RESEARCH

CORRESPONDENCE BETWEEN NANDA INTERNATIONAL NURSING DIAGNOSES AND PERROCA'S PATIENT CLASSIFICATION

CORRESPONDÊNCIA ENTRE DIAGNÓSTICOS DE ENFERMAGEM NANDA INTERNACIONAL E A CLASSIFICAÇÃO DE PACIENTES DE PERROCA

CORRESPONDENCIA ENTRE EL DIAGNÓSTICO DE ENFERMERÍA DE NANDA INTERNACIONAL Y LA CLASIFICACIÓN DE PACIENTES DE PERROCA

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ABSTRACT

Objective: to analyze the correspondence between the NANDA International Nursing diagnoses and care areas and critical indicators of Perroca's Patient Classification System. **Method:** a cross-mapping descriptive study conducted in 2017 in clinical and surgical units of a Brazilian university hospital. The sample consisted of 680 hospitalized patients. The data were collected from medical records and from the Perroca's Patient Classification System database, being analyzed by means of cross-mapping and descriptive statistics. **Results:** the records evidenced 58 Nursing diagnoses for patients that were mostly (59.5%) classified as requiring semi-intensive care by Perroca's Patient Classification System. All the Nursing diagnoses were mapped with correspondence to at least one care area. **Conclusion:** the Nursing diagnoses reveal the patients' needs and can also indicate the level of care complexity and dependence on the Nursing team, being equally important in care management.

Keywords: Nursing Process; Nursing Diagnoses; Standardized Nursing Terminology; Workload.

RESUMO

Objetivo: analisar a correspondência entre os diagnósticos de Enfermagem da NANDA Internacional e áreas de cuidado e indicadores críticos do Sistema de Classificação de Pacientes de Perroca. *Método:* estudo descritivo de mapeamento cruzado realizado em unidades clínicas e cirúrgicas de um hospital universitário brasileiro em 2017. Amostra de 680 pacientes internados. Dados coletados em prontuário eletrônico e banco de dados do Sistema de Classificação de Pacientes de Perroca, analisados por mapeamento cruzado e estatística descritiva. *Resultados:* os registros demonstraram 58 diagnósticos de Enfermagem para pacientes classificados, na maioria (59,5%), como cuidados semi-intensivos pelo Sistema de Classificação de Pacientes de Perroca. Todos os diagnósticos de Enfermagem foram mapeados com correspondência pelo menos em uma área de cuidado. *Conclusão:* os diagnósticos de Enfermagem revelam as necessidades do paciente e também podem indicar o grau de complexidade do cuidado e dependência da equipe de Enfermagem, sendo guias importantes no gerenciamento do cuidado.

Palavras-chave: Processo de Enfermagem; Diagnósticos de Enfermagem; Terminologia Padronizada em Enfermagem; Carga de Trabalho.

RESUMEN

Objetivo: analizar la correspondencia entre los diagnósticos de enfermería de NANDA International y las áreas de atención y los indicadores críticos del Sistema de Clasificación de Pacientes de Perroca. *Método:* estudio descriptivo de mapeo cruzado realizado en unidades clínico-quirúrgicas de un hospital universitario brasileño en 2017. Muestra de 680 pacientes hospitalizados. Datos recogidos en historia clínica electrónica y en la base de datos del Sistema de Clasificación de Pacientes de Perroca, analizados mediante mapeo cruzado y estadística descriptiva. *Resultados:* los registros evidenciaron 58 diagnósticos de enfermería para pacientes clasificados, en su mayoría (59,5%), como con necesidad de cuidados semi intensivos por el Sistema de Clasificación de Pacientes de Perroca. Todos los diagnósticos de enfermería se mapearon con correspondencia en al menos un área de atención. *Conclusión:* los diagnósticos de enfermería revelan las necesidades del paciente y también pueden indicar el grado de complejidad del cuidado y la dependencia del equipo de enfermería, siendo guías importantes en la gestión del cuidado.

Palabras clave: Proceso de Enfermería; Diagnósticos de Enfermería; Terminología Normalizada de Enfermería; Carga de Trabajo.

INTRODUCTION

The Nursing Process (NP) is a method that guides clinical reasoning and the Nursing practice, favoring systematization of the actions and conditions necessary for patient care to be carried out with quality and efficiency. More recently, the NP has been applied using Standardized Language Systems (SLS), which present internationally standardized terms to name the Nursing practice elements.[1]

The most used standardized language classification systems are NANDA International (NANDA-I)[2] and Nursing Intervention Classification (NIC).[3] NANDA-I, used to perform the Nursing Diagnosis (ND) stage, requires clinical reasoning from the nurse, based on data collection to classify and categorize a human response to health conditions/life processes among individuals, families, groups and communities.[2]

Known worldwide, NANDA-I has been used in Brazil in association with Wanda de Aguiar Horta's theory of Basic Human Needs.[2,4] In the study institution, the NP is carried out based on this theoretical framework, with its stages recorded electronically in the online patient record. In the institution's computerized system, the NDs are described based on NANDA-I[2]; however, they are grouped according to the psychobiological, psychosocial and psychospiritual needs, in their subgroups, according to Horta.[4]

On the other hand, Nursing has also used other instruments that assist in managing its work. One of them is the Patient Classification System (PCS) proposed by Perroca in 1996, developed based on the basic human needs recommended by Horta, which was revised and reconstructed in 2011. The PCS is a method that determines the patients' dependence degree on Nursing care, being able to measure their individual needs and, thus, assess the Nursing team workload.[5,6]

Perroca's PCS has nine care areas: planning and coordination of the care process; research and monitoring; body care and eliminations; skin and mucous membrane care; nutrition and hydration; locomotion and activity; therapy; emotional support and health education.[6] Each area has four critical indicators with a gradation from 1 to 4, indicating the increasing intensity of patient care complexity. The sum of the points of each indicator provides the patient's classification in a certain care category: minimum, intermediate, semi-intensive and intensive.[6]

The original recommendation to apply the instrument is that it should be administered every day and by the same professional. However, this modality generates an increase in the nurses' work demand, hindering its execution.[7]

Thus, in the study institution, the instrument is applied daily, in the last week of each month, by one of the nurses from each of the different hospitalization units.

The Federal Nursing Council (*Conselho Federal de Enfermagem*, COFEN) published Resolution No. 189/1996, updated to No. 543/2017, which recommends using the PCS as one of the variables to support sizing of the Nursing personnel and to obtain an indicator that assesses complexity of the inpatients.[8]

Currently, there are studies that use Nursing Classification Systems for human resource management and planning, in order to expand their use and knowledge in the clinical practice. These studies assess the workload and the patients' dependence degree, mapping Nursing interventions and using the Nursing Intervention Classification (NIC) System.[9,10] However, Brazilian research studies deepening on the assessment of the Nursing workload from the NDs based on NANDA-I have not yet been developed. In other countries, there are studies that verified patients' complexity and the Nursing team workload, with the NDs as one of their basic elements.[11,12]

Given the above, it is understood that both the PCS and the NDs seek to describe the patients' care needs and are fundamental for the organization and qualification of the Nursing work. However, the existence of correspondence between these two Nursing classification systems is still unknown, considering the hypothesis that the NDs are similar to the elements that constitute Perroca's PCS. Consequently, the objective of this study was to analyze correspondence between the NANDA-I NDs with the care areas and critical indicators that comprise Perroca's PCS.

METHOD

An observational and documentary study of the cross-sectional type, guided by the STROBE tool.[13] In addition to that, cross-mapping was used, which consists of a process to explain or express something by using words with similar meanings.[14]

The research was developed in 2017 in clinical and surgical hospitalization units for adults of a large-size university hospital in southern Brazil. The clinical units were part of a service comprised by five units with a total of 191 beds. The surgical units make up a service with seven units and a total of 210 beds. It is important to emphasize that nurses prescribe Nursing care daily based on the patients' NDs. Perroca's PCS is also applied daily by nurses, although only during the last week of each month.

The non-probabilistic sample consisted of 680 patients who were hospitalized in August, October and December 2017. The time frame was defined so as to contemplate months from different seasons of the year. All the patients hospitalized and evaluated by Perroca's PCS and with NDs recorded in an electronic medical chart, from different clinical and surgical units, were included in order to consider different specialties involving Nursing care and medical treatment. The study did not foresee any exclusion criteria.

Data collection was performed retrospectively in the patients' electronic records, between March and May 2018. For this purpose, an instrument elaborated by the authors in a spreadsheet was used, containing the name, number of the patient's medical record, unit and hospital bed, as well as the NDs of each medical record/patient. In addition to that, the data from Perroca's PCS were extracted from the institution's database, using the name, the number of the patient's medical record and the classification of the care categories, according to the Perroca's Patient Classification System of each hospitalization unit. These data were retrieved from the original database (without changes) and organized in an *Excel for Windows* spreadsheet.

Data analysis was performed by means of cross-mapping and descriptive statistics. Cross-mapping was conducted manually by one of the study authors, and was later reviewed and refined by the lead author.

The NDs were cross-mapped with the nine care areas and critical indicators present in Perroca's PCS. Cross-mapping requires the establishment of rules, which in this study were as follows: a) mapping the areas of care and respective critical indicators of Perroca's PCS[6] with each one of the NANDA-I[2] NDs, indicated for patients in electronic medical records; b) considering the elements that constitute each of the study objects, that is, the structural elements of Perroca's

critical indicators and the components of the NDs (title, definition, defining characteristics, related or risk factors); c) using keywords for the mapping process, preferably verbs, seeking similarity among them in each of the mapped elements; d) mapping the critical indicators that use two different concepts in their composition in different NDs; and e) identifying PCS concepts that, for any reason, could not be mapped in the NDs. The research was initiated after approval by the Research Ethics Committee (*Comitê de Ética em Pesquisa*, CEP) of the *Porto Alegre* Clinical Hospital (*Hospital de Clínicas de Porto Alegre*, HCPA). The Free and Informed Consent Term (FICF) was waived, since the study only used data obtained from the patients' electronic medical records.

RESULTS

Data were analyzed from the total of 680 adult patients (285 clinical and 395 surgical) who were hospitalized during the study period in 132 beds from clinical and surgical units. 58 different NDs were identified in their electronic records. Regarding the results of the evaluation by Perroca's PCS, most of the patients was classified as requiring semi-intensive care, as shown in Table 1.

In the cross-mapping process between the 58 different NDs established for hospitalized patients during the period evaluated and the nine care areas and critical indicators of Perroca's PCS, it was considered that there is full correspondence between the NDs and the 1st care area, that is, planning and coordination of the care process. This decision was due to the fact that, in this care area of the PCS, the maintenance and review stages of the Nursing process are included; therefore, the NDs are included in it. The ND mapping in the other care areas and indicators are presented in Table 2.

Table 1 - Classification of the care categories according to Perroca's Patient Classification System in clinical and surgical units, *Porto Alegre, Rio Grande do Sul*, Brazil, 2017

Care category	Clinical unit f (%)	Surgical unit f (%)
Minimum care	2 (2.5%)	3 (4.7%)
Intermediate care	18 (26.5%)	17 (28%)
Semi-intensive care	35 (51%)	37 (59.5%)
Intensive care	14 (20%)	6 (9.5%)
Total number of beds	69	63

Table 2 - Cross-mapping between the Nursing diagnoses and the nine care areas and critical indicators present in Perroca's Patient Classification System. *Porto Alegre, Rio Grande do Sul*, Brazil

Care area: Research and monitoring	
Nursing Diagnoses	**Critical indicators**
Ineffective protection	Vital signs
Risk of ineffective brain tissue perfusion	Aid in diagnostic and therapeutic examinations
Risk of falls	Predictive assessment scale for falls (Morse scale) used in the study field
Risk of pressure ulcer	Predictive assessment scale for pressure ulcer (Braden scale) used in the study field
Imbalanced nutrition: less than body requirements Risk for unstable blood glucose level Risk for electrolyte imbalance Deficient fluid volume Risk for imbalanced fluid volume	Weighing; anthropometric measurements; vital signs
Excessive fluid volume Impaired gas exchange Intolerance to activity Ineffective breathing pattern Impaired spontaneous ventilation	Vital signs; O_2 Saturation; care with non-invasive ventilation; O_2 saturation; vital signs
Ineffective airway clearance	Vital signs; O_2 Saturation; airway clearance; care with non-invasive ventilation
Decreased cardiac output	Vital signs; weighing; aid in diagnostic and therapeutic examinations
Impaired memory	Aid in diagnostic and therapeutic examinations
Anxiety Fear	Vital signs; O_2 Saturation
Decreased intracranial adaptive capacity	Vital signs; aid in diagnostic and therapeutic examinations; control of intracranial pressure
Impaired skin integrity Impaired oral mucous membrane Hyperthermia	Measuring scale (Braden scale); Vital signs
Chronic pain Acute pain	Vital signs; measuring scale (pain assessment scales)
Care area: Body care and eliminations	
Risk for electrolyte imbalance Impaired urinary elimination Constipation Risk of constipation Diarrhea Intestinal incontinence Self-care deficit: bath or hygiene Risk for impaired skin integrity Risk of pressure ulcer Impaired comfort	Nursing actions for hygiene and comfort activities

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Care area: Care with the skin and mucous membranes	
Risk of fluid volume imbalance Deficient fluid volume	Preventive measures
Intestinal incontinence Ineffective protection Impaired physical mobility	Preventive measures; decubitus change
Risk of infection Impaired oral mucous membrane	Preventive measures; dressing exchange
Impaired skin integrity Impaired tissue integrity	Preventive measures; dressing exchange; decubitus change
Ineffective tissue perfusion: peripheral Risk for impaired skin integrity Risk of injury due to perioperative positioning Risk of pressure ulcer	Preventive measures; decubitus change
Care area: Nutrition and hydration	
Ineffective protection Risk for unstable blood glucose level	Orientation, supervision and aid
Impaired swallowing Constipation Risk of constipation Diarrhea Risk for impaired skin integrity Impaired oral mucous membrane Imbalanced nutrition: less than body requirements	Use of catheters for nutrition and hydration
Risk for electrolyte imbalance Deficient fluid volume Risk of fluid volume imbalance	Use of catheters for hydration
Self-care deficit: feeding Impaired skin integrity Impaired tissue integrity	Use of catheters for nutrition and hydration
Care area: Locomotion and activity	
Ineffective protection Impaired physical mobility Fatigue Intolerance to activity Unilateral neglect Impaired tissue integrity Risk for impaired skin integrity Risk of injury due to perioperative positioning Risk of falls Risk of bleeding Risk of pressure ulcer Risk of trauma Chronic pain	Nursing actions to walk

...Continue

Care area: Therapy	
Risk for electrolyte imbalance	Peritoneal dialysis; care with hemodialysis catheter
Deficient fluid volume	Placement and exchange of infusions
Risk of fluid volume imbalance	Medication; placement and exchange of infusions
Constipation	
Risk of constipation	
Impaired gas exchange	Medication; oxygen therapy
Intolerance to activity	
Ineffective breathing pattern	
Impaired memory	
Impaired spontaneous ventilation	
Ineffective airway clearance	
Insomnia	Medication
Risk of ineffective brain tissue perfusion	
Risk of allergic response	
Hyperthermia	
Decreased cardiac output	Oxygen therapy; use of vasoactive drugs; care with central catheter
Risk of infection	Care with central and hemodialysis catheter
Risk of vascular trauma	Placement and exchange of infusions; care with central and hemodialysis catheter
Care area: Emotional support	
Deficient recreational activity	Reduction in the interest in activities; the patient requires a conversation due to concern about the treatment and hospitalization
Risk-prone health behavior	The patient requires a conversation and psychological support; refuses health care and presents psychosocial problems
Imbalanced nutrition: less than body requirements	Psychological support
Insomnia	Anxiety
Impaired sleep pattern	The patient requires a conversation due to daily concerns or to the disease, treatment and hospitalization
Impaired physical mobility	Psychological support due to apathy, despair and reduction in the interest in activities
Fatigue	
Risk for impaired attachment	The patient requires a conversation due to anxiety; psychological support
Impaired social interaction	Psychological support
Risk of trauma	
Anxiety	The patient requires a conversation due to anxiety, anguish and continuous requests; psychological support
Fear	Anxiety; psychological support
Spiritual distress	Anxiety, anguish, despair, reduction in the interest in activities; psychological support
Risk of suicide	Conversation due to anxiety, anguish or continuous complaints and requests; psychological support due to apathy, despair, reduction in the interest in activities, psychosocial problems
Impaired comfort	Anxiety, anguish or continuous complaints and requests; conversation due to daily concerns or in relation to the disease, treatment and hospitalization
Acute pain	The patient requires a conversation about the disease, treatment and hospitalization; psychological support
Chronic pain	The patient requires a conversation about the disease, treatment and hospitalization; psychological support

...Continue

Care area: Education in health	
Risk-prone health behavior	Difficulty understanding; psychological support
Risk for unstable blood glucose level	Guidelines to the patients with difficulty understanding, resistance to the information received and self-care
Ineffective peripheral tissue perfusion	Guidelines to the patients with difficulty understanding
Acute confusion	
Impaired memory	
Impaired verbal communication	
Impaired social interaction	
Anxiety	Guidelines to the patients with difficulty understanding and communication barriers; psychological support
Deficient knowledge	
Fear	
Risk of trauma	
Unilateral neglect	Communication barriers and difficulty understanding
Risk of infection	Guidelines to the patients with difficulty understanding and self-care
Impaired oral mucous membrane	Guidelines to the patients with communication barriers and difficulty understanding; guidelines about self-care
Risk of falls	Guidelines to the patients with difficulty understanding; Guidelines about self-care; Guidelines at admission and during the pre- and post-operative periods
Risk of bleeding	Guidelines during the pre- and post-operative periods; procedures
Risk of allergic response to latex	
Risk of allergic response	Guidelines to the patient at admission; procedures

DISCUSSION

This study compared the 58 different NDs listed in the records of 680 patients hospitalized in 132 clinical and surgical beds with the nine care areas and their critical indicators described by Perroca's PCS. It was verified that all the NDs were mapped with correspondence to at least one care area of Perroca's PCS.

Among the 58 NDs found, it was verified that 49 (84.4%) referred to the psychobiological needs. Regarding the psychosocial needs, eight (13.7%) NDs were identified, and only one (1.7%) in the psychospiritual needs. Thus, it was noticed that the biomedical model exerts a strong influence on the way nurses diagnose, due to pathophysiological issues that demand more attention in the hospital, although the Nursing work focuses on maintaining health in all its dimensions.[15]

Most of the inpatients in the surgical (59.5%) and clinical (51%) units were classified as requiring semi-intensive care. A percentage of 20% of individuals with intensive care needs was also found in the clinical units. These data show the complexity of patient care in this hospital, which can be due to the change in the epidemiological profile of the older population and to the association with comorbidities or the advancement of technologies and treatments, generating different Nursing care actions that were not previously required.[16] It is also necessary to take into account that this hospital is a tertiary-level reference in southern Brazil for various types of treatments in different health specialties, which contributes to the increase in the complexity of Nursing care.

The patients classified as requiring semi-intensive and intensive care are highly dependent on the Nursing team, due to their reduced autonomy for basic activities such as walking, decubitus change, intimate hygiene and eating. In addition to that, some require the use of continuous oxygen, nasoenteric tube and delay bladder catheter, which require Nursing interventions with higher scores in the Perroca's PCS instrument.[17]

Based on the cross-mapping, it was assessed that the "research and monitoring" care area, despite having low-complexity critical indicators, is one of the areas with the greatest impact on the workload.[6] The NDs mapped in this area evidence unstable clinical conditions, such as respiratory conditions that demand oxygen supply and decompensated heart diseases, with signs of dyspnea, congestion and decreased ejection fraction, requiring continuous monitoring by the Nursing professionals.[18]

The NDs mapped in the "body care and elimination" care area show the patients' dependence for body hygiene, such as "Self-care deficit: bath or hygiene", "Risk of pressure ulcer" and "Impaired urinary elimination", which also require care and present high dependence on the Nursing team. These NDs are frequently indicated by nurses for critically-ill patients and/or for those who are in due conditions to perform their self-care activities autonomously.[19]

During the body hygiene process, the professional assesses the skin's integrity and whether there are pressure ulcers (PUs) in bedridden patients. The care area called "care with the skin and mucosa membranes" comprises the Nursing interventions related to this assessment, as well as the implementation of preventive measures. Given the above, the NDs mapped for this care are were the following: "Impaired skin integrity", "Impaired tissue integrity" and "Risk of pressure injury".

These NDs are related to would prevention and care, mainly PUs, which can require complex care measures. A study carried out in a clinical unit showed that, in 15 days, 84 bandages for PUs were performed, evidencing high work demand for these NDs. Thus, depending on the severity of the injuries associated with more unstable patients, care for injuries represents an important factor for the increase in the workload.[20]

A study carried out in intensive care verified that 15.5% of the activities prescribed by nurses were related to skin care.[21] This result is due to the fact that intensive care patients generally present conditions that lead to clinical instability and, consequently, remain bedridden and require the use of diapers or delay bladder catheters, implying reduced mobility and high risk of developing PUs.[22] Although these results refer to intensive care patients, similar data were also observed in this study, which showed a high number of patients in semi-intensive and intensive care, mainly in the clinical inpatient areas, which refers to frequent skin care and/or with the patients' PUs.

The care area called "locomotion and activity" has as a critical indicator called "Nursing actions to walk". This activity demands time and attention from the Nursing team, as it is necessary to monitor the patients while they walk, as well as to implement the educational process of patients and family members for the prevention of falls. In this sense, the "Risk of falls" diagnosis represents the needs of patients with impaired physical mobility and diseases that affect their independence.

The Nursing team plays a central role in identifying patients who are at risk and carries out the planning of prevention actions together with the multi-professional team, in order to increase patient safety and care quality.[22]

The "Risk of electrolyte imbalance" and "Deficient fluid volume" NDs were also mapped in this care area. These NDs are prevalent in patients with heart and kidney diseases who can present hemodynamic instability and changes in vital signs, requiring interventions such as rapid infusion of large fluid volumes and use of supplemental oxygen. The Nursing team needs to pay attention to the monitoring of urinary output, rigorous water balance, hemodynamic monitoring and oxygenation[23], which represents a higher workload.

The "therapy" care area contains critical indicators that involve complex Nursing interventions, being the care area that has the highest work demand for the Nursing team.[6] A number of research studies show that the administration of medications exerts a strong impact on the workload since, in addition to the daily medications administered, those such as vasoactive drugs that need monitoring of the patients' vital signs are included, thus increasing the time spent by the Nursing professionals in preparation, administration and monitoring of patients with these drugs.[24]

This study sought to analyze different data of the Nursing routine, especially the correspondence of an ND, and its care demands, with the Nursing workload. The NDs are fundamental in Nursing assistance, elaborated from clinical reasoning and critical thinking, guided by the NP and supporting the nurses' clinical practice.[25] In view of this, a research study carried out in Italy found that the number of NDs is an independent predictor of the length of hospital stay. Furthermore, it assessed that the patients' level of complexity is closely related to their health needs, which is evidenced by the number of NDs indicated by the hospital outcomes.[25]

Thus, the results of this Italian study also corroborate the findings of the present research, in which it was observed that the NDs described in the electronic medical records with standardized language contribute to analyzing data associated with the workload and provide an assessment of the Nursing workload, enabling a personalized allocation of Nursing resources, which can lead to more efficient hospital management.

As a study limitation, it is necessary to highlight its conduction in a single institution, recognizing the importance of developing complementary research studies.

CONCLUSION

Cross-mapping allowed comparing the NDs with the elements present in Perroca's PCS. All the NDs found were mapped with correspondence in at least one of the care areas of Perroca's PCS. Thus, it was concluded that there is correspondence between the aforementioned NDs and the constituent elements of this classification system for clinical and surgical patients.

Most of the NDs identified in the study are linked to psychobiological needs, focused on physical health problems of patients and, for this reason, they are possibly classified as requiring semi-intensive care, which demand greater workload from the Nursing team.

From this research, it is verified that the NDs, in addition to being used in care practice, indicating the patient's health needs, can also indicate the care complexity and be useful in assessing the Nursing team workload. This expands the use of this Nursing classification system, favoring the use of standardized language in instruments employed by the Nursing team in the clinical practice.

Thus, the results of this study provide support for further research to be carried out in order to expand and complement the current findings. The development of innovative instruments for classifying patients and measuring the Nursing workload that use elements of clinical the Nursing practice, such as NDs in standardized language, emerges as an important gain in care management.

REFERENCES

1. Morais SCRV, Nóbrega MML, Carvalho EC. Cross-mapping of results and Nursing interventions: contribution to the practice. Rev Bras Enferm. 2018[cited 2021 Jan 15];71(4):1883-90. Available from: doi:10.1590/0034-7167-2017-0324

2. Herdman TH, Kamitsuru S. NANDA International Nursing Diagnoses: definitions and classification 2018-2020. 11th ed. New York: Thieme; 2018.

3. Bulechek GM, Butcher HK, Dochterman JM. NIC: Classificação das Intervenções de Enfermagem. Rio de Janeiro: Elsevier; 2016.

4. Horta WA. Processo de Enfermagem. São Paulo (SP): EPU; 1979

5. Perroca MG, Gaidzinski RR. Sistema de classificação de pacientes: construção e validação de um instrumento. Rev Esc Enferm USP. 1998[cited 2021 Jan 15];32(2):153-68. Available from: doi:10.1590/S0080-62341998000200009

6. Perroca MG. Desenvolvimento e validação de conteúdo da nova versão de um instrumento para classificação de pacientes. Rev Latino-Am Enferm. 2011[cited 2021 Jan 15];19(1):58-66. Available from: doi:10.1590/S0104-11692011000100009

7. Macedo ABT, Souza SBC, Funcke LB, Magalhães AMM, Riboldi CO. Sistematização de um instrumento de classificação de pacientes em um hospital universitário. REME - Rev Min Enferm. 2018[cited 2021 Jan 15];22:e-1152. Available from: doi:10.5935/1415-2762.20180073

8. Conselho Federal de Enfermagem (COFEN). Resolução COFEN Nº 543/2017, de 18 de abril de 2017. Atualiza e estabelece parâmetros para o Dimensionamento do Quadro de Profissionais de Enfermagem nos serviços/locais em que são realizadas atividades de Enfermagem. Diário Oficial da União 8 maio 2017[cited 2018 June 12] Available from: http://www.cofen.gov.br/resolucao-cofen-5432017_51440.html

9. Campos MS, Oliveira BA, Perroca MG. Workload of nurses: observational study of indirect care activities/interventions. Rev Bras Enferm. 2018 abr. [cited 2021 Jan 15];71(2):318-26. Available from: DOI: 10.1590/0034-7167-2016-0561

10. Souza P, Cucolo DF, Perroca MG. Nursing workload: influence of indirect care interventions. Rev Esc Enferm USP. 2019[cited 2021 Jan 15];53:e03440. Available from: doi:10.1590/S1980-220X2018006503440

11. Halloran EJ. Nursing workload, medical diagnosis related groups, and Nursing diagnoses. Res Nurs Health. 1985[cited 2021 Jan 15];8:421-33. Available from: doi: 10.1002/nur.4770080415

12. Castellan C, Sluga S, Spina E, Sanson G. Nursing diagnoses, outcomes and interventions as measures of patient complexity and Nursing care requirement in Intensive Care Unit. J Adv Nurs. 2016[cited 2021 Jan 15];72(6):1273-86. Available from: 10.1111/jan.12913

13. Equator Network. Enhancing the quality and transparency of health research. 2021[cited 2021 Mar 02]. Available from: http://www.equator-network.org/home/

14. Lucena AF, Barros ALBL. Mapeamento cruzado: uma alternativa para a análise de dados em Enfermagem. Acta Paul Enferm. 2005[cited 2021 Jan 15];18(1):82-8. Available from: doi:10.1590/S0103-21002005000100011

15. Martins NFF, Silva BT, Abreu DPG, Rosa BM, Lima JP, Bandeira EO. Diagnósticos de Enfermagem em idosos internados em unidade cirúrgica. RPCFO. 2019[cited 2021 Jan 15];11(1):11-9. Available from: doi:10.9789/2175-5361.2019.v11i1.11-19

16. Souza SBC, Milioni KC, Dornelles TM. Análise do grau de complexidade do cuidado, estresse e coping da Enfermagem num hospital sul-riograndense. Texto Contexto Enferm. 2018[cited 2021 Jan 15];27(4):e4150017. Available from: doi:10.1590/0104-07072018004150017

17. Toledo LV, Sampaio NV, Salgado PO, Brinati LM, Domingos CS, Sousa CC, et al. Déficit no autocuidado para banho: caracterização do diagnóstico de Enfermagem em pacientes críticos. REAS/EJCH. 2020[cited 2021 Jan 15];43. Available from: doi:10.25248/reas.e3284.2020

18. Pereira JMV, Flores PVP, Figueiredo LS, Arruda CS, Cassiano KM, Vieira GCA, et al. Nursing Diagnoses of hospitalized patients with heart failure: a longitudinal study. Rev Esc Enferm USP. 2016[cited 2021 Jan 15];50(6):929-36. Available from: doi:10.1590/S0080-623420160000700008

19. Silva AA, Gehlen MH, Ferreira CLL, Pereira AD. Diagnósticos e intervenções de Enfermagem do sistema tegumentar da pessoa idosa. RDC. 2018[cited 2018 July 24];19(2):125-39. Available from: https://periodicos.ufn.edu.br/index.php/disciplinarumS/article/view/2498/2160

20. Alencar SG, Barbosa SEM, Lacerda IBN. Demanda do enfermeiro na clínica médica de um hospital público do Distrito Federal. Comun Ciênc Saúde. 2017[cited 2018 July 24];28(3/4): 419-28. Available from: http://bvsms.saude.gov.br/bvs/periodicos/ ccs_artigos/ v38_3_demanda_enfermeiro_clinica.pdf

21. Vieira CPB, Ferreira PC, Araújo TME, Silva Júnior FJG, Galiza FT, Rodrigues ASO. Prevalence of friction injury and associated factors in elderly in intensive therapy. Texto Contexto Enferm. 2020[cited 2021 Jan 15];29:e20180515. Available from: doi: 10.1590/1980-265x-tce-2018-0515

22. Severo IM, Kuchenbecker R, Vieira DFVB, Lucena AF, Almeida MA. Risk factors for fall occurrence in hospitalized adult patients: a case-control study. Rev Latino-Am Enferm. 2018[cited 2021 Jan 15];26:e3016. Available from doi:10.1590/1518-8345.2460.3016

23. De Freitas Grassi M, Dell'Acqua MCQ, Jensen R, Fontes CMB, Guimarães HCQCP. Diagnósticos, resultados e intervenções de Enfermagem em pacientes com lesão renal aguda. Acta Paul Enferm. 2017[cited 2021 Jan 15];30(5):538-45. Available from: 10.1590/19820194201700078

24. Sassaki RL, Cucolo DF, Perroca MG. Interruptions and Nursing workload during medication administration process. Rev Bras Enferm. 2019[cited 2021 Jan 15];72(4):1001-6. Available from: doi:10.1590/0034-7167-2018-0680

25. D'Agostino F, Vellone E, Cocchieri A, Welton J, Maurici M, Polistena B, Spandonaro F, et al. Nursing Diagnoses as Predictors of Hospital Length of Stay: a prospective observational study. J Nurs Scholarsh. 2019[cited 2021 Jan 15];51(1):96-105. Available from: doi: 10.1111/jnu.12444