Cardiology and Angiology: An International Journal

9(2): 1-9, 2020; Article no.CA.54123
ISSN: 2347-520X, NLM ID: 101658392

Nursing Diagnoses in Heart Failure: Integrative Review

Daniele Melo Sardinha[1*], Leila de Massena e Neiva Assis[2], Alexsandro Soares Amoedo[2], Katia Regina de Oliveira Gonçalves[2], Renato Hugo Dias Melo[2], Cassia Andreia Silva Lima[2], Jessica da Silva Ferreira[3], Jaqueline Cristina da Silva Belém[3], Jaqueline Dantas Neres Martin[4], Gabriel Fazzi Costa[5], Aurenice Monteiro Pinto Gualdez[5] and Alziney Simor[6]

[1]Department of Epidemiology and Health Surveillance, Institute Evandro Chagas – PPGEVS (IEC/SVS/MS), Ananindeua, Pará, Brazil.
[2]Department of Cardiology, Integrated Faculty of the Amazon (FINAMA), Belém, Pará, Brazil.
[3]Department of Nursing, University of the Amazon (UNAMA), Belém, Pará, Brazil.
[4]Department of Nursing, State University of Pará (UEPA), Belém, Pará, Brazil.
[5]Department of Nursing, Metropolitan University Center of the Amazon (UNIFAMAZ), Belém, Pará, Brazil.
[6]Department of Nursing, Integrated Faculty of the Amazon (FINAMA), State University of Pará (PPGENF/UEPA), Belém, Pará, Brazil.

Authors' contributions

This work was carried out in collaboration among all authors. Authors DMS and AS designed the study, performed data collection and analysis, wrote the protocol and wrote the first draft of the manuscript. Authors LMNA, ASA, KROG, RHDM, CASL, JSF, JCSB, JDNM, GFC and AMPG managed the analysis of the study. All authors read and approved the final manuscript.

Article Information

DOI: 10.9734/CA/2020/v9i230129
Editor(s):
(1) Professor, Stefano Omboni, Clinical Research Unit, Italian Institute of Telemedicine, Solbiate Arno, Italy.
Reviewers:
(1) Awofadeju Stephen Olajide, Obafemi Awolowo University Teaching Hospitals, Nigeria.
(2) Debarshi Kar Mahapatra, Dadasaheb Balpande College of Pharmacy, India.
(3) Arthur N. Chuemere, University of Port Harcourt, Nigeria.
Complete Peer review History: http://www.sdiarticle4.com/review-history/54123

Mini-review Article

Received 20 November 2019
Accepted 24 January 2020
Published 08 February 2020

ABSTRACT

Heart Failure is characterized by a complex clinical syndrome in which the myocardium has an inability to adequately pump blood to meet tissue metabolic needs, or can do so only at high filling pressures. Thus, the aim of this study is to describe the Nursing Diagnostics in patients with Cardiac

**Corresponding author: E-mail: danielle-vianna20@hotmail.com;*

Failure described in the scientific literature. It is a descriptive, exploratory study, with a qualitative approach, in the modality Integrative Literature Review. In Latin American and Caribbean Literature in Health Sciences and PubMed databases, including original articles, case studies and systematic review, in Portuguese, English and Spanish, published from 2014. Tabulation was used for data collection and analysis. Seven articles were searched and the following nursing diagnoses were highlighted: Harmful Comfort; Acute Pain; Disposition to Improve Comfort; Decreased Cardiac Output; Excessive Liquid Volume; Ineffective Respiratory Pattern; Intolerance to Activity; Fatigue; Anxiety; Sexual Dysfunction; Disabled Knowledge; Ineffective Cardiopulmonary Tissue Perfusion. It was concluded that heart failure is a complex pathology and that the use of the systematization of nursing care only enhances the quality of service and benefits the patient, because from the nursing diagnostcs it is possible to prescribe evidence-based interventions.

Keywords: Heart failure; nursing diagnosis; nursing care.

1. INTRODUCTION

Heart Failure (HF) is characterized by a complex clinical syndrome in which the myocardium has an inability to adequately pump blood to meet tissue metabolic needs, or can do so only at high filling pressures. This condition can be caused by structural or functional cardiac changes and presents by characteristic signs and symptoms, which result from a reduction in cardiac output and/or high filling pressures at rest or on exertion [1].

The clinical presentations of classical HF have an impact on fluid retention, causing edema in the lower limbs and fatigue and the respiratory system presents dyspnea, changes and difficulties for inspiration and expiration. Moreover, it can be followed by signs such as high jugular venous pressure, lung crackling. However, this condition only involves stages in which clinical symptoms are apparent, patients can still present functional and/or structural cardiac abnormalities and be asymptomatic [2].

HF is a cardiovascular disease usually of the final route, i.e., it is severe and represents the first cause of hospitalization of individuals >60 years in Brazil, with high mortality rates. In the world about 2 million new cases appear each year, reaching 23 million carriers of HF. Explained by the epidemiological transition, in which we have more and more elderly, but with the presence of chronic diseases, including HF [3].

Also influencing, for its higher prevalence, advances in the treatment of Acute Myocardial Infarction (AMI), Systemic Arterial Hypertension (SAH) and even HF, which increase survival and, consequently, promote an increase in its prevalence. The presence of comorbidities associated with HF only worsen the prognosis, such as Atrial Fibrillation (AF) which affects 20 to 30% of patients with HF, Renal Insufficiency (IR) which reaches 29.6% and lung diseases, increase mortality [4].

It stands out in a study on predictors of mortality in HF, showing that age, anemia, tuberculosis, HIV virus carrier, kidney inefficiency, diabetes, hypertension and sinusitis significantly influence the increased mortality in these patients [5].

The diagnosis is made through the performance of Transthoracic Echocardiography, an ultrasound imaging examination, which allows the visualization of anatomical structures, evaluation of left and right systolic ventricular function, diastolic function, parietal thicknesses, size of the cavities, valve function, non-invasive hemodynamic estimation and pericardial diseases, as well as measuring the volume of ejection of the ventricles, being possible to identify the insufficiency in the ejection process [1].

The main drugs for the treatment of HF: angiotensin II converting enzyme inhibitors (ACEI) that act by reducing the formation of angiotensin II and accumulating bradycinine, commonly, are the drugs of first choice, taking into account the various causes of HF. It is noteworthy that ACEI are the best option for treatment, because studies show the reduction of mortality and hospitalization in patients using ACEI, compared with other drugs [6].

In relation to other classes of drugs, among them, the Betas blockers (BB) act in the antagonism of sympathetic activity, causing clinical improvement and ventricular function. Angiotensin II receptor blockers (ARBs) inhibit receptors and, therefore, promote a decrease in

the levels of aldosterone and catecholamines, leading to arterial vasodilation with a consequent reduction in peripheral vascular resistance. The aldosterone antagonists, once inhibiting this substance, prevent its damage such as myocardial fibrosis, stiffness and cardiac dysfunction. Diuretics increase urinary sodium excretion and consequently decrease clinical signs of water retention, consequently improving symptoms and exercise tolerance [7].

In the context of the HF, this study highlights the professional Nurse and his performance before the HF. The Nurse is included in all levels of health care, because his work is essential for health promotion and education, early diagnosis, treatment and rehabilitation of the population [8].

The care prescribed by the Nurse is supported by the Theories of Nursing, from a systematized process, the Systematization of Nursing Care (SNC), which qualifies the service as science. The SNC establishes the steps for the care plan, which is called Nursing Process, composed by 6 stages: 1 - Nursing History and Anamnesis (consists of collecting data to identify nursing problems based on nursing theories); 2 - Nursing Diagnosis (interpret the problems identified and draw a diagnosis for each, using the taxonomy of Nursing Diagnosis of Nanda International (NANDA-I); 3 - Assistance Plan (to establish interventions for each diagnosis); 4 - Nursing Interventions (to realize the care); 5 - Expected Results (to set goals for each diagnosis, establish deadlines); 6 - Evaluation (to determine the effectiveness of the service and clinical evolution [9].

Thus, based on the complexity of HF, it is important to highlight how the nurse acts in face of this pathology, and the following research question emerged: What are the Nursing Diagnostics in patients with Heart Failure described in the scientific literature? Aiming to Describe the Nursing Diagnosis in Heart Failure patients described in the scientific literature.

2. MATERIALS AND METHODS

This research is a descriptive, exploratory study, with qualitative approach, in the modality Integrative Literature Review (ILR). It is possible in ILR to gather studies already published and synthesize evidence on the subject studied, very useful for health professionals, because it provides the identification of treatments and innovations, favoring evidence-based practice, ensuring quality of service [10].

This review method establishes 6 steps: 1 - Preparation of the research question, 2 - Establishment of criteria for inclusion and exclusion of studies/sampling or literature search, 3 - Definition of the information to be extracted from the selected studies/ categorization of the studies, 4 - Evaluation of the studies included in the integrative review, 5 - Interpretation of results, 6 - presentation of the review/knowledge synthesis [11].

The research question and the selection of the articles was subsidized through the PICO strategy, a procedure best described in Table 1. This tool is essential to assist in bibliographic research and to support the choice of scientific articles based on evidence-based practice [12]. Thus, it was elected as a research question: Which are the Nursing Diagnostics in Heart Failure patients described in the scientific literature?

In order to carry out the research, the Latin American and Caribbean Literature in Health Sciences (LILACS) and PubMed databases were searched. For inclusion criteria, original articles, case studies and systematic review, in Portuguese, English and Spanish, published in the time limit, from 2014 to 2019, were defined. Excluding integrative review studies, dissertations, theses and experience reports.

Table 1. Description of the PICO strategy, Belém-Pa, Brazil, 2019

Acronym	Description	Analysis
P	Patient	Adult patient with heart failure
I	Intervention or indicator	Nursing diagnostics
C	Comparison or control	Nursing diagnoses in heart failure patients
O	Outcomes	Quality of care from nursing diagnoses.

Source: Authors' research

The following health descriptors were selected for the search: Heart Failure; Nursing Diagnosis; Nursing Care. It was also used to facilitate the effective search, the Bolean operator and, crossing the and with the descriptors. From the search using all the mentioned criteria, the sample was selected, based on the articles that fit the inclusion criteria and that answered the search question.

For data collection, we chose to use the tabulation, as the following information was included: article number, authors, title, database, year, methodology and nursing diagnoses evidenced. The tabulation allowed data collection and organization. Thus, it was possible to make a descriptive analysis of the tabulated data and to highlight the Nursing Diagnosis evidenced in the studies included in this review.

3. RESULTS

After the search with the descriptors Heart Failure AND Nursing Diagnosis AND Nursing Care, at LILACS resulted in 18 articles, and 6 articles were included for the study. In the PubMed database the search resulted in 490 articles, but only 1 was included. Thus the sample resulted in 7 articles. See the search steps in Fig. 1.

After defining the sample in 7 articles, the authors carried out the tabulation, prepared by the authors, for the organization of the data in which they compose the following data: number of the article, authors, title, database, year, methodology and nursing diagnoses evidenced. Thus, the data were presented in Table 2.

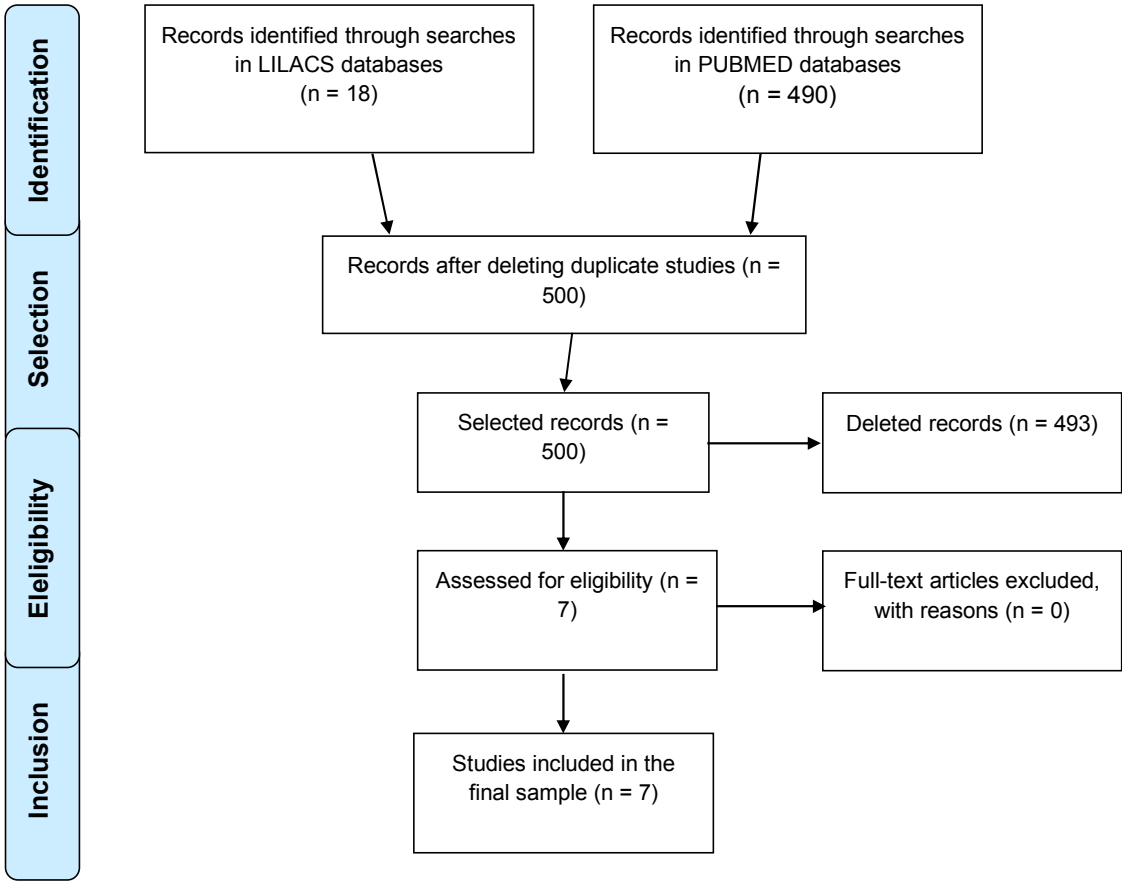

Fig. 1. Flowchart of the selection of studies according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2009). Belém (PA), Brazil, 2019
Source: Authors' Research

Table 2. Information extracted from the sample and organized in tabulation, performed the searches in August, Belém-PA. Brazil, 2019

Nº Title Year/Base	Authors	Methodology	Nursing diagnoses evidenced
1 – Nursing process in the comfort of the patient with heart failure at home2015 LILACS	Silva FVFD, Silva LDFD, Rabelo ACS.	Clinical case study, by the Home Monitoring Program of a state public hospital, located in Fortaleza (Ceará, Brazil), in July 2013.	Comfort Harmful. Acute pain. Willingness to improve Comfort.
2- Nursing Diagnostics Applied to Patients with Decompensated Heart Failure 2016 LILACS	Galvão PCDC, et al.	Quantitative, in cardiological emergency room in 2014 to February 2015. Composed of 62 patients admitted for decompensated heart failure.	Decreased Cardiac Output. Excessive Liquid Volume. Ineffective Respiratory Standard. Intolerance to activity.
3- Diagnostics and nursing interventions for the person with Heart Failure Decompensated 2016 LILACS	Sousa MM, Araújo AA, Freire MEM, et al.	Clinical case study. In an intensive care unit. NANDA Diagnostics and Nursing Interventions.	Ineffective Respiratory Standard. Decreased Cardiac Output. Fatigue.
4 – NANDA International Nursing Diagnostics Association with hospitalization and death with Cardiac Failure 2019 LILACS	Costa MB, et al.	A cohort study, retrospective with clinical data collection in 102 medical records, in a specialized clinic, Niteróii-RJ.	Anxiety. Sexual dysfunction. Intolerance to Activity. Fatigue. Disabled Knowledge.
5 - Risk prediction and diagnostic accuracy in inpatients with decompensated heart failure: cohort study 2019 LILACS	Ernandes CM, et al.	Cohort study with data collection in 623 medical records of a public university hospital from 2013 to 2017.	Decreased Cardiac Output. Excessive volume of liquids. Respiratory pattern Ineffective. Ineffective cardiopulmonary tissue perfusion.
6 - Nursing diagnoses of hospitalized patients with heart failure: a longitudinal study 2016 LILACS	Pereira JDMV, et al.	A longitudinal and prospective study, 171 patients hospitalized for three weeks by specialist nurses for diagnostic inference.	Decreased Cardiac Output. Intolerance to Activity;
7 - Fatigue and Depression Diagnostic Associations with the Use of Medical Services in Heart Failure Patients 2019 PubMed	Heo S, et al.	The patients (N = 582) were divided into 2 groups based on the FEVE (<40%, reduced LVEF; ≥40%, preserved FEVE). Multiple linear regression analyses were used to analyze the data.	Fatigue.

Source: Authors' Research

The tabulation allowed viewing information regarding the profile of selected articles, as well as the Nursing Diagnosis in HF patients reported in the articles.

On the profile of the articles, (7) articles compose the sample, predominating (6) articles from the LILACS database, and only (1) from PubMed. Regarding the year of publication (3) articles from 2019, (3) from 2016 and only (1) from 2015, showing that the studies included are very current, taking into account those from 2019. Regarding methodology, all present field research, being performed directly with patients or in secondary data that in this case were medical records.

For the Nursing Diagnosis in patients with HF, it is highlighted those evidenced in studies included: Harmful Comfort; Acute Pain; Disposition to Improve Comfort; Decreased Cardiac Output; Excessive Liquid Volume; Ineffective Respiratory Standard; Intolerance to Activity; Fatigue; Anxiety; Sexual Dysfunction; Disabled Knowledge; Ineffective Cardio-pulmonary Tissue Perfusion.

4. DISCUSSION

It was identified that patients with HF present several Nursing Diagnosis (ND), either because of the symptoms of the pathology or the repercussions on personal and social life. The first ND to be discussed were evidenced in this review, the Comfort Harmful and Disposition to Improve Comfort.

In the studies of Araújo, Nóbrega and Garcia [13], on ND in patients with HF, also identified the Comfort Harmful ND in the participants, corroborating with the results of this study. Being caused by physical conditions and limitations of exercise because of HF, since the pathology causes edema and restricts daily and physical activity, related to low cardiac output, and causing overload in the already weakened heart. Therefore, these are factors that cause discomfort in these patients.

In nursing interventions, they are based on promoting comfort measures such as support, hope and encouragement. It is also necessary to orientate about the pathology, in relation to physiopathology, symptoms, treatment and care in relation to limitations, so that the patient knows his condition and acquires security in relation to his attitudes. If these interventions are still adequate for another ND evidenced, the Deficient Knowledge [14].

Melo [15] conducted a survey specifically on the poor knowledge in hospitalized patients with HF, totaling 72, and found that more than 70% did not know about the disease and basic care, and this factor is a cause of aggravation, because the lack of knowledge interferes with adherence to treatment and causes another ND to Anxiety, which was also evidenced in this review, related to complications and limitations, which often could be minimized if the patient knew what attitude to take in relation to HF.

Another ND evidenced in this study was acute pain, but more common in advanced HF cases, because the respiratory symptoms are more evident, such as dyspnea and consequently chest pain. Going against this result the research of Rocha [16], in which he evaluated ND in 28 patients with HF, and acute pain had a prevalence of 57%, being characterized by the report of patients. Thus, the nurse should draw as interventions, apply the analog pain scale, perform prescribed analgesics, as well as doses if necessary, and also provide comfort and pain relief through changes in positions, i.e., the semifowler position usually relieves pain, control the environment.

It was also shown in this study that the Decreased Cardiac Output was much reported in the included articles. It is characterized by low left ventricular ejection fraction, caused by the pathology and presents high risk of complications and death. Cavalcanti and Pereira [17] carried out a review study on ND in HF, which included 24 articles, and had a prevalence of 58% of SD Decreased Cardiac Output, also highlights that this ND is the result of decompensation of HF.

For the interventions of Nursing in Decreased Cardiac Output, it stands out: Observe signs of systemic vascular resistance (signs of decompensated shock); hear heart sounds and respiratory sounds; evaluate peripheral pulses every two hours or if signs of decompensation occur; observe presence of cold and sticky skin. It is shown that the interventions aim to prevent cardiogenic shock, the main complication that can lead to death [18].

As a consequence of HF, it also showed the Excessive Liquid Volume, characterized by dyspnea, orthonea, edema, positive hepatojugular reflux, nocturnal paroxysmal

dyspnea, pulmonary congestion and high central venous pressure related to compromised regulation mechanisms, excessive fluid and sodium ingestion. Confirming in their study Gonçalves and Pompeo [19] that analyzed the ND in patients with cardiovascular diseases and showed that the ND Excessive Liquid Volume was prevalent in patients specifically with HF. For interventions, control of fluid intake should be performed, prescribed diuretics should be administered, fluid balance should be performed, anthropometric measurements should be performed daily, vital signs should be checked, signs of respiratory hypoxia, anasarche and tachycardia should be observed.

The Ineffective Respiratory Standard diagnosis was also highlighted in this review, characterized by dyspnea, related to pulmonary congestion due to HF. In which Araújo et al. [13] also evidenced in their studies with patients with HF, that the Ineffective Respiratory Pattern has a direct relationship with Excessive Liquid Volume and Ineffective Cardiopulmonary Tissue Perfusion, so interventions should be: Assist in arterial puncture for diagnostic tests; Evaluate respiratory perfusion ventilation; Maintain bed elevation at 90º; Maintain patent airway; Monitor level of consciousness, blood pressure, pulse, temperature and respiratory pattern; examine lung conditions through auscultation; perform strict water control to reduce signs of lung congestion; monitor the administration of oxygen therapy. These are basic measures to provide comfort and patient monitoring.

In this review, the activity, characterized by dyspnea to effort, related to HF was also highlighted. As this diagnosis is prevalent in advanced HF, for example in decompensated HF, still being related to another diagnosis the Decreased Cardiac Output, thus the interventions are basically associated. A survey evaluated 25 patients with decompensated HF, and all presented the activity Intolerance, with direct relation to the Decreased Cardiac Output also prevalent in all participants [20].

The diagnosis of Sexual Dysfunction in the patient with HF was also evidenced. According to Stein and Hohmann [21] cardiovascular diseases affect the sexual activity of carriers and is also related as a complicating factor. Explained based on two factors; 1) the cardiac diagnosis and all the psychological consequences that such "marks" cause, such as anxiety, fear of death, restriction in physical activity; 2) the obligation to use various medications with potential adverse effects that impair sexual performance.

About the Fatigue diagnosis, it was highlighted in the articles included in this review, being characterized by dyspnea and decreased ejection fraction. Thus, it causes mainly limitations in daily activities, caused by Decreased Cardiac Output. Thus, fatigue affects the daily activities of the patient with HF and the recommendations are rest, because effort activities must be avoided in order to minimize myocardial overload. Thus, fatigue causes psychosocial complications, as it prevents patients from performing their daily and leisure activities [22].

In a study on nursing diagnoses of heart failure caused by Chagas' disease, its results were similar to that of this study, because it highlighted: decreased cardiac output; Intolerance to Activity; Insufficient knowledge; Excessive volume of liquids; Comfort impaired. However, it evidenced the Risk of impaired skin integrity and impaired sleep and rest, which was not described in this study [23].

For Sardinha [24], nursing care performed from the systematization of nursing care enhances the quality of service provided to the patient, because it allows individualized, systematized and sustained planning in nursing theories, thus, care is based on science. Diagnostics and nursing interventions have a direct impact on patient safety, ensuring that interventions will be designed according to individual needs, and are still evaluated daily, if they are impacting the patient's health, needing or not modifications during treatment, thus, this method only brings benefits to the service, nursing workers and patient.

It is also noted that HF associated with other comorbidities also requires care for other conditions, so several other nursing diagnoses and interventions would be included in care. Among the main associated comorbidities, hypertension, diabetes and chronic kidney disease, conditions that only worsen the prognosis of HF [25].

It is emphasized that from the identification of ND in HF, it is fundamental for the plan of care interventions of the nurse, as well as acting in the prevention of complications that would be irreversible. The limitation of this study in the PubMed database is still pointed out, because it was only possible to include an article in the sample, demonstrating that the international

studies are deficient in relation to SNC in the patient with HF.

5. CONCLUSION

It was possible in this review to achieve the proposed objective, describing the Nursing Diagnostics evidenced in patients with Cardiac Failure, which were related to symptoms of the disease, and which have great repercussions on the health of the patients and deserve attention. Thus, the application of the Systematization of Nursing Care in HF only provides quality in the care, because from the diagnoses drawn it is possible to prescribe the interventions based on scientific evidence, ensuring the safety of the patient and promoting the health of carriers.

It was concluded that HF is a complex pathology, which causes the presence of several Nursing problems, in which they have repercussions on basic human needs. Thus, the use of systematization of nursing care is paramount for scientific care and treatment of the patient, interventions are based on minimizing the complications related to HF, as well as on carrying out health education measures so that the carrier knows everything about his pathology and how to act within his limitations, as well as adherence to pharmacological treatment.

It is hoped that this study will provide nursing professionals with scientific subsidies for their work in relation to the HF carrier. As well as in the elaboration of strategies of promotion and education in health for academics and community.

CONSENT

It is not applicable.

ETHICAL APPROVAL

It is not applicable.

ACKNOWLEDGEMENTS

This study and the result of the conclusion of the course work in nursing in cardiology and hemodynamics, the authors thank Professor Alziney Simor for the orientation of the research, we thank the Amazon Integrated Faculty FINAMA for the support.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Rohde LEP, Montera MW, Bocchi EA, Clausell NO, de Albuquerque DC, Rassi S, et al. Brazilian guideline for chronic and acute heart failure. Arq Bras Cardiol. 2018; 111:436–539.
Available:https://doi.org/10.5935/abc.20180190
2. Freitas AKE de, Cirino RHD. Outpatient management of chronic heart failure. Rev Médica Da UFPR. 2017;4:143–6.
Available:https://doi.org/10.5380/rmu.v4i3.
3. Gaui EN, Klein CH, De Oliveira GMM. Mortality due to heart failure: Extended analysis and temporal trend in three states of Brazil. Arq Bras Cardiol. 2010;94:52–8.
Available:https://doi.org/10.1590/S0066-782X2010000100010
4. Poffo MR, Assis AV de, Fracasso M, Filho OML, Alves SM de M, Bald AP, et al. Profile of Patients Hospitalized for Heart Failure in Tertiary Care Hospital. Int J Cardiovasc Sci. 2017;30:189–98
Available:https://doi.org/10.5935/2359-4802.20170044
5. Berarti M, Goshu A. Factors influencing the risk of death among patients with heart failure. Cardiol Angiol An Int J. 2015;4: 65–79.
Available:https://doi.org/10.9734/ca/2015/17793
6. Makki N, Blevins AM. Heart failure with preserved ejection fraction and therapeutic approaches: A systematic review and meta-analysis. Cardiol Angiol An Int J. 2014;2:332–46.
Available:https://doi.org/10.9734/ca/2014/11641
7. Stuchi RAG, Lucas TC, Arreguy-Sena C, Cordeiro CAF. Heart failure and difficulties in treatment adherence. Rev Enferm Do Centro-Oeste Min. 2017;7:1862–971.
Available:https://doi.org/10.19175/recom.v7i0.1871
8. Roecker S, Nunes E de FP de A, Marcon SS. The educational work of nurses in the family health strategy. Texto Context - Enferm. 2013;22:157–65.
Available:https://doi.org/10.1590/S0104-07072013000100019
9. Tannure MC, Pinheiro AM. SAE Systematization of nursing care: A practical guide. 3rd ed. Rio de Janeiro. 2015;3.
10. Ercole FF, Melo LS de, Alcoforado CLGC. Integrative review versus systematic

review. Reme Rev Min Enferm. 2014;18: 9–12.
Available:https://doi.org/10.5935/1415-2762.20140001

11. Mendes KDS, Silveira RC de CP, Galvão CM. Integrative literature review: A research method to incorporate evidence in health care and nursing. Texto Context Enferm. 2008;17:758–64.
Available:https://doi.org/10.1590/S0104-07072008000400018
12. Santos CMDC, Pimenta CADM, Nobre MRC. The PICO strategy for the research question construction and evidence search. Rev Latino-Am Enferm 2007;15: 508–11.
Available:https://doi.org/10.1590/S0104-11692007000300023
13. Araújo AA de, Nóbrega M miriam L da, Garcia TR. Nursing diagnoses and interventions for patients with congestive heart failure using the ICNP®*. Texto & Contesxto Enferm. 2013;47:385–92.
14. Silva FVF da, Silva L de F da, Rabelo ACS. Hospice nursing comfort care for patients with heart failure. Aquichan. 2015; 15:116–28.
Available:https://doi.org/10.5294/aqui.2015.15.1.11
15. Melo FP De. Nursing diagnostics disabled knowledge in hospitalized heart failure patient. Escola de Enfermagem Aurora de Afonso Costa da Universidade Federal Fluminense; 2013.
16. Rocha LA Da. Clinical career care: relationship between NANDA diagnostics, Roy adaptive modes and NIC interventions. Universidade Estadual do Ceará; 2008.
17. Cavalcanti ACD, Pereira J de MV. Nursing diagnoses of patients with heart failure: An integrative review. Online Brazilian J Nurs. 2014;13:113–24.
Available:https://doi.org/10.5935/1676-4285.20143916
18. Sousa MM de, Araújo AA de, Freire MEM, Oliveira J dos S, Oliveira SH dos S. Nursing diagnoses and interventions for people with decompensated heart failure. J Res Fundam Care. 2016;4:2733–9.
Available:https://doi.org/10.9789/2175-5361
19. Gonçalves LWP, Pompeo DA. Application of the outcome-present state test model in patient with congestive heart failure. REME Rev Min Enferm. 2016;20.
Available:https://doi.org/10.5935/1415-2762.20160047
20. Pereira J de MV, Flores PVP. Figueiredo L da S, Arruda CS, Keila, Cassiano M, et al. Nursing Diagnoses of hospitalized patients with heart failure: A longitudinal study. Rev Esc Enferm USP. 2016;50:929–36.
21. Stein R, Hohmann CB. Sexual activity and heart. Arq Bras Cardiol. 2006;86:61–7.
Available:https://doi.org/10.1590/S0066-782X2006000100010
22. Costa MB, Silva GM Da, Pereira JDMV, Figueiredo LDS, Cordeiro RG, Flores PVP, et al. Association of international NANDA nursing diagnoses with hospitalization and death in heart failure. Nurs São Paulo. 2019;22:2783–7.
23. Sardinha DM, Silva AGI Da, Carvalho DDNR De, Aguiar VFF De, Simor A. Nursing diagnostics in the chagas cardiomyopathy carrier: Integrative literature review. Cardiol Angiol An Int J. 2019;8:1–7.
Available:https://doi.org/10.9734/ca/2019/v8i430116
24. Sardinha DM, Costa GF, Cunha LC, Mafra INP, Silva MR da, Matos WDV de, et al. Nursing care in severe traumatic brain injury. Int J Adv Eng Res Sci. 2019;6: 432–8.
Available:https://doi.org/10.22161/ijaers.612.49
25. Cabeça ALL de C, Alves RMC, Ribeiro AC de C, Cabeça, Simões MC, Sardinha DM, et al. Clinical-epidemiological profile of end-stage chronic kidney disease in dialytic therapy in the State of Pará, Brazil. Int J Health Sci (Qassim). 2019;7:59–68.
Available:https://doi.org/10.15640/ijhs.v7n3a6

Peer-review history:
The peer review history for this paper can be accessed here:
http://www.sdiarticle4.com/review-history/54123