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Registration of the nursing process for patients with cardiovascular diseases: an integrative review

Allana Raphaela dos Santos Cardoso^{1,2}, Ana Carla Dantas Cavalcanti¹, Lyvia da Silva Figueiredo¹, Paula Vanessa Peclat Flores¹, Juliana de Melo Vellozo Pereira¹, Bruno Bompert dos Santos¹

*1 Fluminense Federal University
2 Pedro Ernesto University Hospital*

ABSTRACT

Aim: to identify the publications related to the registration of the nursing process for patients with cardiovascular diseases. **Method:** integrative review, carried out using the MEDLINE, CINAHL and LILACS databases, based on a 10-year temporal cut-off. Seven articles, divided into two categories and analyzed according to the theme, were selected. **Result:** after reading the full text, seven articles were included and two categories were created. **Discussion:** all studies discussed standardized language systems. Two studies described the interconnection of diagnostic languages, interventions and outcomes. On the other hand, five studies dealt with only one standardized language. **Conclusion:** nursing process registry studies have been identified for patients with cardiovascular diseases. However, the literature is still limited and of low methodological rigor.

Descriptors: Cardiovascular Diseases; Nursing Processes; Nursing Diagnosis; Nursing Records.

INTRODUCTION

Cardiovascular diseases (CVD) are part of the group of chronic non-communicable diseases which are characterized by having no known etiologic agent and no cure. However, treatment is available but with multicausal risk factors which may or may not be controlled, and a slow and silent pathogenesis. Worldwide, chronic non-communicable diseases are the leading causes of death and disability⁽¹⁾ and represent 30% of morbidity and mortality in Brazil and one-third of all deaths worldwide⁽²⁾.

Given the importance of these diseases, as determinants of the limitation of the quality of life of the population and the magnitude of morbimortality, it is necessary that the nursing process, both in an outpatient settings and hospital settings, is focused on the patient's responses to the disease process.

The nursing record documents the nursing process, being essential for interventions being planned, implemented and evaluated in safety. Thus, registration supports the continuity of care and ensures communication within the multidisciplinary team⁽³⁻⁶⁾.

The aim of this study is to identify the knowledge produced and published regarding the nursing process in terms of registration of patients with cardiovascular diseases.

METHOD

This is an integrative review of the literature, carried out using the MEDLINE, CINAHL and LILACS online databases. The following steps were used: elaboration of the research question, establishment of criteria for the inclusion and exclusion of studies, categorization of studies, evaluation of included studies, interpretation of results and synthesis of knowledge⁽⁷⁾.

The research question considered was: What has been published in terms of nursing records for patients with cardiovascular diseases? Along with this question, the descriptors used to perform the searches were: heart diseases, nursing process, nursing diagnosis and nursing records. The search was conducted in September and October 2015, using the following inclusion criteria: articles in Portuguese, Spanish and English that answered the research question, published in the last ten years.

The following search strategies were used with regard to the MEDLINE, CINAHL and LILACS databases: "heart diseases" AND "nursing process" AND "nursing diagnosis" AND "nursing records". Articles that addressed children with heart diseases, articles without abstracts, articles repeated in the databases, in editorial format, letters to the editor and reflective articles were excluded.

Thirty studies were identified in the MEDLINE, LILACS and CINAHL databases, and were referred to two researchers for consensus selection of the studies to be screened. After the titles and abstracts were read there were no duplications, and 16 articles were excluded. Among these articles, one was excluded for lack of a summary, two articles for involving children, and three for not being published within the period under consideration. Eight studies were chosen for the reading of the full text in order to answer the research question. One article was excluded because it did not respond to the question. In total, seven papers were included for analysis and interpretation.

Evidence-based practice advocates classification systems, depending on the methodological approach adopted, which is based on the study design⁽⁸⁾. Level 1 is applied to evidence resulting from meta-analyses of multiple randomized controlled trials; Level 2 for evidence obtained in individual studies involving an experimental design; Level 3 for evidence from quasi-experimental

studies; Level 4 for evidence from descriptive (or non-experimental) studies or ones adopting a qualitative approach; Level 5 for evidence from case or experience reports; and level 6 for evidence based on expert opinion, according to Agency for Healthcare Research and Quality categorization⁽⁸⁾.

The studies were divided into two categories for analysis according to the subject matter. These were termed as: studies that associated standardized NNN languages and studies that addressed a single standardized language.

RESULTS

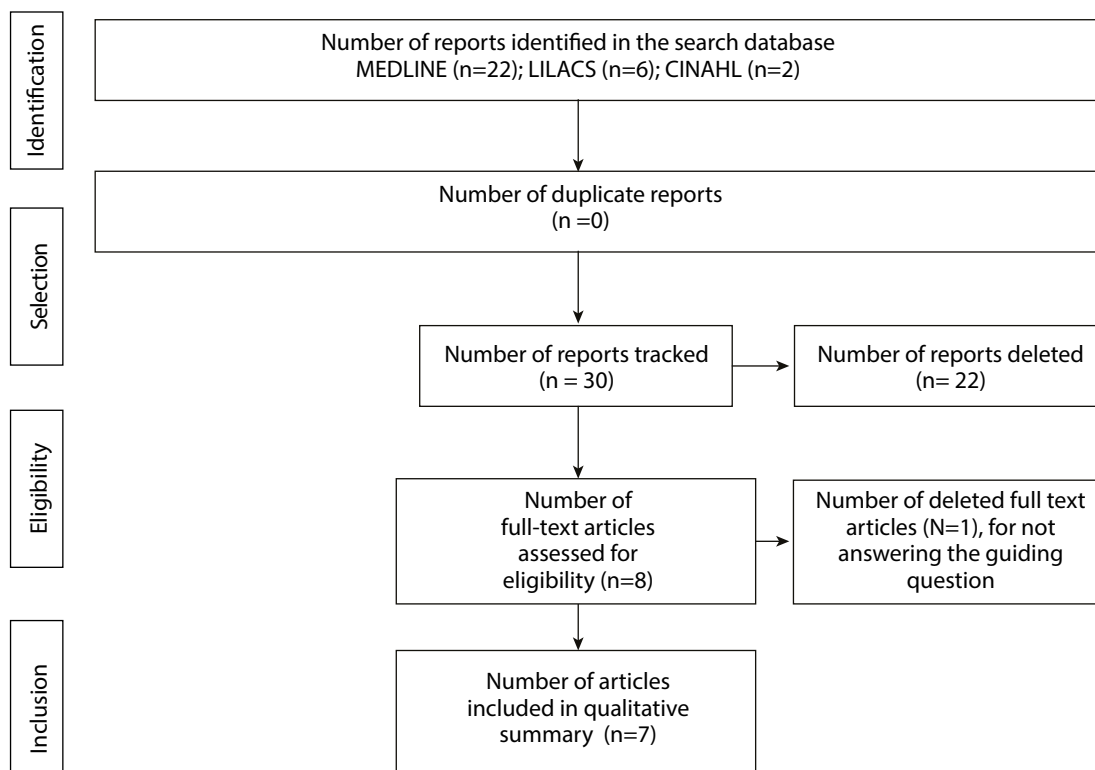
The sample comprised 7 studies, selected as shown by the published selection flowchart (Figure 1).

Evaluating the seven publications in terms of origin, three are from international and four are from national journals. International publications were all written in English. As for the type of publication, all are scientific articles.

Table 1 presents the identification characteristics of the publications regarding title, journal, year, country of publication and level of evidence. From the sample included in this review, six studies provide Level 4 evidence and one publication provides Level 6 evidence.

Regarding the topic, five publications studied nursing diagnoses using the NANDA International taxonomy, one article studied the relationships between diagnoses (NANDA-I), interventions (NIC) and nursing outcomes (NOC) in patients with heart disease and one

Figure 1. Flowchart explaining the selection of articles. 2016, Niterói/RJ.



Source: authors.

Table 1. Identification characteristics of the publications regarding title, journal, year, country of publication and level of evidence. (n=7) Niterói, 2016.

Title	Journal	Year	Country	Evidence Level
Identifying core NANDA-I nursing diagnoses, NIC interventions, NOC outcomes, and NNN linkages for heart failure.	International Journal of Nursing Knowledge	2014	USA	4
Prevalence of nursing diagnosis of decreased cardiac output and the predictive value of defining characteristics in patients under evaluation for heart transplant.	Latin American Journal of Nursing	2012	Brazil	4
Nursing diagnosis profile of women with heart disease under outpatient treatment	Journal of the Society of Cardiology of the State of São Paulo	2012	Brazil	4
Most frequent nursing diagnoses, nursing interventions, and nursing-sensitive patient outcomes of hospitalized older adults with heart failure: part 1.	International Journal of Nursing Knowledge	2011	USA	4
Patterns of nursing intervention use across 6 days of acute care hospitalization for three older patient populations.	International Journal of Nursing Knowledge	2007	USA	4
Nursing diagnosis in the perioperative of cardiac surgery	Journal of the School of Nursing of USP	2006	Brazil	4
Operational definitions of the defining characteristics of the nursing diagnosis Fluid Volume Excess	Acta Paulista Nursing	2005	Brazil	6

Source: authors.

article presented nursing interventions as the objects of the study. Table 2 presents the main methodological aspects of the analyzed studies:

The most frequent studies are methodologically non-experimental, transversal, unicentric and incorporating descriptive statistics (use of mean, standard deviation and percentages). It is noteworthy that, with regard to the cross-sectional studies, most (three articles) adopted a retrospective approach, with a chart analysis. It should be noted that with regard to the studies involving inferential analysis that sought associations, the following statistics were used: Odds Ratio calculations (study 2) for the purpose of verifying the predictive value of defining characteristics for a given nursing diagnosis, and calculation of the Friedman, Kenall and Kappa Tests in study 6.

Table 2. Main methodological aspects of the analyzed studies (n=07). Niterói, 2016.

Methodological aspects	N	N%
Method		
Non-experimental	7	100
Type of study		
Transversal	4	57,1
Longitudinal	2	28,6
Case study	1	14,3
Bibliographic research		
Scenarios		
Unicentric	5	71,4
Multicentric	1	14,3
Not applicable	1	14,3
Statistical analysis		
Descriptive statistical treatment	5	71,4
Inferential statistical treatment	2	28,6

Source: authors.

DISCUSSION

STUDIES THAT ASSOCIATE NNN STANDARDIZED LANGUAGES

Of the seven articles found, two involved a description of the three standardized languages, Nanda International (NANDA-I), Nursing Interventions Classification (NIC) and Nursing Outcomes Classification (NOC) as to how they were associated and interconnected. The use of standardized languages has been mentioned in the publications regarding its benefits to promote quality nursing record and, consequently, safer and more systematized nursing care.

A descriptive, retrospective study in which 272 hospitalization records were analyzed, aiming to identify links of diagnosis, interventions, results and links of real clinical data using standardized language systems such as NANDA-I, NIC and NOC for patients with Heart failure (HF), identified ten NNN connections for patients with more frequent HF as a result of a survey of medical records. The use of NNN terminology was described in more than 50% of the medical records, especially regarding the nursing diagnoses for the HF patients⁽⁹⁾.

This study has also demonstrated that the four most common nursing diagnoses in patients with heart failure were knowledge deficit, decreased cardiac output, impaired tissue integrity risk, and ineffective respiratory pattern. These four were responsible for almost 50% of the most common nursing diagnoses for HF patients. Ten NIC interventions accounted for 51.03%, including fluid monitoring, cardiac care, and teaching: procedure/treatment, fall prevention and emotional support were used particularly frequently⁽⁹⁾.

Another descriptive, comparative and multicenter study aimed to report the ten most frequently documented NNN connections by

nurses for patients aged 60-89 years with a diagnosis of HF, and to evaluate and describe recovery, quality and limitations in terms of the efficacy of nursing outcomes. The result of the analysis of the 302 records of hospitalized patients was the knowledge that, of the ten NNN connections, only 4 were commonly used by the three hospitals: activity intolerance, decreased cardiac output, poor knowledge and risk of falls. As for interventions, two were similar in two hospitals: the treatment of pain and skin surveillance.

Both studies have demonstrated how important it is to use standardized language to produce and use data that support the practice, research, or improvement of evidence-based quality. However, the second study mentioned pointed out that the use of electronic records is a facilitator of the work of the diagnosing nurse, as long as the electronic medical record has been built based on standardized language systems. This information does not corroborate with most of the publications, perhaps because the electronic record facilitates the work of the nurse who performs the nursing process, and is not always analyzed exhaustively and in detail in relation to all its aspects⁽¹⁰⁾.

It is a fact that the use of electronic records associated with the use of standardized languages in nursing has numerous benefits, because such use improves communication between professionals. In addition, it makes possible patient and nursing assistance follow-up in a more consistent and practical way, especially when it comes to care for patients with cardiovascular disorders⁽¹⁰⁾.

The studies that investigated the major NNN connections related to patients with HF and who were predominantly elderly. The standardized NNN language allows the comparison of nursing data between sites and specialties, aimed at improving patient care. In the second

study there was also a notable absence of diagnoses related to the psychosocial aspect, with a predominance of connections referring to physiological aspects.

STUDIES ADDRESSING A SINGLE STANDARD LANGUAGE

The diagnostic language describing the responses of patients with cardiovascular diseases was identified in 5 studies.

A study with retrospective documentary analysis identified the prevalence of defining characteristics for nursing diagnoses with regard to reduced cardiac output. Data were obtained through documentary analysis of the clinical records of 38 patients undergoing cardiac catheterization⁽¹¹⁾. The defining characteristics were particularly related to the alteration of afterload⁽¹¹⁾.

The majority of the characteristics of nursing diagnoses were more frequent in subjects with reduced cardiac index. In these individuals, the most frequent were increased systemic vascular resistance with OR=4.533, the third bulge OR=3.429 IS THIS CORRECT? and the decreased ejection fraction OR=2.850 being those related to the altered afterload⁽¹¹⁾. The ones with the highest odds in terms of predictive value were the third bulge and bradycardia related to the category of noninvasive evidence, increased pulmonary vascular resistance and increased systemic vascular resistance, decreased pulmonary vascular resistance, and decreased ejection fraction in the category of invasive evidence⁽¹¹⁾.

Another cross-sectional study identified the Nursing Diagnoses (ND) of women with heart disease, in outpatient care, as well as the defining characteristics and related risk factors of ND in this population with a prevalence greater than 50%. Twenty-one women were studied of whom 7.9 ND/patients were identified, with a preva-

lence of more than 50%, as follows: sedentary lifestyle, ineffective health self-management, risk of falls and chronic pain⁽¹²⁾.

These studies expressed what has been published in the scientific literature on nursing diagnoses with regard to patients with adult cardiovascular disorders, both of which raised the question regarding the need for further studies using the standard NANDA-I language, relating the detailed and quantitative analysis of the defining characteristics of the most prevalent diagnoses in patients with cardiovascular diseases, aiming to promote nursing care that is particularly focused on the needs of patients based on scientific evidence⁽¹¹⁻¹²⁾.

A study conducted in São Paulo/Brazil identified the main nursing diagnoses of patients during the perioperative period of cardiac surgery, and evaluated the concordance between the diagnoses drawn by the first nurse, the author of the study, and other nurses. In the preoperative period, there was agreement between the author and the nurses in only 3 of the 9 diagnoses; in the transoperative period there was 100% agreement in 7 of the 9 diagnoses; there was no agreement in period 2; in the postnatal periods, 10 of the 15 diagnoses presented complete agreement; in one diagnosis there was total disagreement; and in 4 there was no statistically significant agreement. Although not aimed at implementing the interventions, this study helps the nurse to chart the patient care plan in the perioperative period⁽¹³⁾.

Among the nursing diagnoses found in the preoperative period, we can highlight a frequency of more than 70% in terms of activity intolerance, risk of Peripheral Neurovascular Dysfunction, Risk of Infection, Ineffective Respiratory Pattern, Pain and Impaired Cardiopulmonary Tissue Perfusion. In the transoperative period, nine diagnoses stand out, among which eight have a frequency of 100%, including Risk of

Imbalance in the Volume of Fluid, Risk of Aspiration, Risk of Impaired Skin Integrity, Impaired Gas Exchange among others, and during the post-operative period, ten stand out among the 15 with a frequency of 100%. These include Impaired Physical Mobility, Aspiration Risk, Deficit in Self-Care Bathing and Hygiene, and Impaired Skin Integrity.

A review of the literature from 1985 to 2001 was carried out. Its purpose was to elaborate operational definitions for the defining characteristics of the nursing diagnosis of excessive fluid volume. The definitions were based on the concepts of scholars; then 4 "expert" nurses were consulted for the analysis and contribution to the creation of operational definitions. The operational definitions were sent to a scholar in the subject and thus defined. The purpose of the study was the elaboration of a database to measure the defining characteristics in order to help formulate the nursing diagnosis, favoring the understanding of each defining characteristic⁽¹⁴⁾.

Only one article identified interventions for patients with HF who were over 60 years of age. This study was extremely important in terms of differentiating the NIC interventions of patients with HF from the interventions of other groups of patients of the same age group⁽¹⁵⁾.

CONCLUSION

Studies on nursing process registration for patients with cardiovascular diseases were identified. However, the literature is still limited and of low methodological rigor, making it impossible to construct evidence for the elaboration of protocols and consensus on nursing diagnoses, interventions and results. It should be noted that the SLPs found were NANDA-I, NIC and NOC.

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