Nursing consultation prior to cardiac catheterization: patient satisfaction assessment

Consulta de enfermagem pré-procedimento de cateterismo cardíaco: avaliação da satisfação do paciente

Consulta de enfermería antes del procedimiento de cateterismo cardíaco: evaluación de la satisfacción del paciente

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ABSTRACT
Objective: to assess patient satisfaction with the nursing consultation prior to cardiac catheterization. **Method:** this quantitative, descriptive study, conducted in the hemodynamics area of a university hospital in Rio de Janeiro State, with the participation of 38 patients who answered the research questionnaire, was approved by the research ethics committee. **Results:** participants were predominantly male (20; 53%), over 60 years old (23; 60%) and arterial hypertension was the most prevalent comorbidity (33; 87%) and angina, the main reason (22; 58%). User satisfaction with the nursing consultation was proven by the high rate of agreement with the questionnaire applied: the response "very satisfied" averaged over 90%. **Conclusion:** the nursing consultation was shown to be important in helping improve patient understanding of the exam, information quality and control of anxiety levels, as evidenced by the users' satisfaction with the consultation.
Descriptors: Office Nursing; Cardiovascular Nursing; Patient Satisfaction; Health evaluation.

RESUMO
Objetivo: avaliar a satisfação dos pacientes em relação à consulta de enfermagem prévia ao procedimento de cateterismo cardíaco. **Método:** estudo quantitativo, descritivo, realizado na hemodinâmica de um hospital universitário no estado do Rio de Janeiro, com a participação de 38 pacientes que responderam ao questionário da pesquisa, aprovado pelo Comitê de Ética em Pesquisa. **Resultados:** predominou o sexo masculino, 20 (53%), com faixa etária acima dos 60 anos, 23 (60%). A hipertensão arterial foi a comorbidade mais prevalente, 33 (87%), tendo a angina como motivo principal, 22 (58%). A satisfação do usuário com a consulta de enfermagem foi comprovada por meio do alto grau de concordância do questionário aplicado, que apontou a afirmativa "muito satisfeita" com média acima de 90%. **Conclusão:** a consulta de enfermagem implementada demonstrou ser relevante, corroborando para melhor compreensão do exame, maior qualidade de informação e controle do nível de ansiedade, fato esse evidenciado pela satisfação do usuário com a consulta.
Descritores: Enfermagem no Consultório; Enfermagem Cardiovascular; Satisfação do Paciente; Avaliação.

RESUMEN
Objetivo: evaluar la satisfacción de los pacientes en cuanto a la consulta de enfermería antes del procedimiento de cateterismo cardíaco. **Método**: estudio cuantitativo, descriptivo, realizado en la hemodinámica de un hospital universitario del estado de Río de Janeiro, en el que participaron 38 pacientes que respondieron el cuestionario de investigación, aprobado por el Comité de Ética en Investigación. **Resultados**: predominó el sexo masculino - 20 (53%), mayores de 60 años - 23 (60%). La hipertensión arterial fue la comorbilidad más prevalente - 33 (87%) y la angina fue la razón principal - 22 (58%). La satisfacción del usuario respecto a la consulta de enfermería quedó comprobada a través del cuestionario aplicado ya que la afirmación 'muy satisfecha' obtuvo un promedio superior al 90%. **Conclusión**: la consulta de enfermería implementada se mostró relevante, corroborando para una mejor comprensión del examen, una mayor calidad de información y el control del nivel de ansiedad. Ese hecho se manifiesta por la satisfacción del usuario con la consulta.
Descriptores: Enfermería de Consulta; Enfermería Cardiovascular; Satisfacción del Paciente; Evaluación en Salud.

INTRODUCTION

In the current world scene, the largest death causes are non-communicable diseases and health problems (NCDs). In Brazil, the change in the demographic profile derived from the urbanization and industrialization processes, lifestyle change, and exposure to risk factors peculiar to the contemporary world contribute to increasing these diseases in the Brazilian population[1].

In this group of illnesses, cardiac diseases, cancer, chronic respiratory diseases, and diabetes stand out, which correspond to 38 million deaths every year. In Brazil, they represent 72% of the death causes, expressing a major public health problem, with cardiovascular diseases being first in the classification of the mortality data[2,3].

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Among the cardiovascular diseases, the one with the greatest most incident is the Acute Coronary Syndrome (ACS), whose prevalence is partly associated with risk factors like smoking, systemic arterial hypertension (SAH), diabetes mellitus (DM), dyslipidemias, obesity, and sedentarism. In developed countries, ACS is responsible for 42% of the deaths among the NCDs and, in Brazil, for more than 30% of the deaths recorded due to these diseases[4].

The concept of ACS comprises various clinical presentations deriving from myocardial ischemia, encompassing unstable angina (UA), non-ST-elevation acute myocardial infarction (NSTE-ACI), and ST-elevation acute myocardial infarction (STE-ACI). Currently, the ischemic cardiac disease is the main death cause in Brazil and in the world[5,6].

There are several strategies to effectively and safely evaluate the patient with stable ACS, the following among them: obtaining electrocardiograms, dosing the markers of myocardial necrosis, performing transthoracic echocardiograms and cardiac catheterization, the latter being, according to the Stable Coronary Heart Disease Guideline, the main exam to diagnose and evaluate the Acute Coronary Syndromes[7].

Cardiac catheterization (or coronary cineangiography) is considered an invasive exam, performed in the hemodynamics sector by a specialized health team. The Nursing team that works in this sector takes on several roles and conducts various actions related to the procedure, among which patient evaluation before and after cardiac catheterization stands out, by means of the Nursing consultation. The pre-procedure consultation allows the nurse to check the previous laboratory results and the patient's conditions that may impact on the best outcome, as well as to offer guidelines on the procedure and care measures with the site where the exam is performed[8,9].

In many of the individuals that are subjected to the cardiac catheterization exam, anxiety is present and is frequently related to a threat of a change in the health status, being evidenced by reports of anguish, preoccupation and expectation regarding the result of the diagnostic exam and the possibility of evolving to other procedures, such as angioplasty and cardiac surgery[10].

In addition, hemodynamics is an extremely specific and high-complexity service that requires an active, capable, efficient, agile and updated Nursing team and with an organized work process. The Nursing consultation prevents complications related to the procedure and aids the good functioning of the sector, as well as it contributes so that quality care is provided to the patients[11].

In this perspective, the Nursing consultation guides and collaborates to improving health care, allowing the nurse to identify problems, risks, and potentialities of the patient by means of clinical reasoning, determining interventions and results to be achieved, and conveying more scientificity to this set of actions in any health level, including the exam and procedure sector, such as the hemodynamics service[10].

Considering the continuous need for improving the health service processes, in order to make them more efficient and enhance the Nursing consultation carried in the hemodynamics scenario, continuous assessment of user satisfaction becomes important. Thus, it is possible to identify the opportunities for improvement and design interventions aimed at enhancing the coronary cineangiography process[9].

User satisfaction can be understood as the expectations of the individual about a health service offered. It refers to the assessment of care received, considering the previous experience of the patient with similar services. In this sense, the assessment of user satisfaction is attached to the desirable aspects in the relationship between the health team and the patient, and it can contribute to the perception of the person who is receiving the care, as well as turning it into a pleasant or bad experience[12].

Assessment is understood as the elaboration, negotiation, and application of explicit and analyzed criteria, using adequate methodologies, aiming to know, measure and judge a context, value or state of an object, facilitating the improvement of the processes and development in the individuals[13,14].

In this perspective, this study aimed to assess patient satisfaction in relation to the Nursing consultation prior to the cardiac catheterization process.

METHOD

This is a descriptive study with a quantitative approach. The setting was the hemodynamics service of a University Hospital in the state of Rio de Janeiro. The survey was conducted between March 2018 and September 2018.

In the environment where the research was developed, the Nursing consultation is carried before the cardiac catheterization process and is focused on the clinical indication to perform the procedure, on the previous and current history of the disease, on the previous diagnostic and laboratory exams, and on the medications used by the patient, as well as on the guidelines about the procedure to be performed.

The participants were 38 patients selected through a convenience sample. All those who were invited accepted to take part in the study. The inclusion criteria were being 18 years old or older; having attended a Nursing consultation prior to the procedure; having finished at least elementary school; being a user of the public health service by means of the State Regulation System (*Sistema Estadual de Regulação*, SER); and having been referred by a physician to undergo cardiac catheterization on an elective basis.

Patients with communicative and cognition limitations were excluded; as well as those with visual, motor, and/or hearing impairments; patients coming from the institution's inpatient unit; patients subjected to the exam due to urgency; and patients who had unfavorable clinical conditions, such as pain, dyspnea, and fatigue during the interview.

The data were collected by means of a questionnaire designed by the researchers and composed of two parts: the first with eight variables directed to patient's characterization (gender, age, race, monthly income, neighborhood, schooling level, comorbidity, and reasons for the exam); and the second part with the Likert scale containing 13 indicators related to the assessment of user satisfaction with the Nursing consultation, three being aimed at the structure dimension (dexterity and confidence demonstrated by the professional, language used, and the environment where the consultation occurs) and ten related to the process dimension (clarifying doubts, guidelines on the exam, guidelines related to the pre-, trans- and post-procedure care, evaluation of the health status, duration of the consultation, the relationship between the user and the professional, trust, and quality of the consultation).

The questionnaire was applied by the lead researcher, who is not linked to the sector, in order not to characterize a power relation in face of the patient and minimize response bias. In the questionnaire, user anonymity was taken into account by assigning a previous numerical identification.

In the Likert-type scale, the researcher produced five categories of scored answers, with a neutral point in the middle of the scale. The assertions to be employed were produced by using verbs in both the first and third person. This scale was selected as an instrument due to its approach viability about specific questions with the patients to achieve the research objectives. However, only the categories of the modified Likert-type scale were considered for the tabulation of the data collected[15].

The five categories are as follows: dissatisfied (1 point); not very satisfied (2 points); don't know (3 points); satisfied (4 points); and very satisfied (5 points). Thus, scores were assigned to each category, in which the one that corresponds to the lowest satisfaction level has the lowest weight, increasing the score incrementally according to the individual's satisfaction level in relation to the study object.

With the objective of simplifying statistical analysis, the questionnaires were coded and the results inserted into an *Excel*® spreadsheet.

All the data addressed were tabulated and analyzed by means of simple descriptive statistics, measures of mean central tendency, simple frequency, and percentage.

This study respected the ethical characteristics and requirements of Resolution No. 466, dated December 12th, 2012, of the National Health Council. The research was approved on March 21st, 2018, with opinion number 2,554,225.

RESULTS

The sociodemographic and clinical characteristics of the patients subjected to the Nursing consultation prior to a cardiac catheterization procedure in a university hospital from Rio de Janeiro are presented in Table 1.

Of the 38 patients that participated in the research, the mean age was 60 years old (23 - 60% being 60 years old or over and 3 - 8% being 30 to 49), the majority, 20 (53%), male and brown skin color prevailed, with 18 (47%). The predominant income was between 1 and 3 wages, 23 (60%). Complete high school was the most frequent schooling level, 13 (34%).

The risk factor for cardiovascular disease in evidence was hypertension, 33 (87%), with angina as the reason for catheterization, 22 (58%).

In relation to user satisfaction with the Nursing consultation, the level of agreement of the patients involved in the research regarding the structure and process dimensions that were presented in the Likert-type scale was detailed, as described in Table 2.

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TABLE 1: Sociodemographic and clinical characteristics of the patients subjected to the Nursing consultation prior to cardiac catheterization. Rio de Janeiro, RJ, Brazil, 2019.

Characteristics	n	%
Gender		
Male	20	53
Female	18	47
Age		
60 or more	23	60
50-59 years old	12	32
30-49 years old	03	8
Race		
Brown	18	47
White	15	39
Black	04	11
Asian	01	3
Family Income		
1-3 wages	23	60
Up to 1 wage	09	24
3-5 wages	03	8
5-7 wages	03	8
Home Neighborhood		
Campo Grande	03	08
Another 31 neighborhoods	35	92
Schooling		
Complete High School	13	34
Incomplete High School	10	26
Elementary School	06	16
Complete Higher Education	05	13
Incomplete Higher Education	03	8
Postgraduate Course	01	3
Risk Factors		
Arterial Hypertension	33	87
Diabetes	14	37
Dyslipidemias	13	34
Heart Diseases	07	18
Other comorbidities	06	16
Kidney Failure	02	5
Obesity	01	3
Reasons for the Exam		
Angina	22	58
Heart attack	07	18
Other reasons	09	24

TABLE 2: Assertions regarding the level of user satisfaction with the Nursing consultation prior to the cardiac catheterization procedure. Rio de Janeiro, 2019.

Assertions	Dissatisfied	Not Very Satisfied	Does not know	Satisfied	Very satisfied
Process	N / %	N / %	N / %	N / %	N / %
1. The Nursing consultation provided clarification of doubts about the procedure	0 / 0%	1 / 3%	0 / 0%	2 / 5%	35 / 92%
2. The nurse offered guidelines in relation to the procedure to be performed	0 / 0%	2 / 5%	0 / 0%	1 / 3%	35 /92%
3. The nurse offered guidelines on the main care measures before the exam	0 / 0%	1 / 3%	0 / 0%	2 / 5%	35 / 92%
4. The nurse offered guidelines on the main care measures during the exam	1 / 3%	3 / 8%	0 / 0%	1 / 3%	33 /87%
5. The nurse offered guidelines on the main care measures after the exam	5 / 13%	5 / 13%	1 / 3%	1 / 3%	26 / 38%
6. The nurse asked about my health condition to perform the procedure	0 / 0%	1 / 3%	0 / 0%	0 / 0%	37 / 97%
7. The duration of the Nursing consultation was adequate	0 / 0%	1 / 3%	0 / 0%	3 / 8%	34 / 89%
8. The Nursing consultation provided and improvement in the patient-nurse relationship	0 / 0%	0 / 0%	0 / 0%	3 / 8%	35 / 92%
9. The Nursing consultation increased my confidence in undergoing the procedure in the unit	0 / 0%	1 / 3%	0 / 0%	4 / 11%	34 / 89%
10. The Nursing consultation is of good quality	0 / 0%	0 / 0%	0 / 0%	1 / 3%	37 / 97%
Structure					
1. The nurse manifested dexterity and confidence regarding the procedure I will be subjected to	0 / 0%	1 / 3%	0 / 0%	0 / 0%	37 / 97%
2. The nurse used simple language, easy for the patient to understand	0 / 0%	0 / 0%	0 / 0%	1 / 3%	37 / 97%
3. The environment of the Nursing consultation has adequate space, ventilation, and lighting	0 / 0%	5 / 13%	0 / 0%	4 / 11%	29 / 76%

The assertion that presented the highest frequency of dissatisfaction was the one related to the post-procedure guidelines, indicated by five participants (13%). As for the low satisfaction level ("not very satisfied"), it was present with higher frequency in the structure dimension and was related to the adequate environment of the Nursing consultation, being indicated by five respondents (13%).

The following questions were the ones that presented the highest level of patient satisfaction ("very satisfied"), in the process assertions: "The nurse asked about my health condition to perform the procedure"; and "The Nursing consultation is of good quality", both with a frequency of 97%.

All the structure variables presented a frequency over 70%, demonstrating a high level of patient satisfaction ("very satisfied").

DISCUSSION

Among the sociodemographic characteristics, it was observed that the male gender prevailed, with 53% (20). A number of research studies prove these findings when they discuss that there is great risk for a cardiovascular event in men, for the male gender is an important risk factor. However, 18 (47%) women were subjected to the cardiac catheterization procedure in this study, and this is considered an important proportion. This is due to the fact that the female gender, associated with advanced age and other risk factors, such as diabetes and dyslipidemia, contributes to increasing the risk of cardiovascular diseases in this population. However, the physiological reasons, especially after the climacteric period, are not yet fully understood[16,17].

The mean age of the patients in the survey was over 60 years old. These pieces of information meet the scientific evidence that reports ACS as the most incident disease in the population over 60 years of age, since the aging process brings with it many consequences for the organism, non-communicable chronic diseases being one of them. The sociodemographic and clinical data that were found are similar to those of another national study[16].

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Currently, data point to the change in the age group profile of the Brazilian population and the direct relationship with the increase in the number of non-communicable chronic diseases, confirming the findings in this research. It was identified that most of the evaluated population was close to 60 years old. It is estimated that 650,000 new older adults are inserted into the Brazilian society every year, corresponding to an increase of almost 7%. Technological advances and improved quality of life are the main drivers of this transformation[1,16].

Most of the patients in this study presented SAH as a risk factor for cardiovascular disease, being reported in 33 (87%) of the questionnaires. It is widely acknowledged as one of the most important risk factors for the occurrence of coronary diseases, heart failure, cerebrovascular diseases, atrial fibrillation, and chronic kidney failure. According to the World Health Organization, SAH is the main factor for ischemic heart diseases. This demonstrates the relevance of tracking the blood pressure levels as a preventive measure in patients prior to a cardiac catheterization process. A number of studies show that, when SAH is associated with diabetes mellitus, the risk of ischemic events increases 2.5 times[18-20].

Among the main causes to perform the exam in the patients of this study, angina stood out among the ischemic heart diseases, being present in 58% (22) of those who answered the questionnaire[21].

Regarding user satisfaction, by means of the agreement level of the patients in the indicators with an assessment over 85%, it was identified that 34 (89%) participants stated that the Nursing consultation increased the confidence to undergo the exam, 35 (92%) asserted that doubts were clarified, and 37 (97%) answered that the relationship between the professionals and the patients improved. It was observed that 97% of the patients stated being satisfied with the Nursing consultation, reinforcing its quality and importance in clarifying doubts and soothing the expectation about the exam.

The expectation during the waiting time to undergo the exam, as well as the fear of the unknown regarding lack of information in the health team, is capable of generating anxiety, which can hemodynamically affect the patient due to the activation of the sympathetic nervous system. Blood pressure, cardiac and respiratory frequencies, as well as the myocardial oxygen demand, can increase, interfering even with the increase in the risk of ischemia and arrhythmia during the process[22].

However, in this research, there was an opportunity for improvement in relation to the guidelines on the post-procedure care measures. Of the 38 patients in the survey, 28.9% reported dissatisfaction regarding this item or did not know how to answer. These findings can help to trace strategies in order to improve this stage of the process, such as intensifying the information about the care measures with compressive dressing, addressing the length of stay in the hospital after the exam, offering guidelines on the day-to-day activities that the individual is already capable of performing and possible food restrictions, among others. The availability of printed guidelines can help in the educational process of the patient and their family members during the Nursing consultation[2].

From the assessment of patient satisfaction, it was perceived to what extent effective communication and guidelines before, during, and after the procedure make the difference when clarifying doubts that can help in the prevention of adverse events, contributing to safe care and aimed at quality assistance. A well-informed patient is less anxious and more confident[23].

A number of studies show that, by means of the guidelines, the patients feel safer since, when they understand the purpose and the health processes, understanding and adherence to the established therapeutic measures are facilitated[24,25].

The communication between the Nursing team and the patient contributes to creating a bond of trust and information exchange, clarifying doubts and minimizing the anxiety and insecurity inherent to the moment that precedes the exam, preserving them from traumatic experiences caused by the hospital environment[23].

It is point out that the Nursing consultation allows the nurse to provide necessary information to the patient, clarify doubts and obtain procedure-relevant data. Based on these data, it is possible to develop an action plan aiming at minimizing the risks imposed both by the use of iodine contrast and by the ionizing exposure, in addition to improving the relationship between patient, Nursing team, and family[26,27].

In the quality dimension of the Nursing consultation, it was identified to what extent it is significant in the process of performing the cardiac catheterization procedure, since the level of patient satisfaction was positive and high, reasserting the importance and relevance of nurses in the hemodynamics scope, highlighting their role and contribution in constructing safe care and quality assistance, with a safe procedure and a satisfied user as outcome.

The limitations of this study were as follows: the fact that the research was conducted only in one hospital center, thus providing a small number of patients. It is also worth considering the fact that, many times, the individual can feel

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ashamed to express their dissatisfactions, fearing retaliation in case they need to return to the service. It is recommended to turn the assessment of user satisfaction into a routine, in a formal manner, by means of questionnaires or telephone contacts, in order to maintain the quality of the consultation under constant observation[8].

It is estimated that this research may contribute significantly to value the nurse's role regarding patient preparation for the cardiac catheterization procedure, ratifying how the Nursing consultation before the exam can soothe the expectations of the patient that will be subjected to the procedure[29], as well as to contribute to the identification of clinical indicators that may impact on a better outcome and lower risk for the user.

Under the perspective of the study, it is highlighted that the studies addressing the Nursing consultation in the hemodynamic service are scarce. In this sense, the intention is to collaborate with scientific training regarding this topic, allowing deepening the object in question, expanding communication and interaction spaces between the patients and the professionals that work in the hemodynamic service.

CONCLUSION

It became evident that the prevalent age of the patients that underwent cardiac catheterization was over 60 years old, with males predominating, which corroborates the mean pointed out in the studies, directly related to preexisting factors.

The following assertions were the ones that presented the highest level of satisfaction: "The nurse asked me about my health condition to perform the procedure"; "The nurse showed dexterity and confidence regarding the procedure I will be subjected to"; and "The nurse used simple language, easy for the patient to understand". All with 97% satisfaction.

The question that presented the highest level of dissatisfaction was the one related to the guidelines for the main care measures after the exam. It is understood that identifying the weak points in the consultation helps to devise strategies to improve specific stages in the process.

Despite the positive results regarding the level of patient satisfaction, it is perceived that the improvement of the negative points must be taken into consideration so that there is an enhancement in the Nursing consultation in the hemodynamics service where the study took place. It is noteworthy that re-assessment and continuous improvement of processes must be part of the routine of the services that propose to develop safe and quality care.

The assessment of the Nursing consultation implemented demonstrated to be of great relevance for the nurse's work in the hemodynamics service, corroborating for the patient to better understand the exam, greater quality of information directed to the users, and greater control of the expectations by the patient, in addition to pointing out gaps that need to be worked on for improving the Nursing consultation in the scene under study, mainly regarding the post-procedure guidelines. Assessing patient satisfaction is a technique that allows nurses to develop the educational process, to value the patient's doubts, and to contribute to the improvement of the health conditions.

REFERENCES

1. Calais NVM, Teixeira ND, Bonin KM, Mirely S. Consumption and social and demographic profile of the different household arrangements of the elderly in Brazil: analysis from the Study on Family Budgets Rev. bras. geriatr. gerontol. 2017 [cited 2019 Jan 10]; 20(5):607-17. DOI: http://dx.doi.org/10.1590/1981-22562017020.170047.
2. Andrade KBS, Pinheiro APB, Bessa ATT, Paes GO, Stipp MAC. Evaluation of waiting times for initial electrocardiogram in patients with Acute Coronary Syndrome. Rev. enferm. UERJ. 2015 [cited 2019 Jan 10]; 23(4):443-8. DOI: http://dx.doi.org/10.12957/reuerj.2015.18332.
3. Toso A, Leoncini M, Maioli M, Bellandi F. Pharmacologic Prophylaxis of Contrast-Induced Nephropathy. Interventional Cardiology Clinics. 2020 [cited 2019 Jan 10]; 9(3):369-83. DOI: https://doi.org/10.1016/j.iccl.2020.02.006.
4. Freitas EO, Nogueira RS, Stekel LMC, Bublitz S, Kirchhof R, Guido LA. Profile of patients with coronary artery disease undergoing cardiac catheterization Rev. enferm. UFSM. 2013 [cited 2019 Jan 10]; 3(Esp.):679-88. DOI: https://doi.org/10.5902/2179769211124.
5. Nicolau JC, Timerman A, Marin-Neto JA, Piegas LS, Barbosa CJDG, Franci A. Sociedade Brasileira de Cardiologia. Diretrizes da Sociedade Brasileira de Cardiologia sobre Angina Instável e Infarto Agudo do Miocárdio sem Supradesnível do Segmento ST. Arq. Bras. Cardiol. 2014 [cited 2019 Jan 10]; 102(3Supl.1):1-61. DOI: https://doi.org/10.5935/abc.2014S001.
6. Précoma DB, Oliveira GMM, Simão AF, Dutra, OP, Coelho OR, Izar COM et al. Updated Cardiovascular Prevention Guideline of the Brazilian Society of Cardiology – 2019. Arq. bras. cardiol. 2019[cited 2019 Jan 10]; 113(4):787-891. DOI: https://doi.org/10.5935/abc.20190204.

7. Jacinto LAT, Santos AS, Diniz MA, Silva LC, Pedrosa FSS, Arduini JB. Coronary artery disease and family support in older adults. Rev Enferm UERJ. 2014 [cited 2019 Jan 10]; 22(6):771-7. DOI: https://doi.org/10.12957/reuerj.2014.15664.

8. Teixeira TRF e Braga EM. Dissertação de Mestrado: Cateterismo Cardíaco da Compreensão do Usuário ao Planejamento das Orientações de Enfermagem. Botucatu-São Paulo; 2016.

9. Capetini, AC, Camacho, ACLF. Nursing care in the hemodynamics service in interventional cardiology: integrative review. Research, Society and Development. 2020 [cited 2019 Jan 10]; 9(7):e284974200. DOI: http://dx.doi.org/10.33448/rsd-v9i7.4200.

10. Silva MAS, Marques PTV, Castro DFA, Padula MPC, Yano KT, Coimbra ALL, et al. Relation between orientation, anxiety and pain in cardiac catheterization. Arq. Med. Hosp. Fac. Cienc. Med. 2016 [cited 2019 Jan 10]; 61(1):28-34. Available from: http://arquivosmedicos.fcmsantacasasp.edu.br/index.php/AMSCSP/article/view/130.

11. Rodrigues MGJ, Silva R, Dias MG, Paraíso AF. Nursing process in patients submitted to coronary percutaneous transluminary angioplasty. REAS. 2019 [cited 2020 Jan 11]; 23(1):e284. Available from: https://acervomais.com.br/index.php/saude/article/view/284 12.

12. Inchauspe JAF, Moura GMS. Applicability of the results of a user satisfaction survey by nursing. Acta Paul. Enferm. 2015 [cited 2016 Jan 14]; 28(2):177-82. DOI: https://doi.org/10.1590/1982-0194201500030.

13. Donabedian A. La calidad de la atención médica. Definición y métodos de evaluación. México: La Prensa Médica Mexicana; 1984.

14. Paes NA, Silva CS, Figueiredo TMRM. Satisfaction of hypertensive users with primary health care services in Brazil: a validation study. Rev. Panam. Salud pública. 2014 [cited 2019 Set 9]; 36(2):87-93. Available from: http://www.scielosp.org/pdf/rpsp/v36n2/03.pdf.

15. Dalmoro M; Vieira, KM. Dilemmas of the type likert scales construction: does the number of items and the disposition influence results?. Rev. Gestão Organizacional. 2013 [cited 2020 Jan 11]; 6(3):161-74. Available from: http://www.spell.org.br/documentos/ver/31731/dilemmas-of-the-type-likert-scales-construction---/i/en.

16. Marotto KV, Rocha RG, Naves CBO, Almeida LF, Marta CB, Oliveira CSR. Clinical and epidemiological profile of patients undergoing cardiac catheterization at a university hospital in Rio de Janeiro. Rev. Fun. Care Online. 2019 [cited 2020 Jan 11]; 11(4):894-899. DOI: http://dx.doi.org/10.9789/2175-5361.2019.v11i4.894-899.

17. Arruda GO, Marcon SS. Health risk behaviors of men from the southern Brazil. Texto & contexto enferm. 2018 [cited 2020 Jan 11]; 27(2): e2640014. DOI: https://doi.org/10.1590/0104-070720180002640014.

18. Khorrami Z, Rezapour M, Koorosh E, Yarahmadi S, Khodakarim S et al. The patterns of Non-communicable disease Multimorbidity in Iran: a multilevel analysis. Sci. Rep. 2020 [cited 2020 Jan 11]; 10(1):30-34. DOI: https://doi.org/10.1038/s41598-020-59668-y.

19. Toshima T, Tomoharu Y, Yukiko KF, Takeshi K, Yoshiya S, Mano Y et al. Risk factors for the metabolic syndrome components of hypertension, diabetes mellitus, and dyslipidemia after living donor liver transplantation. HPB Jornal. 2020 [cited 2020 Jan 11]; 24(1):1-10. DOI: https://doi.org/10.1016/j.hpb.2019.08.008.

20. Flor LS, Campos MR. The prevalence of diabetes mellitus and its associated factors in the Brazilian adult population: evidence from a population-based survey. Rev. bras. Epidemiologia. 2017 [cited 2018 Jun 02]; 20(1):16-29. DOI: http://dx.doi.org/10.1590/1980-5497201700010002.

21. Braga ALS, Valle WAC, Machado MED, Souza DF, Andrade M, Aloi AP. Nursing consultation - a restructuring strategy of the program hiperdia consulta de enfermería – una estrategia de reestructuración del programa hiperdia. Rev. enferm. UFPE on line. 2015 [cited 2020 Jan 12]; 9(6):8155-64. Available from: https://periodicos.ufpe.br/revistas/revistaenfermagem/article/download/10573/11514.

22. Adib HM, Moradi T, Mohseni R. Effects of a multimodal preparation package on vital signs of patients waiting for coronary angiography. Nurs Midwifery Stud. 2014 [cited 2020 Jul 01]; 3(1):e17518. DOI: http://dx.doi.org/10.17795/nmsjournal17518.

23. Moreira FTLS, Macêdo CRC, Albuquerque GA, Meneses RO. Effective communication strategies for managing disruptive behaviors and promoting patient safety. Rev. Gaúcha Enferm. 2019 [cited 2020 Jul 01]; 40(esp): e20180308. DOI: http://dx.doi.org/10.1590/1983-1447.2019.20180308.

24. Emiliano MS, Lindolpho MC, Valente GSC. Perception of nursing consultation by elderly people and their caregivers. Rev. enferm. UFPE on line.2017 [cited 2020 Jan 11]; 11(5):1791-7. Available from: https://periodicos.ufpe.br/revistas/revistaenfermagem/article/download/23325/18913.

25. Silva VFD, Lohmann PM, Pissaia LF, Costa AEK. Cardiac catheterization: the interview in front of the patient's wishes. Research, Society and Development. 2018 [cited 2020 Jan 11]; 7(12):e12712500. DOI: https://doi.org/10.33448/rsd-v7i12.500.

26. Moreira MLAP, Mizuno E, Meireles GCX. Pre-catheterism nursing consultation and percutaneous coronary interventions. Rev. enferm. UFPE online. 2017 [cited 2020 Jan 12]; 11 (Supl. 6): 2548-56. Available from: https://periodicos.ufpe.br/revistas/revistaenfermagem/article/download/23423/19106.

27. Siqueira ASE, Siqueira-Filho AG, Land MGP. Analysis of the economic impact of cardiovascular diseases in the last five years in Brazil Arq. Bras. Cardiol. 2017 [cited 2020 Jan 14]; 109(1):39-46. DOI: https://doi.org/10.5935/abc.20170068.

28. Arruda CAM, Bosi MLM. User's satisfaction of primary health care: a qualitative study in the Northeast of Brazil. Interface (Botucatu). 2016 [cited 2020 Jan 12];21 (61) 321-32. DOI: http://dx.doi.org/10.1590/1807-57622015.0479.

29. Andrade FM, Castro JFL, Silva AV. Perception of pregnant women on the consultation medical and nursing in low-risk prenatal. R. Enferm. Cent. O. Min. 2016 [cited 2020 Jan 12]; 6(3):2377-88 DOI: https://doi.org/10.19175/recom.v6i3.1015.