



NURSING CARE IN HEART TRANSPLANTATION: INTEGRATIVE REVIEW
ASSISTÊNCIA DE ENFERMAGEM NO TRANSPLANTE CARDÍACO: REVISÃO INTEGRATIVA
ASISTENCIA DE ENFERMERÍA EN TRANSPLANTE CARDÍACO: REVISIÓN INTEGRADORA

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ABSTRACT

Objective: to analyze the scientific production of nurses about nursing care of the client submitted to heart transplantation. **Method:** integrative review, with articles survey from the last 10 years in LILACS, BIREME and SCIELO virtual library with the research question << Which are the scientific evidence available in the literature related to the impact of the activities of nurse's care of heart transplantation? >> **Results:** after analysis, emerged the following categories << The customer profile submitted to heart transplantation: the family and the quality of life >> and << Nursing Care: Diagnostics, interventions and health education as a support in postoperative recovery >> **Conclusion:** the work of nurses in the care of heart transplanted patients should design a direct and continuous connection of care and health education. **Descriptors:** Heart Transplantation; Nursing Care.

RESUMO

Objetivo: analisar a produção científica dos enfermeiros acerca da assistência de enfermagem ao cliente submetido ao transplante cardíaco. **Método:** revisão integrativa, com levantamento de artigos dos últimos 10 anos na LILACS, BIREME e biblioteca virtual SCIELO com a questão de pesquisa <<Quais as evidências científicas disponíveis na literatura relacionadas ao impacto da atuação dos enfermeiros perante a assistência ao transplantado cardíaco? >> **Resultados:** após a análise, emergiram as seguintes categorias: << O perfil do cliente submetido ao transplante de coração: a família e a qualidade de vida >> e << Assistência de Enfermagem: diagnósticos, intervenções e educação em saúde como coadjuvante na recuperação pós-operatória >> **Conclusão:** a atuação do enfermeiro no processo de cuidar do paciente transplantado cardíaco deve conceber uma ligação direta e contínua da assistência e da educação em saúde. **Descritores:** Transplante Cardíaco; Cuidados de Enfermagem.

RESUMEN

Objetivo: analizar la producción científica de los enfermeros acerca de la asistencia de enfermería al paciente sometido al trasplante cardíaco. **Método:** revisión integradora, con levantamiento de artículos de los últimos 10 años en la LILACS, BIREME y biblioteca virtual SCIELO con la pregunta de investigación << ¿Cuáles son las evidencias científicas disponibles en la literatura relacionadas al impacto de la actuación de los enfermeros frente a la asistencia al trasplantado cardíaco? >> **Resultados:** después del análisis emergieron las siguientes categorías << El perfil del cliente sometido al trasplante de corazón: la familia y la calidad de vida >> y << Asistencia de Enfermería: Diagnósticos, intervenciones y educación en salud como coadyuvante en la recuperación pos-operatoria >> **Conclusión:** la actuación del enfermero en el proceso de cuidar del paciente trasplantado cardíaco debe concebir una ligación directa y continua de la asistencia y de la educación en salud. **Descriptores:** Trasplante Cardíaco; Cuidados de Enfermería.

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INTRODUCTION

Cardiovascular diseases have been introduced in recent decades in statistically significant proportions among the causes of morbidity and mortality, both in developed countries as in developing countries. In Brazil, it is the leading cause of death, killing about 300,000 Brazilians per year.¹

Heart transplantation is constituted today, in a surgical alternative of the most used in the treatment of irreversible cardiomyopathy, being responsible for improving the expectation and patient's quality of life which have such injuries. Several advances have been observed in this area, in the last decade with the introduction of new surgical techniques, new immunosuppressive drugs, new diagnostic methods and approaches in early and late postoperative. Thus, the quality of life of patients shows significant improvement because they recover the physical ability and can regain the majority of their activities.²⁻³⁻⁴

Until December 2007, 344 people were on the waiting list for heart transplantation in Brazil. According to the Brazilian Association of Organ Transplantation (ABTO) in 2004, the country had an average of 7.4 donors per 1 million people. The next year, this figure went down to 6.3 to reach the current 6 donors per 1 million people, recorded in 2006. Meanwhile, Spain has 33.8 donors per million inhabitants, as a result of a radical change in the health system.⁵

In Latin America, some countries have surpassed Brazil in donors terms. Uruguay has 25 donors per million. Colombia has from 6 to 10. Peru and Ecuador implemented the Spanish system adapted to its features. The Spanish system consists placing transplantation coordinators in each hospital, trained to handle the entire process, from detecting a possible donor to the family approach.⁵

Until December 2007, 1,777 heart transplantation's were performed in Brazil, and 52.0% of these transplantation's were performed in the Southeast; 28.0% in the Northeast and 20.0% in the South. It is worth noting that, related to the receiver gender, 75.0% were males.¹

According to the Brazilian Association of Organ Transplantation (ABTO), 136 heart transplantation's were performed during the first half of 2013, 52 in *São Paulo*, 17 in the Federal District, 16 in *Rio de Janeiro*, 12 in *Ceará* 12 in *Paraná*, 11 in *Minas Gerais*, 9 in *Pernambuco*, 5 in *Rio Grande do Sul* and 2 in

Mato Grosso do Sul. In one decade, according to ABTO, it was 2,905 heart transplantation's in the country, giving hope of life for many people.⁶

Cardiac surgery requires a health continued observation team, quick decision making, and high-complexity care. The nursing team professionals are those who make up this team in greater numbers and full-time and provide direct care to the patient to minimize possible complications. Thus, the nurse must organize and plan the care from the application of the methodological steps of the nursing process, to intervene according to the needs of the patient, individually, and promote their fast recovery and early deinstitutionalization.⁷

Particularly, about the role of nurses in heart transplant surgery, it is important to note that throughout the process and in several steps ranging from customer evaluation, specifically about their condition to be considered as a potential receptor, passing the stage related the waiting for a suitable organ during the surgical process and period of postoperative recovery, the need for nurses to client monitoring is noted. Nursing is in direct contact with the patient, mainly in the preoperative and postoperative heart transplantation, and telling the patient about the procedure doubts, overcoming anxiety and clarifying the family and the transplanted patient's, the necessary lifestyle care changes. Therefore, based on the context above, the survey of scientific production about the nursing care in cardiac transplanted patient's, is the object of the study.

OBJECTIVES

- To analyze the scientific production of nurses about nursing care to the client submitted to heart transplantation.

METHOD

Integrative review,⁸ developed in six phases: Issue identification and research questions; Literature sampling or search; Studies categorization; Evaluation of the studies included in the bibliographic review; Interpretation of results; and Synthesis of knowledge evidenced in analyzed articles or presentation of an integrative review.⁹⁻¹⁰

The articles search occurred *online*, in English, Portuguese, and Spanish. The scanning was performed in the following databases: LILACS (Latin American and Caribbean Health Sciences Literature), BIREME (Latin American and Caribbean Center of Health Sciences Information) and SCIELO

virtual library (Scientific Electronic Library Online).¹¹

The descriptors used in this study were “*transplante cardíaco*” AND “*cuidados de enfermagem*”, “heart transplantation” AND “Nursing Care” and “*transplante de corazón*” AND “*Atención de Enfermería*”. These descriptors were limited due to the scare number of items inclusion of a third descriptor.

The inclusion criteria of the selected articles on integrative review were: research about heart transplantation and nursing care; research in which at least one of the authors was a nurse; original research, of qualitative and quantitative methods; research written in Portuguese, English, and Spanish, published in the last 10 years.

The exclusion criteria were: research without available abstract in the database

that was indexed; theses, dissertations, books and literature review articles.

In September 2013, the search was initiated by the BVS database using the descriptor “Heart Transplantation”, resulting in a total of 28,478 articles. Subsequently, using the “Nursing Care” descriptor that generated 231,629 articles. When the cross between the descriptors “heart transplantation” AND “nursing care” was done, 316 articles were obtained. Finally, when inserted filters (a period from 2003 to 2013 and languages: English, Portuguese, and Spanish) 71 surveys were obtained, that were initially selected for the integrative review.

Then, the articles read was performed and like the inclusion criteria established in this study, noting the authors of the research, which should contain at least one nurse as an author, and articles available in full, resulting in a sample of 11 surveys.

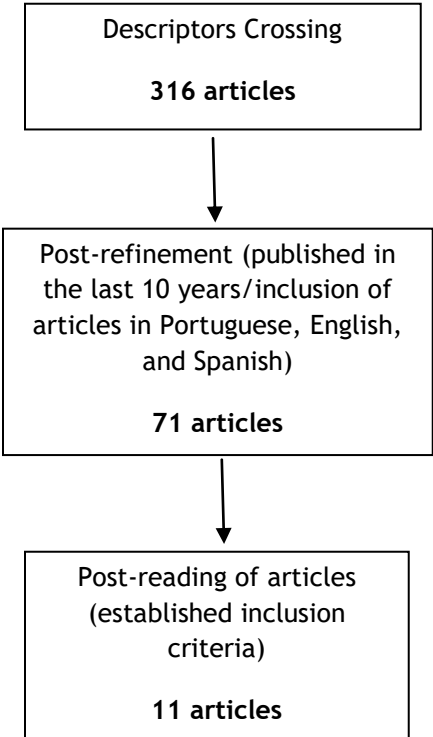


Figure 1. Flowchart of selection of items used in the review

RESULTS

In this integrative review, 11 research were analyzed, that met the inclusion criteria previously established, and will be presented in more detail in the following Figure.

Article/ Year	Data Base/Virtual Library	Research Type	Authors	Objectives
A1 2009	LILACS	Existential Phenomenology	Sadala MLA; Stolf NAG; Bicudo MAV	To investigate the experience of heart transplantation
A2 2004	LILACS	Descriptive Study	Santos ZMSA; Oliveira VLM	To evaluate the impact of educational activities to the transplanted customer
A3 2012	LILACS	Descriptive/ Exploratory Study	Silva EA; Carvalho DV	To trace the demographic profile of transplanted patient´s and identify complications
A4 2011	BIREME	Descriptive Study	Matos SS; Baroni FCAL; Carvalho DV; Chianca TCM; Ferraz AF; Silva PAB	To trace the demographic and epidemiological profile of the transplanted patient´s of the hospital in Belo Horizonte
A5 2009	LILACS	Descriptive Study	Penaforte KL; Araújo ST; Campos ACS; Rolim KMC; Santos FLM	To describe the maternal perspectives and feelings aroused by the infant heart transplantation
A6 2009	SCIELO	Prospective, descriptive, cross- sectional	Helito RAB; Branco JNR; D’innocenzo M; Machado RC; Buffolo E	To assess the quality of life of patients in the queue of the heart transplantation
A7 2006	SCIELO	Phenomenological Approach	Stolf NAG; Sadala MLA	To understand the experience of heart transplantation, patient´s description
A8 2011	SCIELO	Exploratory/ Descriptive	Aguiar MIF; Farias DR; Pinheiro ML; Ghaves ES; Rolim ILTP; Almeida PC	To evaluate the quality of life of transplanted patient´s (Whoqol-Bref)
A9 2006	SCIELO	Descriptive of historical series	Boaz MR; Bordignon S; Nesralla IA	To describe the incidence of infections in transplanted patient´s in the first 30 days of surgery
A10 2007	SCIELO	Qualitative Approach	Brito LMP; Pessoa VLMP; Santos ZMSA	To analyze the experience of the family for heart transplantation of their relatives
A11 2012	SCIELO	Cross-sectional	Matos LN; Guimarães TCF; Brandão MAG; Santoro DC	To identify the prevalence of the defining characteristics of the decreased cardiac output in patients under evaluation for heart transplantation

Figure 2. Data extracted from articles used for integrative review

DISCUSSION

After reading and clear analysis for better understanding, it was decided to group into named categories as follows: *The profile of the customer submitted to heart transplantation: the family and the quality of life and Nursing Care: diagnosis, intervention and education in health as an adjunct in postoperative recovery.*

♦ The profile of the customer submitted to heart transplantation: the family and the quality of life

“The knowledge of the profile of patients undergoing transplantation is essential for a broader understanding of the person, which, in turn, contributes to the design of specific strategies to “care,” for the recovery of health.” (A4)

Analyzing the studies, we found that the age of patients suffering from heart problems varied between 18 and 63 years old and it was observed that most of them were between 18

and 50 years old (35% - 71.4%) and also 33 % were male.

Regarding marital status, most (38% - 77.6%) were married. As for education, it varied with a predominance of incomplete elementary school (28% - 57.1%). Catholicism was the predominant religion in this group of patients (29% - 59.2%). Concerning profession, the categories “retired” and “home” showed a higher percentage (16% - 32.7%) and (10% - 20.4%), respectively.

The predominance of males and aged 50 years old is also confirmed in the study (A8), where most participants were men (78.2%) and the predominant age group of heart transplantation understood the range from 49 to 59 years old, corresponding to 47.3% of the transplanted.

In a study (A3), most transplanted patients were male (81.8%). The age ranged between 21 and 64 years old, and most of them had more than 40 years old (70.5%).

Concerning gender, there was the equivalence of ABTO data, considering that

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75% of patients undergoing heart transplantation are male. As for the age group, about 70% of patients who received a heart in Brazil have from 41 to 60 years old.

To deepen the analysis of the studies acquired through literature review, we raised points that were highlighted by the authors, such as the family and the quality of life of patients undergoing transplantation. There is a concern about the quality of life of human beings, especially with the heart transplanted receivers, as they require rigorous care and greater family and health care team assistance.

The concept of quality of life is defined as "an individual's perception of their position in life in the context of culture and value system in which they lived and related to their objectives, expectations, standards, and concerns".¹²

The quality of life can also be defined by the way people live, feel, and understand their daily lives, thus involving health, education, transport, housing, work and participation in decisions that affect them.¹³

According to the study (A8), quality of life is the self-esteem and personal well-being and covers a number of aspects such as functional status, socioeconomic status, emotional state, social interaction, intellectual activity, self-care, family support, their own health status, cultural, ethical and religious values, the style of life, job satisfaction and/or daily activities and the environment in which we live.

Also add that heart transplantation is the only way to improve the quality of life of patients who have refractory heart disease and, according to the study, patients undergoing cardiac transplantation feel accomplished about the procedure, with a high degree of satisfaction because they are living a new life as they passed through difficult times in the pre-transplantation, for example, waiting for a heart to allow their survival. The daily routine of these people is different, require excessive care related to infection prevention, healthy and proper nutrition, weight maintenance and medication administration strictly within the prescribed time, which the team's participation in measures to promote health is fundamental.

In the study (A6), the authors affirm that the heart transplantation was considered a fanciful speculation for the future and today is arguably accepted not as an experimental procedure, but rather as an effective method for the treatment of hopeless patients, without pleasure or satisfaction of a healthy

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and dignified life or even at great risk of losing their biggest asset: life.

And one of the questions raised by these authors (A6) is that, for some people, the prolongation of life is not the most important condition, but the quality that will have in the continuation of their life.

Most patients that underwent transplantation analyzes the experience of surgery as a new chance of life considers that recovered health and that "now are normal people" (A6). Regarding quality of life, the data show that occurred improvements as the physical symptoms and recovers the general welfare, although conditioned by psychosocial and economic factors; recover to normal activities and the ability to plan for the future, which was previously inaccessible.

In (A10)research, the authors complement saying that the changes imposed by the transplant are many, and also affect the family as a system, which needs to adapt to the ill member needs. There is a break in the family balance before the new event. Living with the circumstances generated by the transplantation process is a unique experience and stressful at the same time, not only for the transplanted but also for a whole circle of people who live with them.

Due to the complexity inherent in cardiac transplantation, not only the receptor undergoes changes in lifestyle, but also their families. The family lives and faces of their being, all the difficulties during the transplantation, and the success of the process to which the patient is subjected is directly related to environmental, and emotional conditions appropriate in the family context. Based on this, we can see the importance of the family as emotional and financial support.

The family is the main social institution, providing to the individual, the beginning of their emotional relationships, creating links and internalizing values. This family relationship is presented in an interconnected manner as if they were the extension of each other because it is believed that the experience of serious illness brings changes in thinking, feeling and acting of people engaged in this familiar nucleus.¹⁴

Thus, it is imperative that the nurse, using their sensitivity, recognizing the family as co-participant of the care process, realize and assess the needs and realities of this family, who are contributing positively or not to develop promotion health strategies and individuals welfare.

The family is a unit that provides care and health/disease situation of one member and affects the way of life of the ones belonging to this group. Here we can notice the importance of the nurse professional, acting as a link for better interaction between the patient and family.

In the (A8)study, it was found that most patients have the support and solidarity of family and friends, and they encourage and give strength to overcome the disease, giving them a greater incentive to this new phase of life, further strengthening family relationships and providing a greater emotional security.

We emphasize that working with families shows today to professionals from different areas as a unique possibility to obtain better results, in the medium and long term. Health professionals, therefore, have the commitment, inclusive ethical, seeking to update their knowledge and at the same time instrumentalize to attend properly to this "new" assistance object: the family who needs care and/or necessary instrumentalization to take care of their members and thus, to reach the living-being-healthy in a changing world.¹⁵

♦ Nursing Care: diagnosis, intervention, and health education as an adjunct in postoperative recovery.

When examining the selected studies through the literature review, we raise the main points that were highlighted by the authors, such as diagnoses, interventions, and health education, treated as valuable elements for post-operative recovery and extremely important for the improving the quality of life of patients undergoing transplantation.

To clarify these elements, we bring the nursing process that leads to a qualification, integrity, continuity, and individuality, making possible to understand that its application favors a faster rehabilitation of the patient and, moreover, emphasizes the humanization of care.¹⁶

One of the steps of the nursing process is the 'nursing diagnosis', expression introduced in Brazil by Wanda Horta, in the 60. This author defines the nursing diagnosis as "the identification of the basic needs of human beings who need care and determining, by the nurse, the degree of dependence of this care in nature and extent."¹⁷

The COFEN-272/2002 resolution, determined that the nursing diagnosis is a private responsibility of the nurse and the same, after analyzing the data collected on history and physical examination, will identify

nursing problems, the affected basic needs and degree of dependence, making clinical trial about the individual, family and community answers to the problems, existing or potential life processes.¹⁸

According to NANDA, North American Association of Nursing Diagnoses, this is a clinical trial about the individual, family or community answers to health problems/life, real or potential processes. It is from the diagnosis that the nurse can organize the necessary interventions to achieve results.¹⁹

The nursing diagnosis allows the nurse to see the patient as a whole, evaluating all their needs and making important information does not be unnoticed, thus contributing to a plan of action and, consequently, the effectiveness of implemented interventions.

The nursing diagnosis also provides measurable criteria for the assessment of care; gives support and direction to care; facilitates research and education; delimits the independent nursing functions; encourages the client to participate in their treatment and the treatment plan; and contributes to the expansion of a body of knowledge to nursing.²⁰

One of the studies acquired through literature review emphasizes that through the nursing diagnosis nursing, the staff can ensure an intervention before the patient in the postoperative period.

According to (A11), the nursing phenomena (diagnosis, results, and interventions), when classified, work as organizers and possibly accelerate the clinical trial nurse, bringing impact on improving the reliability of the findings and the survival or recovery of individuals. And complement saying that the nursing diagnosis assumes the central character in the product communication of the judgment that the nurse elaborates about human answers.

The nurse is responsible and works to achieve results in an articulated manner, obtained through nursing diagnosis which is the basis for the selection of interventions.¹⁹

When properly used, the nursing diagnosis becomes a facilitator of nursing actions, since it indicates which interventions that meet the needs of patients, thus allowing a care planning and hence, an appropriate intervention in the identified problem.²⁰

Assistance which aims the intervention requires a more comprehensive care of the nursing staff even more when it comes to post-op. Considering the criticality of the patient in the postoperative care provided by an interdisciplinary team aims to minimize

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complications, maintain the balance of body systems, relieve pain and discomfort and the proper conduct of a discharge plan and guidance.⁷

Nursing care in patient assistance in the postoperative period are directed towards restoring the homeostatic balance, preventing thus, complications since the surgery alters the homeostasis of the body, the electrolyte balance, vital signs and body temperature. The nurse proceed the initial assessment of the patient when it is admitted to the unit. This assessment will include the conditions of neurological, respiratory, cardiovascular and renal systems; nutritional support and eliminations; venous access, drains; surgical wound; positioning, pain, safety, and comfort.²¹

Specifying the nursing interventions for cardiac surgery, the nursing activities in this period aims to: evaluate, detect and intervene early in possible post-heart transplantation complications. Therefore, it is necessary that the nursing staff is aware of the patient's history, focusing on the evolution of the disease, current status and therapy used to control the disease, as well as the patient's progress during the heart transplantation and possible complications associated with the surgical procedure.¹

Similar to other procedures that require opening the sternum, as *bypass*, valve repair, the postoperative cardiac transplantation require a dedicated nursing care for the prevention/intervention of the problems, such as proper maintenance of respiratory function, hemodynamic stabilization, monitoring immunosuppressive therapy and monitoring the signs and symptoms of complications.¹

Globally, studies show that the main concern of the nursing staff before an early postoperative heart surgery is acting in an interventionist manner regarding the prevention of infection. Evidenced in the study (A9), which describes as one of the goals of the nursing staff during care, the prevention of infections to provide greater security to the patient and prevent a complication overlaps the success of cardiac transplantation.

The nurse responsible for the heart transplant unit should be familiar with the various adversities that the patient may present, which will enable a damage free assistance related to possible complications in the clinical postoperative period. It is extremely important to realize early signs and symptoms of complications through close monitoring of the patient's, of

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electrocardiogram graph interpretation in the cardiac monitor and other clinical elements.

The transplanted patient, even after discharged, needs frequent hospital returns for follow-up visits with the interdisciplinary team. In these consultations, it is the nurse, having supposedly a greater bond with the patient because most of the time is devoted to their care, make the necessary recommendations and guidelines for home care such as hygiene factors, timing of medications, visits restrictions. Thus, the nurse becomes a fundamental piece to the health education of the patient, including the post-hospital period.

In this perspective, concerning health education, we emphasize that health education involves a combination of opportunities that promote health maintenance and its promotion, understood not only as transmission of content, but also as the adoption of educational practices that seek autonomy of the subjects in the conduct of their life, i.e., health education is nothing more than the full exercise of citizenship construction.²²

Thus, about the role of educator, we emphasized that nurses must respect and value the social knowledge built by customers in their environment. And the teaching should be a critical and reflective practice in which the experiences of the learner and the educator's knowledge must be added.

*[...] Teaching is an integral tool that all nurses use to care for patients and families in the development of effective health behaviors and the modification of lifestyle patterns [...]*²³

On this basis, the (A2) study shows that the occurrence of engagement in self-care is directly linked to a good nurse-patient relationship. And customer engagement in self-care is made possible by the implementation of educational activities living the behavior changes, to adopt healthy lifestyle through the nursing consultation, which includes a health educational model.

The (A8) study proves this fact stating that the quality of life of transplanted, depends on their adherence to treatment, characterized by self-care. A good relationship of the health team with the patient and family support is directly correlated with the success of treatment.

CONCLUSION

It is known that heart transplantation is a therapeutic modality used when there is no longer any available treatment. In this sense, the main goal of heart transplantation is to

prolong the patient's life, providing quality of life.

Performing this study, it was possible to note that the discussed articles brought important issues related to this client submitted to transplantation, and nurse's role should be expanded through comprehensive action, going beyond the in-hospital care.

Recognizing the family as part of patient care, the nursing staff recognizes the need to listen to them in their doubts, take into account their opinion and, above all, encourage their participation throughout the care process.

Regarding the individual teaching, postoperative nursing consultation is considered the right time to promote the professional-client interaction and the implantation of this service is configured in the great opportunity for guidance and monitoring of customers.

It is through nursing consultations, for example, that the nurse allows following the changes in lifestyles that are so necessary to control the disease, in addition to guidelines for self-care using the nursing process. It is in this consultation that in the behavioral perspective, instead of classifying the individual as adherent or not, one must examine the context in which the adherence behaviors to treatment occur.

Another important aspect is the adherence to treatment, which can be defined as the extent to which the behavior of the person corresponds to the health professional recommendations. Consequently, with a good adherence to treatment and following the guidance provided by health professionals, this individual will achieve a satisfactory postoperative recovery.

The work of nurses in the care of heart transplanted patient process should design a direct and continuous connection of care and education/health education, always investing in the identification and prevention of complications and interventions to provide full recovery and a better quality of life for the patient and their family.

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