



KNOWLEDGE AND FEELINGS OF PATIENTS SUBMITTED TO CARDIAC CATHETERIZATION¹

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ABSTRACT

This is a study that addresses users' knowledge and feelings about the cardiac catheterization exam. **Objective:** To describe the perception of the exam in users submitted to a coronary catheterization. **Methods:** This is a descriptive study with a qualitative approach carried out at the hemodynamics service in a university hospital in the state of Rio de Janeiro, from October to December 2013. Twenty 20 patients, aged between 18 and 79 years old participated in the study. Data collection was carried out through semi-structured interviews, followed by content analysis. **Results:** most patients were unaware of the purpose of the exam, and felt fear and anxiety associated with death, symbolically or not. **Final considerations:** patients are not clear about the therapeutic action of cardiac catheterization, opening space for the presence of feelings caused by ignorance. The educational actions carried out by the nurse are a facilitating strategy for health education for these people.

Keywords: Knowledge. Heart diseases. Cardiac catheterization. Nursing care.

INTRODUCTION

We know that coronary artery disease (CAD) is a public health problem with prevalence in large centers and affects the elderly population in Brazil and worldwide, contributing significantly to the mortality rate in all Brazilian regions, and standing out among the non-communicable chronic diseases (NCDs)⁽¹⁻³⁾. They also are a relevant health problem, and one of the main causes of prolonged hospitalization, responsible for the main use of public resources in hospitalizations in Brazil, increasing the economic burden in recent decades⁽³⁾.

CAD occurs due to many factors and has no single cause. Several factors such as **advanced age, diabetes mellitus, increased lipid levels, and arterial hypertension** associated with behavioral risk factors contribute to its development⁽⁴⁾. However, these factors are related to arteriosclerotic or atherosclerotic changes in the coronary arteries that nourish the heart^(2,4).

The incidence of coronary heart diseases may increase in developed and developing countries. The World Health Organization states that the

main causes of NCDs are well established such as **inadequate diet, physical inactivity, obesity/overweight, smoking, and harmful use of alcohol**^(1,5).

Scientific evidence shows the increase in coronary disease and also the increase in tests and procedures in hemodynamics laboratories for diagnosis and treatment⁽⁶⁾. The hemodynamics laboratory is a health services for invasive procedures that allow the cardiac and arterial hemodynamic study of patients. These tests aim to properly diagnose and treat heart and arteriopathies⁽⁶⁾.

Cardiac catheterization is an invasive cardiological examination of the introduction of thin catheters into the arteries, through the puncture or dissection of a vein or peripheral artery, followed by the administration of radiological contrast⁽⁶⁾. This examination enables the diagnosis by measuring the pressure and pressure gradients, but also the treatment of stenosis of the heart valves, coronary ischemia, through the mechanical unblocking of the vessels or the introduction of a stent⁽⁶⁾. The examination also provides a non-surgical treatment for some aortic aneurysms. This

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procedure is considered as low risk, with less than 1% of complications^(6,7).

Although it is a diagnostic examination done on a large scale and the information is available in the media such as the internet, television, and magazines, patients perform the procedure with fear, anxiety and with many doubts about it. This condition can affect them in such a way that the performance of the exam can be impaired, and in some cases, the exam is canceled⁽⁸⁾.

As a vital organ that generates life, heart disease is full of symbolism and feelings that affect the individual's safety. The organ that may be sick is associated with emotions related to the threat to life, physical integrity, health, and quality of life⁽⁹⁾. These emotions are also related to the possible need of the individual to learn to live with the disease, its restrictions, symptoms, medications, diet, among others and to adapt to the new activities and habits imposed by it⁽⁹⁾.

Inserted in the multi-professional health team, nursing should be attentive to the evaluation and care of patients submitted to the coronary catheterization exam. Nurses should seek training, updating, revitalization, and recognition of the skills necessary for nursing praxis to contribute with a closer view of the needs and difficulties in the care of these people⁽¹⁰⁾. The humanized care associated with available educational technologies are strategies that when used according to each level of complexity in health they promote the safety of patients and also generate better assimilation⁽¹¹⁾.

Thus, understanding that the individuals express their opinions, showing their theories and reacting positively or not to the different situations they live and that educational and strategic actions carried out by nurses can make them aware of the need to adopt behaviors and healthy lifestyle, this study aims to describe the exam perception of patients undergoing coronary catheterization.

METHODOLOGY

This is a descriptive, exploratory study with a qualitative approach; It aimed to explain the details of social relationships, being the essence and result of creative, affective and rational human activity, and which can be learned

through everyday life, experience and explanation of common sense⁽¹²⁾.

The study scenario was the Hemodynamics Service of the University Hospital, linked to the Universidade Federal Fluminense, located in the city of Niterói, State of Rio de Janeiro. The hospital is under SUS as a highly complex unit, both tertiary and quaternary. It is a teaching and research institution whose mission is to generate, transform, and disseminate knowledge, and must provide health services with excellence, in a dignified, critical, and hierarchical manner.

The study participants were 20 patients, 15 women, and 05 men who sought the hemodynamics service to schedule and perform the coronary catheterization exam and who agreed to participate in the study. The study was carried out from October to December 2013.

The inclusion criteria for the participants were: patients of both genders, aged 18 years old or over, who were assisted in an outpatient clinic and/or hospitalized, and who was under medical care. The exclusion criteria were: patients submitted to the exam urgently or mentally compromised. The data collection consisted of a semi-structured interview during the patient's admission to the care units or inpatient units, identifying the knowledge and feelings of the examination performed. We also used an instrument for data collection, including the socio-cultural profile of the patients.

The interview was recorded and held in a private room, which provided privacy for the interviewees, with an average time of twenty-five minutes, while waiting for the medical consultation. It had strategically specific questions regarding the cardiac catheterization: Are you taking this exam for the first time? How long have you been waiting for this exam? Has it ever been rescheduled? What information was provided to you about this exam? Who provided this information to you? What do you know about this exam? Where did you get this knowledge from? How or what do you feel about this exam? What would you like to know about this exam?

During the interviews, we had an attentive looking, listening, and observation, seeking not only the content that was exposed verbally but also the observation of attitudes, facial and feelings expressions, and non-verbal behaviors

that provided the enrichment of the analyzes. The interviews were transcribed in full for analysis. Data saturation was the criterion for closing the sample. The data were analyzed and interpreted based on the triangulation of the findings based on the thematic content analysis⁽¹²⁾.

The different phases of content analysis were organized around the chronological stages: pre-analysis, material exploration, treatment of results, inference, and interpretation. In the pre-analysis, we carried out the first activity called floating reading, which establishes contact with the content expressed by the interviewees and knowing the answers by impressions and guidelines. We used thematic analysis as a modality of analysis, identifying nuclei of meaning that make up the communication and whose presence or frequency of appearance may mean something for the chosen analytical object. The clipping, aggregation, and enumeration, which led to a representation of the content, allowed to clarify the categories. The inference showed a comparison between what emerged from the interviewees and what is relevant in the scientific literature, based on the readings referring mainly to the themes of heart disease and coronary catheterization. The results were treated to be significant (speakers) and valid for advancing interpretations regarding the proposed objective⁽¹²⁾.

The Research Ethics Committee of Hospital Universitário Antônio Pedro, from Universidade Federal Fluminense, approved this project (opinion nº429165). Respecting ethical and legal principles, we collected data with the consent and signatures of the Informed Consent Form by the participants. Everyone willing to be interviewed with anonymity was identified by the term "Patient" following the number that identified him in the survey, for example, Patient 1. The study respected the formal requirements contained in national and international regulatory standards for research involving human beings.

RESULTS

Within the socio-cultural profile of patients, the sample of this research shows the assistance in the age group of 50 to 69 years old, advancing

to older ages. We observed that 25% of the interviewed patients are in the age group of 40 to 59 years old and 75% are 60 years old or more.

Regarding their education level, 60% of patients have not finished elementary school, 20% have finished elementary school and 20% have completed high school. There is no predominance of professional characteristics. However, 66% of the female gender develops or developed an activity outside the home, such as domestic, manicurist, daily cleaner, general services assistant, educational support, and a dental office. Regarding marital status, 80% of the participants were married and had two or three children.

In the sample, 65% of patients have systemic arterial hypertension, and/or 40% have diabetes mellitus. Of the users interviewed, 60% reported smoking.

Regarding the follow-up for the exam, the sample showed that 50% were with their partners. The other patients who did not have the presence of their partners were hospitalized, justifying their absence. Even without the physical presence of the companion, we noticed that hospitalized patients were constantly sought through phone calls.

We analyzed and organized the data from the qualitative study into categories: The purpose of the cardiac catheterization: diagnosis or treatment and need for information and Cardiac catheterization: a felt/perceived risk and the symbolization of death, showing their perceptions of the exam.

Purpose of cardiac catheterization: diagnosis or treatment and need for information

In this category, we observe the doubts expressed by the patients as to whether the exam is diagnostic or treatment to be performed. Doubts about the use of general anesthesia, the operating room, and the name of the exam are evident.

[...] They will prepare me, I have already shaved, I don't know if they will cut me, they will give me that {forgot the name}, they will give me anesthesia, but I don't know if it's total, I don't know [...]. **(Patient 01)**

[...] I'm a little nervous and anxious, for all this to be over soon, to know the result, to know if there

was any blocked vein; and nervous, because we don't know how this is done. Is it general anesthesia? Is it local? How long does this exam take? One hour? Two? [...]. **(Patient 04)**

Patients express the feeling of undergoing a major invasive procedure. Even claiming to be unaware of what the exam is, they have some idea of what it is, they express doubts. The phrases with the words to which they express doubts were: 'they said', 'they spoke', 'I think it is', showing that they sought to know what the exam was or how it would be performed, as reported in the following statements:

[...] I have no idea what it is. From what I hear, people who already have this is a coronary blockage, a catheter enters and goes into the heart and such, and sees where the blocked vein is. In this case, if the vein is clogged, it unclogs [...]. **(Patient 07)**

[...] They told me that this exam is to unblock the veins and that the pain in my chest would improve [...]. **(Patient 09)**

Some of the interviewees sought to substitute the lack of information by reading or searching on the internet:

[...] I study and I love to read, I love to read and I keep searching [...]. **(Patient 05)**

[...] what I know is what I saw on the internet [...] there is the possibility of putting a stent, a net, in each vein to keep the arteries open [...]. **(Patient 08)**

In general, the needs for guidance reported by users were regarding the diagnosis and prognosis; regarding the possibility of healing and clearing the arteries; regarding the presence of pain, the duration of the exam, risks with anesthesia, with contrast; regarding the exam itself, how the exam is performed, if the team is prepared; if there is a possibility of normal life after the exam; and whether cigarette, fat, and sugar are related to their current pathology. Their doubts are related to pre, trans, and post-procedure care, as shown in the following statements:

[...] I would like to know if the exam is always normal. This disease is a serious thing, right? [...]. **(Patient 10)**

[...] you can get out of there alive [...]. After the exam, can I go home? Or am I going to be hospitalized? Does it hurt? [...]. **(Patient 15)**

[...] if this exam cures what I'm feeling ... Will it remove the clogging? Are you prepared for this? [...]. **(Patient 18)**

Cardiac catheterization: a felt/perceived risk and the symbolization of death

Based on the patients' answers, the symbolization of patients about cardiac catheterization shows the content of their feelings about the exam, as seen below from their speeches:

[...] I'm afraid like that, I'm a little afraid because you have no idea what it is, even though people who have it say that this is okay, Ah, I was ... Wow, I was almost giving up on coming. **(Patient 09)**

[...] You know I don't even know, I've been so nervous, today I'm calm, I don't even understand myself. Many people are praying for me. I'm sure, they are praying. I came with my husband, my brother-in-law and my brother-in-law's son took me by car. They're from the church and they're very...you know? So, they went home yesterday and prayed, I'm feeling... I'm feeling well!!! [...]. **(Patient 11)**

[...] I am afraid because my husband died on a bypass, he left the house walking and did not return". "I wish I didn't do it." I've been hospitalized to do it but they didn't do it because of iodine, I'm allergic, in the emergency room, twenty years ago. I still have the concern of my grandson". "I'm afraid of dying" It's mostly in God's hands, right? To die it's enough to be alive, right. I have asked God for courage [...]. **(Patient 20)**

DISCUSSION

By being an invasive procedure, cardiac catheterization has complications⁽¹³⁾. Complications may occur with increased frequency if they are associated with risk factors such as arterial hypertension, severe heart failure, heart disease, shock, renal failure, aortic or mitral valve disease, unstable angina, acute myocardial infarction with less than 24 hours of evolution and age over 80 years old⁽⁹⁾.

In the signs and symptoms of coronary artery disease, we can observe asymptomatic patients or complain of fatigue. The common symptom is chest pain (angina) or discomfort during stress or activity. This pain or discomfort can manifest as pain or pressure on the heart (precordial), under the sternum (substernal). It can also radiate to the shoulders and arms, especially on the left side, or to the jaw, neck, or teeth⁽⁹⁾.

Although the profile of the unit service in previous years showed that the age group from 50 to 69 years old are most people who underwent cardiac catheterization, the sample of this research shows the advance for a higher age group, following the Census of 2010 conducted by the Brazilian Institute of Geography and Statistics (IBGE). This is because of the increase in the life expectancy of the general population^(14,15). Degenerative changes in the heart caused by aging make this age group know this diagnostic or therapeutic option. In this age group, the appearance of signs and symptoms of CAD is identified⁽⁹⁾.

Studies show that patients scheduled for any invasive diagnostic examination, considering also the chronic condition of their diseases, show the same concerns such as anxiety, fear, and concern related to the threat of physical integrity and well-being, as well as the implications of a positive diagnostic result for CAD⁽¹⁶⁾.

These feelings are also usually related to the immediate effects of the disease and treatment, the withdrawal reactions imposed by the changes in roles, and pre-existing social and psychological problems⁽⁹⁾. With the uncertainties and insecurities about the possibility of staying at work due to the morbidities associated with the signs and symptoms of CAD, the patients find it difficult to exercise their professions, forced to stop or even leave their jobs. The role of family provider may cease to exist even before the diagnosis is confirmed, and failure to contribute financially to the family can also generate feelings of anguish in the individual⁽⁹⁾.

The pathologies that affect the heart can bring the patient a radical need for life change. Also, death is often not consciously elaborated, and this fear is not expressed in words⁽¹⁷⁾. For them, death is not limited to the process of dying but also to all symbolic deaths that may come with diagnostic confirmation, such as lifestyle, that is

issues related to smoking and drinking, nightlife, eating, or not eating. This symbolic death is also of its independence, its autonomy, and its social role⁽¹⁷⁾.

The study confirmed the risk factors for coronary heart diseases, the presence of systemic arterial hypertension and diabetes mellitus, which intensify the patient's predisposition to develop cardiovascular diseases, as they enhance the development of macro and microvascular events, such as stroke brain disease and acute myocardial infarction⁽¹⁸⁾.

Chronic diseases increasingly affect the population. There is a worldwide commitment to its control, and several actions have been implemented. In Brazil, through the strategic action plan for this confrontation, the Ministry of Health addresses the four main groups of diseases - diseases of the circulatory system, cancer, chronic respiratory diseases and diabetes - and risk factors, such as smoking, harmful alcohol consumption, physical inactivity, inadequate diet, and obesity, working at all levels (promotion, prevention, and comprehensive care), articulating actions of the care line in the field of macro and micropolitics⁽¹⁹⁾.

Difficulties in adapting to the limitations of the disease may also result in feelings of helplessness. The presence of family and friends with an offer of optimism, support, and affection permeates closeness and mutual help⁽²⁰⁾. The difficulties of today resulting from the civilization process have grown a lot, and if science offers efficient mechanisms to face situations of physical risk, little is prepared to face the difficulties that involve emotional states related to illnesses, work, relationships. All of these everyday situations can generate anxiety, stress, anguish, and depression⁽²¹⁾.

The individual carries a range of popular knowledge in a more effective way such as images, myths, values and meanings that will reveal one or another situation in their human existence in the world, where information is transformed, allowing closeness and differences to be established; negotiations and acceptance; interactions with everything and everyone⁽¹⁷⁾.

From the perspective that everyone wants to feel at home, stepping on familiar and safe ground, and safe from any risk, when carrying

out an unknown exam what will be done inside the heart and how this heart is, there are several conflicting feelings⁽⁹⁾. Also, there is the possibility of limiting their activities, their autonomy, their family role. Waiting for the result and/or confirming the diagnosis of coronary artery disease generates symbolic mourning for the loss of health, self-sufficiency, and independence⁽⁹⁾.

We can affirm that the individuals explanations about the socially relevant objects help them to communicate and to act for the questions that are shaped in the daily routine. Thus, they will express knowledge, practices, and attitudes to explain the different ways that the individuals will deal with objects, in this case, with the cardiac catheterization exam⁽¹⁷⁾.

The nurse's role is to provide guidance, teaching, evaluation, and follow-up based on reliable data, enabling adequate patient care⁽³⁾. Inserted in the multi-professional health team, nursing should be attentive to the evaluation and care of patients submitted to cardiac catheterization⁽²²⁾. The improvement of nursing knowledge and techniques based on interventional cardiology contributes to nurses having a closer view of the needs and difficulties of these people⁽²²⁾. Humanized care associated with different technologies contributes to nurses' educational actions to promote holistic care⁽²²⁾.

The study highlights the need to implement strategic educational actions that are geared to meet the needs of guidelines highlighted by the patient, seeking to promote health through a

globalized language that allows the democratization of knowledge^(21,24). These actions aim to provide awareness of the needs for changes in the habits and lifestyles and to inform the risks and benefits of the cardiac catheterization exam to minimize distressing feelings of fear and anxiety.

FINAL CONSIDERATIONS

The experience of undergoing a cardiac catheterization exam is a multidimensional and complex phenomenon, involving not only physical events but also psychological factors. We observed that the patients have limited knowledge about the exam, so they will manifest feelings of fear, anxiety, and concern generated mainly by being faced with an unknown situation. Qualified health care requires prioritizing the information needs expressed by the patient, the creation of spaces that favor the therapeutic process of care, where dialogue and listening are prioritized, taking their concerns seriously.

By using the technique and knowledge, the nurse together with strategies that provide education and health promotion can minimize the presence of the feelings related to the exam. The use of educational actions, the sharing of knowledge, which lead to the adoption of healthy lifestyles, the development of people and their capacities can cope with stressful everyday situations.

CONHECIMENTOS E SENTIMENTOS DE USUÁRIOS SUBMETIDOS À CINEANGIOCORONARIOGRAFIA

RESUMO

Trata-se de um estudo que aborda o conhecimento e sentimentos dos usuários relativo ao exame de cineangiografado. **Objetivo:** descrever a percepção dos usuários submetidos à cineangiografado em relação ao exame. **Métodos:** estudo descritivo com abordagem qualitativa, realizado no serviço de hemodinâmica em um hospital universitário no estado do Rio de Janeiro, no período de outubro a dezembro de 2013. Os participantes foram 20 usuários, com idades entre 18 a 79 anos. A coleta de dados foi realizada por meio de entrevista semiestruturada, seguida da análise de conteúdo. **Resultados:** observou-se o desconhecimento quanto à finalidade do exame pela maioria dos usuários, e presença de medo e ansiedade associados à morte de forma simbólica ou não. **Considerações finais:** constatou-se que os usuários não possuem clareza quanto à ação terapêutica da cineangiografado, abrindo-se espaço para a presença de sentimentos que emergem ocasionados pelo desconhecimento. As ações educativas realizadas pelo enfermeiro constituem-se em estratégia facilitadora para a educação em saúde dessa clientela.

Palavras-chave: Conhecimento. Cardiopatias. Cateterismo cardíaco. Cuidados de enfermagem.

CONOCIMIENTOS Y SENTIMIENTOS DE LOS USUARIOS SOMETIDOS A LA CINEANGIOCORONARIOGRAFÍA

RESUMEN

Se trata de un estudio que aborda el conocimiento y los sentimientos de los usuarios respecto al examen de cineangiografía. **Objetivo:** describir la percepción de los usuarios sometidos a la cineangiografía con relación al examen. **Métodos:** estudio descriptivo con enfoque cualitativo, realizado en el servicio de hemodinámica en un hospital universitario en el estado de Rio de Janeiro-Brasil, en el período de octubre a diciembre de 2013. Los participantes fueron 20 usuarios, con promedio de edad de 18 a 79 años. La recolección de datos fue realizada a través de entrevista semiestructurada, seguida del análisis de contenido. **Resultados:** se observó el desconocimiento en cuanto a la finalidad del examen por la mayoría de los usuarios, y la presencia de miedo y ansiedad asociados a la muerte de manera simbólica o no. **Consideraciones finales:** se constató que los usuarios no poseen claridad respecto a la acción terapéutica de la cineangiografía, dando lugar a sentimientos que surgen ocasionados por el desconocimiento. Las acciones educativas realizadas por el enfermero se constituyen como estrategia facilitadora para la educación en salud de esta clientela.

Palabras clave: Conocimiento. Cardiopatías. Cateterismo cardíaco. Atención de enfermería.

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