ORIGINAL RESEARCH ARTICLE **OPEN ACCESS**

MAIN NURSING DIAGNOSES IN CARDIOLOGY

[1,*]**Nemorio Rodrigues Alves**, [2]**Trycia Ryane de Freitas Silva**, [2]**Andreza Josiany Aires de Farias**, [2]**Sabrina Emylle Torres Fernandes**, [2]**Marina Saraiva de Araújo Pessoa** [3]**Rodrigo Bispo Rodrigues**, [3]**Kaique Arthur Araújo Rodrigues**, [4]**Ramon Silva de Sousa**, [5]**Brenda Séphora de Brito Monteiro e Silva**, [4]**Francisco Assis Dantas Neto** and [6]**Katiuscia Santos Emídio**

[1]Bachelor of Science in Nursing. Registered Nurse. Department of Nursing. Federal University of Campina Grande. Campina Grande, Paraíba- Brazil
[2]Registered Nurses. Department of Nursing. Federal University of Campina Grande. Campina Grande, Paraíba- Brazil
[3]Registered Nurses. Nursing Department. Faculdade Estácio. Aracaju, Sergipe-Brazil
[4]Registered Nurse. Nursing Department. Faculdade Maurício de Nassau. Campina Grande, Paraíba- Brazil
[5]Registered Nurse. Department of Nursing. State University of Paraíba. Campina Grande, Paraíba- Brazil
[6]Registered Nurse. Department of Nursing. Tiradentes University. Aracaju, Sergipe- Brazil.

ABSTRACT

The present study aimed to find the main Nursing Diagnostics of NANDA International that permeate the practice of professionals who provide care to clients with cardiological and hemodynamic demands. Data collection was done in the Biblioteca Virtual em Saúde (BVS). A total of 117 potential studies were retrieved in the BVS. However, after the implementation of the eligibility criteria, the total number of publications selected was reduced to the total of 11 articles that composed the sample. A quantitative of 109 Nursing Diagnoses titles was found. Between them, 48 were repeated, resulting in a total of 61 different Nursing Diagnoses (NDs). For the discussion of this paper, we focused on the real and most frequent NDs ($n = \geq 4$). Among the discussed ones, in descending order, we have: Acute pain, Decreased cardiac output, Anxiety, Activity intolerance and Excessive volume of liquids. This study was relevant because of its originality in describing the main NDs in clients with cardiovascular and hemodynamic disorders. Being an opportunity to know the specificities and to analyze the relations between the clinic and its characteristics, since the nurses assist in the identification of the therapeutic demand of care of the clients.

INTRODUCTION

The Nursing Process (NP) is the mean by which a nursing theory is implemented into practice. Through this tool, made up of 5 interrelated, interdependent and recurrent stages, it becomes possible to operationalize the Systematization of Nursing Care (SNC), providing the delivery of effective care, theoretically based. The second step of the NP is called Nursing Diagnosis. According to COFEN (2009), after the process of interpretation and grouping of data collected in the first stage, it is necessary to make decisions about Nursing diagnostic concepts that represent the responses of individuals at a given moment in the health-disease process.

In Brazil, the use of NP is mandatory in all environments, public and private, where nursing care takes place. This has occurred since the publication of COFEN's Resolution No. 358 of 2009. However, factors inherent in its own structure, the characteristics of the practice scenarios and the skills and competencies of the professionals have made it difficult to use them (CARVALHO and KUSUMOTA, 2009). As a consequence of the non-employability of the EP, there is the provision of insufficient quality care that can bring countless damages to those to whom care must be directed. Nunciarioni *et al.* (2012) bring in their studies that cardiovascular diseases and their diseases were the main causes of mortality in Brazil and in the world, besides being responsible for the high number of hospitalizations as well as for the increase in the

*Corresponding author: Nemorio Rodrigues Alves

demand for cardiovascular care. In this context, the nursing care provided to clients with pathologies and / or comorbidities that compromise the cardiovascular and hemodynamic systems must be conducted so that those who need care have it in their entirety. Therefore, it is necessary to apply the NP through the SNC. Numerous are the titles of NDs that can be found in the book of NANDA International (NANDA-I). However, when a professional is dedicated to a specialty of Nursing, this needs to be accustomed to the main NDs that can be found in their daily practice. So that the care is directed and aligned with the real health needs of those who access the services. Thus, it was asked: what are the main NDs related to patients who have cardiological and/or hemodynamic demands? "The recognition of more frequent NDs, besides facilitating the creation of a 'bridge' between complex clinical data and nursing care, may direct the creation of specific protocols for nursing care to these patients" (Nunciarioni *et al.*, 2012). Thereupon, in order to provide subsidies for the clinical trial and establishment of NDs to this population, the present study aims to systematically review the literature in search of the main NDs that permeate the practice of professionals working with the aforementioned demands.

MATERIALS AND METHODS

The present article is a systematic review of the literature review. To reach the results, the following methodological steps were considered.

Search Strategies (Selection of the guiding question, search and selection of the sample in the electronic databasis).

The guiding question was elaborated: What are the main nursing diagnoses directed to patients with health problems related to the cardiovascular and hemodynamic system? Based on this inquiry, the data collection was done through electronic research, from June to July 2018, including articles published until May 2018. The database was consulted in the Virtual Health Library (BVS), where the databases Nursing Database (BDENF), Latin American and Caribbean Literature in Health Sciences (LILACS) and Medical Literature Analysis and Retrieval System Online (MEDLINE) were selected. In order to guarantee a greater acquisition of articles, a combination of the descriptors was done in order to promote a greater distribution. For the location of the relevant studies, which answered the research question, indexed descriptors were used in the Portuguese, English and Spanish languages. The choice of words was based on the selection of the terms inserted in the Descriptors in Health Sciences (DeCS): "nursing diagnosis" and "cardiology". The DeCS were combined with the Boolean operators "OR" and "AND". DeCS and the Medical Subjetcs Heading (MeSH) are equivalents.

Establishment of the criteria for inclusion and exclusion of the sample: The following inclusion and exclusion criteria were used to guide the selection of articles in the review sample; Inclusion: original studies published in full in national and international journals in English, Portuguese or Spanish, without period of publication period of articles and research that elucidate the main nursing diagnoses in care to any patient with cardiological care needs / demands and hemodynamic. Exclusion: Duplicate texts, studies that do not address the proposed topic and master's dissertations. In view of the distinct characteristics and characteristics of the databases, the search was performed using the strategy described in Table 1.

Data Extraction: (Elaboration of an instrument that includes the relevant information extracted from the samples). The studies retrieved from the search strategy were evaluated according to the title and the abstract, identifying those pertinent to the proposed theme, according to the inclusion criteria established. In cases where the data provided were not sufficient to define the inclusion or exclusion of the study, it was considered for the pre-selection, avoiding in this way erroneous exclusions. After reading titles and abstracts, two reviewers selected the articles for reading in full, taking as reference the study question. In the works that generated doubts, a third researcher carried out the analysis to define by consensus the classification of the same, prevailing the opinion of the majority. For the extraction of data from the articles and their subsequent organization, an instrument was used containing the following information: title, periodical, CAPES *Qualis*, name of authors, type of study and research objectives. In the access to the SUCUPIRA platform it is possible to find the Qualis-Periodicos that is a system used to classify the quality of the scientific production with regard to the articles published in scientific journals. There are strata indicative of quality ranging from A1 - highest; A2; B1; B2; B3; B4; B5; and C (BRAZIL, 2016). Thus, the importance of selecting articles published in journals with high impact both nationally and internationally is emphasized.

Table 1. Search strategies in the databasis, BVS, Brazil, 2018

Databasis	Search Strategies
BVS	*tw:(tw:(+id:("mdl-26992134" OR "mdl-26438785" OR "bde-29182" OR "lil-719769" OR "bde-24648" OR "lil-669557" OR "bde-29409" OR "bde-29411" OR "bde-25254" OR "lil-666748" OR "bde-29209" OR "bde-21964" OR "bde-29213" OR "bde-20333" OR "bde-26141" OR "bde-29431" OR "bde-18353" OR "bde-15509" OR "lil-566933" OR "bde-19381")) AND (instance:"regional")) AND (instance:"regional")*

Source: Data research, 2018.
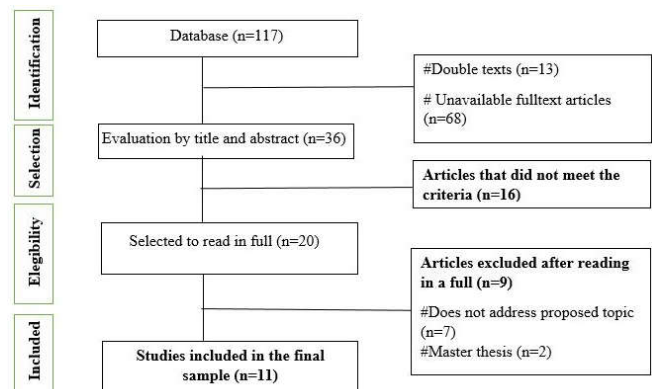
Source: Data research, 2018

Figure 1. Flow chart of the data selection process. Campina Grande, PB, Brazil, 2018

Evaluation and Critical Analysis of the Selected Sample

For the critical interpretation of the articles, content analysis was carried out, with discussions between the authors obtaining, in the end, a consensus about the content presented. It is worth mentioning that the current work made use of public domain information, accessed on the Internet, and in this way does not make use of data that require ethical secrecy.

Table 2. Distribution of the selected articles according to title, periodical, Qualis, authorship, type of study and objectives

TITLE	JOURNAL	QUALIS	AUTHORS	TYPE OF STUDY	OBJECTIVES
Nursing Diagnosis Based on Signs and Symptoms of Patients With Heart Disease.	International Journal Of Nursing Knowledge	A2	(COSTA; LINCH; SOUZA, 2016)	Transversal	To identify the main signs and symptoms of cardiac patients hospitalized in a cardiology intensive care unit, in order to infer the priority nursing diagnoses.
Proceso de atención de enfermería aplicado a la persona posoperada de trasplante cardíaco	Revista Mexicana de Enfermería Cardiológica	B1	(BASURTO, 2014)	Qualitativo, Relato de caso, descritivo	Develop a case study that promotes the major nursing care that covers the needs of the person in heart transplantation.
Diagnósticos, intervenções e resultados de enfermagem para criança com cardiopatia congênita: revisão integrativa	Revista de Pesquisa: Cuidado é Fundamental Online	B2	(SILVA et al., 2014)	Revisão Integrativa	To correlate to the standardization of nursing diagnoses, interventions and results in relation to the knowledge produced in the literature, as a way of expressing the interrelated and systematized actions to the child with congenital heart disease.
Nursing diagnoses validated in cardiology in Brazil: integrative literature review	Acta Paulista de Enfermagem	A2	(Lopes et al., 2014)	Integrative Review	To identify nursing diagnoses (NDs) currently in the NANDA taxonomy, validated in the area of Cardiology in Brazil.
Cuidado enfermero dirigido a la persona con estenosis aórtica	Revista Mexicana de Enfermería Cardiológica	B1	(Teniza, Dominguez and Puntunet, 2010)	Review article	To guide the nursing professional in making the best decision about the specific care of the person with aortic stenosis when explicitly of the Process of Nursing Care, with the philosophical approach by Virginia Henderson.
O diagnóstico de enfermagem Fadiga, em portadores de Insuficiência Cardíaca	Acta Paulista de Enfermagem	A2	(Assis, Barros and Ganzarolli, 2007)	Time-series and cross-sectional experimental study	To evaluate the results, according to the NOC classification, after performing interventions suggested by the NIC for the nursing diagnosis Fatigue, in patients with heart failure.
Diagnósticos de enfermagem em pacientes hipertensos acompanhados em ambulatório multiprofissional	Revista de Enfermagem da UFSM	B2	(Calegari et al., 2013)	Cross-sectional study with a quantitative approach	To describe the prevalence of nursing diagnoses in hypertensive patients in a multiprofessional outpatient clinic.
Consenso de diagnósticos, resultados e intervenções de enfermagem para pacientes com insuficiência cardíaca em domicílio	Revista Gaúcha de Enfermagem	B1	(Azzolin et al., 2012)	Consensus-type study of specialists.	To select the nursing diagnoses, the interventions and the results proposed in the connection NANDA, NIC, NOC suitable for the home care of patients with Heart Failure.
Caracterização dos diagnósticos de enfermagem de pacientes internados em uma unidade de cardiologia	Revista Gaúcha de Enfermagem	B1	(Nunciaroni et al., 2012)	Descriptive-exploratory, retrospective study.	To expand the scope of literature on the practical application of nursing diagnoses, in the specific context of cardiology. To formulate the most frequent nursing diagnoses in the subgroup of patients with ischemic heart disease hospitalized in a cardiology unit and to verify its association with sociodemographic and clinical characteristics.
Diagnósticos de enfermagem de pacientes hospitalizados com doenças cardiovasculares	Escola Anna Nery	B1	(Pereira et al., 2011)	Quantitative, descriptive, cross-sectional study.	To identify the frequency of nursing diagnoses and defining characteristics of patients with cardiovascular diseases and to characterize them in sociodemographic and clinical variables
Enfermagem em laboratório de hemodinâmica: diagnóstico e intervenção fundamentados na Teoria da Adaptação de Roy	Revista Eletrônica de Enfermagem	B1	(Oliveira and Silva, 2010)	A descriptive and cross-sectional study with a quantitative approach.	To infer the nursing diagnoses present in patients with coronary disease treated in a Hemodynamic Laboratory.

Source: Data research.

Due to the heterogeneity of the methodology of the studies included in the review, it was not possible to perform meta-analysis. After sharp analysis in the titles and abstracts were selecting 11 scientific articles to compose the sample and that will be presented in Table 2.

RESULTS

From the search strategy employed and through the application of DeCS, 117 potential articles were retrieved in the VHL, however, only 49 articles were available in fulltext. In this review, only papers that list Nursing Diagnostics aimed at people with health problems related to the Cardiovascular System, as presented in Table 3, were included. After reading the titles, abstracts and considering the eligibility criteria, it was observed that the total number of publications selected for the research was reduced to the total of 11 articles, which compose the sample of the current systematic review. The studies listed for our research are in the database BDENF (n = 7), LILACS (n = 3) and MEDLINE (n = 1). It is worth mentioning that all 11 articles (100%) were included in this review and are organized based on their methodological outline. After the search strategy demonstrated, in figure 1 it is possible to see the flow of the articles selection, all 11 articles contained possible NDs related to the Cardiovascular and Hemodynamic System. Below we can see in Table 2 the distribution of the articles selected to compose the study sample, according to title, periodical, Qualis, authorship, type of study and objectives.

Brazil was the country with the most studies included in the review, totaling 8 articles (72.72%), followed by Mexico with 2 (18.18%) and 1 (9.09%) published in Germany. With regard to the language in which the articles were published, most were indexed in the Portuguese language, a total of 7 (63.63%) articles, only 2 (18.18%) were available in English and 2 (18.18%) in the Spanish language. Of the 11 articles identified it was observed that the vast majority were recent, with a publication year of less than a decade. The table 2 shows a total of ten (90.90%) studies published in national journals and one (9.09%) in international journals.

All articles that composed our sample presented Qualis between A2 and B2, which implies a greater validation of our research. Among these, there are qualitative studies (6 articles) that were more prevalent and represented 54.54% of the sample, while quantitative studies (5 articles) were 45, 45%. According to the objectives set out in the articles, one can verify the predominance of key words such as: nursing diagnosis; signs and symptoms in cardiac patients; care of the cardiac patient. We noted that production on the subject is still discreet, even with such a thematic importance for the health professional.

Table 3. Distribution of Nursing Diagnoses found according to domains of nanda international

DOMAINS	NURSING DIAGNOSES TITLES	N
Health promotion	Ineffective health maintenance	1
	Ineffective health self-management	2
	Provision for increased control of the therapeutic regimen	2
	Sedentary lifestyle	1
	Ineffective family health control	1
Nutrition	Unbalanced nutrition: less than the body needs	1
	Unbalanced Nutrition: more than body needs	1
	Impaired swallowing	1
	Poor fluid volume risk	2
	Risk of imbalance of volumes of liquids	1
	Risk for lack of appetite	1
	Risk of unstable glycemia	1
Elimination / exchange	Constipation	1
	Diarrhea	1
	Impaired urinary output	1
	Excessive fluid volume	4
	Impaired gas exchange	2
	Risk of constipation	2
Activity / rest	Decreased Cardiac Output	6
	Activity Intolerance	4
	Ineffective peripheral tissue perfusion	2
	Ineffective cardiopulmonary tissue perfusion	1
	Ineffective renal tissue perfusion	1
	Fatigue	3
	Deficit for self-care (bathing / hygiene, intimate hygiene, dressing / dressing)	7
	Impaired walking	1
	Impaired physical mobility	1
	Impaired sleep pattern	3
	Impaired Spontaneous Ventilation	1
	Insomnia	1
	Decreased cardiac risk	1
	Risk for changing the respiratory pattern	1
	Risk of decreased cardiac tissue perfusion	1
	Risk of activity intolerance	1
Perception / cognition	Impaired memory	1
	Poor knowledge	3
	Disturbed sensory perception (visual or auditory)	2
	Impaired verbal communication	1
Self perception	Feeling of impotence	1
	Low self-esteem (situational or chronic)	2
	Body Image Disorder	1
Roles / relationships	Breastfeeding stopped	1
	Interrupted family processes	1
Sexuality	Sexual dysfunction	1
Coping / stress tolerance	Anxiety	5
	Chronic sadness	1
	Fear	1
Security / Protection	Impaired Dentition	1
	Hyperthermia	1
	Ineffective airway clearance	1
	Impaired Skin Integrity	3
	Risk of imbalance in body temperature	1
	Risk of infection	4
	Impaired skin integrity risk	1
	Risk of injury	3
	Risk of falls	2
Comfort	Acute pain	6
	Chronic pain	1
	Nausea	1
Principles of life	Spiritual suffering	1
	Risk of spiritual suffering	1
TOTAL		109 NDs

Source: Data research

Although the articles constitute a relatively small sample, their variety of topics reveal the emphasis on studies related to the Cardiovascular and Hemodynamic System. It was found, in the research sample, a quantitative of 109 Nursing Diagnoses titles. Among them, 48 were repeated, resulting in a total of 61 different NDs. It is known that NDs are divided into four types. From the quantitative analysis can be distributed in: Diagnoses with focus on the problem or (also known as real) (n = 41), Risk Diagnoses (n = 15), Health Promotion Diagnoses (n = 5) and Syndrome = 0). According to NANDA-I, NDs are organized into 13 domains that are spheres of knowledge that congregate phenomena in major groups, as seen in Table 1.

DISCUSSION

For the purpose of the discussion of this paper, we focus on the real and most frequent SDs (n = ≥4), while the actual SDs with absolute frequency (n = ≤3) were not discussed. Among the NDs discussed, they are in descending order: Acute pain (n = 6), Decreased cardiac output (n = 6), Anxiety (n = 5), Activity intolerance (n = 4) and Excessive n = 4). This finding corroborates the studies of Costa, Linch and Souza (2016) in which the priority SDs among the 6 reported were: Acute pain, Excessive fluid volume, Decreased cardiac output, and Anxiety. The ND titled "Acute Pain" is defined by NANDA (2013, p.548) as being an unpleasant sensory and emotional experience arising from actual or potential tissue injury or described in terms of such injury. It presents a sudden or slow onset, of light to intense intensity, with an anticipated or anticipated end and duration of less than six months. Clients who present diseases due to changes in the Cardiovascular and Hemodynamic System may present characteristics that lead the Nurse to diagnose as Acute Pain. These include: coded report (with the help of pain scales), verbal report, facial expression of pain, expressive behaviors, changes in blood pressure, changes in heart rate, among others. This ND is found in the comfort domain that is characterized as a sense of well-being or mental, physical or social tranquility. It is in the field called Activity / Rest that the ND "Decreased Cardiac Output" is found. This is defined as "insufficient amount of blood pumping through the heart to meet the body's metabolic demands" (NANDA INTERNATIONAL, 2013, p.290). There are some defining characteristics of this ND, among which, those related to cardiovascular diseases are: those with altered contractility (decreased ejection fraction, decreased systolic volume index and presence of accessory sounds), altered heart rate / rhythm (Bradycardia (changes in color, moisture, and skin temperature, prolonged peripheral capillary perfusion, decreased peripheral pulses, altered vascular resistance, and variations in BP readings).

Among the NDs that focus on the problem, also known as real diagnoses, is Anxiety. It is defined as "vague and uncomfortable feeling of discomfort or fear, accompanied by autonomic response (the source is often not specific or unknown to the individual)" (NANDA INTERNATIONAL, 2013, p.404). Customers with cardiac demands may present this ND that is in the coping / stress tolerance domain. Clients with this ND may present repercussions in several areas, such as: affective, cognitive, behavioral, physiological, parasympathetic and sympathetic. The study by Pereira *et al* (2011) reveals that 93% of patients with acute myocardial infarction (AMI), 47.1% of preoperative cardiac surgery patients and 68.2% ". These findings suggest the importance of nursing interventions for anxiety. Defined by NANDA (2013,

p.292) as insufficient physiological or psychological energy to support or complete the required or desired daily activities, Activity Intolerance is an ND that can be evidenced in clients who have a sedentary lifestyle and / or present Cardiovascular and Hemodynamic system diseases. Such ND is inserted in the field of Activity / rest, being this one referred to the production, conservation, expense or balance of the energetic resources. Among the factors related to the development of activity intolerance is the imbalance between supply and demand of oxygen, implying a decrease in cardiac output and feedback of the patient's symptoms. Some defining characteristics of this ND may be listed: discomfort to the efforts, abnormal response of heart rate and blood pressure to activity and electrocardiographic changes reflecting ischemia. Allocated within the nutrition domain, the ND titled "Excess Liquid Volume" is defined as "increased isotonic fluid retention" (NANDA INTERNATIONAL, 2013, p.244), expressing symptomatology in several systems, such as: changes in blood pressure, dyspnea, increased central venous pressure, positive hepatojugular reflex, among others. Clients with heart failure, for example, are potent in the presentation of this ND, since, due to the physiopathology of this disease, the following signs and symptoms can be found: limb edema, anasarca, changes in blood pressure and pulmonary congestion with BP elevation pulmonary.

Conclusion

The results found in this study identified the prevalent NDs in patients with demands associated to the Cardiovascular and Hemodynamic System, allowing the results, that the clinical evaluation of the nurse leads to the improvement of the quality of health care, in a faster and more efficient way. Literature data corroborate that acute pain, decreased cardiac output, anxiety, activity intolerance, and excessive fluid volume are among the most common NDs among patients with cardiac system disorders. It was also highlighted that the main ND, described in our research, are distributed in the following domains: Comfort, Activity / Rest, Coping / Stress Tolerance and Nutrition. Thus, this study was relevant because of its originality in describing the main NDs in clients with cardiovascular and hemodynamic disorders. It is opportune to know the specificities and to analyze the relations between the clinic and its characteristics, since the nursing professional can help in the identification of the therapeutic demand of care in the clients. As a limitation of this study, we declare the small number of articles to compose the sample. In view of the knowledge produced by this work, it is possible to base the pertinence of the contents of the literature, directly reflecting the effectiveness of nursing work in Brazil. Such a review is necessary for the establishment of some priorities in nursing planning, aiming at optimization and vigor in all staff. It is suggested that new diagnostic studies be developed and validated in order to make the systematization of care a more powerful tool in caring for clients.

REFERENCES

Assis CC de, Barros ALBL de, Ganzarolli MZ. Evaluation of expected outcomes of nursing interventions to address the nursing diagnosis of fatigue among patients with congestive heart failure. Acta Paulista de Enfermagem [Internet]. 2007 Sep;20(3):357–61. Available from: http://dx.doi.org/10.1590/s0103-21002007000300019

Azzolin K, Souza EN de, Ruschel KB, Mussi CM, Lucena A de F, Rabelo ER. Consenso de diagnósticos, resultados e

intervenções de enfermagem para pacientes com insuficiência cardíaca em domicílio. Revista Gaúcha de Enfermagem [Internet]. 2012 Dec;33(4):56–63. Available from:http://dx.doi.org/10.1590/s1983-14472012000400007

Basurto AP. Proceso de atención de enfermería aplicado a la persona posoperada de trasplante cardiaco. Revista Mexicana de Enfermería Cardiológica, [s.l.], v. 22, n. 3, p.106-114, dez. 2014. Available online at: <http://www.medigraphic.com/pdfs/enfe/en-2014/en143c.pdf>.

Brasil. Ministério da Educação. Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES). Plataforma Sucupira: Qualis-Periódicos. 2016. Available online at: <https://sucupira.capes.gov.br/sucupira/public/index.xhtml>.

Calegari DP, Goldmeier S, Moraes MA, De Souza EN. Diagnósticos de enfermagem em pacientes hipertensos acompanhados em ambulatório multiprofissional. Revista de Enfermagem da UFSM [Internet]. 2013 Feb 14;2(3). Available from: http://dx.doi.org/10.5902/217976925696

Carvalho EC de, Kusumota L. Processo de enfermagem: resultados e conseqüências da utilização para a prática de enfermagem. Acta Paulista de Enfermagem [Internet]. 2009; 22(spe1):554–7. Available from: http://dx.doi.org/10.1590/s0103-21002009000800022

Conselho Federal de Enfermagem. Resolução COFEN n. 358, de 15 de outubro de 2009. Dispõe sobre a Sistematização da Assistência de Enfermagem e a implementação do Processo de Enfermagem em ambientes, públicos ou privados, em que ocorre o cuidado profissional de Enfermagem, e dá outras providências [Internet]. Diário Oficial da União, Brasilia (DF); 2009 Out 23 [2018 Jun 29]. Available online at: http://www.cofen.gov.br/resoluo-cofen-3582009_4384.html

Costa C, da Costa Linch GF, Nogueira de Souza E. Nursing Diagnosis Based on Signs and Symptoms of Patients With Heart Disease. *International Journal of Nursing Knowledge* [Internet]. 2016 Mar 16;27(4):210–4. Available from: http://dx.doi.org/10.1111/2047-3095.12132

Lopes CT, Carneiro C de S, Santos VB, Barros ALBL de. Nursing diagnoses validated in cardiology in Brazil:

integrative literature review. Acta Paulista de Enfermagem [Internet]. 2012; 25(spe1):155–60. Available from: http://dx.doi.org/10.1590/s0103-21002012000800024

NANDA INTERNACIONAL (Org). Diagnósticos de enfermagem da NANDA:definições e classificação 2012-2014 / [NANDA International]; tradução: Regina Machado Garcez; revisão técnica: Alba Lucia Bottura Leite de Barros ... [et al.]. – Dados eletrônicos. – Porto Alegre: Artmed, 2013. Available online at: <https:// enfer magemumarofissaodeamor.files.wordpress.com/2015/06/diagnc3b3stico-de-enfermagem-da-nanda-2012-2014.pdf>

Nunciaroni AT, Gallani MCBJ, Agondi R de F, Rodrigues RCM, Castro LT. Caracterização dos diagnósticos de enfermagem de pacientes internados em uma unidade de cardiologia. Revista Gaúcha de Enfermagem [Internet]. 2012 Mar; 33(1):32–41. Available from: http://dx.doi.org/10.1590/s1983-14472012000100005

Oliveira MF, Silva LDF da. Enfermagem em laboratório de hemodinâmica: diagnóstico e intervenção fundamentados na Teoria da Adaptação de Roy. Revista Eletrônica de Enfermagem [Internet]. 2010 Dec 31;12(4). Available from: http://dx.doi.org/10.5216/ree.v12i4.8325

Pereira J de MV, Cavalcanti ACD, Santana RF, Cassiano KM, Queluci G de C, Guimarães TCF. Diagnósticos de enfermagem de pacientes hospitalizados com doenças cardiovasculares. Escola Anna Nery [Internet]. 2011 Dec;15(4):737–45. Available from: http://dx.doi.org/10.1590/s1414-81452011000400012

Silva V, Cavalcanti AC, Guimarães TC, Pereira J, Veras RC, Souza R. Diagnoses, interventions and nursing results for child with congenital heart disease: integrative revision. Revista de Pesquisa: Cuidado é Fundamental Online [Internet]. 2014 Jul 1;6(3):1276–87. Available from: http://dx.doi.org/10.9789/2175-5361.2014v6n3p1276

Teniza ND; Domínguez BA; Puntunet, BML. Cuidado enfermero dirigido a la persona con estenosis aórtica. Revista Mexicana de Enfermería Cardiológica, [s.l.], v. 18, n. 3, p.71-81, dez. 2012. Available online at: <http://www.medigraphic.com/pdfs/enfe/en-2010/en103e.pdf>.

****