

## Nursing Care in the Preoperative Period of Heart Transplants: Efficacy in the Role of Nurses in Minimizing Complications - An Integrative Review

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### Abstract

**Introduction:** The preoperative period is a moment of information supply, clarification of doubts and assistance to the patient of heart transplantation and their relatives, being the nursing professional inserted in this context, being in most cases the professional that has more contact both with the patient and with his family.

**Objective:** The objective of this study was to identify and evaluate the scientific productions that describe the efficacy of nurses in the preoperative period of patients with cardiac transplantation.

**Methodology:** The present study is an integrative review, with a survey of scientific productions available in the literature.

**Results and Discussions:** From the analysis of the selected articles, two categories were created: "Effectiveness of Nursing Professionals in the Preoperative Period of Cardiac Transplantation" and "Nursing Professionals in the Nursing Care Systematization and Minimization of Complications in the preoperative period of heart transplants".

**Final Considerations:** The preoperative period is the moment in which the nursing professional plays a very important role of health monitoring and education in cases of cardiac transplantation, both for patients and their families. This performance becomes effective when it is performed in a systematized way and leads the patient to develop self-care and awareness of his new health condition, from the moment he discovers that he will undergo transplantation.

**Keywords:** *Acute Myeloid Leukemia; Acute Myeloid Leukemia and Bone Marrow Transplant; Acute Myeloid Leukemia and Bone Marrow Transplant or Stem Cell Transplant; Treatment for Acute Myeloid Leukemia, Oncology; Patient Outcomes*

### Introduction

Cardiovascular diseases are considered a major public health problem. Therefore, health institutions have sought to restructure themselves to meet the growing demand, investing in cardiology units, seeking to improve technologies to intervene effectively. Heart transplantation is today a surgical alternative of the most used in the treatment of irreversible cardiomyopathies, being responsible for improving the expectation and quality of life of patients who have such injuries [1].

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The Brazilian Association of Organ Transplantation (ABTO) publishes quarterly, on its website, the Brazilian Registry of Transplants (RBT), revised with the numbers of transplants, waiting lists and activities of donations of organs and tissues of Brazil, by organ, state, region and transplant center. The most current publication, referring to the period from January to March 2019, presents the following data: Heart transplantation, which had been stagnant since 2015, with a rate of 1.7 pmp transplants (per million population), showed growth of 17.6%, reaching 2 pmp transplants, very close to the target set for 2019 [2].

Heart transplantation is considered a major surgery of high complexity and can present, in addition to complications inherent to any type of surgery, others of biological, psychological, social, spiritual natures. Therefore, it requires assistance from a multidisciplinary team with specific training. The underlying disease that leads to heart transplantation is heart failure [1].

The preoperative period is characterized as a moment of change, in which these patients are forced to abandon their addictions and routines. This is also the ideal time to know the patient's history, in order to promote an adequate orientation to him and/or his family in relation to the transplant to the entire context in which he/she will be inserted, together with his/her family members [1].

In this context of providing information, clarifying doubts and assistance to patients and their families, the multidisciplinary team is inserted and more specifically the nursing professional who, in most cases, is the professional who has the greatest direct contact with both the patient and his family [1].

In addition, preoperative nursing care needs to go beyond the guarantee of survival and it is necessary to transcend the search for the quality of life of the clientele in the course of this survival [3].

It is essential to act as nurses in the process and in the most diverse stages ranging from the client's evaluation, specifically regarding their condition to be considered as a potential recipient, going through the stage referring to waiting for a satisfactory organ and after the preoperative stage, surgical follow-up and postoperative recovery period [4].

In view of this, the question is: are nursing care in the preoperative period effective and reduce the complications of surgical patients with heart transplantation?

### **Aim of the Study**

Thus, this study aims to identify and evaluate the scientific productions that describe the efficacy in the performance of nurses in the preoperative period, of patients with indication for heart transplantation.

### **Methodology**

The integrative review includes (IR) the analysis of relevant research that supports decision-making and improvement of clinical practice, enabling the synthesis of the state of knowledge of a given subject, besides pointing out gaps of knowledge that need to be filled with the realization of new studies. This research method allows the synthesis of multiple published studies and allows general conclusions regarding a particular area of study [5].

IR is composed of six stages: identification of the theme and the northern question, establishment of inclusion and exclusion criteria, definition of the information to be extracted from the selected articles, analysis of the articles, interpretation of the results, presentation of the results [5].

The fundamental question of this elaborate IR was << What does the literature report on the main nursing care to patients in the cardiac preoperative period have been sufficient in this process?

During the search for theses, articles or dissertations on the Virtual Health Library (VHL) portal, the following descriptors and their synonyms in Portuguese and Spanish were used: Cardiac Transplantation, Nursing Care in Cardiac Transplantation, Nursing Care in El Trasplante Cardiaco, preoperative heart transplant.

Two search strategies were used for retrieving publications, the first being: (“Nursing and Heart Transplantation” OR “Nursing in Heart Transplantation”) and a second strategy (“Nursing care not heart transplantation” OR “Nursing care in heart transplantation”).

In the first strategy, 178 articles were found on the VHL portal and, after performing the filter by year of publication (2014 to 2018), database (LILACS, SCIELO, BDEnf), language (Portuguese and Spanish) and type of document (article and thesis), 12 publications were selected.

In the second strategy, 214 articles were found on the VHL portal and, after performing the filter by year of publication (2012 to 2018), database (LILACS, SCIELO, BDEnf), language (Portuguese and Spanish) and type of document (article and thesis), 14 publications were selected.

The total number of articles selected from the two strategies was 26 publications, 6 of which from SCIELO, 13 from LILACS, and 7 from BDEnf.

After reading the summary of the 26 selected publications, 13 publications were excluded, 5 of which were duplicated, and 8 were excluded because they did not meet the search objective, 13 were selected for be subjected to an E relevance test (Table 1).

Questions	Yes No
1-The objective of the study is related to the theme being studied in the review?	
2- The results of the study contribute to responding to the questions of the study?	

**Table 1:** Source: Barros.

After applying the relevance test I, the final sample of the selected articles was 07 articles, 03 of which belong to the SCIELO database, 03 to LILACS and 01 to lilacs and 01 to lilacs and 01 from BDEnf.

The following steps of the integrative review will be presented in the results and discussion, which will allow to the reader to assess the applicability of RI.

**Results and Discussion**

Seventy articles that met the inclusion criteria of this Integrative Review were selected. The articles are presented below in table 2.

Title	Authors	Year	Database	Type of Study
Heart Transplantation: complications presented by patients during hospitalization	Silva, E; Carvalho, A.D.V.	2012	SCIELO	Descriptive, quantitative
Clinical nursing care based on Opinion: contribution to the transcendence process of heart transplant recipients	Barros, L.B.F.; Silva, L.F.; Guedes, M.V.C.; Pessoa, V.L.M.P.	2017	LILACS	Research- intervention
Nursing care in heart transplantation: review integrative	Pio, F.S.C.G; Azevedo, D.M.; Marques, L.F.; Santiago, L.C.	2016	LILACS	Integrative review

Pulmonary artery catheter: nursing care related to patients in the postoperative period of transplantation cardiac	Souza, V.N.; Santos, A.C.; Vesco, N.L.; Lime, A.C.S.; Santos, R.C.; Florencio, R.S.	2017	BDEF	Documentary, qualitative
Cardiac transplantation in the immediate postoperative period: nursing diagnoses according to vegetable garden assumptions	Matos, S.S.; Ferraz, A.F.; Guimarães, G.L.; Goveia, V.R.; Mendoza, I.Y.Q.; Silqueira, S.M.F.; Chianca, T.C.M.; Carvalho, D.V.	2015	SCIELO	Descriptive, exploratory, retrospective
Outpatient nursing care: perception of transplant patients on the consultation of outpatient nursing	Pessoa, V.L.M.P.; Silva, J.N.G.S.; Cestari, V.R.F.C.; Florencio, L.O.L.; Freitas, T.C.; Justin, P.R.S.	2017	LILACS	Descriptive, qualitative
Nursing care in the postoperative period of cardiac surgery: a case study	Duarte, S.C.M.; Stipp, M.A.C.; Mesquita, M.G.R.; Silva, M.M.	2012	SCIELO	Descriptive-exploratory, qualitative

**Table 2:** Distribution of studies included in the integrative review according to title, author, year of publication, database, objective and type of study - Belo Horizonte, 2019.

Source: Elaborated by the author.

Regarding the type of study of the selected articles, 01 was classified as quantitative descriptive, 01 as intervention research, 01 as integrative review, 01 as qualitative documentary, 01 as retrospective exploratory descriptive, 01 described qualitative and 01 descriptive-exploratory qualitative. Among these, 03 were removed from the SCIELO database, 03 from LILACS and 01 from BDEF. In relation to the selected articles, all were written by Nurses.

The selected articles, almost in their entirety, describe a brief overview of cardiovascular diseases and the importance of heart transplantation for some of them, causing an increase in the quality of life of the transplanted patient.

Considering the relevance of the subject to understand the effectiveness of nursing professionals' actions in the preoperative period of heart transplants, in minimizing complications and contributing to outcomes favourable, the great need for national studies on the subject of.

In addition, none of the articles evaluated describe the cost-effectiveness or economic impact of Nurses' performance in the preoperative period of heart transplants in care outcomes, making it relevant to carry out research describing this relationship of effectiveness and cost.

The analyzes of the selected studies, therefore, can be performed in two categories, the first related to the effectiveness of the performance of nursing professionals in the preoperative period of heart transplants and the second category related to the minimization of complications and contribution to favorable outcomes for patients with this profile.

**Category 1: Effectiveness of the performance of nursing professionals in the preoperative period of heart transplants**

It is noticed that nursing professionals are the ones who make up the team in the greatest number and provide direct and full-time assistance to patients during cardiac surgery procedures. This type of surgery requires continuous observation from the health team, quick decision making and high complexity care, in order to minimize possible complications resulting from the procedure [4].

According to one of the selected studies, the importance of the role of the nursing professional in heart transplant surgery is highlighted, during the entire process and in the most diverse stages ranging from the initial evaluation of the patient to the post-recovery

period. operative. Nursing has the mission of providing clarifications to both the patient and their family members and should resolve any doubts that may arise and make clear the necessary care in changing the lifestyle, both in the preoperative period and in the post-operative period [4].

Another study discusses the importance of providing information to patients in the period before the surgical procedure, characterizing the nursing professional as ideal to perform this type of task, since the information provided by the doctor can be very technical, making it difficult for the patient and his family to understand. The authors also highlight the importance of guiding the patient during hospitalization and preoperative periods of cardiac surgery, regarding his health status and the procedures to which he will be submitted. The availability of this type of information is the patient's right and constitutes an action that can minimize the patient's anxiety, enabling a smooth postoperative period and recovery in a shorter period of time [6].

One of the selected articles also indicates that in the preoperative nursing consultation, the nurse has the opportunity to get to know the patient, his needs, his fears and desires, thus being able to intervene appropriately with his guidance. In the preoperative consultation, the nurse must carry out the nursing history and complete physical examination, question about the use of medications and prostheses; receive and acknowledge receipt of preoperative exams, advise the patient on the post-operative stages of cardiac surgery, including all pertinent information about the procedure itself and its future unfolding. In addition, the patient must be instructed in all routine procedures of the immediate preoperative period [7].

It becomes important to highlight the assistance of the professional nurse as being essential in the process of adapting the heart transplant recipient and their families. This process begins in the preoperative period, at which time the relationships between health professionals and patients must be established and strengthened, so that from the beginning there is a relationship of trust and well-being [8].

From the validation of the indication of the surgery to the procedure itself, the patient and his/her family experience numerous changes and the emotional impact resulting from all the changes is what distinguishes the heart surgery patient [6,8].

Therefore, educational care, with detailed and individualized guidelines, respecting the needs of each patient, proved to be an effective way to face the changes caused by the transplant, as it collaborates with the process of strengthening the autonomy of the cared subject allowing him to understand himself as an agent of his health and make more conscious decisions in the process of increasing and improving the quality of life [3].

It is concluded that an effective performance on the part of Nursing professionals in the preoperative period of heart transplants, consists of the knowledge of the patient as a whole, in his physical and emotional characteristics and his health status. The nurse must also make use of all this information to establish a conscious and effective line of care. Finally, the nurse must be able to pass on to patients and their families all relevant information so that all doubts inherent in the procedure and the post-surgical period are resolved and that self-care is encouraged from the beginning. The result will be a patient undergoing a procedure of which he is fully aware and, therefore, everything occurs in a less tense way and with less chance of future complications.

## **Category 2: Performance of nursing professionals in the nursing care systematization and minimization of complications in the preoperative period of heart transplants**

The complications found in patients undergoing heart transplantation are multifactorial, besides being varied. Immunosuppressants are responsible for several undesirable, reversible effects mostly that may affect the evolution of patients, including: systemic arterial hypertension, dyslipidemia, hirsutism, gingival hyperplasia, weight gain and renal failure [1].

The permanence of the nurse throughout the hospitalization period next to the patient, providing uninterrupted care, allows to perform a direct observation, as well as identify human responses and trace nursing diagnoses, to build the care plan to be implemented in an individualized and personalized way [6].

The care provided by the health team in the postoperative period aims to minimize complications, maintain the balance of organic systems, relieve pain and discomfort and the proper realization of a orientations, as this is a very critical step in the heart transplant process [6].

In order for this care to have its objective achieved, it is essential to standardize nursing actions related to care actions performed on the patient, as well as the record of all nursing actions, since these factors are essential in the prevention of possible complications [7].

A systematized and organized methodology of developing care is highlighted by the Nursing Process, a method used to solve problems and how to provide nursing care to the patient in the postoperative period [6].

This methodology is also cited by two other selected studies that describe that nurses should intervene according to the patient's needs individually, as well as promote their rapid recovery and early dehospitalization, from the organization and planning of care using the application of the methodological steps of the Nursing Process [4].

The need for nurses to improve care through its own work methodology is identified, which is based on the scientific method, expressed by the Systematization of Nursing Care. Since this systematization gives greater safety to patients, improves the quality of care and ensures autonomy to the professional, to the extent that it allows him to organize the work and operationalize the Nursing Process. Thus, nursing care, as the fruit of professional action, should move it to be based in a lucid, reflexive, technical and humanistically competent way, because this care is fundamental for the patient's recovery [9].

The expression 'Nursing Diagnosis', introduced in Brazil by Wanda Horta in the 1960s, is known as one of the stages of the nursing process. This author defines the nursing diagnosis as the identification of the basic needs of the human being who need care and the determination, by the nurse, of the degree of dependence of this care in nature and extension [4].

The nursing diagnosis allows nurses to consider the patient as a whole, evaluating all their needs and making important information not go unnoticed, thus contributing to a planning of actions and, consequently, to the effectiveness of the interventions implemented [4].

The nursing diagnosis should be used as a basis for the elaboration of the care plan to be adopted, where all the needs presented by the patient, the degrees of dependence of each patient, the needs of supervision and referral for each care should be observed and recorded [6].

One of the studies presents the "Nursing of Rosemarie Parse" which highlights the conscious freedom of the human being to make their life choices, considering the bases of existential philosophy. Known as Human Becoming, Parse's Theory has its essence in respecting the human being as a unique being, who must be valued and held accountable as an agent of his health. Thus, nursing's main goal is to improve the quality of life of these individuals, respecting the quality of life of each one; and the nurse acts as a mediator, collaborating with the subject in the modification of his/her lifestyle, because he is the one who is at the forefront of these transformations [3].

The nursing professional's conduct is capable of generating a minimization of complications and contributing to favorable outcomes, when it is based on the humanization and individualization of care, taking into account both the patient and the context in which he is inserting, considering as one of the pillars of care the family. It is necessary that the nursing professional encourages the practice of self-care, so that the patient takes a position of subject care and not of object of professional action. There should also be an appreciation of the health of the subject's care and not of his/her problem.

For all this, the success of the treatment correlates directly with a good relationship of the health team with the patient and the family support that it receives. The role of nurses in the process of caring for cardiac transplant patients should conceive a direct and assistance and health teaching/education, always. Investing in identification and on prevention of complications and intervened for provide a comprehensive recovery and a better quality of life for the patient and his/her family [4].

Of the articles found, none mention quantitative data that allow the evaluation in relation to costs or care outcomes or if there is an impact or reduction of mortality in relation to the work of nurses. In view of the above, it is perceived the need to conduct new studies that quantitatively demonstrate the effectiveness of the work of the nursing professional.

### **Final Considerations**

Heart transplantation is an alternative used for the treatment of irreversible heart diseases, aiming at improving the expectation and quality of life of patients who have these diseases. The preoperative period is characterized as an initial part of the entire procedure, providing the beginning of the construction of a favorable relationship between the health team, the patient and his/her family members.

The nursing care inserted in this context begins at the moment when the patient is informed about the possibility of transplantation and continues until the postoperative period. At all times, this care should be performed in a systematized and holistic way, leading the patient and his/her family members to a knowledge about their health status, about the procedure itself and about all the changes that will occur. Nursing care should provide a patient-friendly outcome.

The selected articles do not demonstrate quantitative data that relate the effectiveness of the nursing team's performance in the preoperative period and the minimization of complications of cardiac transplant patients. Therefore, it is necessary to conduct quantitative research that evaluates the efficacy and generates quantitative and cost data of nursing effectiveness in the preoperative care of patients who have undergone heart transplants. It is also necessary to highlight the impact of nursing care on a favorable outcome for the patient, with a lower number of complications, lower rate mortality, infection and adverse events.

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