SCIENTIFIC EVIDENCE ABOUT OUTPATIENT NURSING CONSULTATIONS IN CARDIOLOGY

ABSTRACT

Objective: to analyze the scientific evidence about the outpatient nursing consultation in cardiology. Method: this is a bibliographic study, type integrative review, when consulting the databases MEDLINE, LILACS, Web of Science, CINAHL, SCOPUS and in the virtual libraries VHL and SciELO. The Content Analysis technique was used to analyze the data production, in the Thematic Categories Analysis modality. Results: 12 articles were analyzed, from which three thematic categories emerged: 1 - Health care programs in cardiology managed by nurses; 2 - Importance of the nurse’s role in improving self-care in the cardiology outpatient clinic and 3. Nursing diagnoses and interventions in the cardiology outpatient clinic. Conclusion: it was found that the Nursing Consultation provides quality results and provides quality care. The scarcity in the description of this process is pointed out, which may indicate flaws in its performance and the failure to prioritize these actions in the professional routine. Descriptors: Nurse; Nursing in Office; Outpatient Care; Nursing Consultation; Cardiology; Hospital Service of Cardiology.

RESUMEN

Objetivo: analizar las evidencias científicas acerca de la Consulta de Enfermería ambulatorial en cardiología. Método: se trata de un estudio bibliográfico, tipo revisión integradora, al consultar las bases de datos MEDLINE, LILACS, Web of Science, CINAHL, SCOPUS y en las bibliotecas virtuales BVS y SciELO. Utilizó-se a técnica de Análise de Conteúdo para análise da produção dos dados, na modalidade Análise de Categorías Temáticas. Resultados: analisaram-se 12 artigos, dos quais emergiram três categorias temáticas: 1 - Programas de atenção à saúde em cardiologia gerenciados por enfermeiros; 2 - Importância da atuação do enfermeiro na melhoria do autocuidado no ambulatório de cardiologia e 3. Diagnósticos e intervenções de Enfermagem no ambulatório de cardiologia. Conclusão: constatou-se que a Consulta de Enfermagem proporciona resultados positivos e proporciona o cuidado de qualidade. Aponta-se a escassez na descrição desse processo, o que pode indicar falhas na sua realização e a não priorização dessas ações na rotina profissional. Descriptores: Enfermeiro; Enfermeiro no Consultório; Assistência Ambulatorial; Consulta de Enfermagem; cardiologia; Serviço Hospitalar de cardiología.

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INTRODUCTION

It is known that nurses have their actions focused on holistic care, with a focus on health and quality of life, responsible for various activities in the health team. It is noticed that, over the years, the concern with the quality of care and with the proper record of these actions has evolved, being of fundamental character to guarantee the notoriety of the profession, for the planning of actions and to demonstrate the productivity of the nursing team as a whole. It is understood that the detailed records benefit customers, professionals and institutions, in addition to providing data for health indicators.1

Nursing in Brazil was regulated with the COFEN 7,498 Act, 1986, which provides for the nurse’s private activities, including the nursing consultation (NC). In COFEN Resolution 358, 2009, it is discussed, in turn, about Nursing Care Systematization (NCS) and the implementation of the Nursing Process (NP), which must be carried out in public or private environments where the professional care.2

The NP is conceptualized as a care technology that can be used by all nurses in professional practice, guaranteeing qualified, safe care and minimizing risks, giving care a theoretical basis.3-4 It is understood that the NP guides nursing care and the registration of its actions, aiming at care in its entirety, following a methodology that observes the performance of Nursing from the initial moment until the evaluation of the results of the care provided.

NCS, in turn, is defined as the methodological instrument that guides professional nursing care and the documentation of professional practice, in addition to organizing professional performance regarding the method, personnel and instruments, making it possible to instrumentalize and implement NP.3-4 From the NCS, it is possible to systematically organize the practice of care, directed to each individual according to their needs, allowing the organization of activities and services.

The NCS started to be discussed in Brazil from the 70s and 80s, by Wanda Horta, who published the first article on the diagnosis of Nursing in the country. It should be noted that, in 1979, in the book Nursing Process, Horta divided the NP into stages. They sought to qualify nursing actions, allowing the systematization of care in an organized manner and with a focus on the needs of the client.5

Currently, NP is understood in five stages: data collection (collection of objective and subjective data from the patient); Nursing Diagnosis (guide for selecting the interventions necessary to achieve the expected results for the patient); planning (in this step, the expected results are defined according to each defined intervention); implementation (realization of Nursing prescriptions) and evaluation (verification of changes in the responses of the individual, family or community, at a given moment, to determine whether the Nursing interventions achieved the expected result).5-6

Nursing consultation is considered a private activity of the nurse, as the name used when the NP is performed outside the hospital environment, that is, in outpatient settings, schools, daycare centers, companies and others. NP tools are used in the NC to organize and plan care and consultation has been developed as an instrument for producing quality care, focusing on individual needs, contributing to better clinical follow-up and outcomes.7-8

In the context of heart disease, the importance of the Nursing process for the monitoring of patients on an outpatient basis is revealed, being able to assist in better therapeutic control and raise the technical level of professionals, bringing the reflection on the importance of the nurse’s performance in the monitoring of chronic diseases.7-8

It is believed that, for the successful treatment of heart disease, active participation and client involvement are essential. It is necessary, for this, in addition to raising awareness of their self-care, that the client feels welcomed and understood in all its aspects, in an integral way, with the nursing consultation being a moment of welcome, listening and guidance, transcending the care and providing transformations in individuals in terms of unhealthy living habits.9-10 Nursing consultation is considered a tool used in this search for continuity of care and effective communication, that is, patient-centered care.11

It is known that, for nurses to exercise their practice in an educational, administrative, research or assistance way, a solid foundation is needed, which guarantees quality, safe and risk-free care. Thus, the need to explore the scientific evidence available in the literature about outpatient nursing consultation in cardiology was felt.

OBJECTIVE

- To analyze the scientific evidence about the outpatient nursing consultation in cardiology.

METHOD

This is a bibliographic study, like an integrative review, a research method that aims to gather the scientific knowledge already produced on the subject investigated, allowing to search, evaluate and synthesize this evidence for its incorporation in practice.12 The guiding question was defined: “What is the evidence in the scientific literature
about the outpatient nursing consultation in cardiology?”. In order to carry out this research, the following steps were taken: outlining the theme to be studied and the guiding question; definition of inclusion and exclusion criteria; definition of the information to be extracted from the studies; the careful analysis of the extracted data; the elaboration of categories and discussion of the results found and, finally, the description of the main results evidenced in the studies.

The search for the material was carried out in the month of October 2018, not previously establishing a time space to search for the productions, including the studies found from the first work, in 2002, until the last, in 2015, allowing an analysis of the evolution of research on the theme.

The survey of the articles was carried out through the CAPES Portal, in the databases MEDLINE, Latin American and Caribbean Literature in Health Sciences (LILACS), Web of Science, Cumulative Index to Nursing and Allied Health Literature (CINAHL), SCOPUS and the Scientific Electronic Library Online (SciELO) and Virtual Health Library (VHL) virtual libraries. The following descriptors registered in the Health Sciences Descriptors (DeCS) / MeSH were used: “Nursing consultation”; “Cardiology” and “nurse”, and their English counterparts: “office Nursing”; “Cardiology” and “nurse”, integrated by the Boolean operator AND in the subject field.

For the selection of articles, the following inclusion criteria were considered: original article, published in full and available electronically, presented in English and Portuguese, with abstract and available references. Articles that were repeated in the databases, review articles, reflection, experience reports, expert opinions or that did not answer the guiding question were excluded. Figure 1 shows the route for selecting articles.

Figure 1. Flowchart of study selection according to Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2009). Fortaleza (CE), Brazil, 2018.

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After selecting the articles to compose the study, they were listed and a table was created to support the reading and file, as shown in Table 2. The selected articles were analyzed according to the title, objectives and conclusion, in order to answer the guiding question and interpret the analyzed theme from the point of view of the different researches carried out, in the different periods and scenarios.

The Content Analysis technique was used to analyze the data production, which consists of the following steps: 1 - Pre-analysis; 2 - Exploration of the material and 3 - Treatment of results, inference and interpretation.13-14 After the analysis, studies were made in thematic categories, in the discussion of the results, entitled: Health care programs in cardiology managed by nurses; Importance of nurses' performance in improving self-care in the cardiology outpatient clinic and Nursing diagnoses and interventions in the cardiology outpatient clinic.

Finally, the synthesis of knowledge and the presentation of the data analysis were carried out, resulting in knowledge about the nursing consultation at the cardiology outpatient clinic. Ethical principles were respected in the process of preparing this study, as well as the authorship and integrity of the articles that comprised this integrative review.

**RESULTS**

There were 12 articles on the theme, published between the years 2002 and 2015, as shown in Table 1. It is noteworthy, despite including publications from 2002, that more than half of the articles were published in the last decade, which may be related to the growing interest of the subject in scientific research in this period.

| Article title                                                                 | Type of study                  | Year | Databases/Virtual Library | Journal                                                                 | Country |
|-------------------------------------------------------------------------------|--------------------------------|------|---------------------------|--------------------------------------------------------------------------|---------|
| Nursing Consultation: Space for creating and using a protocol for patients after myocardial revascularization | Randomized clinical trial      | 2010 | VHL                       | Gaúcha Nursing Journal                                                  | BR      |
| Nursing diagnoses in hypertensive patients followed up in a multidisciplinary clinic | Cross-sectional - quantitative | 2012 | VHL                       | Nursing Journal of the Federal University of Santa Maria               | BR      |
| Benefits of a mobile, point-of-care anticoagulation therapy management program | Retrospective cohort study     | 2002 | SCOPUS                    | Journal on quality improvement                                           | USA     |
| A review of records from follow-up visits for immigrant and Swedish patients at a heart failure clinic | Comparative descriptive        | 2011 | CINAHL                    | European Journal of Cardiovascular Nursing                              | SWE     |
| A nurse-led rapid access chest pain clinic - experience from the first 3 years | Descriptive                    | 2005 | CINAHL                    | European Journal of Cardiovascular Nursing                              | ENG     |
| A pilot study to validate the priority nursing interventions classification interventions and nursing outcomes classification outcomes for the nursing diagnosis “excess fluid volume” in cardiac patients | Qualitative - Content validation | 2009 | CINAHL                    | International Journal of nursing terminologies and classifications       | BR      |
| Evaluation of an education and follow-up program for implantable cardioverter defibrillator-implanted patients | Quali-quantitative             | 2013 | CINAHL                    | Journal of clinic nursing                                                | TUR     |
| Pediatric nurse practitioner managed cardiology clinics: patient satisfaction and appointment access | Comparative, prospective, descriptive | 2011 | CINAHL                    | Journal of advanced nursing                                              | USA     |
| Nurse practitioners versus doctors diagnostic reasoning in a complex case presentation to an acute tertiary hospital: A comparative study | Comparative                    | 2015 | CINAHL                    | International Journal of nursing studies                                | NZL     |
| A Retrospective Study of Nursing Diagnoses, Outcomes, and Interventions for Patients Admitted to a Cardiology Rehabilitation Unit | Descriptive                    | 2011 | CINAHL                    | International Journal of nursing terminologies                          | ITA     |
| Impact of satisfaction, nurse-patient interactions and perceived benefits on health behaviors following a cardiac event | Correlational cross-sectional   | 2003 | CINAHL                    | European Journal of Cardiovascular Nursing                              | HUN     |
| Self-care agency and factors related to this agency among patients with hypertension | Descriptive, analytical, cross-sectional | 2006 | CINAHL                    | Journal of clinical nursing                                              | TUR     |

Figure 1. Summary of articles found for the study. Fortaleza (CE), Brazil, 2018.

It was found that, of the 12 studies, two were carried out in 2011 and the others were distributed between 2002 and 2015, with unpublished intervals in 2004, 2008 and 2014. Only one article was registered in a multidisciplinary knowledge magazine, and all the others were published in specific Nursing journals, distributed in CINAHL (75%), SCOPUS (8%) and VHL (16%). As for the language of the studies, the publication of two in Portuguese and ten in English stands out.

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Two studies (16%) were published in national journals and the rest (84%) in international publications. It should be noted that the main countries for carrying out the studies were the United States of America, New Zealand, Brazil, Sweden, England, Turkey, Italy and Hungary.

It was found, in relation to national journals, that the studies were published in the Gaúcha Nursing Journal and in the Nursing Journal of the Federal University of Santa Maria, concentrating national publications on the subject in the southern region of Brazil. At the international level, three journals stand out (European Journal of Cardiovascular Nursing, International Journal of Nursing Terminologies and Classifications e o Journal of Clinical Nursing), with two publications each, and the other journals (Journal on Quality Improvement, Journal of Advanced Nursing e o International Journal of Nursing Studies), with one publication each.

### DISCUSSION

The articles address the relevance of patient monitoring programs managed by nurses, nursing diagnoses and interventions and the importance of the nurse's role in improving the self-care of cardiology patients. The following thematic categories are discussed.

**Category 1 - Cardiology health care programs managed by nurses**

In the research, the relevance of the nurse’s performance in the management of health programs is pointed out, revealing the potential of this professional and the population’s gains with the provision of these services, highlighting the importance of the nurse's performance in health services, not only at the time of the nursing consultation, but also in the entire monitoring of clients.

It was observed, in a study carried out in Delaware County, USA, that the implementation of an outpatient anticoagulant therapy management program coordinated by nurses led to substantial improvements in the patients’ anticoagulation results, in addition to emphasizing the importance of these professionals’ performance. Better treatment control and better follow-up can be provided with periodic nursing consultations.

It was emphasized, as a differential factor in the positive results obtained in this study, the fact that the coordination of the referred program is carried out by a nurse specialized in anticoagulation management, which can be a reference for other services that perform the same activity.

It was also evaluated, in a study carried out in a tertiary cardiothoracic hospital in England, the implementation of the service managed by the nurse - the chest pain clinic with quick access.

Doctors were instructed to refer patients with new chest pain directly to the Nursing Consultant, by phone or fax, to the fast access clinic, and all patients were seen within two weeks of this referral.

It is noted that the clients were evaluated, after performing an electrocardiogram, by the Nursing consultant, who, in turn, was a nurse with experience in cardiology able to request exams and schedule outpatient visits as needed. It was then decided on the need for further investigation. In addition to the ECG, the nurse conducted stress tests and medication administration according to the existing protocols.

It was demonstrated, from this study, that nurses can successfully perform this type of care without an increased risk of incorrect diagnosis and that the care was well accepted by users who attended the clinic, offering patients timely access to assessment of your pain and facilitating the early diagnosis of heart disease.

Emphasis is placed on the recognition of the importance of nursing care by patients and it is clear that the better the interaction between the nurse and the patient, the greater their satisfaction with the services and the greater the adherence to treatments and healthy lifestyle habits. It is noteworthy that the nursing consultation is a moment of approximation and interaction, assessment and individualized planning, in addition to working with information relevant to the patient's health condition.

Another study carried out in the USA, corroborating the one described above, pointed out the development of pediatric cardiology clinics managed by nurses, based on research that evaluated the impact of adult cardiology clinics also managed by these professionals.

It is noticed that the change from the traditional medical clinical model to a preventive cardiology clinic managed by nurses resulted in an improvement in continuity, access and user satisfaction. Based on these studies and others, it is suggested that, with appropriate training, the scope of the nurse's practice can safely and effectively include care in subspecialties.

It was found, in a study carried out in Turkey that the patients with Implantable Cardioverter Defibrillator (ICD) lived with several physical and psychosocial problems, besides having insufficient knowledge about the treatment itself. It was pointed out that the Nursing monitoring program implemented in the service increased the users' knowledge levels, decreased the anxiety / depression scores and improved several quality of life subscales in the patients of the experimental study group, helping to better adapt to the new health condition.

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It is known, as previously discussed, that the nursing consultation is one of the moments in which the nurse manages to carry out health education actions, collecting and exchanging information, in a clear and objective way, aiming at the empowerment of the patient in the face of their health situation and promoting lifestyle change.

It is noteworthy that the positive results obtained by the services managed by nurses reinforce the growth of the professional category and the broad role that can be developed by Nursing in the health sector. The nurse is empowered to identify the needs of users in all dimensions, promoting comprehensive care within the professional team, whether in the prevention of injuries or in the promotion and rehabilitation of health.

♦ Category 2 - Importance of nurses' performance in improving self-care in the cardiology outpatient clinic

Health education activities are carried out by the nurse in several care areas and, during the Nursing consultation, the promotion of self-care is a central factor to be worked on, as these are actions that the individual takes to maintain their own life, health and well-being.

In the studies, the positive results of the nursing consultation with regard to self-care were proven. Satisfactory results were obtained with the application of the Nursing Consultation Protocol to clients undergoing myocardial revascularization at a referral hospital for cardiology in Fortaleza (CE), being a differential factor in achieving satisfactory results. Through the protocol in question, systematic evaluation, the raising of real problems for planning and carrying out Nursing interventions, as well as the establishment of priorities in the adoption of measures, were made possible.

In the study, the effectiveness of NC was shown in the behavioral changes of the patients’ lifestyle, such as the improvement of the quality of the diet, adherence to the practice of physical exercises and reduction of smoking and alcoholic beverages. It is assessed that these changes are significant for the reduction of risk factors and, consequently, for the minimization of cardiovascular complications.

In turn, in a study carried out in Hungary, with hypertensive patients, the average self-care rate of service users was found and it was found that the educational level interfered in this reality. It is understood that the nurse must know the self-care capacity of each user and, from there, outline individualized goals and actions, with the NC being an opportune moment for carrying out this action.

It is known, with regard to arterial hypertension, that health education programs that include non-pharmacological interventions positively help in improving the efficiency of drug therapy and in reducing complications. With such interventions, knowledge about the disease and treatment is also raised, actively involving individuals and making them aware of the importance of their participation in their health-disease process.

It is understood that, in their professional practice, nurses should receive, from patients, the necessary information to assess their health situation, also contemplating the concept and management of self-care, being able to intervene in situations where this process is ineffective. Encouraging self-care in the health education process is strengthened, realizing and respecting each individual's own knowledge and carrying out individualized educational actions.

In the study in question, it was concluded that a nursing monitoring program increased knowledge levels, decreased anxiety and depression scores and improved several quality of life subscales in patients. It is important, as they are considered low-cost activities that involve minimal risk, to highlight them as alternatives and use them in the formulation of health policies and strategies.

It was evidenced, in a study carried out in Hungary, that the nurse-patient interactions improved the perception about the importance of adopting a healthy lifestyle. It was noticed that attentive nursing care and the patient's ability to discuss health concerns positively influenced the modification of these perceptions and that the better the interaction with the nursing team, the greater the satisfaction with care.

It is recognized, then, that awareness of self-care is indispensable for better clinical monitoring, since the individual who takes care of himself has better results in his health treatment. It is believed that, showing the individual his fundamental role in the health-disease process, the nurse manages to make him active and responsible in his promotion and maintenance of health, being an important area of activity.

♦ Category 3 - Nursing diagnoses and interventions in the cardiology outpatient clinic

It is noted that, as the concern with the quality of nursing care grows, the demand for the quality of the record of these actions grows. It is defended, be it in the nursing consultation or in the other care performed, that the proper registration guarantees the planning, evaluation and continuity of the service, in addition to legitimizing the importance of the profession.

In nursing consultation, NP is used as a work methodology and its steps must be properly followed and documented in order to guarantee

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the continuity of care and the visibility of the profession. The five stages of the NP are involved in the records (anamnesis, diagnoses, planning, implementation and evaluation), but the concentration of studies in the stage of nursing diagnoses and interventions is perceived.

It is sustained, among the authors, the relevance of identifying NDs in professional practice, allowing the clinical assessment of nurses to assist in the identification of therapeutic demand and to guide the health care provided, supporting the development of an individualized action plan aimed at resolving the identified problems.

In a study carried out in an outpatient service in Rio Grande do Sul, with hypertensive patients, the disposition for increased control of the therapeutic regime, anxiety, sedentary lifestyle and impaired sleep pattern was identified. It was added, on a service located in the Northeast of Italy, in turn, that the prevalent NDs were decreased cardiac output, activity intolerance and the risk or presence of nutritional imbalance (more than body needs).

In the study carried out in Italy, nursing interventions and the most prevalent outcomes were also observed, with the most frequent interventions being the promotion of exercises, energy management, weight control, medication management, cardiac care (rehabilitation), teaching (prescribed activity, exercise and diet) and monitoring vital signs. Outcomes were related to cardiopulmonary physiological health and knowledge about the management of heart disease and diet.

In the study, the focus on physiological care was highlighted, since no attention was paid to the family and the community health domain was not represented, raising the possibility of some nurses associating family-related problems with other professional categories.

A similar question was raised in a study carried out in the cardiology unit of a Brazilian university hospital, since nurses were more concerned with physiological aspects, in comparison with some issues related to the patient's psychological comfort, corroborating what was described above.

In the same study, we sought to validate the content of the priority interventions of the NIC (Nursing Interventions Classification) and the results suggested by the NOC (Nursing Outcomes Classification) for cardiac patients with the Nursing diagnosis “excess fluid volume”, revealing that most of the activities listed in the NIC priority interventions for the diagnosis in question were considered relevant by the specialists.

Studies have reflected on the need to emphasize the importance of psychological care provided to clients and family members. It is questioned whether this reality is due to the emphasis given in the academy to practical procedures, as well as the excessive amount of activities required of nurses in their professional routine.

It can also be seen that telephone follow-up was a useful intervention to ensure continuity of care between visits to the rehabilitation center and that, in general, the NANDA-I, NOC and NIC taxonomies offer good coverage when speaking in cardiac rehabilitation care.

The quality of nursing records was evaluated in a study carried out in Sweden, which aimed to compare the nursing records performed during the care provided to Swedish patients and the care provided to immigrant patients.

It was revealed in this study that less clinical measurements and follow-up visits were documented for the group of immigrants, with no known justification for this fact. The importance of individualized care is reinforced, since socio-cultural barriers may have interfered with communication, actions and their records. The presence of professional interpreters is mentioned as a possible facilitator during visits, always seeking the best results.

It is known that incomplete information can generate losses in the provision of care. It is argued, therefore, that nurses should seek effective communication with the client, understanding their doubts and anxieties and respecting social and cultural differences, in order to guarantee a global and humanized approach.

It is proven, in some countries, that the diagnostic role of nurses goes beyond what is agreed in Brazil, being authorized to diagnose and treat health conditions, achieving positive results in the face of complex cases and in the management of chronic conditions and diseases and minor injuries.

It was concluded, from the findings of the study in question, that the diagnostic reasoning of Nursing professionals, developed from education and experience, allows them to diagnose and manage complex patients who present themselves for the first time without reducing the quality of the care or increase risks for patients. In this way, more support for alternative models of care is added and the importance of nurses in health services is strengthened.

In the studies, the relevance of the nurse's role in monitoring the cardiac patient was demonstrated. As a limitation of the study, the reduced number of publications on the subject is pointed out. It is suggested to carry out more studies addressing the theme, describing the realization of the Nursing process, in order to produce more knowledge, improve Nursing actions.
and strengthen the performance of outpatient nursing consultation in cardiology.

CONCLUSION

It was concluded, with this study, that the NP is essential for quality care. It is noticed that the nurse, when attending the non-hospitalized individual in outpatient treatment, performs the Nursing consultation, applying the steps of the Nursing process, to plan and organize their actions, supporting them in scientific knowledge.

In this review, it is revealed how the outpatient cardiology nursing consultation has been carried out in several countries and the importance of nursing care in health services is reinforced, bringing positive results to clinical outcomes.

It is perceived that the NC provides an improvement in disease control, increasing adherence to health treatments and contributing to the autonomy of individuals, bringing users closer to services and facilitating their access to them.

In the studies, there are also positive examples of nurses managing programs for the follow-up of ICDs, in anticoagulation and post-coronary artery bypass grafting, showing that clients had better results when compared to services that did not have these programs.

The concern with the nurses’ focus on physical problems in relation to psychological care is highlighted. It should be noted that the cardiac client brings fears and anguish, in addition to physical symptoms, and his evaluation must involve these aspects so that the proposed diagnoses and interventions can provide complete safety and well-being.

It is concluded that, despite the relevance of the nursing consultation in the specialized cardiology outpatient clinic, the number of studies on the subject is still scarce, which may indicate flaws in the performance of NP and NCS, as well as the non-prioritization of these actions in the professional's routine. Thus, there is a need for studies that describe the stages of this process and, as a result, can assist in monitoring and quality care for patients in the cardiology outpatient clinic.

It is believed that Nursing produces knowledge that underpins its interventions in the care of people's health, from conception to death, individually or collectively, guaranteeing its scientific rigor and social utility, this production of knowledge being fundamental for the advancement of Nursing like the science of caring.

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