NURSING DIAGNOSIS PREVALENCE IN PATIENTS AT AN INTENSIVE CARE UNIT OF A PUBLIC HOSPITAL

DIAGNÓSTICOS DE ENFERMAGEM PREVALENTES NA UNIDADE DE TERAPIA INTENSIVA DE UM HOSPITAL PÚBLICO

Elizabeth Mesquita Melo¹, Maria Piedadde Albuquerque², Ravena Martins Aragão³

ABSTRACT

Objective: To investigate the nurse's diagnosis (ND) in patients at an intensive care unit (ICU) of a public hospital, according to the NANDA's Taxonomy II. Method: A descriptive and quantitative study, conducted in a district hospital in Fortaleza-CE, with 51 patients hospitalized in the ICU from March to May of 2009, according to the nurse history used in the institution, consulting the medical record and patients' physical exams. Inclusion criteria were: being admitted to the ICU for at least 24 hours, presenting clinical conditions for mobilization during physical examination, and exclusion: patients with brain death. Only one patient was excluded for presenting probable brain death. The project has approved by the research ethics committee of the Universidade de Fortaleza (Protocolo 09-037, CAEE 0324.0.000.037-09). The data were exposed in charts and illustration. Results: 50.98% of the patients were female and 49.02% male; the average of age was 64, the most frequent diagnoses were cerebrovascular accident and pneumonia. The most prevailing ND were: walking impaired, self-care deficit, risk of thermoregulation ineffective, infection risk, and risk for falls, with 100% each; ineffective breathing pattern and gas exchange, with 92.16%; and unbalanced nutrition: less than the corporal needs, with 90.20%. Conclusion: We verified the existence of a big number of patients' diagnoses associated to the variety of related factors, according to his health condition. Identifying the DE contributes to a more effective care, because it allows the planning of the care, directing it to the problems presented by each patient. Descriptors: nursing diagnosis; intensive care unit; knowledge.

RESUMO

Objetivo: Investigar os diagnósticos de enfermagem (DE) em pacientes de uma unidade de terapia intensiva (UTI) de um hospital público, segundo a Taxonomia II da NANDA. Método: estudo descritivo, quantitativo, realizado em um hospital distrital, em Fortaleza-CE, com 51 pacientes internados no período de março a maio de 2009, de acordo com o histórico de enfermagem usado na instituição, consultando o prontuário e exame físico do paciente. Os critérios de inclusão foram: estar internado na UTI há pelo menos 24 horas; e apresentar condições clínicas para mobilização, durante o exame físico; e de exclusão: pacientes com morte encefálica. Foram excluídos somente um paciente, por apresentar provável morte encefálica. Os dados foram exibidos em quadros e figura. O projeto foi aprovado pelo Comitê de Ética em Pesquisa da Universidade de Fortaleza, com protocolo nº. 09-037, CAEE 0324.0.000.037-09. Resultados: 50,98% dos pacientes eram do sexo feminino e 49,02% do sexo masculino; os diagnósticos médicos mais comuns foram acidente vascular cerebral (AVC) e pneumopatia. Os DE mais prevalentes foram: desmaiação prejudicada, déficit no autocuidado, risco de desequilíbrio na temperatura corporal, risco de infecção e risco de quedas, com 100% cada; padrão de alimentação ineficaz e troca de gases prejudicada, com 92,16%; e nutrição desequilibrada: menos que as necessidades corporais, com 90,20%. Conclusão: constatou-se a existência de um grande número de diagnósticos por pacientes, associado a uma variedade de fatores relacionados, de acordo com seu estado de saúde. A identificação dos DE contribui para um cuidado mais eficaz, pois permite o planejamento do cuidado, direcionando-o aos problemas apresentados por cada paciente. Descritores: diagnóstico de enfermagem; unidade de terapia intensiva; conhecimento.

RESUMEN

Objetivo: Investigar los diagnósticos de enfermería (DE) en pacientes de una unidad de terapia intensiva (UTI) de un hospital público, según la Taxonomía II de la NANDA. Método: estudio descriptivo y cuantitativo, realizado en un hospital distrital, en Fortaleza-CE, con 51 pacientes internados en el periodo de marzo a mayo de 2009, por medio del historial de enfermería utilizado en la institución, consulta a las fichas y examen físico del paciente. Los criterios de inclusión fueron: estar internado en la UTI por lo menos 24 horas y presentar condiciones clínicas para movilización, durante el examen físico; y de exclusión: pacientes con muerte encefálica. Fue excluido solamente un paciente, por presentar probable muerte encefálica. Los datos fueron expuestos en cuadros y figura. El proyecto fue aprobado por el Comité de Ética de la Universidad de Forcalte, con el protocolo 09-037, CAEE 0324.0.000.037-09. Resultados: el 50,98% de los pacientes eran de sexo femenino y 49,02% de sexo masculino; la media de edad fue 64 años; los diagnósticos más frecuentes fueron AVC y neumopatía. Los DE más prevalentes fueron: deterioro de la deambulación, déficit del autocuidado, riesgo de desequilibrio de la temperatura corporal, riesgo de infección y riesgo de caídas, con 100% cada; patrón de alimentación ineficaz y troca de gases prejudicada, con 92,16%; y nutrición desequilibrada: menos que las necesidades corporales, con 90,20%. Conclusión: se constató la existencia de un gran número de diagnósticos por pacientes asociados a una variedad de factores relacionados, de acuerdo con su estado de salud. La identificación de los DE contribuye a un cuidado más eficaz, pues permite la planificación del cuidado, dirigiéndolo a los problemas presentados por cada paciente. Descriptores: diagnóstico de enfermería; unidad de terapia intensiva; conocimiento.

¹Ph.D in nursing, Federal University of Ceará/UFC. Professor at University of Fortaleza/UNIFOR. Nurse at São José de Doenças Infecciosas Hospital and Evandro Ayres de Moura Hospital. Fortaleza (CE), Brasil. E-mail: elizjornet@yahoo.com.br; "Nurse, University of Fortaleza/UNIFOR. Nurse Family Health Strategy of Ceara-Ceará. Fortaleza (CE), Brazil. E-mail: tiededefnermeli@hotmail.com; "Nurse, University of Fortaleza/UNIFOR. Nurse Family Health Strategy of Ceara-Ceará. Fortaleza (CE), Brazil. E-mail: ravenaarap@hotmail.com

Duração de estudo: de março a maio de 2009. O estudo foi aprovado pelo Comitê de Ética em Pesquisa da Universidade de Fortaleza, com protocolo nº. 09-037, CAAE 0324.0.000.037-09. O estudo teve como objetivo investigar os diagnósticos de enfermagem (DE) em pacientes de uma unidade de terapia intensiva (UTI) de um hospital público.
INTRODUCTION

Considering the importance of qualified caring on the basis of theoretical-scientific, nursing is in constant search for the application of scientific methodology during the doing of his practice. The nursing process (NP) gives increasing space between nurses who envision the quality of care, its implementation in practice is the Nursing Care Systematization - Sistematização da Assistência em Enfermagem - (SAE).

The SAE methodology must be established based on a theoretical framework to guide its application, consisting of five interrelated phases: investigation (research), nursing diagnosis (ND), planning, implementation, and evaluation.1

The ND is the second stage of the process, in which are indicated by identifying basic human needs and clinical judgment through this investigation.2 Its purpose is to clarify the nature of problems and risk factors that must be treated to achieve the expected results.1

In the practice of nurses in the Intensive Care Unit (ICU), this professional must organize and systematize its work, and aims to adapt the care plan to the assistance needs of patients, according to their degree of dependence. Thus, it is necessary to implement the SAE, with the development of ND, for quality care.

Plenty of board still to be achieved in relation to SAE, because this applicability should be continuing instrument of nursing work, with the application of technical-scientific knowledge and correlation with practice. There is need for its use in a more continuous in practice, implying direct advantages in the caring and patient recovery.

The development of standardized nursing languages, as well as the task of naming and classifying diagnoses are somewhat challenging to facilitate communication and information for judgments of nurses on the responses from the human beings to health problems and life processes.3

The classification system ND OF NANDA is one of the best known and disseminated in worldwide ambit. Currently, several professionals are working with the NANDA’s Taxonomy II, with 201 ND.4 These are essential elements for the performance of the SAE, thus the accuracy and relevance of the prescription of care depend on their ability to identify, in a clear and specific way, both the problems and their causes.3

It is noteworthy that only with a correct clinical trial, it is possible to predict the risk diagnoses and plan care to promote health and prevent problems. The resources and strengths identified by the nurse are the key to reducing costs and maximizing efficiency.3

In Brazil, are already published research identifying diagnostics in several areas of nursing. In fact, the continuity of such studies will accumulate result that, if it is integrated, may support decisions on clinical focus in different areas.5

It is of enormous importance the use of SAE, especially with regard to the diagnostics collection phase, in the assistance provided in ICU, due to the severe state in which they are patients, requiring skilled nursing care and individualized.

In daily intensive care nurses, SAE gives rise paths, allowing a qualification of care, as will plan actions, prioritizing human responses in health-disease process. The human being is considered since their basic needs, allowing the development of systematic nursing actions, giving reasons for performed assistance.2

The relevance of this study is associated with enhancement of professional practice, by virtue of emphasizing the ND as basic step of SAE, trying to improve the patient's condition. The nursing staff will be benefitted, because in seeking to provide an individualized care focused on the well-being of the patient, will be recognized.

It is believed that the lifting of these diagnoses will enable the planning of a service based on the affected needing of the patient, basing the care provided.

OBJECTIVE

- To investigate the ND patients in an ICU of a Brazilian public hospital, according to NANDA’s Taxonomy II.

METHOD

Descriptive study with quantitative approach, performed in the ICU of a Brazilian hospital district, located in Fortaleza.

The population consisted of all patients admitted in the ICU during the period March to June 2009, the sample comprised 51 patients. Inclusion criteria were: being admitted to the ICU for at least 24 hours, presenting clinical conditions for mobilization during physical examination, and exclusion: patients with brain death. Only one patient
was excluded for presenting probable brain death.

The data were collected in the time above described, through the history of nursing used in the institution. The interview was not conducted, considering that the patients were sedated, under analgesic effects or in comatose state. Thus, we proceeded to query the medical records in order to know the history of their disease. Physical examination, however, a fundamental part of this study was conducted to survey the ND, being based on the medical literature.

The data were organized into a database in Excel program, which focused on the absolute and relative frequency, and displayed in tables and figures.

Since the patients were in serious or potentially serious state, the families were told about the study, signing a Free and Informed Consent for authorizing the insertion of the patient in the study.

The study followed the principles of Resolution 196/96, which governs the standards for human research and the project was submitted to the Comitê de Ética em Pesquisa da Universidade de Fortaleza - Ethics Committee in Research of the University of Fortaleza, which was approved with protocol number 09-037, CAAE 0324.0.000.037-09.

RESULTS

With regard to gender, 50.98% were female and male 49.02%. The mean age was 64 years, with the predominant age group 59-78 years old (33.33%). Present were the following medical diagnoses: cerebrovascular accident (stroke) and lung diseases, 12 patients (23.53%) each, followed by sepsis, with nine patients (19.61%), complications in the immediate postoperative period, seven patients (13.73%), liver disease, four (7.84%) and exogenous intoxication, three patients (5.88%). There were other diagnoses, with three patients (5.88%), including amyotrophic lateral sclerosis, gastrointestinal bleeding and acute pulmonary edema, with one case each.

Most of patients came from the same institution (68.63%), as it constitutes a reference in emergency care, 45.10% were transferred to the inpatient units of the institution and 41.8% died.

The completion of the stage of nursing’s historic allowed the identification of 73 diagnoses among the 201 standardized by NANDA (2010). Of these 73, were selected which showed the percentage equal to or greater than 25%, corresponding to 24 ND and is distributed by the corresponding fields, as seen in Figure 1.

There was a predominance of ND in areas 4 and 11, relating to the activity/rest and security/protection, respectively, each with seven diagnoses. Considering the complexity of ND, it will be described only the diagnoses included in these two areas.
The domain 4, corresponding to activity / resting, refers to the production, conservation, expense or balance of energy resources. In this area, we identified seven diagnoses among patients, all with a significant percentage.

Diagnoses impaired ambulation and self-care deficit feeding/bathing/hygiene/personal hygiene/dressing/grooming were present in 100% of patients. The factors related to diagnosis were impaired ambulation: endurance capacity limited, 51 patients (100%), impaired balance and muscle strength insufficient, 43 (84.31%), cognitive impairment, neuromuscular and musculoskeletal systems, 39 (76.47%).

Diagnosis self-care deficit related factors included the following: state of impaired mobility, present in 100% of patients, fatigue, with 48 patients (94.12%), cognitive impairment, neuromuscular, musculoskeletal and perceptive, and inability to perceive the relationship space and a body part, 39 patients (76.47%).

The diagnosis ineffective breathing pattern was identified in 47 patients (92.16%), with related factors: respiratory muscle fatigue in 100% of patients and cognitive impairment and musculoskeletal systems, present in 37 patients (78.72%).

The diagnosis decreased cardiac output, present in 45 patients (88.24%) was related factors: altered contractility and rhythm changes, with 45 patients (100%), pre and post load changes, 33 (73.33%), and heart rate changes, 12 (26.67%).

The diagnosis impaired mobility in bed, with 42 patients (82.35%) was related factors: insufficient muscle strength, cognitive impairment, neuromuscular and musculoskeletal in 42 (100%) and sedatives, 23 (54.76%).

Of the 51 patients described in the study, 40 (78.43%) were diagnosed impaired spontaneous ventilation, and related factors: respiratory muscle fatigue and metabolic factors, with 100% of patients had this diagnosis.

The domain 11 (safety/protection), which focuses on being free from danger, injury, or damage the immune system, protection against loss, and protecting the safety and security had seven diagnoses.

The diagnoses: risk of imbalance in body temperature, risk of infection and risk of falls were identified in 100% of patients researched in this study. Because they are in risk diagnoses, not presenting relating factors, but only risk factors. These, as regards the first diagnosis, were extremes of age, physical inactivity, exposure to extreme environmental temperatures, sedation, metabolic rate changed and medications which cause vasoconstriction / vasodilatation. Risk factors identified for the diagnosis of infection were risk invasive procedures, increased environmental exposure to pathogens, tissue destruction, and inadequate primary and secondary defenses. To diagnose the risk of falls, risk factors as: mental status downgraded, impaired physical mobility, decreased strength in lower extremities, impaired balance and proprioceptive deficits.

Risk factors associated with risk of aspiration diagnosis, present in 45 patients (88.24%) included: medication administration.
and reduced gastrointestinal motility, impaired swallowing, decreased cough and vomiting reflex, decreased level of consciousness, presence of probe endotracheal tube feeding, gastric residuals and increased presence of tracheotomy.

The ND ineffective respiratory way clearance were identified in 44 patients (86.27%), related to the following factors: the presence of artificial airway secretion in the bronchi and retained secretions, present in 39 patients (88.64%), infection 21 patients (47.73%) and chronic obstructive pulmonary disease (COPD), three (6.82%).

The diagnosis of impaired skin integrity, presented by 29 patients (60.78%) had related factors: mechanical factors, medications, moist skin, immune deficit, impaired sensations, unbalanced nutrition and impaired metabolic state, with 29 patients (100% ), physical immobilization, 27 patients (93.10%); extremes of age, and changes in skin turgor; 21 (72.41%), change in state water, 19 (65.52%), hypothermia, 14 patients (48.28%) and hyperthermia, with a patient (3.45%).

Only 18 patients (35.29%) were diagnosed impaired tissue integrity, and related factors: altered circulation, mechanical factors, nutritional factors and impaired physical mobility, present in 100% of patients with this diagnosis, excess fluids, with five patients (27.78%), temperature extremes, four (22.22%) and liquid deficit, two (11.11%).

**DISCUSSION**

Regarding the profile of patients, there was not significant difference in terms of gender. The predominant age group was 59-78 years, mean age 64 years. The most prevalent medical diagnoses were ischemic stroke and lung diseases.

The most frequent nursing diagnoses were divided into domains, and highlighted the prevalence of related factors. It has appeared six domains of study, but the domains 4 (activity / rest) and 11 (safety / protection) had a higher number of diagnoses, with seven diagnosis to each one.

In domain 4, the diagnoses were identified: impaired ambulation, self-care deficit, ineffective breathing pattern, decreased cardiac output, impaired mobility in bed, and impaired spontaneous ventilation.

Impaired ambulation is the limitation on independent movement on foot for the environment. This diagnosis was found in 100% of patients because they were in an ICU for rigorous monitoring and intensive treatment. It is worth noting that the prolonged inactivity can lead to pressure ulcers, deep vein thrombosis, atelectasis and hypostatic pneumonia.

Self-care deficit is the impaired ability to perform or complete activities of feeding, bathing / hygiene, personal hygiene, dressing and grooming by itself. This diagnosis was grouped because all patients had deficits in these activities and were debilitated, often with altered level of consciousness, therefore, unable to perform self-care. A previous study in ICU patients showed that of 991 patients, 972 (98.1%) had self-care deficit bathing and / or hygiene, and various related factors.

The diagnosis ineffective breathing pattern is defined as an inspiration and / or expiration that do not provide adequate ventilation. Most of patients at admission progressed with symptoms of respiratory distress, being intubated underneath mechanically ventilated. Fewer patients had spontaneous breathing preserved, but needed oxygen support (nasal catheter or Venturi’s mask).

Study demonstrates/emphasizes that ICU patients have high rates related to nursing diagnoses associated with damage of the respiratory system, remarking the complexity of care in this unit, which are designed generally to the homeostatic regulation of body.

The hemodynamic balance, evaluated by vital signs, assumes a essential role in the homeostasis of the human being. In the ICU, these signs are extremely critical to identify situations that put the patient’s life at risk.

Any situation where it is necessary to maintain a respiratory way patent and safe, the tracheal intubation may be indicated. Thus, the indications for intubation fall on those patients who need to maintain the respiratory way permeable and the control of pulmonary ventilation.

Decreased cardiac output is defined as the insufficient amount of blood pumped by the heart to attend the metabolic demands of the body.

Research conducted at the emergency room of Clinic Hospital of Marilia - Hospital das Clínicas de Marília- SP/Brazil; shows that 20% of patients had the nursing diagnosis decreased cardiac output. The related factors were described like this: pace (rhythm) / heart rate changes (70%), dysfunctions in contractions (70%) and preload changes (40%). Similar data were found in this study, since a significant number of patients had like...
origin the emergence of the hospital.

The diagnosis impaired mobility in the bed corresponds to the restriction to move independently from one position to another in the bed.\textsuperscript{4} The patients, mostly with regard to mobility, were very limited or totally immobile.

Impaired spontaneous ventilation is defined as reduced energy reserves, resulting in an inability of the individual to maintain proper breathing to sustain its life.\textsuperscript{4} For classification of this diagnosis we selected patients who were on mechanical pulmonary ventilation, due to the inability to maintain control of breathing.

Mechanical ventilation may be necessary for many reasons, including the need to monitor a patient's breathing during surgery or during the treatment of severe head injury, oxygenate the blood when the patient's ventilatory efforts are inadequate and when it needs to rest the respiratory muscles. Many patients placed on a ventilator can breathe spontaneously, but the effort can be exhausting.\textsuperscript{8}

In the domain 11, has highlighted the following diagnoses: risk of imbalance in body temperature, risk of infection, risk of falls, risk of aspiration, ineffective respiratory way clearance, impaired skin integrity and impaired tissue integrity.

The risk of imbalance in body temperature is evidenced as the risk of failing to maintain body temperature within normal parameters.\textsuperscript{4} I was noted: there was close relationship between this diagnosis with the diagnosis risk for infection, also present in all patients evaluated in the study, since all were undergoing invasive procedures, they were in an environment with increased amount of microbial agents, and most had advanced age.

Risk of infection is the increased risk of being invaded by pathogenic microorganisms.\textsuperscript{4} This diagnosis was present in most ICU patients focused on previous research (95.9%), and some related factors similar to those found in this present study.\textsuperscript{9}

It should be remembered that patients on mechanical ventilation are at high risk for infection, since patients with tracheal intubation or tracheotomy do not have the normal defenses of the upper respiratory ways.\textsuperscript{8}

The diagnosis of falls risk is defined as the increased susceptibility to falls, causing injury.\textsuperscript{4} Thus, this diagnosis was identified in 100% of patients in the study since it had impaired physical mobility because they find themselves confined to bed. Moreover, they still had a weakened state of health, consisting of a risk factor for this diagnosis.

Aspiration risk is the risk of entry of gastrointestinal secretions, oropharyngeal secretions, solid or fluid in the tracheobronchial pathways.\textsuperscript{4} It was observed that many patients already had, on admission time to medical diagnosis, aspiration pneumonia due to aspiration of fluid or abnormal secretions into the lungs. Other patients, nevertheless, in consequence of the risk factors for tube feeding, decreased level of consciousness, presence of artificial respiratory way, among others, showed this typcast of ND.

The swallowing reflex, composed of glottis reflexes, pharyngeal and laryngeal, are depressed by prolonged disuse and by mechanical trauma from the endotracheal tube or tracheotomy which put patients at higher risk of aspiration.\textsuperscript{8}

Ineffective respiratory way clearance is the inability to clear secretions or obstructions in the respiratory tract to maintain a clear respiratory way.\textsuperscript{4} The patient, in some cases, usually accumulates tracheal secretions, due to changes in the bronchial mucosa from ciliate transport to the pharynx. When changes occur in the quantity of secretions, there may be insufficient in the sputum. The ICU patients may show such changes, either by meeting with sensorial loss or use of artificial ventilation.

It is important to the nurse before this type of ND, acting to remove and / or facilitate the removal of secretions, in order to facilitate the passage of air into the respiratory tract and to promote gas exchange.\textsuperscript{14}

The diagnosis is impaired skin integrity consists in the epidermis and/or dermis changed.\textsuperscript{4} This type was presented by the majority of patients described in this study, they developed a pressure ulcer grade I and / or II, characterizing this diagnosis.

It is noteworthy that one of the main medical diagnoses in the population was stroke, increasing the risk of change in skin integrity because of the possibility of sequel or motor deficits.

The patient who suffered a stroke is in risk for many complications, including deconditioning and other musculoskeletal problems, difficulty swallowing, bowel and
bladder dysfunction, inability to perform self-care and skin breakdown.  

It is convenient to emphasize that the average age of patients was 64 years, featuring a predominantly elderly population. Under this view it is essential to point out that the skin is the organ most betrays the signs of aging. With the loss of connective tissue, subcutaneous fat, hair and sweat and sebaceous glands decreasing, physiologically, the elderly have a dry skin, brittle, without preservation of elasticity and turgor and more prone to injury. The ND impaired tissue integrity was also present in the patients of this present study, although in smaller numbers. Among them were those who had grade III pressure ulcers and/or IV and surgical wounds. This diagnosis corresponds to damage to the mucous membranes, cornea, skin and subcutaneous tissue, while diagnosis damaged skin integrity refers to the epidermis and/or dermis.

CONCLUSION

It was identified 24 ND more prevalent, it was taken into consideration which had a percentage equal to or greater than 25% classified in the NANDA's domains, in order to get a better view. The domains 4 (activity/resting) and 11 (safety/protection) were the domains most showed ND, among the population approached in this present study, each one with seven diagnoses.

The domain 4 had like prevalent diagnoses: impaired ambulation, self-care deficit feeding/bathing/hygiene/personal hygiene/dressing/grooming, ineffective breathing pattern, decreased cardiac output, impaired mobility in bed, and impaired spontaneous ventilation.

In the field 11 were: risk of imbalance in body temperature, risk of infection, risk of falls, risk of aspiration; ineffective respiratory way clearance, impaired skin integrity, and impaired tissue integrity.

In face the exposed content above, it is emphasized that the identification of ND in ICU patients contributes to a more effective care, because it allows the planning of care, making it specific to each one patient, according to the problems presented.

It was found that there were a great number of diagnoses of patients by linking them to a variety of factors related, according to the base pathology and its health state.

It is suggested the performing of further studies on this subject, especially in intensive care units, aiming for a quality nursing care, trying to promote the recovery of the patient in more specific way, or at least, its own comfort.

REFERENCES

10. Lucena AF, Barros ALBL. Mapping nursing prescriptions for ineffective breathing pattern
in an intensive care unit and NIC. Int J Nurs Terminol Class. 2006;17(1):32.


The image contains a document page with the following content:

Sources of funding: No
Conflict of interest: No
Date of first submission: 2012/02/08
Last received: 2012/05/18
Accepted: 2012/05/19
Publishing: 2012/06/01

**Corresponding Address**

Elizabeth Mesquita Melo
Rua Ageu Romero, 100, Ap. 02 – São Gerardo
CEP: 60325-110 – Fortaleza (CE), Brazil