

Minireview Article

NURSING DIAGNOSTICS IN THE CHAGAS CARDIOMYOPATHY CARRIER: INTEGRATIVE LITERATURE REVIEW

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 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,

33 about 95%, is concentrated in the Northern region, with the state of Pará being responsible
34 for 85% of the cases. Of the main probable forms of transmission in the country, 69% were
35 by oral transmission, 9% by vector transmission, and in 21% the form of transmission was
36 not identified [2].

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38 Transmission can occur in a variety of ways, including contact with the faeces and/or urine of
39 hematophagous triatomines, ingestion of food contaminated with parasites from infected
40 triatomines, maternal-fetal transmission, blood transfusion or organ transplantation, and
41 laboratory accidents. After the contamination occurs an incubation period of 1 to 2 weeks (in
42 oral transmission this period varies from 3 to 22 days), begins the acute phase, with an
43 average of 8 to 12 weeks. It is characterized clinically by prolonged febrile syndrome related
44 to high parasitemia, with few symptoms or asymptomatic or oligosymptomatic. In addition, it
45 may cause cardiac and central nervous system involvement, but severe forms of acute
46 disease evolve in less than 1% of patients [3].

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

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

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67 The patient needs specialized outpatient follow-up to minimize and control the complications
68 that can be modified, being assisted by a multiprofessional team, with the objective of
69 monitoring, treatment and monitoring the progression, in decompensated cases the patient
70 must be hospitalized. In this perspective, the professional Nurse stands out, who works
71 based on Nursing Theories, through the Systematization of Nursing Assistance, which is an
72 instrument for nursing care to be applied through scientific evidence, and which traces
73 Nursing Diagnosis (ND) for each problem evidenced based on the Nursing Theories. The
74 ND are performed with the help of the North American Nursing Diagnosis Association"
75 (NANDA), from the ND tracings the nurse prescribes interventions for each one, with the
76 objective of promoting health, preventing injuries, assisting in treatment and rehabilitation [6].

77
78 Thus, Chagas' cardiomyopathy is a serious condition that affects the quality of life of the
79 patient, with high chances of evolving to death. Thus, the following research question
80 emerged: what are the Nursing Diagnoses evidenced in the literature in patients with
81 Chagasic Cardiopathy. Then, the objective is to describe the Nursing Diagnostics evidenced
82 in the literature in patients with Chagasic Cardiopathy.

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2. MATERIAL 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 Cardiopathy, 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 chart 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.

Chart 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 cardiopathy 1990	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.

LILACS			
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.

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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 chart, 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.

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 (O₂), 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 decreased cardiac output, and requires interventions in conjunction with this ND, which are based on: lower limb elevation,

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160 use of diuretics, hydric restriction, avoidance of physical effort, weight control, hydric
161 | balance, and guidance in relation to adequate pharmacological therapy [10].
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163 It also showed that ND Activity Intolerance was reported in patients, characterized by
164 limitation of activities, related to low ventricular ejection. In patients with low ventricular
165 ejection, the performance of daily activities is limited, because the basic daily activities
166 demand the use of oxygen by the cells, especially the myocardium, so in low ejection the
167 oxygen demand is reduced and causing tiredness and fatigue in patients. For the
168 interventions, the same measures of decreased cardiac output are basically performed,
169 because the main cause is related to this ND.
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171 The Harmful Comfort was also highlighted in these patients, characterized by limitations of
172 daily activities related to Cardiac Failure. Thus, the symptoms again affect the quality of life
173 of the patient, interfering even in comfort. The interventions should be: oriented as to their
174 limitations, guide everything about the pathology, guide as to pharmacological therapy, seek
175 positions that improve comfort, guide on leisure practices that cause no effort, promote
176 | support, hope, and encouragement [11].
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178 One of the articles in the sample also showed the risk of impaired skin integrity, related to
179 cardiovascular disease edema. Thus, edema in this condition is caused by decreased
180 venous return due to low ejection fraction and low venous pressure. Thus, the skin in this
181 condition presents greater fragility, because the elasticity is impaired and causes a decrease
182 in thickness, increasing the risk of injury by pressure and trauma. For interventions, light
183 walking is recommended to stimulate venous return, elevation of the lower limbs, adherence
184 | to pharmacological therapy, fluid restriction, skin hydration, and comfort massages [12].
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186 Sleep and impaired rest were also reported in the studies, which are characterized by
187 | interruptions in sleep, related to dyspnea, and frequent diuresis. Symptoms such as
188 nocturnal dyspnea, related to dorsal position, cause discomfort for sleep and rest of the
189 carrier, and pharmacological therapy with the use of diuretics stimulates a higher frequency
190 of diuresis, and is also a factor to interfere in the appropriate sleep pattern. Guidance should
191 be given when the diuretic intake during the morning, because the effects during the night
192 will be reduced, as well as the low water intake only during the night, with the aim of
193 reducing urinary output during sleep. In relation to dyspnea in dorsal decubitus, it is
194 recommended the elevation of 30° degrees of the chest, can be performed with the use of
195 two pillows, because this position improves the thoracic expansion and consequently
196 minimizing the respiratory discomfort [13].
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198 The ND Deficient Knowledge and Anxiety were also described, they are ND related,
199 because the lack of knowledge is linked to anxiety. However, the complications and
200 limitations that the pathology causes have repercussions on feelings of anxiety that can
201 cause other psychological conditions. Deficient knowledge, on the other hand, has
202 repercussions on the appropriate care that the patient should provide to minimize symptoms,
203 such as adherence to pharmacological therapy, hydric restriction, limitations to activities, etc.
204 for interventions, should guide the patient in relation to the pathology, such as complications,
205 | limitations and basic daily care with health, adherence to treatment, and explaining the
206 harmful effects of non-adherence. When the patient knows all the stages of his pathology, he
207 tends to influence treatment adherence and the implementation of preventive measures in
208 order to minimize more serious complications [14].
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210 The applicability of Systematization of Nursing Care in patients with Chagas'
211 | cardiomyopathy becomes essential for qualified care, so the nursing diagnoses provide

212 greater scientificity in nursing care, and the interventions discussed applied have a direct
213 impact on improving the quality of life of these patients.

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

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227 **4. CONCLUSION**

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

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

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

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247 **COMPETING INTERESTS**

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249 Authors have declared that no competing interests exist.

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252 **CONSENT**

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254 It is not applicable.

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256 **ETHICAL APPROVAL**

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258 It is not applicable.

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