

Nursing Care for the Person with Paraplegia in the Light of Betty Neuman

Cuidado de Enfermagem à Pessoa com Paraplegia à Luz de Betty Neuman

Cuidados de enfermería a la persona con paraplejia a la luz de Betty Neuman

Ivana Silva Rodrigues¹, Shirley Cazumba Cardoso Machado², Guilherme de Brito Santos³, Shâmia Sousa Silva⁴, Ingrid Pereira Gomes⁵
Adriana Brait Lima⁶, Cláudia Suely Barreto⁷, Fernanda Araújo Valle Matheus⁸

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REVISA

1. State University of Feira de Santana.
Feira de Santana, Bahia, Brazil.
<https://orcid.org/0009-0005-96023032>

2. State University of Feira de Santana.
Feira de Santana, Bahia, Brazil.
<https://orcid.org/0009-0000-5374-6920>

3. State University of Feira de Santana.
Feira de Santana, Bahia, Brazil.
<https://orcid.org/0009-0002-3789-0791>

4. State University of Feira de Santana.
Feira de Santana, Bahia, Brazil.
<https://orcid.org/0009-0009-3596-0654>

5. Universidade Estadual de Feira de Santana.
Feira de Santana, Bahia, Brazil.
<https://orcid.org/0009-0005-3684-1199>

6. State University of Feira de Santana.
Feira de Santana, Bahia, Brazil.
<https://orcid.org/0000-0001-7893-9753>

7. State University of Feira de Santana.
Feira de Santana, Bahia, Brazil.
<https://orcid.org/0000-0002-9801-9169>

8. State University of Feira de Santana.
Feira de Santana, Bahia, Brazil.
<https://orcid.org/0000-0001-7501-6187>

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RESUMO

Objetivo: Relatar e compreender o cuidado de enfermagem à pessoa com paraplegia secundária a acidente automobilístico. **Método:** Estudo qualitativo descritivo, tipo relato de caso, realizado em hospital público de Feira de Santana/BA. Procedeu-se à entrevista, com uma participante em situação de paraplegia. Utilizou-se a elaboração da SAE e suas etapas considerando os aspectos da Teoria de Betty Neuman. **Resultados:** O relato da paciente e informações obtidas em prontuário demonstraram desinformações e condutas soltas que dificultam o cuidado, alimentavam sentimento de angústia e tristeza à paciente. **Conclusão:** proporcionou o entendimento acerca do indivíduo vítima de politrauma e suas necessidades, entendendo o adoecer com transcurso multifatorial onde segundo a teoria de Betty Neuman o ambiente e o indivíduo dialogam entre si surtindo efeito positivo e negativo sob o equilíbrio do corpo humano.

Descritores: Cuidados de enfermagem; Paraplegia; Acidente automobilístico; Teoria de enfermagem; Estresse fisiológico.

ABSTRACT

Objective: To report and understand nursing care for individuals with paraplegia secondary to car accidents. **Method:** Descriptive qualitative study, in the form of a case report, conducted at a public hospital in Feira de Santana/BA. An interview was conducted with a participant in a paraplegic situation. The Nursing Process (NP) was developed, and its stages were considered, taking into account aspects of Betty Neuman's Theory. **Results:** The patient's account and information obtained from medical records revealed misinformation and disjointed behaviors that hindered care, fostering feelings of anguish and sadness in the patient. **Conclusion:** This study provided an understanding of individuals suffering from polytrauma and their needs, understanding illness as a multifactorial process where, according to Betty Neuman's theory, the environment and the individual interact, having both positive and negative effects on the balance of the human body.

Descriptors: Nursing care; Paraplegia; Car accidents; Nursing theory; Physiological stress.

RESUMEN

Objetivo: Informar y comprender el cuidado de enfermería para personas con paraplejia secundaria a accidentes automovilísticos. **Método:** Estudio cualitativo descriptivo, tipo informe de caso, llevado a cabo en un hospital público en Feira de Santana/BA. Se realizó una entrevista con una participante en situación de paraplejia. Se utilizó el desarrollo del Proceso de Enfermería (PE) y sus etapas considerando los aspectos de la Teoría de Betty Neuman. **Resultados:** El relato de la paciente y la información obtenida de los registros médicos revelaron desinformación y conductas desarticuladas que dificultaron el cuidado, fomentando sentimientos de angustia y tristeza en la paciente. **Conclusión:** Este estudio proporcionó una comprensión de las necesidades de individuos que sufren politraumatismos, entendiendo la enfermedad como un proceso multifactorial donde, según la teoría de Betty Neuman, el entorno y el individuo interactúan, teniendo efectos tanto positivos como negativos en el equilibrio del cuerpo humano.

Descriptores: Cuidados de enfermería; Paraplejia; Accidentes automovilísticos; Teoría de enfermería; Estrés fisiológico.

Introduction

Car accidents are a serious public health problem worldwide. Every day, hundreds of people lose their lives or suffer serious sequelae from traffic accidents, and paraplegia is one of the sequelae of these traumas that cause an excess of hospital admissions on a daily basis.

According to the Hospital Information System of the Unified Health System (SIH/SUS), there were about 19,965 deaths due to traffic accidents in Brazil between January 2020 and November 2023, among these about 5,369 deaths occurred in the Northeast, which has the second highest mortality rate due to traffic accidents in Brazil, second only to the Southeast Region, with 8,125 deaths. Of these deaths, 8,321 were traumatized motorcyclists involved in traffic accidents and 3,241 deaths in the Northeast region alone in the same period, according to data collected from DATASUS.

Paraplegia is caused by a spinal cord injury that affects the movements of the lower limbs, resulting from compromising damage to the spinal cord segments below T1¹. In addition to the loss of muscle mass, a series of limitations affect him, leading to a long period of acceptance of his condition.

For Schilder², the extremities of the body, such as the feet and legs, play an extremely important role in the psychological dimension, since they provide one of the most intimate touches and contacts with the external world. This same author mentions that the importance in the construction of the subject through the body is of fundamental importance, the movement of the same, in such a way that the movement of the subject allows him an interaction with the world, such as those of the feet and legs through walking, being even considered as a milestone in the development of the child.

The diagnosis and trauma suffered by the body in its state considered "healthy" and "whole" brings the loss of the old condition, inserting this body into something totally new. Therefore, the pain of losing the previous bodily condition brings to the subject the great risk of anguish, suffering and lack of movement. And in this way, traumatically acquired paraplegia has biological, psychological, social and spiritual impacts on the life of the person, their family and society³.

People affected by spinal cord injury go through a long period of hospitalization for their recovery, and during this process a multidisciplinary team is indispensable, highly prepared to act with understanding, patience and respect during the performance of the procedures and their stay in the institution^{1, 4}.

Among the professionals of the multidisciplinary team, nurses deal on the front line organizing the Systematization of Nursing Care (NCS) to the person who is a victim of paraplegia, becoming protagonists in the reduction of injuries and complications, as well as in qualified care.

The NCS is a methodology that guides nursing practice and ensures the quality of care, the autonomy to prescribe nursing care, based on nursing diagnoses established for each individual, based on a classification, establishing the same language among nurses about the care provided to identify, understand and describe the person's needs. family or human collectivity⁵. Associated with NCS, both nursing professionals and academics can use nursing theories that help guide their practice, education, and research. Betty Neuman's theory is a

theoretical, philosophical, and conceptual framework that broadens the vision of nursing, being oriented towards holism and well-being. From this perspective, nursing uses the control of the five basic variables (physiological, psychological, sociocultural, developmental, and spiritual) present in the basic structure of the patient's system and of the flexible, normal, and resistance lines⁶. The philosophy of Betty Neuman's Model corresponds to holism, the client's orientation and perception of well-being, balancing energy, interaction of variables and the environment. When interacting with the environment, he is faced with internal and external forces that can lead to an imbalance of this harmony, called stressors. Stressors can be extrapersonal, interpersonal, and intrapersonal and contacting the client's system can interfere with the entire process. Thus, nursing care aims at actions that can prevent or minimize a possible imbalance. However, Betty Neuman's theory is fundamental to keep the patient's system stable through an evaluation of the effects or hypotheses of environmental stressors, adjusting care for the sole purpose of maintaining well-being⁶.

This research refers to a case study elaborated by nursing students on the victim of paraplegia secondary to a car accident, entitled Sapphire, to ensure anonymity. The motivation for this study arose when attending the sixth semester, in the curricular component Adult and Elderly Health Nursing II during hospital practice in the neurology unit. The students realized how enriching it would be to delve deeper into Sapphire's situation, as they understood demands for care both in the psychophysical and socio-spiritual spheres.

From this perspective, the research question was elaborated: how do we understand nursing care for people with paraplegia secondary to car accidents? Thus, the objective was outlined: To report and understand nursing care for people with paraplegia secondary to car accidents. Thus, this study can contribute to the understanding of health care, teaching, and research through the results achieved in the path of enlightening the NCS to the person with paraplegia secondary to a car accident, considering the integral look at the voice of those who sought to care and learn, the nursing students.

Method

This is a qualitative, descriptive study, a case study with regard to the complexity of the human being, on the description of the Nursing Process in a person with paraplegia, resulting from polytrauma involving a car accident.

The research was built in the field of practice of the curricular component Adult and Elderly Health Nursing II of the Nursing course of a public university in the city of Feira de Santana-Bahia, in a public hospital in the same city, in the Neurological Clinic unit, carried out by the students of the sixth semester as a practical activity in the month of September 2023, for three days.

The study was approved by the Human Research Ethics Committee under protocol No. 3,706,976 and was based on Resolution No. 466/2012, which incorporates, from the perspective of the individual and the collectivities, bioethical references, such as autonomy, non-maleficence, beneficence, justice and equity, among others, and aims to ensure the rights and duties of research participants⁷. For this reason, a Free and Informed Consent Form (ICF) was prepared and explained to ensure the safety, dignity and respect of the

participant. After the pertinent doubts and orientations, the informed consent form was signed in two copies, one of which remained with the researchers and the other with the participant.

The research was carried out with a female participant, a young woman in a situation of paraplegia who was under the full care of the researchers during the time of practical activity. Thus, the elaboration of the NCS and its stages were used: Nursing data collection, nursing diagnosis, nursing planning, implementation and evaluation⁸. In view of the above, data collection was carried out through anamnesis with the person being cared for and their family companion to learn about the clinical history and biopsychosocial and spiritual specificities, physical examination, in addition to an active search of the medical records to relate to the medications in use and the comprehensive care offered to them, nursing evolution and vital signs records (SSVV).

To list the nursing diagnoses, we resorted to the North American Association of Nursing Diagnoses (NANDA)⁹, which allows the elaboration of care directed to address the patient's problems and, thus, develop a care plan with specific goals to meet the individual's needs in their physiological, psychological, behavioral, affective and socio-spiritual aspects. This planned care is followed by the analysis of the effectiveness of the interventions performed and the prognosis achieved, using the CIN¹⁰ (Nursing intervention classification) and the NOC¹¹ (Nursing Outcomes Classification).

Thus, the study followed Betty Neuman's Theory, as it approached nursing care from a holistic and systems perspective that understands the human being as an open system in constant interaction with stressors, positively or negatively, and always in modification¹². Thus, the participant's statements, identified with the fictitious name of Safira to preserve her identity, were collected for the application of this theory.

Results

Nursing history: We describe that Safira, 28 years old, married, 1 daughter, female, belonging to Petrolina Pernambuco. Regulated from Itiúba to the hospital where we met her, on August 14, 2023 after a car accident on the Itiúba highway, associated with the consumption of alcoholic beverages and without a helmet on the back of a motorcycle. The patient complained of motor loss in the lower limbs and reported amnesia from the event. Absence of drug allergies or previous comorbidities was recorded. She reports that she worked as an attendant in a restaurant, without a formal contract and had as a hobby playing ball, in the position of defender. On August 27, she underwent thoracic spine arthrodesis surgery due to multiple trauma involving traumatic brain injury (TBI), spinal cord injury (MRT) and T5 fracture. However, even after the surgical procedure, the paraplegia remained.

The patient was confined to bed, accompanied by a family member. Conscious awareness and stable hemodynamics, oral diet, calm, receptive, however not very cooperative for self-care, such as hygienic care and change of decubitus. Acyanotic, normochromic mucous membranes, anicteric sclera, afebrile, normotensive, eupneic, breathing in room air, using AVP in the left upper limb and SVD in good function. She complains of severe previous insomnia due to the environment and bearable pain when moving as shocks to

the body. She reports missing her daughter and blames herself for the state she is in, sadness was noted when talking about the surgery and postoperative scar, and she was tearful during the report. On physical examination: normochromic ocular and oral mucous membranes, impalpable supraclavicular and infraclavicular ganglia, upper limbs with good movement, plegia from the thoracic region downwards. Globose and flaccid abdomen, lower limbs with edema (++/++++), presence of grade IV pressure ulcer in the sacral region, surgical wound in the lumbar region, and unclassifiable lesion in the left calcaneus. Present ejections; HR: 100bpm; P: 98bpm; RR: 20 inc/min; T: 36.6°C; PA: 110x80mmHg. In the evaluation of the sacral lesion, a lesion with fatty tissue, pink tissue, sloughs and moist necrosis adhered in moderate amounts to the center with tunneling was observed. Moderate amount of seropurulent exudate, with a strong odor. In the lower perilesional area, suffered tissue and pink tissue were identified, while in the intergluteal region a small lesion with dark adhered necrosis.

Chart 1 - Nursing diagnosis of people with paraplegia secondary to a car accident according to NANDA, Feira de Santana, 2024.

Problem	Diagnosis (NANDA)	Assistance plan	Nursing Prescription	Scheduling
Pain when moving	Acute Pain Related to Physical Injury Agent Evidenced by Easy Expression of Pain (00132) Domain: 12 Class:1	Minimize pain	Administer analgesic as prescribed Identify Relieving Factors; Encourage change of position Apply pain scale	M - E - N and S/N
Edema in the lower limbs	Ineffective peripheral tissue perfusion related to inadequate knowledge of capable modifi-factors evidenced by edema (00204) Domain: 4; Class: 4	Reduce edema	Evaluate Godet's sign; Provide guidance on water intake; Perform massage in the lower limbs; Promote stretching of the lower limbs;	10 and 16
Severe past insomnia due to the environment	Stressor-Related Anxiety Evidenced by Insomnia (00146) Domain: 9; Class: 2	Improve sleep pattern	Identify causes; Perform unconventional therapies that promote relaxation.	N
Bone injury	Impaired tissue integrity related to pressure on bony prominence evidenced by decreased range of motion (00044) Domain:11; Class: 2	Minimize neurological injury	Check for phlogistic signs; Record color and amount of diuresis; Maintain sterile technique when changing the device.	M - E - N

Table 2. Nursing diagnosis of people with paraplegia secondary to a car accident according to NANDA. Feira de Santana, 2024.

Problem	Diagnosis (NANDA)	Assistance plan	Nursing Prescription	Scheduling
Impaired mobility	Impaired physical mobility related to physical endurance, insufficiency evidenced by decreased motor skills (00085) Domain: 4 Class:2	Promote motor rehabilitation	Request support from physiotherapy; Stimulate autonomy; Assist in developing capable movement.	M - E - N
Not very collaborative for self-care Sad, tearful and feeling guilty about the accident	Stressor-related anxiety evidenced by distress (00146) Domain: 9 Class: 2 Low situational self-esteem related to impotence evidenced by underestimating the ability to cope with situation. (00120) Domain: 6 Class: 2 Impaired social interaction related to impaired physical mobility evidenced by minimal interaction with other people (00052) Domain: 7 Class: 3	Improving mental health by considering health problems in the biopsychosocial dimensions	Welcoming the patient; Try to understand the stressful situation; Establish a bond of trust; Offer fun activities aimed at reducing tension; Promote family involvement; Apply for social assistance; Identify means of communication that enable social interaction during hospitalization; Guide the patient in identifying painful feelings of guilt; Offer real information about diagnosis, treatment and prognosis.	Always

Chart 3 - Domains, categories, subcategories and units of meaning in the light of Betty Neuman's Theory. Feira de Santana, Brazil, 2024.

Domínio	Categoria	Subcategoria	Relevância
Physiological Physiological	Condition staff	Pain/ discomfort	<i>In the beginning it was worse, now the pain comes and will get a lot worse when I try to make movements so I prefer to stay still in the same position. (Sapphire)</i> <i>I think comfort is really just at home, this hard and cramped bed, without being able to get up. (Sapphire)</i>
		Mobility	<i>When I try to move it hurts, I don't have any strength, apart from the fact that it gives me a belly down I don't feel anything, sometimes I have a strange sensation as if my legs move on their own. (Sapphire)</i>
Physiological	Changes Emotional	Fear/Guilt/Guilt	<i>I don't remember almost anything about the moment of the accident, but I feel guilty for everything that happened when I was riding the bike. (Sapphire)</i> <i>He (Doctor) said I'm not going to walk anymore and left (Sapphire)I cry inconsolably.</i>
	Self- concept	Self-image	<i>I avoid looking at myself, sometimes I accidentally see my face on the cell phone screen, with this giant scar on my face I looked like Chuck, that Killer doll. (Sapphire)</i>
Cultural	People Significant	Daughter	<i>We only talk on the cell phone (pause), don't let her in here, they said it's because of her age (crying), she wrote a letter to me. (Sapphire)</i>
	Resources of health facilitators	Multiprofessional team and hospital	<i>Nurses are the ones who come here the most. (Sapphire)</i> <i>The doctor just stopped by right at the time I was having lunch (pause and cry) he said I won't</i>

			<i>walk anymore and left. (Sapphire)</i> <i>Hospital is never good, right? ... There are times when it's too cold, sometimes it's too hot. (Sapphire)</i>
	Everyday life	Work/Leisure	<i>I used to do a daily rate in this restaurant that I told you, it wasn't a formal contract (pause) after here I don't know how it's going to be, nor if I'll be able to work. (Sapphire)</i> <i>I liked to take care of my plants, (pause) and play ball, I was a defender for the team there. (Sapphire)</i> <i>Here I don't do anything, just cell phone (pause) doesn't have any distractions. (Sapphire)</i>

Fonte: Adaptado de Pestana-Santos M, Santos MSR, Cabral IE, Sousa PC, Lomba MLLF, 2021.

Discussion

The hospitalization process, from the patient's report on the information obtained from the medical record, showed a series of misinformation and loose conducts that do not situate and guide integrated care. Thus, these mismatches trigger confusions regarding the health situation and hinder the continuity of care, which fed feelings of anguish and sadness to the patient.

The nursing team plays an indispensable role in welcoming patients who are victims of multiple trauma, and can lead to a better understanding of their needs and thus offer individualized care to spinal cord injured patients, making them the protagonists of care¹³⁻¹⁴. Thus, the nursing process enables comprehensive and individualized patient care, based on technical, scientific and humanization knowledge, enabling the organization and planning of nursing actions, continuous evaluation and improvement of the quality of care provided, and the promotion of patient safety and rehabilitation.

However, the adult individual who acquires paraplegia due to a certain cause finds himself in a previously unknown situation, a new physique and self-recognition. Such a situation produces the search for a meaning and reconstruction of this body that presents itself, since the limitations of paraplegia cause a threat and a rupture in the subject's relationships and perceptions about himself, leading to a lack of meaning. In this way, he finds himself in self-reconstruction and fights for that body that no longer exerts the same functionality¹⁵.

It is not uncommon for individuals diagnosed with paraplegia to present diagnoses such as risk of pressure injury due to immobility, issues related to autonomy for activities of daily living, need for adaptations and support for rehabilitation and reintegration into the community.

For Neumann¹⁶, health is the result of the balance or state of well-being at a given moment, and is seen as a continuity of comfort for the disease, dynamic and versatile over time, where nursing interventions contribute to maintain and achieve the balance of the system.

In addition, the stressors in their various areas of involvement, such as anxiety, depression, low self-esteem, intense emotions, diseases, injuries and chronic pain, were the most described in the literature, bringing a relationship with the systems and balance of this body that is shaken. According to Neuman, nursing should act in order to reestablish balance and help the patient to lead the care.

According to Pestana et al (2021)¹⁶, the nursing interventions defined for each of the diagnoses aim to strengthen the lines of defense, reduce the impact of a stressor, and promote the best possible level of well-being after reconstitution or recovery.

In this sense, the nurse, in the planning of nursing care and according to the Neuman systems model, identifies the nature of stressors, their real and potential effects in order to, in partnership with the patient and family, establish a care plan adapted to the needs.

When caring for the patient, we perceive and understand the need for singular and integral care to respond to the imbalance of the body/mind systems in an assertive way. On the other hand, the feeling of incapacity sometimes put us in unfavorable situations because it depended on answers that went beyond nursing care, such as interprofessional communication, in order to enable rehabilitation to reestablish, within the possible limits, a threshold considered as baseline for the balance of the systems, which was sometimes hindered due to mismatches of information and the disharmonious performance of the multiprofessional team.

The suffering of this patient perceived during the practice awakened the understanding of how suffering hinders the process of acceptance of this new condition of life and health, processing of grief for this body that has undergone changes and rehabilitation. Thus, sensitivity and qualified listening enabled coping and strategies necessary for care⁶.

The NCS allowed the realization and continuity of care for paraplegic patients through a complete assessment of the patient, identifying their specific needs, limitations, capacities and challenges. Based on this assessment, we develop the individualized care plan, which aims to promote independence, facilitate the patient's adaptation to the new life condition, and prevent complications.

Conclusion

This case study provided an understanding of the individual victim of polytrauma and their needs beyond the biological process, understanding illness with a multifactorial course where the environment and the individual dialogue with each other, having a positive and negative effect on the balance of the human body.

It was possible to infer from the results found the importance of NCS and the role of nurses in the care process of polytrauma patients, understanding that

their performance presents high complexity and effectiveness in the rehabilitation of patients.

Betty Neuman's systems theory provided a greater understanding of the biopsychosocial dimensions of the individual, which in this specific patient, in view of the prognosis raised, is indicated for referral to the Hospital of the Sarah¹⁷ network for rehabilitation, which has as principles to understand the human being as a subject of action based on his potential and not on his difficulties, To act in society to prevent disability, fighting prejudices regarding limitations and differences, living for health and not for the survival of disease.

In addition, this study brought as a challenge the effectiveness of nursing students' care and the perception of new ways of caring beyond the technician biomedical model, with the recognition of new possibilities of integrating care and humanization practices with regard to the conducts of people with paraplegia.

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Correspondent Author

Ivana Silva Rodrigues
Universidade Estadual Feira de Santana
Nordeste ST., 580. ZIP: 44033-123- George
Américo. Feira de Santana, Bahia, Brazil.
lvana172308@gmail.com