ORIGINAL ARTICLE
SYSTEMATIZATION OF PERIOPERATIVE NURSING CARE IN A POSTANESTHETIC RECOVERY UNIT
SISTEMATIZAÇÃO DA ASSISTÊNCIA EM ENFERMAGEM PERIOPERATÓRIA EM UMA UNIDADE DE RECUPERAÇÃO PÔS-ANESTÉSICA
SISTEMATIZACIÓN DE LA ASISTENCIA DE ENFERMERÍA PERIOPERATORIA EN UNA UNIDAD DE RECUPERACIÓN POST ANESTÉSICA

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ABSTRACT
Objective: to describe the nursing diagnoses in a post-anesthesia care unit (PACU) and to propose the outcomes and interventions for the five most common diagnoses. Method: a descriptive and retrospective registration of the main nursing diagnoses identified and analyzed according to frequency. The sample consisted of 63 records for the period of hospitalization in the month of January 2013. Results: we identified 623 nursing diagnoses (67 diagnostic categories) in 10 areas of NANDA-II. The five most frequent diagnoses were acute pain (100%); liquid volume risk of disequilibrium (73.4%); Risk of infection (68.8%); Mobility Impaired bed (60.7%) and anxiety (34.3%). Conclusion: knowledge about more frequent nursing diagnoses contributes to better application of the nursing process of an individual and holistic manner so that they can be implemented interventions with more specific results and targeted to the priority needs of this clientele.

Descriptors: Nursing Diagnoses; Nursing; Nursing Care.

RESUMO
Objetivo: descrever os diagnósticos de enfermagem em uma sala de recuperação pós-anestésica (SRPA) e propor os resultados e intervenções para os cinco diagnósticos mais frequentes. Método: estudo descritivo e retrospectivo de registro dos principais diagnósticos de enfermagem identificados e analisados segundo frequências. A amostra foi composta por 63 prontuários referentes ao período de internação no mês janeiro de 2013. Resultados: foram identificados 623 diagnósticos de enfermagem (67 categorias diagnósticas) em 10 domínios da NANDA-II. Os cinco diagnósticos mais frequentes foram: Dor aguda (100%); Risco de desequilíbrio do volume de líquidos (73,4%); Risco de infecção (68,8%); Mobilidade no leito prejudicada (60,7%) e Ansiedade (34,3%). Conclusão: o conhecimento sobre diagnósticos de enfermagem mais frequentes contribui para uma melhor aplicabilidade do processo de enfermagem de forma individual e holística para que possam ser implementadas intervenções com resultados mais específicos e direcionados às necessidades prioritárias desta clientela. Descritores: Diagnósticos de Enfermagem; Enfermagem; Cuidados de Enfermagem.

RESUMEN
Objetivo: describir los diagnósticos de enfermería en un salón de recuperación post anestésico (PACU) y proponer los resultados e intervenciones para los cinco diagnósticos más frecuentes. Méthod: estudio descriptivo y retrospectivo de registro de los principales diagnósticos de enfermería identificados y analizados según frecuencias. La muestra fue compuesta por 63 prontuarios para el periodo de hospitalización en el mes de enero de 2013. Resultados: se identificaron 623 diagnósticos de enfermería (67 categorías diagnósticas) en 10 áreas de NANDA-II. Los cinco diagnósticos más frecuentes fueron: dolor agudo (100%); Riesgo de desequilibrio de volumen de líquidos (73,4%); Riesgo de infección (68,8%); Mobilidad en el lecho prejudicada (60,7%) y Ansiedad (34,3%). Conclusión: el conocimiento de los diagnósticos de enfermería con frecuencia contribuye a una mejor aplicabilidad del proceso de enfermería de manera individual e integral para que puedan aplicarse con intervenciones dirigidas a las necesidades prioritarias de esta clientela y resultados más específicos. Descriptores: Diagnósticos de Enfermería; Enfermería; Cuidados de Enfermería.

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The Nursing Process is characterized by having a methodology that demonstrates the essence of nursing, through the organization of activities, with interference in the establishment and implementation of care to the individual, encouraging critical thinking and creativity, thus allowing the solution problems relating theory to practice.1,2

The Nursing Process is the largest representation of the scientific method of the profession, being directed by the Systematization of Nursing Assistance (SNA). The SNA is configured as an organizational methodology grounded in scientific principles that can detect the priorities of each patient and their needs, thus providing a direction for possible interventions and promoting actions that change the state of the process of life and health disease of patients.3,4

In Brazil, the use of the Nursing Process was encouraged by Wanda de Aguiar Horta, in the 1970s, in São Paulo, which brought as a theoretical reference the Theory of Basic Human Needs (BHN) of Maslow and Mohama. The Theory of BHN includes the Theory of Human Motivation, Maslow (1970) and João Mohana (1964) which classifies human needs in psychobiological, psychosocial and psicoespiritual.5

The insertion of the theories is made through the nursing process that can be set to a resolution of problems in order to meet the holistically individual needs, covering five steps: history, diagnosis, prescription, implementation and evolution.6

The nursing diagnoses represent a significant relevance for the development of classification systems so as to create concepts that are part of unprofessional areas. The NANDA-II 7 (North American Nursing Diagnosis Association) aims at the standardization of the nursing diagnoses; because this standardization is to establish an agreement on rules for the use of certain terms, which contributes to the improvement and refinement of nursing diagnoses; developing a concept to classify diagnoses in a taxonomy.4

The relationship between the NANDA-II 7, NIC8 and NOC9 facilitates diagnostic basis and clinical decision making by nurses about the desirable outcomes and on interventions to achieve them.10 Thus, the classification system of Nursing Interventions (NIC). 8 It began in 1987 on the influence of the work presented by NANDA to demonstrate its functionality under classifying and performing interventions from a nursing diagnosis where the practice of interventions contribute to the pattern of expected results according to the classification system nursing outcomes (NOC).9,11

When considering the importance of coordination between the diagnoses, interventions and outcomes to refine the use of diagnostics we chose to use the Theory of Basic Human Needs, Wanda de Aguiar Horta, to meet the patient's needs as a whole during the hospitalization period, which is the most widely used reference in nursing care systematization project in Brazil.12

OBJECTIVES

- To describe the nursing diagnoses in a post-anesthesia care unit (PACU).
- To propose the results and interventions for the five most common diagnoses.

METHOD

A descriptive cross-sectional study that in was retrospective developed in a large public hospital in the city of Recife-PE where 63 medical records of patients undergoing gastrointestinal surgery were evaluated, aged 18 years and admitted to the post-anesthetic recovery room during the month January 2013.

The study consisted of three stages: the first was the construction of the data collection instrument, based on the conceptual model of Horta, that bases itself on the BHN. In the second stage data collection was carried out and in the last step the data analysis.

The first phase of the study began with the development of data collection instruments through the literature on the model of the Theory of Basic Human Needs, Wanda de Aguiar Horta, besides the analysis of studies using data collection instruments used the patients in the immediate post-operative period associated with the Horta Theory.

For the second stage, the instrument covering the main basic human needs affected in each patient was used, as well as the main nursing diagnoses and the possibility of implementation of the SAEP in all its stages including the main nursing diagnoses, interventions and outcomes based on the conceptual model of Wanda Horta. Later it created a list of the most frequent and specific nursing diagnoses for patients in the immediate postoperative period.

The documented nursing diagnoses were prepared based on the data collection form and nursing history, fulfilled at the time of patient admission in this sector.
The nursing diagnoses commonly evidenced in patients in the study based on the theory of basic human needs were analyzed according to the diagnostic classification system NANDA and correlates with the links of international classification systems NIC and NOC.

For analysis of data from each patient, EpiInfo was used, version 7.0 and Word version 2007, the descriptive statistical analysis was expressed as a percentage according to the frequency of each diagnosis related to the domain to which it belongs. The proposed interventions and results were based on the NOC and NIC.

The research project was approved by the Research Ethics Committee of the Otavio de Freitas Hospital, under registration number 0.01.02.11, CAAE: 0030.0.344.000-11, respecting the guidelines established in Resolution No. 466/2012 of the National Council of Health, Ministry of Health. The researchers have signed the disclaimer, fulfilling all ethical principles and protecting the confidentiality of information gathered.

During the collection of 141 records, we found, 19 were excluded for presenting duplicate records; nine could not be found, six for presenting incomplete nursing history; eight with incorrect registration number, seven had records of gastrointestinal surgery, but the records were presented as orthopedic surgery and seven belonged to under eighteen not obeying the research inclusion criteria for a total of seventy-eight records unsuitable for analysis, leaving a total of 63 records suitable for the study.

They identified 623 nursing diagnoses distributed in 67 diagnostic categories of which were selected 20 of these categories contained in 10 areas of NANDA Taxonomy II. The most frequent diagnoses were acute pain (100%), fluid volume imbalance risk (73.4%), infection risk (68.8%), Impaired bed Mobility (60.7%) and anxiety (34.3%) (Table 1).

<table>
<thead>
<tr>
<th>Dominion</th>
<th>Diagnostic Category</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Promotion</td>
<td>Health behavior prone to risk</td>
<td>14</td>
<td>53.8%</td>
</tr>
<tr>
<td></td>
<td>Ineffective Health Self-control</td>
<td>12</td>
<td>46.1%</td>
</tr>
<tr>
<td>Subtotal</td>
<td></td>
<td>26</td>
<td></td>
</tr>
<tr>
<td>Nutrition</td>
<td>Unstable blood sugar risk</td>
<td>21</td>
<td>26.5%</td>
</tr>
<tr>
<td></td>
<td>Fluid volume imbalance Risk</td>
<td>58</td>
<td>73.4%</td>
</tr>
<tr>
<td>Subtotal</td>
<td></td>
<td>79</td>
<td></td>
</tr>
<tr>
<td>Disposal and exchange</td>
<td>Impaired urinary elimination</td>
<td>11</td>
<td>100%</td>
</tr>
<tr>
<td>Subtotal</td>
<td></td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>Activity/Rest</td>
<td>Intolerance to activity</td>
<td>18</td>
<td>22.7%</td>
</tr>
<tr>
<td></td>
<td>Impaired bed Mobility</td>
<td>48</td>
<td>60.7%</td>
</tr>
<tr>
<td></td>
<td>Disturbed energy field</td>
<td>13</td>
<td>16.4%</td>
</tr>
<tr>
<td>Subtotal</td>
<td></td>
<td>79</td>
<td></td>
</tr>
<tr>
<td>Perception/cognition</td>
<td>Impaired Memory</td>
<td>6</td>
<td>100%</td>
</tr>
<tr>
<td>Subtotal</td>
<td></td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Self-perception</td>
<td>Willingness to improved self-concept</td>
<td>32</td>
<td>100%</td>
</tr>
<tr>
<td>Subtotal</td>
<td></td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>Coping / Tolerance to stress</td>
<td>Willingness to improved power</td>
<td>48</td>
<td>35.8%</td>
</tr>
<tr>
<td></td>
<td>Anxiety</td>
<td>46</td>
<td>34.3%</td>
</tr>
<tr>
<td></td>
<td>Willingness to improved coping</td>
<td>30</td>
<td>22.3%</td>
</tr>
<tr>
<td></td>
<td>Ineffective coping</td>
<td>10</td>
<td>7.4%</td>
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<tr>
<td>Subtotal</td>
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<td>134</td>
<td></td>
</tr>
<tr>
<td>Principles of life</td>
<td>Willingness to improve Hope</td>
<td>15</td>
<td>31.2%</td>
</tr>
<tr>
<td></td>
<td>Willingness to improved decision-making</td>
<td>33</td>
<td>68.7%</td>
</tr>
<tr>
<td>Subtotal</td>
<td></td>
<td>48</td>
<td></td>
</tr>
<tr>
<td>Security / protection</td>
<td>Infection Risk</td>
<td>62</td>
<td>68.8%</td>
</tr>
<tr>
<td></td>
<td>Contamination Risk</td>
<td>20</td>
<td>22.2%</td>
</tr>
<tr>
<td></td>
<td>Imbalance of risk in body temperature</td>
<td>8</td>
<td>8.8%</td>
</tr>
<tr>
<td>Subtotal</td>
<td></td>
<td>90</td>
<td></td>
</tr>
<tr>
<td>Comfort</td>
<td>Acute Pain</td>
<td>34</td>
<td>100%</td>
</tr>
<tr>
<td>Subtotal</td>
<td></td>
<td>34</td>
<td></td>
</tr>
</tbody>
</table>
Considering the absolute frequency of nursing diagnoses, areas of NANDA-II most prevalent in taxonomy were: coping / stress tolerance represented by 134 diagnoses; Security / protection represented by 90 diagnoses; Nutrition and activity / rest both represented by 79 diagnoses.

Next, the proposed interventions are presented for the five most frequent nursing diagnoses according to the Classification of results (NOC) and Classification of interventions (NIC), as well as their numeric codes.

### Diagnostic Category: Risk of Infection
**Results and Goals (NOC Code):** Detection risk (1908)
**Interventions and Activities (Código NIC):** Protection against infection (6550)
- Goal: The patient should recognize the signs and symptoms that indicate risk.
- Activities: monitor vulnerability to infection; Maintain aseptic for risk patients; Examine the condition of any surgical / wound incision; Encourage the rest; Administer immunizing agent when appropriate; Guide the patient to take antibiotics as prescribed.

### Diagnostic Category: Fluid volume imbalance Risk
**Results and Goals (NOC Code):** Risk control (4120)
**Interventions and Activities (Código NIC):** Liquid Control (4120)
- Activities: monitor serum levels and urinary electrolytes and where appropriate; P.A monitor, heart rate and breathing pattern; maintain intravenous prescribed flow rate.

### Diagnostic Category: Impaired Bed Mobility
**Results and Goals (NOC Code):** Customer satisfaction: Functional Assistance (3005)
**Interventions and Activities (Código NIC):** Promotion of body mechanics (0140)
- Goal: Patient should show improvement in their risk framework for imbalance of body fluids.

### Diagnostic Category: Anxiety
**Results and Goals (NOC Code):** Anxiety level (1211)
**Interventions and Activities (Código NIC):** Improved coping (5230)
- Activities: assess the understanding that the patient has the disease process; use a calm and secure approach; provide factual information on diagnosis, treatment and prognosis; Encourage verbalization of feelings, perceptions and fears; encourage family involvement as appropriate; guide the patient about the use of relaxation techniques, as needed.

### Diagnostic Category: Acute Pain
**Results and Goals (NOC Code):** Pain control (1605)
**Interventions and Activities (Código NIC):** Pain control (1400)
- Activities: Conduct a comprehensive survey of pain to include the location, the features, the start / duration, frequency, quality, intensity or severity of pain and the precipitating factors; to ensure accurate patient care analgesia; Reducing or eliminating the factors that precipitate or increase the experience of pain; Select and implement a variety of measures for the relief of pain, where appropriate.
In this study for the usually identified diagnoses, interventions and results according to the NIC and NOC were proposed, respectively based on clinical history described in the charts. Among the most frequent nursing diagnoses are: risk of infection, imbalance Risk of liquids volume, impaired bed Mobility, anxiety and acute pain.

These five most common diagnoses belong to the domains: Nutrition, Coping/Stress tolerance, Activity/Rest, Security/Protection and Comfort. Among these the most prevalent were the Coping/Stress tolerance defined as the ability to cope in the face of found adverse situations.7

The use of the taxonomies: NANDA, NIC and NOC to define the suggested nursing problems could express the probability of interventions found for each diagnosis. Thereby identifying the diagnostic, is an efficient clinical judgment of the practitioner, which also involves the appropriate choice of interventions, including the careful prioritization of goals to be reached in care planning, which is essential in the nurse’s practice.13,14

The diagnosis risk of infection was the most frequent in this study, it can be characterized as the increased risk of being invaded by various types of pathogens due to the rupture of the primary barrier protection due to surgical trauma.7,15 As risk factors for such a diagnosis are invasive procedures, increased environmental exposure, pharmaceuticals, inadequate secondary defense and chronic disease.14

Study of 14 charts of liver surgery postoperative patients also showed an increased prevalence (100%) in the diagnosis of risk of post-surgical infection, supporting the research in question was obtained as a result for the same diagnosis in a frequency of 68.8% relative to other diagnoses studied in the same dominion.16

For the current study, the nursing intervention in order to obtain a termination goal directed to the risk of infection has been proposed, the protection against infection (6550). The diagnostic fluid imbalance risk according to NANDA-II7 is defined as the risk of decreased, increased or rapid change from one intravascular location to another, interstitial and/or intracellular fluid. It refers to the loss, gain, or both, of body fluids. Interventions and results for this diagnosis suggest the need for monitoring and follow-up of the water balance of the patient paying attention to the risks related both to loss and gain of liquids and can influence directly in therapy.

Impaired bed Mobility consists in limiting the movement of independent form one position to another patient in the bed, with the factor associated with postoperative experience with the use of Intervention sedatives.16 As for diagnosis it has been Promoting body mechanics (0140), which emphasizes the importance of guidance and monitoring of the client’s body mechanics providing adequate care to prevent possible injury due to the limited movement.

The diagnosis of anxiety was one of the most frequent coping domain/stress tolerance, which is caused by a sense of apprehensiveness caused by anticipation of some danger1. Typically, the process involves hospitalization of a change to patients, especially when it involves surgical aspects18. Given this context an intervention was proposed that improved coping from NIC6, having as one of its approaches to assess what the patient understands about his health in an attempt to seek encouragement which must be informed about their treatment. The proposed interventions for anxiety OF resembles those suggested in a study of diagnosis results and nursing interventions performed in the surgical clinical sector of a study hospital.18

The diagnosis of acute pain is referred to as a sensory and unpleasant emotional experience that arises from a real tissue injury or potential described in terms of such damage with sudden onset or slow, intensity ranging from mild to intense, with anticipated or predictable end and duration less than six months.7,19

In a similar study of 17 medical records of medical clinical patients where we obtained 274 diagnoses distributed in 49 diagnostic categories of nursing, there was a predominance of the diagnosis of acute pain in a 88.2% representative frequency. Emphasizing the research in question that the same diagnosis was unique in its domain therefore presented a frequency of 100% being found in 34 of the 63 records analyzed.19

For the establishment of ND (Nursing Diagnosis) risk, it is known that signs and symptoms are not considered but risk factors. This can be identified in nursing developments, as well as the reasons for admission and co morbidities, indicating clues or constituted in themselves risk factors for a particular ND.20

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At the end, the results found in this research are important elements in the assessment of the patients in the recovery room. The data also represents important factors to be observed by the nursing professional to do so as it needs to carry out an effective nursing evolution that favors the recording instrument and communication of the clinical condition of the patient, contributing to the quality of care.

The limitations to study found the difficulty in getting medical records that would provide subsidies suitable for implementation of SAEP, as well as the difficult access to these records where many were found, being excluded from the study themselves.

The research found evidence constituting the basis for the identification of more accurate nursing diagnoses, which allows the implementation of interventions that lead to positive health outcomes.

**CONCLUSION**

Interventions and nursing outcomes described in this study influence in order to prepare nursing professionals for better performance regarding the necessary care to the PACU patients. The nursing professional who develops an instrumentalized care by the nursing process in the light of a theoretical framework will be able to improve cognitive and psychomotor skills, associate and correlate multi-disciplinary knowledge, better working relationships, defined and concrete.

The results of this study may also contribute to the construction of a SNA instrument to address the main needs of the patient in a post-anesthetic recovery room providing a standardized and humanized care, facilitating communication between the nurses and the multidisciplinary team.

The practice of Systematization of Nursing Assistance (SNA) in PACU can provide clarity to the implementation of data collection, as it enables the identification of individualized nursing interventions as needed to care for the patient, contributing to the holistic and individualized care order, since the same will meet the real needs of the patient and thus nursing can effectively show the records the important role it plays in the promotion, prevention and recovery of health of the clientele.

It is believed that reflections on the results of this study will develop nursing interventions for patients who are in recovery room, constituting, as well as a starting point for studies aimed at validating these interventions, contributing to a better nursing care and constituting a benefit to patients and the health team involved in the whole process.

**REFERENCES**


Systematization of perioperative nursing...
