Nursing diagnoses in neurological patients: a documentary study

Diagnósticos de enfermagem em pacientes neurológicos: estudo documental

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ABSTRACT | OBJECTIVE: To identify the sociodemographic and clinical profile and nursing diagnoses in neurological patients. **METHOD:** Documentary study carried out between December 2017 and March 2018, with 184 medical records in a tertiary hospital in the northeast region of Brazil. Data were collected using an instrument with a sociodemographic and clinical profile and presented through descriptive statistics. **RESULTS:** Most patients were male and medically diagnosed with traumatic brain injury. A total of 25 nursing diagnosis titles were observed, and the most prevalent were unstable blood glucose, acute confusion, falls, self-care deficit, impaired walking and impaired comfort. It is noticed the predominance of nursing diagnoses for neurological patients in the domains of nutrition and self-care. **CONCLUSION:** The nursing diagnoses identified in this study can contribute to the increase of sensitive indicators for nursing practice and favor assistance directed to the patient's needs.

DESCRIPTORS: Self-care. Nursing Diagnosis. Neurological disorder.

RESUMO | OBJETIVO: Identificar o perfil sociodemográfico e clínico e os diagnósticos de enfermagem em pacientes neurológicos. **MÉTODO:** Estudo documental realizado entre dezembro de 2017 e março de 2018, com 184 prontuários em um hospital terciário da região nordeste do Brasil. Os dados foram coletados mediante instrumento com perfil sociodemográfico e clínico e apresentados por meio da estatística descritiva. **RESULTADOS:** A maioria dos pacientes era do sexo masculino e com diagnóstico médico de traumatismo cranioencefálico. Foi observado um total de 25 títulos de diagnósticos de enfermagem, e os que mais prevaleceram foram glicemia instável, confusão aguda, queda, déficit do autocuidado, deambulação prejudicada e conforto prejudicado. Percebe-se a predominância dos diagnósticos de enfermagem para os pacientes neurológicos nos domínios de nutrição e autocuidado. **CONCLUSÃO:** Os diagnósticos de enfermagem identificados neste estudo podem contribuir para o incremento de indicadores sensíveis à prática de enfermagem e favorece a assistência direcionada as necessidades do paciente.

DESCRITORES: Autocuidado. Diagnóstico de Enfermagem. Transtorno neurológico.

Introduction

Neurological diseases are defined by complications that affect the nervous system, the brain, spinal cord, and/or peripheral nerves, resulting from various traumas and infections. The main neurological disorders are cranioencephalic trauma, cerebrovascular accident, and spinal cord trauma.[1]

Cerebrovascular diseases are considered a public health problem, and socioeconomic conditions determine the increase, especially in developing countries.[1,2] In Brazil, among cardiovascular diseases, cerebrovascular disease is one of the most neglected diseases in the country, leading to physical disability and having a high incidence and mortality rate.[3] According to the literature, traumas are one of the main causes of death or functional disability in the projection for the next ten years.[4]

The approach to neurological patients needs to be holistic, comprehensive, and humanized, with several contributing factors related to the quality of life. The nursing practitioner, with the patient, must identify capacity deficits in meeting individual self-care needs, seeking to develop in these individuals the potential that already exists for this practice.[5]

Given the above, it is the duty of health professionals and, it is the nurse to identify and treat the phenomena arising from neurological disorders with the implementation of attitudes and strategic skills that coincide with nursing care, in a holistic and humanized manner, where the patients' needs are met.[6]

The Nursing Process (NP) is a care model that aims to contribute to the professional implementation of nursing as a science. The NP can consist of five stages: data collection, nursing diagnosis, care planning, implementation, and evaluation. In this way, it favors interdependent and interdisciplinary actions, improves the communication of the nursing team, and allows the nurse to continue the clinical reasoning already started by the team. In addition, its use favors the optimization of the care provided and promotes greater patient safety.[7-9]

The applicability of the Nursing Care Systematization (SAE) and the implementation of the Nursing Process (NP) are consonants with holistic monitoring of the patient, where all their needs are met. In Brazil, such actions are regulated by COFEN Resolution No. 358/2009.[10]

Searching the literature as a situational diagnosis, it was noticed that there is a lack of studies on nursing diagnoses in neurological patients. Due to the scarcity of studies in the (inter)national panorama, this research becomes relevant, as it provides support for nursing professionals about the nursing diagnoses most present in neurological patients and allows an accurate assessment of the patient and, thus, a greater understanding of their health status, in addition to contributing to evidence-based clinical practice.

Given the above, this study aimed to identify the sociodemographic and clinical profile and nursing diagnoses in neurological patients.

Method

Documentary, retrospective study with a quantitative approach, developed between December 2017 and March 2018 in neurology units of a tertiary hospital. The hospital in question has two inpatient units exclusively for neurological patients. This is considered the largest urgent and emergency medical center and a specialized reference for treating trauma patients (victims) in the state.[10]

The study population consisted of 355 medical records of patients hospitalized in 2017 in a neurology unit. Of these, 184 medical records were selected probabilistically by calculating the finite population. To compose the sample, it was necessary: to have a diagnosis of neurological disorders according to the International Classification of Diseases (ICD-10) present in the medical record; have at least 12 hours of hospitalization in the respective units. As exclusion criteria, incomplete and/or illegible medical records were removed from the sample.

Nurses and scientific initiation scholarship holders performed data collection. It occurred through an instrument constructed by the authors themselves, with variables related to the sociodemographic profile: (gender, age, city of origin, origin, and religion), and clinical profile: (comorbidities, reason for admission, suspected diagnosis, general health status on admission, days of hospitalization and outcome). The form was filled out by surveying the information contained in the medical records used by the institution itself.

Therefore, data collection was performed with nursing diagnoses listed by nurses from the neurology units collected in the hospital's own registration document. It is noteworthy that this instrument was previously validated by a pilot application with ten medical records, which were not part of the sample.

The diagnoses found in patients admitted to neurology units will be presented in the results according to NANDA-I.

In compliance with the ethical principles governing research with human beings, as recommended by Resolution No. 466/12 of the National Health Council, this study was approved by the Institutional Research Ethics Committee.

Results

Among the patients, most were male (83.2%), the most prevalent age group was adults under 40 (58.2%), of mixed ethnicity (77.7%), coming from the countryside state (60.3%) and as the main outcome, hospital discharge (88%).

Regarding medical diagnosis, according to the International Statistical Classification of Diseases and Related Health Problems (ICD-10), traumatic brain injury (TBI) or diffuse brain trauma (S06.2) predominated in 54.8% of hospitalized patients during the study period, and length of stay longer than 20 days (51.1%).

As for the clinical profile concerning the morphofunctional systems, 54.9% of the patients had a mild Glasgow Coma Scale. In the pupillary assessment, there was a predominance of isochoric pupils (43.5%). Regarding the cardiovascular system, 59.2% of the patients were normorcardiac, and 48.9% were normotensive. In the respiratory system, 65.4% of patients remained eupneic. In relation to the gastrointestinal system, 23.9% of the patients used some device, the main one being the nasogastric tube, both for food and for medications of usual use. Finally, regarding the urinary system, there was a predominance of an indwelling vesical catheter (51.1%).

Table 1. Distribution of nursing diagnosis titles identified in hospitalized neurological patients and Related Factors according to NANDA-I domains. 2019
(to be continued)

Nursing Diagnoses	no	%	Related factor	Defining characteristics
Domain 2:				
Class 1				
Imbalanced nutrition less than body requirements	88	47.8	Inability to eat food	Food intake less than the recommended daily intake
impaired swallowing	44	23.9	Tube feeding history	Ineffective tongue action in bolus formation
Class 4				
Unstable blood glucose risk	184	100	Insufficient food intake	
Class 5				
Risk of electrolyte imbalance	184	100	Diarrhea	
Excessive fluid volume	52	28.3	Compromised regulatory mechanism	electrolyte imbalance
Domain 3				
Class 1				
Impaired urinary elimination	98	53.3	multiple causes	Oliguria according to water balance
Class 2				
constipation risk	184	100	Insufficient fiber intake / Decreased gastrointestinal motility / Changes in eating habits	
Domain 4				
Class 2				
Impaired walking	184	100	Impaired balance / Change in cognitive function / Neuromuscular impairment	Impaired ability to walk a necessary distance
Impaired physical mobility	184	100	Change in cognitive function / Neuromuscular impairment / Pain	Discomfort
Class 4				
Risk of ineffective cerebral tissue perfusion	184	100	brain injury	
Food self-care deficit	184	100	Change in cognitive function / Perceptual disorders / Neuromuscular impairment	Impaired ability to swallow food
Self-care deficit for bathing	184	100	Change in cognitive function / Perceptual disorders / Neuromuscular impairment	Impaired ability to access the bathroom
Self-care deficit for intimate hygiene	184	100	Change in cognitive function / Perceptual disorders / Neuromuscular impairment	Impaired ability to reach the toilet

Table 1. Distribution of nursing diagnosis titles identified in hospitalized neurological patients and Related Factors according to NANDA-I domains. 2019 (conclusion)

Nursing Diagnoses	no	%	Related factor	Defining characteristics
Self-care deficit in dressing	184	100	Change in cognitive function / Perceptual disorders / Neuromuscular impairment	Impaired ability to wear each item of clothing
Domain 5				
Class 4				
acute confusion	53	28.8	Delirium	Incorrect perceptions
Domain 9				
Class 1				
Change Stress Syndrome	two	1	Compromised health status / Impaired psychosocial functioning	Concern about change
Change stress risk	184	100	Insufficient advice / Significant environmental change	
Rape Trauma Syndrome	1	0.5	Rape	Embarrassment / Change in sleep pattern
Domain 11				
Class 1				
Risk of infection	184	100	Invasive procedures	
Class 2				
Fall risk	184	100	Change in cognitive function / Impaired mobility	
Pressure ulcer risk	184	100	Braden Scale Score / Physical Mobilization / Reduction of tissue perfusion / Skin moisture	
Risk of impaired skin integrity	184	100	Mechanical factors / Humidity / Pressure on bone protrusion	
Impaired skin integrity	27	14.7	Mechanical factors / Humidity / Change in fluid volume / Inadequate nutrition	Change in skin integrity
Domain 12				
Class 1				
Acute pain	177	96.2	Facial expression of pain / Expressive behavior / Self-report of pain	Facial expression of pain / Evidence of pain using a standardized list of pain behavior for those unable to communicate verbally
Class 3				
harmed comfort	184	100	Insufficient environmental control / Insufficient situational control / Treatment regimen / Disease-related symptoms	Inability to relax / Discontent with the situation
Total	184	100		

Source: Data collected by researchers, 2020.

Discussion

Regarding the ND found, in the Nutrition field, the following diagnosis stood out: Imbalanced Nutrition less than body needs and Impaired swallowing; such diagnoses represent the clinical profile of the patients in the study sample, considering that more than half were victims of TBI, presenting as relational factors the inability to ingest food and history of tube feeding.

A study that sought to assess the clinical, epidemiological profile and the main nursing diagnoses for patients hospitalized with stroke, also evidenced as a diagnosis swallowing and unbalanced nutrition less than bodily needs, mainly related to the presence of brain injury and the use of sedation.[11]

The diagnosis Risk for unstable blood glucose was prevalent, being related to insufficient food intake. A study carried out in an ICU in Rio Grande do Sul found the Risk of unstable blood glucose with a percentage of 12% of its sample, in line with the patient's poor nutrition, the ND risk of unstable blood glucose is justified due to the nutritional deficits presented by the patients in critical situations.[12]

The patient's glycemic index has greater control when managed by nursing. Therefore, nurses must have extensive knowledge about the algorithms for insulin adjustment and food intake to provide safe care in order to increase patient survival.[13]

The diagnoses Risk of electrolyte imbalance and Excessive fluid volume were related to diarrhea and impaired regulatory mechanism. Recent studies corroborate the diagnoses presented in this study. A study[14] on quality indicators in nutritional therapy showed that diarrhea varies according to the concept used for its definition and may be associated with diet intolerance. Other studies[15-18] pointed out the Risk of electrolyte imbalance in 32.2%, 36.7%, and 23.7%. Three studies report excessive fluid volume with 25.5%, 51.6%, and 92.7 % in adult patients.

Electrolyte disturbances presented by neurological patients have multiple causes, including administration of diuretic medications, fluid infusion, and increased insensitive fluid loss. Nevertheless, it is important to consider all clinical variables in patient assessment, with monitoring of electrolytes, in order to preserve the patient's stability.[15]

In the Elimination and Exchange domain, the diagnoses Impaired urinary elimination, Constipation, Risk of constipation, and Diarrhea prevailed. A study carried out seeking the most prevalent ND in the unit identified constipation in 33.33% of its sample. The diagnosis of constipation, Risk of constipation, and diarrhea are directly associated with the nutritional status of patients in critical health situations.[13] In this study, insufficient fluid intake and changes in eating habits were mainly related, while the Risk of constipation was related to decreased gastrointestinal motility.

In the Activity/Rest domain, impaired physical mobility was found as the diagnosis. A study carried out in a public teaching hospital located in the countryside of Paraná, which sought to identify nursing diagnoses and interventions in neurological patients, obtained the ND of impaired physical mobility in 11.70% of its sample, mainly related to pain and impairment neuromuscular, a result also found in the present study.19 In this same domain, all patients had the diagnosis Risk of ineffective cerebral perfusion related to brain injury, consistent with another study. This diagnosis is defined as a risk of reduced circulation of brain tissue capable of compromising health.[20]

The diagnoses self-care deficit in feeding, self-care deficit in bathing, self-care deficit in intimate hygiene, and self-care deficit in dressing were present in 100% of the patients in this study, corroborating a study developed in an academic hospital in Northeastern Italy who found in their sample the diagnoses deficits for self-care for bathing and hygiene in 100% of their sample.[21] These diagnoses in the present study were related to changes in cognitive function, perceptual disorders, and neuromuscular impairment.

In the Perception and Cognition domain, Acute Confusion was prevalent in 28% of the patients, and Risk of Acute Confusion was prevalent in 100% of the sample. Acute confusion is defined as a clinical syndrome characterized by disturbances in consciousness, cognitive function, or perception, frequent in hospitalized patients. The present study was related to the presence of delirium, impaired metabolic function, impaired mobility, and altered cognitive function.[22]

In the Coping/Tolerance to stress domain, the diagnoses Risk for stress syndrome due to change related to insufficient counseling and significant change of environment were identified. This diagnosis shows the importance of health professionals, especially nurses, to include all the demands presented by the patient in their care plan, enabling improvement in the coping process.[23] Another ND presented in this domain was Rape Trauma Syndrome, presented by one of the research participants. The traumatic syndrome developed after or attempted rape includes an acute phase of lifestyle disorganization where it consequently becomes a prolonged process for its restructuring.[24]

In the Safety/Protection domain, the following diagnoses were evidenced: Risk of infection, Risk of falling, Risk of pressure ulcer, Risk of impaired skin integrity, Impaired skin integrity; such diagnoses were presented in other studies.[2] As the study[25] identified that patients received the diagnosis of impaired skin integrity, in this research, this diagnosis was presented by all investigated patients and was mainly related to trauma.

The diagnoses risk of pressure injury and risk of impaired skin integrity were present in 100% of the sample in this study. PL is considered a public health problem that causes a series of negative effects on the patient's recovery, causing other diseases such as infections, septic arthritis, and sepsis.[26] The present study was related to factors such as reduced tissue perfusion, skin moisture, mechanical factors, and pressure on bone protrusions. Therefore, the prevention of pressure ulcers is essential, as it has a significant impact on preventing its incidence and prevalence, as well as its injuries and complications.[27]

The ND risk of infection was related to invasive procedures. Considering the environment and clinical profile of the patients in which the study was developed, it is justifiable that this diagnosis is present in the entire study sample. Other studies[23] also found a high prevalence of this diagnosis.

Pain is defined as an unpleasant sensory experience associated with actual or potential tissue damage. The identification of the ND acute pain in this study corroborates other studies in which the ND of acute pain was identified in 85% of its sample. In this same context, this same diagnosis was found in 33.3% of the population studied.[20,26]

During the execution of this study, some limitations were identified, such as incomplete patient information, underreporting of important clinical information, difficulty in accessing medical records, which, as they were not computerized, generated delays in collection.

Conclusion

The present study enabled the identification of 25 NANDA-I ND titles in neurological patients. Thus, paying attention to the multiple domains covered due to cognitive changes resulting from brain deterioration.

The identification of ND allowed the characterization of the clinical profile of patients with neurological damage, which provides a more focused assessment of the real needs of patients with these conditions. Nursing diagnoses are important in clinical management and reflect their need and contribute to the strengthening of the profession and Nursing as a science in the process. Care brings the nurse closer to the patient and clinical evidence.

Authors' contributions

Soares FMM, Mesquita KKB, Teles LESP, Pequeno CLD participated in the design, analysis, and interpretation of the data. Magalhães DS and Freitas JG participated in the conception, writing of the article, critical review of the intellectual content, and approval of the final version of the scientific article.

Compeeting interests

No financial, legal, or political conflicts involving third parties (government, corporations and private foundations, etc.) have been declared for any aspect of the submitted work (including, but not limited to grants and funding, advisory board participation, study design, preparation of the manuscript, statistical analysis, etc.).

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