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PRE-CATHETERISM NURSING CONSULTATION AND PERCUTANEOUS CORONARY INTERVENTIONS

CONSULTA DE ENFERMAGEM PRÉ-CATETERISMO CARDÍACO E INTERVENÇÕES CORONÁRIAS PERCUTÂNEAS

CONSULTA DE ENFERMERÍA PRÉ CATETERISMO CARDÍACO E INTERVENCIONES CORONARIAS PERCUTÂNEAS

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ABSTRACT

Objective: to evaluate the effectiveness of the Nursing consultation for the improvement of the care provided and for the cardiac catheterization and coronary angioplasty to be performed with less risk and at the scheduled time. **Method:** observational, descriptive study, of a qualitative approach, that followed the Nursing consultation in 200 patients, applying Nursing history. The analysis of the data allowed to plan the attendance and the accomplishment of the exams in the anticipated dates. **Results:** the procedure was performed on the expected date in 192 patients; Five procedures were not performed due to change of medical conduct and technical problems; Two patients performed the procedure at another service and suspended a procedure at the time of completion. **Conclusion:** the Nursing consultation of the cardiac pre-catheter and percutaneous coronary interventions was effective since it allowed the nurse, to plan the care of these patients, avoiding the suspension of the procedure and guaranteeing greater comfort and safety. **Descriptors:** Cardiovascular Nursing; Cardiac Catheterization; Percutaneous Coronary Intervention.

RESUMO

Objetivo: avaliar a efetividade da consulta de Enfermagem para a melhoria do atendimento prestado e para que o cateterismo cardíaco e angioplastia coronária fossem realizados com menor risco e no momento programado. **Método:** estudo observacional, descritivo, de abordagem qualitativa, que acompanhou a consulta de Enfermagem em 200 pacientes, aplicando Histórico de Enfermagem. A análise dos dados permitiu planejar o atendimento e a realização dos exames nas datas previstas. **Resultados:** o procedimento foi realizado na data prevista em 192 pacientes; cinco procedimentos não foram realizados devido à mudança de conduta médica e problemas técnicos; dois pacientes realizaram o procedimento em outro serviço e suspensão de um procedimento no momento da realização. **Conclusão:** a consulta de Enfermagem pré-cateterismo cardíaco e Intervenções coronárias percutâneas se mostrou efetiva uma vez que permitiu, ao enfermeiro, planejar o atendimento a esses pacientes, evitando a suspensão do procedimento e garantindo maior conforto e segurança. **Descritores:** Enfermagem Cardiovascular; Cateterismo Cardíaco; Intervenção Coronária Percutânea.

RESUMEN

Objetivo: evaluar la efectividad de la consulta de enfermería para la mejora del servicio prestado y para que el cateterismo cardíaco y angioplastia coronaria fueran llevado a cabo con menor riesgo y en el tiempo programado. **Método:** estudio observacional, descriptivo, de enfoque cualitativo, acompañó la consulta de enfermería en 200 pacientes, aplicando Histórico de enfermería. El análisis de los datos permitió planificar y planear el atendimento y La realización de los exámenes en las fechas establecidas. **Resultados:** el procedimiento fue realizado en La fecha prevista en 192 pacientes; cinco procedimientos no se realizaron debido al cambio de conducta médica y problemas técnico; dos pacientes realizaron el procedimiento en outro servicio y suspensión de um procedimento en el momento de la realización. **Conclusión:** la consulta de enfermería pré-cateterismo cardíaco e Intervenciones coronárias percutâneas resultó eficaz ya que permitió al enfermero planear el atendimento a estos pacientes, evitando La suspensión del procedimiento y garantizado más comodidad y seguridad. **Descriptores:** Enfermería Cardiovascular; Cateterismo Cardíaco; Intervención Coronaria Percutânea.

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INTRODUCTION

Cardiac catheterization is a gold standard procedure for diagnosing and quantifying coronary artery problems, heart valves and chambers, and treatment of coronary artery disease. It also allows measurement of blood pressure values within the cardiac chambers and blood vessels and is growing year after year, according to studies carried out. It is a procedure that uses X-rays and allows visualization of these structures with the aid of iodinated contrast injected through a catheter, inserted into an artery or vein.¹⁻⁴

Although elective as an effective diagnostic and therapeutic method, it presents a risk of complications and relative contraindications such as: Sodium Warfarin and Metformin Hydrochloride, altered renal function - creatinine blood value> 1.4 (except dialysis), coagulation disorders - INR> 2.0, history of iodine allergies, anemia, infection, etc., evaluated the risk-benefit.¹

Data describe that the occurrence of adverse events during a diagnostic catheterization is around 2%. Among the most common complications that can occur: death (less than 0.8%); myocardial infarction (less than 0.1%); encephalic vascular accident (0.07-0.17%); complications at the site of catheter insertion; infection (0.06-0.6%); ischemia (less than 1%); dissection; hemorrhage (0.1 -0.97%); hematomas (0.18-1.3%); pseudoaneurysm (around 1%) and arteriovenous fistula (close to 0.4%); grave renal insufficiency, that damage can occur to the functioning of the kidney by reaction to iodized contrast used (0.9% of cases); renal embolism (0.27% of cases) and clinical instability during the procedure (0.24% of cases); arrhythmias - a wide variety of arrhythmias may occur during cardiac catheterization and most of them do not present clinical repercussion; allergic reactions: related to the iodine contrast used to perform the test (up to 1% of cases) and reactions to the anesthetic employed.²⁻³

The use of ionizing radiation carries risks to patients who undergo cardiac catheterization and coronary angioplasty, and the dose may vary according to the type of procedure performed, and the patients' level of knowledge about the procedure, limited, leads them to believe that is a surgical procedure, causing concern, anxiety, discouragement, fear and nervousness generated, mainly, by the expectation of the unknown. Therefore, it is essential to guide the patient about the risks involved and to

provide information that contributes to minimize these symptoms.⁴⁻⁵

It is also attributed by the nurse, from the Nursing consultation, to provide this information to the patient, clarify possible doubts and obtain data that are relevant to the procedure, and, based on this data, develop a plan of action to minimize the risks offered both by the use of iodinated contrast media as well as ionizing exposure.

Nursing care is performed in stages: Nursing consultation, which is where the collection of data by anamnesis and physical examination, Nursing diagnosis, planning of expected results; implementation of care (Nursing prescription) and Nursing Assistance Evaluation.⁶

In this context, the nurse's role may contribute to the performance of elective cardiac catheterization and percutaneous coronary angioplasty safely within the program, reducing the risks of complications for the patient and minimizing the symptoms.

The cardiologic Nursing consultation consists of data collection as patient complaints related to lack of air, fatigue, chest pain, chest discomfort, palpitations, fainting, edema, cyanosis and peripheral alterations, checking the onset, intensity and characteristics of pain and dyspnoea, and the triggering factors; medicines in use; previous diseases; history of allergies; family history; personal habits; lifestyle and previous procedures such as laboratory tests, ECG, exercise test, echocardiogram, among others. Physical exam performance: inspection of vital signs; abdominal circumference; weight; height; BMI; morphological type; level of consciousness, skin turgor, mucous membranes, attachments; if there is the presence of jugular stasis, ascites and edema; palpation of ictus cordis and cardiac auscultating.⁶

OBJECTIVE

- Evaluate the effectiveness of the Nursing consultation to improve the quality of the care provided and to ensure that the procedures were performed offering lower risks and at the time scheduled.

METHOD

An observational, descriptive study, of a qualitative approach that evaluated the effectiveness of the Nursing consultation as a tool to improve the quality of care provided and for the procedures to be carried out, offering lower risks and at the time scheduled, in the Hemodynamic Service of the

Institute of Medical Assistance State Public Server - State Civil Servant Hospital "Francisco Morato de Oliveira" (IAMSPE / HSPE-FMO).

The casuistry of this study was composed of 200 patients, with indication of cardiac catheterization and angioplasty, in the Hemodynamic Service of HSPE-FMO;

Patients who refused to participate in the nursing consultation and the study were included as criteria for inclusion. Refusal of patients to participate in the Nursing consultation and study, were excluded.

We used an instrument, Nursing History, developed by the Hemodynamic and Interventional Cardiology Service of the HSPE-FMO of the IAMSPE, where identification, information related to the clinical conditions of the patient, family history, beliefs, previous diseases, medications in use, habits, style Daily routines (Figures 1 and 2).

SPSH - State Public Server Hospital
Nursing Management - Rua Pedro de Toledo, 1800

Physical exams

Head and neck: ☐ lesions ☐ dists ☐ bruises ☐ nodules Definition: _____

Thoracic evaluation: Expansibilidade: ☐ simetrical ☐ assimetrical ☐ Eupnea ☐ Bradipnea ☐ Tachypnea
☐ apnea ☐ Dyspnea ☐ deep breath ☐ superficial breath

Heart auscultation: _____

Pulmonary auscultation: _____

Pulses (Location and characteristics): _____

Capillary filling: MSD: ☐ <2 seg. ☐ >2 seg. MSE: ☐ seg. ☐ seg.
MID: ☐ <2 seg. ☐ >2 seg. MIE: ☐ <2 seg. ☐ >2 seg.

Edemas: _____

Abdomen: _____

Skin: ☐ integrate ☐ alteration _____

Mucose (coloration /hydration/lesions): _____

Mobility: _____

☐ Prosthesis: Location and aspect: _____

Urinary elimination: _____

Devices (catheters, drains, TQ, TOT, stomatal equipment): _____

Risk of pressure ulcer: Braden's scale				
Sensory perception	Completely limited 1	Very limited 2	Not very limited 3	Not harmed 4
Humidity	Constantly unque 1	Very humid 2	Occasionally humid 3	Free of humidity 4
Activity	Bed ridden 1	Restricted to a chair 2	Walks occasionally 3	Walks frequently 4
Mobility	Completely imoble 1	Very limited 2	Not very limited 3	Without limitation 4
Nutrition	Very deficient 1	Probable inequation 2	Adequate 3	Excellent 4
Friction and slipping forces	Problem 1		Without a problem 3	

Risk of Fall - Morse Scale			
Evaluated item	Patient situation	Punctuatio n	Score
1. History of falls in the last three months	No	0	
	Yes	25	
2. Secondary diagnosis	No	0	
	Yes	15	
3. Aid in mobilization	Bed rest	0	
	Walking stick	15	
	Equipment	30	
4. Intravenous therapy	Yes	0	
	No	20	
5. March	Normal/Bed ridden/wheel chair	0	
	Slow	10	
6. Mental state	Altered/ Staggering	20	
	Oriented	0	
	Confusion/desoriented	15	
Score: 0-24 : Without risk 25-30: Low risk >30: High risk		Total:	

Evaluation of pain: location: _____ characteristic: _____ intensity: _____

Information given by: ☐ patient ☐ Companion

Destination of belongings: _____

Additional information: _____

Orientations: _____

Nurse COREN

Figure 1. Nursing History. São Paulo (SP), Brazil, 2015.



SECRETARY OF PUBLIC MANAGEMENT
Institute of Medical Assistance for
the State public server
Nursing History

Name: _____

Marital status: _____

Color: _____ Age: _____ Sex: _____ Floor/Ward: _____ Room: _____ Bed: _____

SPSH Register: _____

Date: ____/____/____ Time: ____ h ____

Procedence: _____ Marital status: _____ Education: _____

Number of children/ages: _____ Lives with: _____ Profession/Occupation: _____

Blood type: _____ Religion: _____ Participative affective bond: _____

Reason for hospitalization(main ailment and medical diagnosis): _____

Current disease history (emergence time, aggravation, related factors): _____

Knowledge and perceptions about the current situation: _____

Comorbidities / Previous treatments (clinical or surgical) _____

☐ Smoking () quit since: _____ () smokes since: _____ () Quantity: _____

☐ Drinking () quit since: _____ () smokes since: _____ () Quantity: _____

☐ Use of illicit drugs: _____

☐ Smoking () quit since: _____ () smokes since: _____ () Quantity: _____

Continuous use medication: _____

☐ Adere to treatment. Motive: _____

☐ Previous transfusion reaction: _____

Allergy medication / food: _____

BP: ____X____mmHg CF: _____mrpm T: _____°C Height: _____m Weight: _____Kg

BMI: _____ Abdominal circumference: _____ Capillary glicemia: _____

Neurological Evaluation: ☐ Alert ☐ Confused ☐ Sleepy ☐ Dazed ☐ Torporous ☐ Comatose

Glasgow Scale

Score: _____

Total score: _____

* 14-15: normal / mild dysfunction

* 11-13: Moderate dysfunction

To severe

* 10 or less: severe dysfunction

Opening of the eyes	Verbal reaction	Motor reaction
☐ Spontaneous 4	☐ Oriented 5	☐ Obeys comands 6
☐ At verbal comand 3	☐ Desoriented 4	☐ Locate the pain 5
☐ The pain 2	☐ Inadequate words 3	☐ Flexion/removal of pain 4
☐ Does not respond 1	☐ Incomprehensible 2	☐ Decortication 3
	☐ Does not respond 1	☐ Decerebration 2
		☐ Does not respond 1

Sleep: _____hours/night ☐ without interruptions ☐ With interruptions ☐ Sleep during the day ☐ disturbed in the hospital ☐

Motive: _____ ☐ Loss/ gain _____ kg in the last _____ days ☐ months

Eating habit / Water intake: _____

Intestinal elimination: ☐ Normal ☐ Obstipation ☐ Diarrhea ☐ Change in bowel habits _____

All items must be completed - Key for nursing assessment: Y: Yes N: No φ: Does not apply

Figure 2. Nursing History. São Paulo (SP), Brazil, 2015.

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Pre-catheterism nursing consultation and...
post-procedure (Figures 3 and 4).

Name: _____ Marital status: _____ Color: _____ Age: _____ Sex: _____ Floor/Ward: _____ Room: _____ Bed: _____ SPSH Register: _____ IMASPS Registry number: _____ Procedure: _____ Date: ____/____/____ Time: ____h ____min 1. Come with a family member or legal guardian; 2. Arrive 30 (thirty) minutes before for exam preparation; 3. When you arrive at the hospital, go to the admission window (1st floor of the Ambulatory building), equipped with ID, consultation card and last pay slip; 4. Any questions will be clarified in the Hemodynamics Section (6th floor) or by phone 5088-8452 and 5088-8193; 5. Weigh up to 120 kg, above this there is technical unavailability of the apparatus to perform the examination; 6. Absolute fasting. Without water, without medication for 6 (six) hours before the exam; 7. Bring previous exams (cardiac catheterization, angioplasty, electrocardiogram, laboratory tests, surgical description if already operated); 8. In cases of inpatients: bring prescription and medical evolution, results of exams and surgical description. Inform in the act of the marking of the exam 1. If you are allergic to any medicine or food; 2. If you have already undergone any type of examination with contrast; 3. If you have any previous illnesses: diabetes, hypertension, diseases that increase the risk of bleeding, and others that may put the nursing and medical staff at risk of infection; 4. If you have already undergone any vascular or cardiac surgery; 5. If you have heart bridges, which ones? Safena ☐ Mamary ☐ ☐ Bring report 6. If any type of anti-coagulant is used: heparin, warfarin, marevan, plavix, ASA. 7. If you take the following medications: Glucoformin, Metformin, Glifage, Dimefor, Glucovance, suspend 48 hours before the procedure.	Guidelines after the procedure 1. After the procedure the patient will remain about five hours in absolute rest in the Post-catheterization Recovery (PCR), without moving the leg where the examination was done; 2. You will receive a light diet after the examination and you will not be able to stay with a companion in the PCR, except after the examination; 3. You cannot drive after the exam; 4. On the following day remove the dressing from the region of the catheterization and wash with soap and water; 5. You will not be able to carry weight in the first three days after the exam, to avoid pseudoaneurysm; 6. Avoid climbing stairs on the 1st day after the examination; If performed on the arm: 1. After the procedure the patient will remain three hours in absolute rest PCR, without moving the arm where the examination was done; 2. You will receive a light diet after the examination and you will not be able to stay with a companion in the PCR, except after the examination; 3. You cannot drive after the exam; 4. Maintain dressing for 24 hours, removing during the bath and washing with soap and water. Keep the points, without covering, until the removal on the 3rd floor of the outpatient building or in a health post after seven days of the examination; 5. Do not carry weight for ten days from the day of the examination.
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Figure 3. Patient identification card and general guidelines. São Paulo (SP), Brazil, 2015.

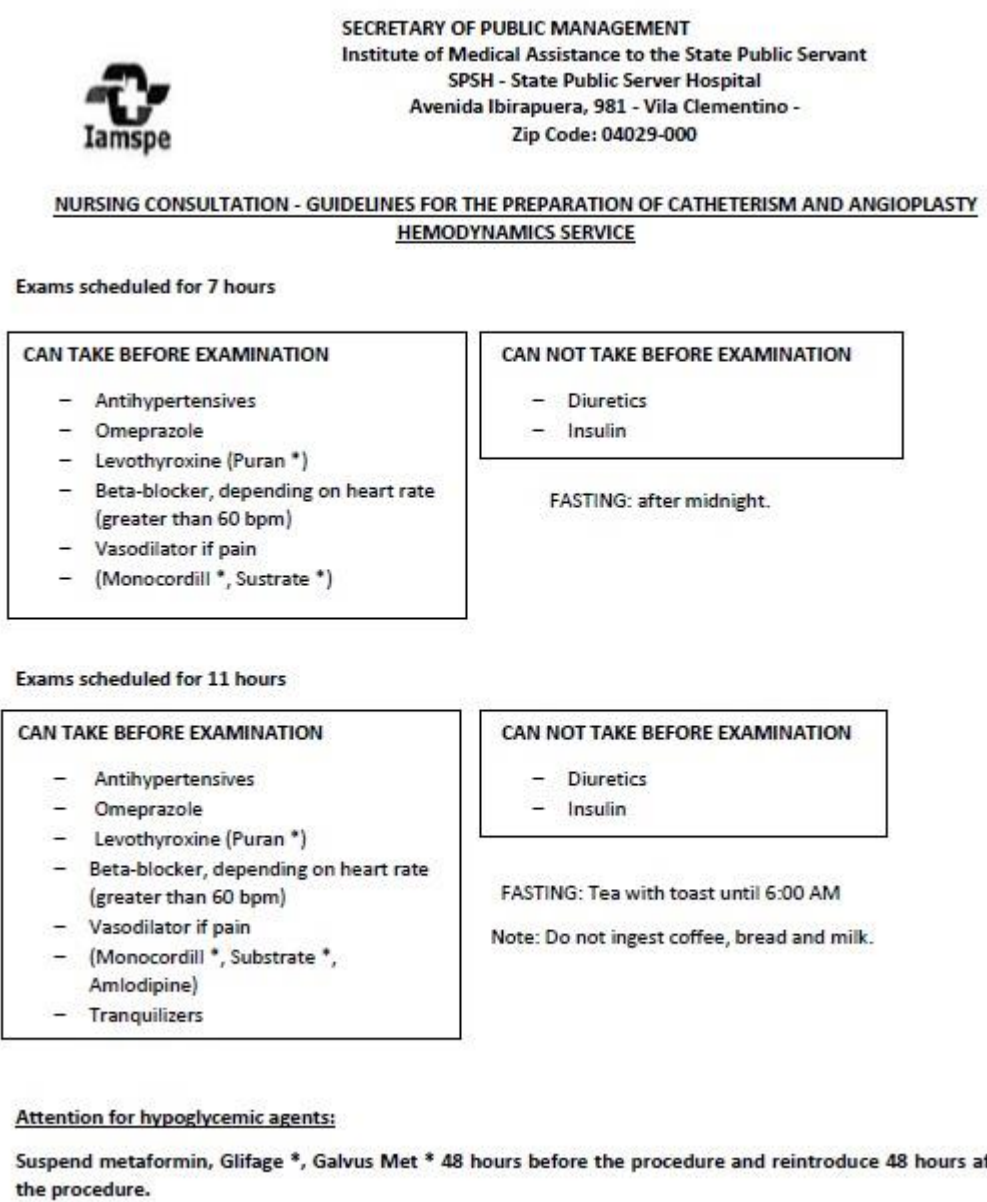


Figure 4. Card with specific guidelines for preparation for the cardiac catheterization and coronary angioplasty. São Paulo (SP), Brazil, 2015.

The effectiveness of the Nursing consultation was evaluated by the index of examinations at the scheduled dates and by questionnaire applied to evaluate the degree of satisfaction of the patients about the Nursing consultation.

This study had the research project approved by the Research Ethics Committee of IAMSPE (nº 760.283). A consent term was applied by providing patients with all information related to the study proposed and signed after agreeing to participate in this study.

RESULTS

Nursing consultations were followed in 200 patients with a mean age of 64.4 ± 9.4 years and a predominance of males: 108 (54%) with indication of cardiac catheterisms (186) and coronary angioplasty (14). It was observed that in 192 of these patients (96%) were performed on schedule; in five patients (2.5%), the procedure was not performed due

to the change of medical conduct and technical problems with the Hemodynamics equipment; two patients (1%) performed the procedure in another service and only one patient (0.5%) suspended at the time of the accomplishment due to alteration in the renal function, that occurred after the Nursing consultation, being provided hospitalization for renal preparation and later accomplishment .

The relevant data obtained in the Nursing consultation were patients who presented laboratory tests with data over three months, incomplete, or did not present laboratory tests; in use of metformin hydrochloride and Sodium Warfarin; who reported allergy to various medications, including iodine and symptoms suggestive of angina grades II to IV; patients who presented alterations in renal function, infection, anemia, isolated or associated, totaling 137 patients (68.5%), according to table 1.

Table 1. Constraints to procedure completion and Symptoms. São Paulo (SP), Brazil, 2015.

Findings	n (%)
Warfarin Sodium	03(1.5)
Sodium Warfarin + Exam Problems	02(1)
Sodium Warfarin + Creatinine> 1.4 mg / dL	01(0.5)
Metformin Hydrochloride	18 (9)
Metformin Hydrochloride + Breast Angina	06(3)
Metformin Hydrochloride + Creatinine> 1.4 mg / dL	02(1)
Metformin Hydrochloride + Medication/ Iodine Allergy + Breast Angina	02(1)
Metformin hydrochloride + Medication/ Iodine Allergy	01(0.5)
Metformin Hydrochloride + Angina Chest + Problems with Exams	02 (1)
Metformin Hydrochloride + Exam Issues	05(2.5)
Metformin Hydrochloride + Medication/ Iodine Allergy + Testing Problems	03(1.5)
Angina pectoris	10 (5)
Angina pectoris + Problems with Exams	06(3)
Allergy to medication / iodine	18(9)
Medication/ Iodine Allergy + Breast Angina	05(2.5)
Medication/ Iodine Allergy + Angina + Exam Problems	05(2.5)
Medication/ Iodine Allergy + Examination problems	05(2.5)
Medication/ Iodine Allergy + Creatinine> 1.4 mg / dL	01(0.5)
Medication/ Iodine Allergy + Testing problems + Infection	01(0.5)
Creatinine> 1.4 mg / dL	05(2.5)
Creatinine> 1.4 mg / dL + Anemia + Medication/ Iodine Allergy	01(0.5)
Creatinine> 1.4 mg / dL + Examination Problems	01(0.5)
Creatinine> 1.4 mg / dL + Breast Angina	01(0.5)
Problems with Exams	30(15)
Problems with Exams + Infection	02 (1)
Infection	01(0.5)

The intervention of the nurse was necessary for the patients who presented restriction to the accomplishment of the procedure and symptoms that require an intervention. Patients in continuous use of warfarin sodium, were given hospital admissions for the suspension of this and INR control (<1.8), and for patients taking metformin hydrochloride, the suspension was oriented 48 hours before and 24 hours after the procedure; The cases of allergy to drugs and iodine, were referred to the allergist for evaluation and conduct; For those patients who presented laboratory tests with a creatinine value higher than 1.4, hospitalization for hydration was requested 12 hours before and 24 hours after the procedure; For patients with laboratory tests with a date of more than three months, incomplete or non-existent, new exams were requested to complement them; and patients who had positive laboratory tests for urinary tract infection and anemia were referred to specialized professionals for evaluation and conduct.

And for the patients with symptoms of angina grades II to IV, the procedure was anticipated, and important stenoses were observed in the coronary arteries, including 02 (two) patients with trunk stenosis of the left coronary artery.

DISCUSSION

The Nursing consultation to improve the quality of the care provided and to ensure that the cardiac catheterizations and percutaneous coronary interventions were performed on the expected date was effective in this study, if it was observed that the reasons for not performing occurred for reasons that extrapolate the performance of the Nurse as, procedure not performed due to change of medical conduct and technical problems with the equipment of Hemodynamics, procedure performed in another service and worsening renal function.

From illustrative materials and explanations about the procedure, it was possible for the nurse to provide the patient with a prior visualization of the environment in which he or she would be and what would happen during the procedure, giving the patient greater comfort and safety.

In addition to these actions, the Nursing consultation enabled the nurse to act in a way that contributes to the improvement of the future quality of life of these patients and to prevent new coronary events, directing them to other specialized professionals, such as nutritionist, to provide food orientation; endocrinologist, for evaluation; course for diabetics, for knowledge and better control of the disease; and referral for treatment of nicotine dependence for smokers.

In the evaluation of the care provided by the nurse in our study, performed through a questionnaire applied after the attendance to evaluate the degree of satisfaction of the patients about the Nursing consultation, containing the following questions: Did you have knowledge of the Procedure to be carried out? Did the consultation with the nurse clarify all your doubts? Do you consider the information that has been passed on to you important? Do you feel safer to perform the procedure after the instructions given by the nurse? Rate how was the care that you received as Excellent, Good, Fair and Bad, it was found that 67% of the patients knew and 33% did not know the procedure; 100% considered their doubts related to the procedure clarified; 100% considered important the information passed by the nurse, 100% reported feeling more confident to undergo the procedure, after the guidelines received; 99% of the patients evaluated the nurse's care as excellent, and 1% as good.

This study fills a gap in the Nursing literature, since research done in the medical and Nursing literature could not find articles referring to the subject addressed.

It is important to raise nurses' awareness of the importance of their participation in health programs, since in developing the consultation, they become involved and responsible and acquire competencies that allow their performance and performance to occur in a more productive and resolute way.⁷

CONCLUSION

The Nursing consultation pre-cardiac catheterization and percutaneous coronary interventions allowed the nurse to plan the care of these patients, avoiding interurrences and suspension of the procedure, ensuring greater comfort and safety and acting positively to improve the patients' future quality of life.

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