



Nursing Diagnostics in the Chagas Cardiomyopathy Carrier: Integrative Literature Review

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Authors' contributions

This work was carried out in collaboration among all authors. Author DMS designed the study, performed data collection and analysis, wrote the protocol and wrote the first draft of the manuscript. Authors AGIS, DNRC and VFFA managed the analysis of the study. All authors read and approved the final manuscript.

Article Information

DOI: 10.9734/CA/2019/v8i430116

Editor(s):

(1) Gen-Min Lin, Director of Division of Cardiology, Hualien-Armed Forces General Hospital, National Defense Medical Center, No.163, Jiali Rd, Hualien, Taiwan.

Reviewers:

(1) Debarshi Kar Mahapatra, Dadasaheb Balpande College of Pharmacy, India.

(2) Kassahun Gebeyehu Yazew, University of Gondar, Ethiopia.

Complete Peer review History: <http://www.sdiarticle4.com/review-history/52354>

Mini-review Article

Received 01 September 2019

Accepted 04 November 2019

Published 20 November 2019

ABSTRACT

Chagas' cardiomyopathy is a complication of Chagas' disease that presents in the cardiac form, which involves the manifestation of a clinical picture of dilated cardiomyopathy, with global left ventricular dysfunction and heart failure syndrome. In this context, the aim is to describe the Nursing Diagnosis evidenced in the literature in patients with Chagasic Cardiomyopathy. This is a descriptive and exploratory study of the Integrative Literature Review (ILR), with a qualitative approach. We searched the LILACS and PubMed databases for articles published without time limit, in Portuguese, English, and Spanish, with the descriptors: Chagasic Cardiomyopathy; Nursing Diagnosis; Nursing Care. Data were analyzed by tabulation. Three articles were sought for the sample. The following Nursing diagnoses were highlighted: Decreased Cardiac Output; Intolerance to Activity; Poor Knowledge; Sleep and Rest impaired; Anxiety; Excessive fluid volume; Risk of impaired skin integrity; and Comfort impaired. It is concluded that the diagnoses are directly related

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to heart failure caused by ventricular damage, and that interventions are essential for the improvement in the quality of life of patients. It is also noteworthy that the applicability of the Systematization of Nursing Care in these patients only improves the quality of service and has repercussions on patient safety, being also a way to promote the health of patients.

Keywords: Chagas cardiomyopathy; nursing diagnoses; nursing care.

1. INTRODUCTION

The Chagas disease (CD) is a pathology of infectious origin, in which it presents in the acute or chronic phases, and is still considered by the World Health Organization (WHO) as a neglected disease. It is related to low income and education, and in endemic countries it has a high morbidity and mortality rate, including in Brazil, with focal expression in unequal epidemiological contexts. The spatial distribution of the disease is primarily concentrated in the American continent due to the presence of more than 140 species of the insect vector (Triatominae, Hemiptera, and Reduviidae), also considered as "American trypanosomiasis". However, CD has been presented in non-endemic countries, caused by the displacement of infected individuals and by other transmission mechanisms, as a result of the intense process of international migration in this decade [1].

In relation to epidemiology, the occurrence of cases and outbreaks by oral transmission, home vector without colonization and extradomiciliary vector, especially in the Legal Amazon. From 2007 to 2016, confirmed cases of acute Chagas disease were reported in most Brazilian states, representing an annual average of 200 cases. The largest distribution, about 95%, is concentrated in the Northern region, with the state of Pará being responsible for 85% of the cases. Of the main probable forms of transmission in the country, 69% were by oral transmission, 9% by vector transmission, and in 21% the form of transmission was not identified [2].

Transmission can occur in a variety of ways, including contact with the faeces and/or urine of hematophagous triatomines, ingestion of food contaminated with parasites from infected triatomines, maternal-fetal transmission, blood transfusion or organ transplantation, and laboratory accidents. After the contamination occurs an incubation period of 1 to 2 weeks (in oral transmission this period varies from 3 to 22 days), begins the acute phase, with an average of 8 to 12 weeks. It is characterized clinically by prolonged febrile syndrome related to high parasitemia, with few symptoms or asymptomatic

or oligosymptomatic. In addition, it may cause cardiac and central nervous system involvement, but severe forms of acute disease evolve in less than 1% of patients [3].

In the chronic phase the disease presents with low parasitemia, and are still classified in indeterminate form, that without clinical complications or symptoms, and the determined forms, which have cardiac or digestive affections or both, or neurological which is very rare. It is also noteworthy that 10 to 30% of carriers evolve to the determined forms, relating to the decrease in quality of life and morbidity and mortality [4].

In this context, it stands out for the forms determined with emphasis on cardiac complications. Chagas' cardiomyopathy involves the manifestation of a clinical picture of dilated cardiomyopathy, with global left ventricular dysfunction and heart failure syndrome. The Latin American Guidelines for the Diagnosis and Treatment of Chagas' Cardiopathy established a categorization for left ventricular dysfunction, which reflects the gradation of the evolutionary stages of heart failure followed in international guidelines for this syndrome. Thus, the chronic phase of CD with cardiomyopathy can be classified into 5 evolutionary stages (A, B1, B2, C, and D) of left ventricular dysfunction. Sudden death and the progress of heart failure (HF) are the most common mechanisms that cause death. The most pronounced prognostic aspects are symptoms of advanced HF, cardiomegaly, LV systolic dysfunction, and non-sustained ventricular tachycardia, characterizing a severe condition and presenting high mortality [5].

The patient needs specialized outpatient follow-up to minimize and control the complications that can be modified, being assisted by a multiprofessional team, with the objective of monitoring, treatment and monitoring the progression, in decompensated cases the patient must be hospitalized. In this perspective, the professional Nurse stands out, who works based on Nursing Theories, through the Systematization of Nursing Assistance, which is an instrument for nursing care to be applied through scientific evidence, and which traces Nursing Diagnosis (ND) for each problem

evidenced based on the Nursing Theories. The ND are performed with the help of the North American Nursing Diagnosis Association" (NANDA), from the ND tracings the nurse prescribes interventions for each one, with the objective of promoting health, preventing injuries, assisting in treatment and rehabilitation [6].

Thus, Chagas' cardiomyopathy is a serious condition that affects the quality of life of the patient, with high chances of evolving to death. Thus, the following research question emerged: what are the Nursing Diagnoses evidenced in the literature in patients with Chagasic Cardiomyopathy. Then, the objective is to describe the Nursing Diagnostics evidenced in the literature in patients with Chagasic Cardiomyopathy.

2. MATERIALS AND METHODS

This research is an integrative literature review (ILR), descriptive and exploratory, with a qualitative approach. For Soares et al. [7] the RIL is a form of research that allows reviewing, criticizing and synthesizing the representative literature on a topic or subject in an integrated manner and capable of generating new approaches and perspectives on the revised subject. This method should be followed in stages: 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 selected studies/ categorization of studies, 4 - Evaluation of studies included in the integrative review, 5 - Interpretation of results, 6 - presentation of the review/ synthesis of knowledge [8].

From the elaboration of the research question: which are the Nursing Diagnoses evidenced in the literature in patients with Chagasic Cardiomyopathy, the databases used for the research were listed. It was sought in Latin American and Caribbean Literature on Health Sciences (LILACS) and PubMed. It includes original articles, case reports, theses, dissertations and review, with no time limit, in English, Portuguese, and Spanish. Incomplete research and abstracts were excluded.

The search was performed using the descriptors: Chagas' cardiomyopathy; Nursing diagnoses; Nursing care; and crossing the searches with the Boolean operator AND. For the collection and organization of data, it was opted for the tabulation, elaborated by the authors containing

the following information: article number, authors, title, databases, year, methodology, and Nursing Diagnosis highlighted in the studies.

For the data analysis, in the first step after the selection of the sample, the data in the table was organized and deepened in the reading, with the objective of highlighting the ND reported in each study, and includes in the tabulation, being a simple descriptive analysis, which from the organization of the data in the Table was possible to show the ND evidenced in the studies, and thus selected for discussion.

3. RESULTS AND DISCUSSION

From the search with the selected descriptors, the LILACS database resulted in 9 articles, and after reading only 3 studies were included for the sample. In PubMed, the search showed 39 articles, but after reading the abstracts it was not possible to include any for the sample, because they did not answer the research question. Thus, three articles were included in the sample of this review. See below the table for the information extracted.

Regarding the profile of the articles, all used as methodology the Systematization of Nursing Care to highlight the ND in the patient with Chagasic Cardiomyopathy, 1 study conducted the research with 30 patients and 2 with only one patient, being a case study, but the 3 articles highlighted the ND. The year of publication was very discrepant between one and the other, such as the 1st of 1990, 2nd of 2010, and 3rd of 2018. It was also shown the limitation to this research, because even with the inclusion criterion for study published without time limits, it was only possible to include 3 studies in the sample, showing the lack of these studies in relation to the theme with focus on ND.

From the organization in the Table, it was possible to highlight the ND evidenced in the studies that were: Reduced Cardiac Output; Intolerance to Activity; Deficient knowledge; Sleep and Rest impaired; Anxiety; Volume of excessive liquid; Risk of impaired skin integrity; and Harmful Comfort.

Chagas' cardiomyopathy is a cardiac complication of CD considered severe and that its repercussions cause an impact on the quality of life and mortality of patients. Complications can cause: Arrhythmias, Cardiac Insufficiency. Thus, the main ND are related to the symptoms of the complications that cardiomyopathy causes.

Table 1. Information collected from the sample and organized in tabulation, performed the searches in August, Belém-PA. Brazil, 2019

Number, title year/base	Authors	Methodology	Nursing diagnoses evidenced in the studies
1 – Nursing diagnoses in hospitalized patients due to chronic chagasic cardiomyopathy 1990 LILACS	CRUZ, DALM. ARCURI, EAM.	A study was conducted with 30 patients admitted to three hospitals in São Paulo, from the interview, physical examination and medical records.	Decreased cardiac output. Intolerance to Activity. Deficient knowledge. Sleep and Rest impaired.
2- Nursing care for clients with chagasic cardiomyopathy: a case study 2010 LILACS	Moreira NS, Almeida GN, Oliveira JG.	This was a qualitative research of descriptive nature of the type case study.	Decreased cardiac output; Anxiety.
3- Nursing diagnoses of the nanda of a patient with chagasic cardiomyopathy: a case study 2018 LILACS	SOARES et al.	The study was carried out in a public hospital, in the city of Recife-PE, where the medical history and physical examination of F.M.D., male, 42 years old, was performed and lives in Afogados da Ingazeira.	Excessive liquid volume; Risk of impaired skin integrity. Comfort impaired.

Source: Authors' research, 2019

The first ND evidenced in this review was decreased cardiac output, related to low ventricular ejection, related to left ventricular dilation. Cardiac insufficiency is a severe complication of CD, because due to left ventricular dysfunction, the ventricle pumps less blood than it should, thus emerging the main symptoms of HF, such as dyspnea, limb edema, and fatigue. For the interventions in this ND, it is based on: evaluating vital signs, observing signs of hypoxia, low perfusion, cardiogenic shock, oxygen saturation oxygen fluid balance, fluid restriction, and adherence to pharmacological treatment [9].

Another ND evidenced in this study was the Excessive Liquid Volume, characterized by dyspnea and edema. Thus, this ND is also directly related to decrease cardiac output, and requires interventions in conjunction with this ND, which are based on: lower limb elevation, use of diuretics, hydric restriction, avoidance of physical effort, weight control, hydric balance, and guidance in relation to adequate pharmacological therapy [10].

It also showed that ND Activity Intolerance was reported in patients, characterized by limitation of activities, related to low ventricular ejection. In

patients with low ventricular ejection, the performance of daily activities is limited, because the basic daily activities demand the use of oxygen by the cells, especially the myocardium, so in low ejection the oxygen demand is reduced and causing tiredness and fatigue in patients. For the interventions, the same measures of decreased cardiac output are basically performed, because the main cause is related to this ND.

The Harmful Comfort was also highlighted in these patients, characterized by limitations of daily activities related to Cardiac Failure. Thus, the symptoms again affect the quality of life of the patient, interfering even in comfort. The interventions should be: oriented as to their limitations, guide everything about the pathology, guide as to pharmacological therapy, seek positions that improve comfort, guide on leisure practices that cause no effort, promote support, hope, and encouragement [11].

One of the articles in the sample also showed the risk of impaired skin integrity, related to cardiovascular disease edema. Thus, edema in this condition is caused by decreased venous return due to low ejection fraction and low venous pressure. Thus, the skin in this condition

presents greater fragility, because the elasticity is impaired and causes a decrease in thickness, increasing the risk of injury by pressure and trauma. For interventions, light walking is recommended to stimulate venous return, elevation of the lower limbs, adherence to pharmacological therapy, fluid restriction, skin hydration, and comfort massages [12].

Sleep and impaired rest were also reported in the studies, which are characterized by interruptions in sleep, related to dyspnea, and frequent diuresis. Symptoms such as nocturnal dyspnea, related to dorsal position, cause discomfort for sleep and rest of the carrier, and pharmacological therapy with the use of diuretics stimulates a higher frequency of diuresis, and is also a factor to interfere in the appropriate sleep pattern. Guidance should be given when the diuretic intake during the morning, because the effects during the night will be reduced, as well as the low water intake only during the night, with the aim of reducing urinary output during sleep. In relation to dyspnea in dorsal decubitus, it is recommended the elevation of 30° degrees of the chest, can be performed with the use of two pillows, because this position improves the thoracic expansion and consequently minimizing the respiratory discomfort [13].

The ND Deficient Knowledge and Anxiety were also described, they are ND related, because the lack of knowledge is linked to anxiety. However, the complications and limitations that the pathology causes have repercussions on feelings of anxiety that can cause other psychological conditions. Deficient knowledge, on the other hand, has repercussions on the appropriate care that the patient should provide to minimize symptoms, such as adherence to pharmacological therapy, hydric restriction, limitations to activities, etc. for interventions, should guide the patient in relation to the pathology, such as complications, limitations and basic daily care with health, adherence to treatment, and explaining the harmful effects of non-adherence. When the patient knows all the stages of his pathology, he tends to influence treatment adherence and the implementation of preventive measures in order to minimize more serious complications [14].

The applicability of Systematization of Nursing Care in patients with Chagas' cardiomyopathy becomes essential for qualified care, so the nursing diagnoses provide greater scientificity in nursing care, and the interventions discussed

applied have a direct impact on improving the quality of life of these patients.

It is also noteworthy that this study presented limitations in relation to the search for articles, because it showed the low inclusion of articles that address the Systematization of Nursing Assistance and Nursing Diagnosis in patients with Chagasic cardiomyopathy, emphasizing that the lack of studies focused on this theme is very large, and that it was necessary to include an article published in 1990, because it was the only one that conducted the research that several patients, the others were case studies, so from this observation we chose to include it in this review. Thus, it is emphasized that there is a need for research on the subject, since the epidemiology shows that cases of Chagasic Cardiomyopathy increase and are related to higher mortality and decreased quality of life of patients.

4. CONCLUSION

Through this study it was possible to describe the main Nursing Diagnoses presented by patients with Chagasic Cardiomyopathy, but showed that the ND are specifically related to cardiac complications, such as Cardiac Failure, which is the main complication caused by damage to the ventricles, so it was also discussed about the main nursing interventions applied to each ND.

Nursing care based on the Systematization of Nursing Care only ensures the quality of care and service, impacting on patient safety, since it is a respective process and based on Nursing Theories, making it a scientific and evidence-based care. Thus, the use of nursing systematization should be emphasized for the applicability of care in patients with Chagasic Cardiomyopathy.

It is hoped that this study will provide the literature with knowledge for nursing professionals about the care of patients with Chagas' cardiomyopathy, thus offering evidence based on reliable scientific bases, resulting in an improvement in the quality of service of these patients, as well as a way to promote the health of patients, influencing the improvement of the quality of life of these patients.

CONSENT AND ETHICAL APPROVAL

It is not applicable.

ACKNOWLEDGEMENTS

I would like to thank Professors Alziney Simor and Ana Gracinda Ignácio da Silva, who offered all the support in the orientation, for this study. I thank the co-authors and the Institution Faculdade Integrada da Amazônia FINAMA.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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Peer-review history:

The peer review history for this paper can be accessed here:
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