, 2023.

Ma	Diagnosis	Goal	Interv.	Apz.
Paper Function	Ineffective role performance related to hospital stay evidenced by work interruption (00055)	Assist in restoring role performance	- Request psychosocial support - Guide the establishment of a post-hospital plan	- In the period - In the period
Self-concept	Risk of Situational Low Self-Esteem Related to Impaired Facial Skin Integrity (00153)	Minimize low self-esteem	- Request psychological support - Encourage self-care	- In the period - Every 24hrs
Interdependence	Impaired social interaction related to prolonged hospital stay evidenced by routine disruption (00052)	Improve social interaction	- Encourage the maintenance of previous social bonds	- In the period
Physiological	Acute Pain Related to Surgical Wound Evidenced by Pain Scale (00132)	Relieve pain	- Aplicar escala de mensuração de dor - Administrar analgésico conforme PM	- In the period,if necessary - In the period,if necessary
Physiological	Impaired tissue integrity related to left eye injury evidenced by tissue damage (00044)	Restore integrity of the ocular mucosa	- Perform dressing - Evaluate wound evolution	- Every 24hrs - Every 24hrs
Physiological	Excessive fluid volume related to edema in the lower limbs evidenced by physical examination (00026)	Reduce edema	- Apply cold compress as directed - Provide guidance on food	- No period - No period

Source - NANDA-I Taxonomy, 2018-2020.¹⁰

Note - Signs used

M.A.: Adaptation Mode

D.E.: Nursing Diagnosis

INTERV.: APZ. Intervention: Scheduling

Discussion

Traumatic injuries, including polytrauma, are responsible for about 16 thousand deaths daily in the country, among these the causes of traumatic injuries automobile accidents are the main etiology¹¹. Therefore, throughout the country, traumatic injuries represent a challenge to public health, especially the hospital network due to the complexity and scope of health care.

In this way, the Blue patient represents the daily life of the HGCA, as a large hospital, which is also a teaching hospital, and benefits from the incorporation of different forms of care and constantly receives new perspectives on the care processes. From this perspective, the clinical case in the light of the Callista-Roy theory socializes a new look at nursing care for polytrauma, establishing a relationship and producing new important findings for the recovery of the health status. The nursing theory developed by Callista-Roy is mainly based on adaptation, and with this it is established that the care process is a constant stimulus-response system, and the way this process occurs guides the recovery of health and organizes the care of the health team.

Callista-Roy then organizes the 4 modes of adaptation: the physiological physical, the self-concept identity, the interdependence, and the role performance. These fields are susceptible to stimuli, which Callista-Roy determines can be focal, residual, or environmental, generating a positive or negative impact on the patient's general health status. Therefore, when we acquired a new look at the case, we considered that the traffic accident constituted a negative focal stimulus to the 4 modes of adaptation.

Regarding the field of interdependence, it encompasses relations to the support system, communication and other interpersonal relationships as well, so during the moment of patient care, it was identified that this field would be subjected to stimuli, and that at the moment in question the patient would be going through an adaptive moment.¹² Gregarious was the nursing diagnosis that agreed with the situation found, because due to the long hospitalization process and the restrictions on visits, socialization habits are interrupted¹³.

Within the field of role performance, which is related to the ability to play a role in society, the results found ineffective role performance, resulting from a focal stimulus: polytrauma¹⁴. Due to this change in the field of adaptation, intervention is necessary in order to reduce the impacts of these stimuli. It is possible to improve the levels of alteration in this field through interventions (stimuli performed by the nursing team) focused and based on Callista Roy's theory¹⁵.

In the field of self-concept, which is associated precisely with the psychological and spiritual aspects of the individual, which have two components, the physical, which involves sensation and body image, and the personal one, which involves self-awareness. In the results, a risk of low self-esteem related to the focal stimulus was found: polytrauma¹⁶. Callista considers it as a duty of nursing to provide the patient's adaptation to the 4 modes of adaptation, so it is up to nursing to provide effective interventions, as in the case of the risk of low situational self-esteem, the promotion and encouragement of self-care, as a practice of self-benefit, in the maintenance of health and well-being^{14,17}.

Finally, in the physiological field, it is related to the way the client deals with the stimuli of the environment, having the behavior as a result of the physiological activities present in the body.¹⁴ The needs that involve this field are: oxygenation, nutrition, elimination, activity and rest and protection, as the patient was a victim of a polytrauma, resulting from a car accident, the following diagnoses were found: Acute pain, impaired tissue integrity, impaired skin integrity, unbalanced nutrition, excessive fluid volume, impaired dentition, risk of infection, with the accident as a focal stimulus, which caused other stimuli.¹⁶

Conclusion

Since traffic accidents are classified as the highest incidence of health problems due to external causes – mainly affecting males, aged between 18 and 35 years, higher occurrence among motorcyclists and frequent fractures in the bones of the tibia, clavicle, forearm and femur – it is of sudden importance to systematize the care provided. Among the observations of care, the different aspects that make up the patient subject and the influence of the environment in which he is inserted during the hospitalization process should be among the observations of care.

The relationship between the chosen theory and the experience of the clinical case study showed that, despite explicit sequelae secondary to the accident, the polytrauma patient does not suffer only physical consequences, as it becomes necessary to adapt to a new reality and a new condition, deal with the implications of the accident and this new moment resumes the importance of a support network to help in the recovery process. Thus, the association of NCS with the Adaptation Theory shows the importance of the professional practice of nursing in the process of holistic care and redirection of care so that it goes beyond the physical state and also promotes attention to the other aspects of the individual, becoming extremely important in the recovery process.

Specifically focused on the theory analyzed, in the period observed the patient showed improvement in the adaptive mode of self-concept, justified by the effective healing process of the wounds located on her face; the adaptive modes of role performance and physical/physiological performance remained similar during the observation moments due to the unfinished period of hospital stay; and as for the adaptive mode of interdependence, there was an improvement in the gregarious aspect, justified by the visit of his girlfriend, who reported missing her a lot.

Thus, the association of NCS with Callista Roy's theory evidenced a positive advance in the clinical case not only through physical improvement, but also through better adaptation of the patient in the midst of the interventions proposed for clinical improvement. The recognition of adaptive modes served as a great value for a better understanding of the individuality that each patient presents, becoming extremely useful in hospital practice and of great help for the evaluation of the best interventions in the case.

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