






PRE-OPERATIVE ANXIETY, DEPRESSION AND CARDIAC ANXIETY SYMPTOMS ACCORDING TO THE TYPE OF HEART SURGERY

SINTOMAS DE ANSIEDADE, DEPRESSÃO E ANSIEDADE CARDÍACA PRÉ-OPERATÓRIOS SEGUNDO O TIPO DE CIRURGIA CARDÍACA

SÍNTOMAS DE ANSIEDAD, DEPRESIÓN Y ANSIEDAD CARDÍACA PREOPERATORIA SEGÚN EL TIPO DE CIRUGÍA CARDÍACA

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ABSTRACT

Introduction: observing the difference in profile of patients undergoing coronary artery bypass graft surgery from those undergoing surgical correction of valvular heart disease, it is considered important to assess the emotional state according to the surgery to be performed. **Objective:** to compare the symptoms of anxiety, depression, and cardiac anxiety of patients in the preoperative period, according to the type of cardiac surgery to be performed: myocardial revascularization or surgery to correct valvular heart diseases. **Method:** observational, analytical, cross-sectional study carried out in the surgery wards of a university hospital in the countryside of São Paulo. A consecutive and non-probabilistic sample was made up of older patients who came home for hospitalization and whose appointment for the surgery was elective. To evaluate the symptoms of anxiety and depression, the Hospital Anxiety and Depression Scale instrument was used; for the assessment of cardiac anxiety, the “Heart Anxiety Questionnaire” was used. To compare the measures of symptoms, according to the type of surgery, the Mann-Whitney test was performed for independent samples, with a significance level of 5%. **Results:** the groups were homogeneous among themselves, in terms of sociodemographic characterization, except for age. Patients in the preoperative period for correction of valvular heart disease had a higher score for the symptoms of cardiac anxiety when compared with patients in the preoperative period of myocardial revascularization, and the difference found was statistically significant ($p=0.020$). **Conclusion:** patients in the preoperative period for correction of valvular heart disease presented more symptoms of cardiac anxiety when compared with patients in the preoperative period of myocardial revascularization.

Keywords: Cardiac Surgical Procedures; Chronic Disease; Nursing; Anxiety.

RESUMO

Introdução: observando a diferença de perfil dos pacientes submetidos à cirurgia de revascularização do miocárdio daqueles submetidos à correção cirúrgica de valvopatias, considera-se importante a avaliação do estado emocional de acordo com a cirurgia a ser realizada. **Objetivo:** comparar os sintomas de ansiedade, depressão e ansiedade cardíaca de pacientes no pré-operatório, segundo o tipo de cirurgia cardíaca a ser realizada: revascularização do miocárdio ou cirurgia de correção de valvopatias. **Método:** estudo observacional, analítico, de corte transversal, realizado nas enfermarias de cirurgia de um hospital universitário do interior paulista. Uma amostra consecutiva e não probabilística foi constituída pelos pacientes maiores de idade que vieram de casa para a internação e cujo agendamento para a realização da cirurgia foi eletivo. Para a avaliação dos sintomas de ansiedade e depressão, foi utilizado o instrumento Hospital Anxiety and Depression Scale; já para a avaliação da ansiedade cardíaca, foi utilizado o “Questionário de Ansiedade Cardíaca”. Para a comparação das medidas dos sintomas, segundo o tipo de cirurgia, foi realizado o teste de Mann-Whitney para amostras independentes, com nível de significância de 5%. **Resultados:** os grupos foram homogêneos entre si, quanto à caracterização sociodemográfica, exceto para idade. Pacientes em pré-operatório de correção de valvopatias apresentaram escore maior para os sintomas de ansiedade cardíaca quando comparados com pacientes em pré-operatório de revascularização do miocárdio, e a diferença encontrada foi estatisticamente significativa ($p=0,020$). **Conclusão:** pacientes em pré-operatório de correção de valvopatias apresentaram mais sintomas de ansiedade cardíaca quando comparados com pacientes em pré-operatório de revascularização do miocárdio.

Palavras-chave: Procedimentos Cirúrgicos Cardíacos; Doença Crônica; Enfermagem; Ansiedade.

RESUMEN

Introducción: al observar la diferencia en el perfil de los pacientes sometidos a cirugía de revascularización miocárdica respecto a los sometidos a corrección quirúrgica de valvulopatías, se considera importante evaluar el estado emocional de acuerdo con la cirugía a realizar. **Objetivo:** comparar los síntomas de ansiedad, depresión y ansiedad cardíaca de los pacientes en el período preoperatorio, según el tipo de cirugía cardíaca a realizar: revascularización miocárdica o cirugía de corrección de valvulopatías. **Método:** estudio observacional, analítico, transversal, realizado en las salas de recuperación de cirugía de un hospital universitario del interior de São Paulo. Una muestra consecutiva y no probabilística estuvo conformada por pacientes mayores

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que acudieron a su domicilio para ser hospitalizados y cuya cita para la cirugía fue electiva. Para evaluar los síntomas de ansiedad y depresión se utilizó el instrumento Escala Hospitalaria de Ansiedad y Depresión; para la evaluación de la ansiedad cardíaca se utilizó el "Cuestionario de Ansiedad Cardíaca". Para comparar las medidas de síntomas, según el tipo de cirugía, se realizó la prueba de Mann-Whitney para muestras independientes, con un nivel de significancia del 5%. **Resultados:** los grupos fueron homogéneos entre sí, encunanto a caracterización sociodemográfica, excepto por edad. Los pacientes en el período preoperatorio para la corrección de valvulopatías tuvieron una puntuación más alta para los síntomas de ansiedad cardíaca en comparación con los pacientes en el período preoperatorio de revascularización miocárdica, y la diferencia encontrada fue estadísticamente significativa ($p=0,020$). **Conclusión:** los pacientes en período preoperatorio de corrección de valvulopatías presentaron más síntomas de ansiedad cardíaca en comparación con los pacientes en el período preoperatorio de revascularización miocárdica. **Palabras clave:** Procedimientos Quirúrgicos Cardíacos; Enfermedad Crón; Enfermería; Ansiedad.

INTRODUCTION

Cardiovascular diseases (CVD) lead the causes of death globally with 17.9 million deaths registered in 2016, equivalent to 31% of all deaths worldwide.¹ In 2013, in Brazil, the proportion of deaths due to CVD in all age groups was 29.88%, being the main cause from the age of 40. Still in 2013, 339,628 deaths from all diseases of the circulatory system were registered in Brazil and 82,295 in the state of *São Paulo*, the highest mortality rate in the country due to these causes. Among the various diseases that make up CVDs, coronary artery disease (CAD) and heart valve diseases are among the most prevalent.²

Of the numerous presentations of CVDs, coronary artery disease (CAD) and valvular heart disease (insufficiency and/or stenosis) stand out. Even with the increase in minimally invasive treatments, such as, for example, percutaneous coronary intervention, transcatheter valve implantation, balloon valvuloplasty, among others, surgical treatment may still be the only one available to many people. According to the Brazilian Informatics Department of the Unified Health System (*Departamento de Informática do Sistema Único de Saúde - DATASUS*), in 2018, 20,674 myocardial revascularization (CABG) surgeries were performed and 9,805 surgeries to correct valvular heart diseases.²

Patients awaiting cardiac surgery may experience high levels of anxiety and depression symptoms due to fears, concerns and uncertainties about the surgery. The indication for cardiac surgery has a borderline character in the lives of patients, since it represents risks, at the same time that remaining without it can cause death. Thus, the existence of these symptoms in these patients may be inevitable, and the postoperative evolution can be impaired in those who do not develop adequate coping strategies.³

Still, in the hospital environment, the patient can experience a universe of internal and external threats related to the threat of his/her bodily integrity, through the procedures to which he/she is submitted, exposure of his/her intimacy to strangers, living in an environment of illness, pain, and death and, in addition, he/she suffers from uncertainty regarding the evolution of his/her disease.⁴

Thus, added to the stress inherent in hospitalization, as well as the indication for cardiac surgery - a major surgery -, one must also consider the symbolism of the heart in people's lives as the main organ of the body, which will undergo a surgical intervention. Given these factors, patients may experience symptoms of anxiety, depression, and cardiac anxiety in the perioperative period.

Regarding the symptoms of cardiac anxiety, a researcher in the field developed the theory of cardiophobia and related to this condition the definition of cardiac anxiety. An important difference to note between cardiophobia and other types of anxiety is the nature of the symptoms. In cardiophobic patients, the symptoms of precordialgia prevail, when they are afraid of death or of an imminent heart attack, unlike other classic symptoms of anxious people. In other words, cardiophobia is not just a phobia of heart disease, it is a complex interplay of precordialgia, autonomic response, attention focused on the heart, anxiety, and avoidance behavior. The patient who experiences cardiac anxiety tends to avoid day-to-day activities, in an attempt to evade the onset of a heart attack. Often, even with avoidance behavior, he/she experiences signs and symptoms of a heart attack, when it does not exist.⁵

The aforementioned author developed a specific questionnaire for the evaluation of cardiac anxiety,⁶ translated and validated for use in Brazil. After the validation process, the researchers concluded that it proved to be valid and reliable for Brazilian individuals.⁷

Studies have shown that symptoms of anxiety and depression have influenced the physiological recovery in the postoperative (PO) period of cardiac surgery,⁸ in addition to potentiating the occurrence of complications,⁹ increasing the length of hospital stay and the number of hospital readmissions,¹⁰ decreasing the effectiveness of a cardiac rehabilitation program⁸ and increase postoperative mortality.¹¹

The early identification of these symptoms enables appropriate interventions by the multidisciplinary team to favor their recovery in the PO.

This investigation is justified since the patients' symptoms were investigated according to the surgi-

cal procedure, namely, patients undergoing CABG *versus* patients undergoing surgical correction of valvular heart disease.

It must be considered that the profile of the patient and the clinical manifestation of CAD differ greatly from the profile of the valvular heart patient, as well as the clinical manifestation of this disease. For example, CAD is triggered by several factors of unhealthy lifestyle habits, and the individual can live asymptomatic for many years, whereas patients with heart valve disease often acquire the disease at a certain point in life, such as after an episode rheumatic fever, the main cause of valvular heart diseases in Brazil. Unlike the patient who progresses to CAD due to unhealthy lifestyle habits, patients with valvular heart disease end up acquiring heart disease due to factors that cannot be fully controlled. In addition, the valvular heart patient may experience limitations in the long term before the indication for the surgical procedure, and the symptoms differ from the symptoms of CAD.¹²

After reviewing the literature, to date, no studies have been found that have compared the symptoms of anxiety, depression, and cardiac anxiety of patients in the preoperative period of cardiac surgery, according to the type of surgery to be performed.

In view of the above, this study aimed to compare the symptoms of anxiety, depression, and cardiac anxiety of patients in the preoperative period, according to the type of cardiac surgery to be performed: myocardial revascularization (CABG) or surgery to correct valvular heart disease (corrections, biological exchange, and metallic exchange).

METHOD

Observational, analytical, cross-sectional study carried out in the inpatient units of the surgical clinic of a university hospital in the countryside of *São Paulo*. The STrengthening the Reporting of OBservational Studies in Epidemiology (STROBE) guide was used in the preparation and development of this article.

Consecutive and non-probabilistic sample consisted of patients who met the inclusion criteria: both sexes, aged over 18 years, regardless of social class and race, who came from home for hospitalization and whose scheduling for the CABG or surgery to correct valvular heart disease was elective.

The inclusion criterion “who came from home for hospitalization” is justified, as the entry of patients into the cardiac surgery service occurs in two different ways

at the institution where the study was developed: the patient can be called from the waiting list, coming then from home to hospital and stays around three days in the preoperative period; or the patient can enter the clinical cardiology service and, after all protocol exams have been performed, have the indication for his/her surgery, a process that prolongs the preoperative hospital stay.

Patients who did not have cognitive conditions to answer the questionnaires on the day of data collection were excluded.

Six questions were used to identify the preserved cognitive condition:¹³ “What is the date of today?”, “What is your age?”, “What day of the week are we in?”, “What is the name of the place where we are at the moment?”; “what’s your full name?” and “what is the name of the city where you were born?”. Participants were excluded from the study if they made a mistake or were unable to report three or more questions.

Data collection was performed preoperatively, on the day of the patient’s hospitalization, through individual interviews and consultation of the participants’ medical records, from July 2018 to June 2019.

For the sociodemographic and clinical characterization of the participants, an instrument was elaborated containing the following data:

- Sociodemographic: dates of birth, hospitalization and interview, sex, marital status, education, professional status, family monthly income and number of people who depend on income. Age was calculated by subtracting the interview date from the date of birth.
- Clinical: main diagnosis (CAD or valvular heart disease), associated diseases, lifestyle (smoking) and drugs used in the perioperative period (psychotropic drugs, namely antidepressants and anxiolytics).

The use of antidepressants and anxiolytics was investigated due to the evaluation of subjective constructs using psychometric instruments. The investigated possible association between the use of these drugs and the symptoms of anxiety, depression and cardiac anxiety is considered important.

To analyze the symptoms of anxiety and depression, the Hospital Anxiety and Depression Scale (HADS)¹⁴ was used in its version validated for Portuguese.¹⁵ HADS has 14 questions (seven for anxiety and seven for depression) that address psychological and somatic symptoms, with a four-point response scale. The response values range from zero to three, the sum of which can vary from zero to 21 points for each of the emotional disorder

ders surveyed. Thus, in the present study, the responses were evaluated with the total value of each subscale (HADS-anxiety and HADS-depression), the higher the value, the greater the perception of symptoms.

For the analysis of cardiac anxiety symptoms, the “Cardiac Anxiety Questionnaire” (CAQ)⁶ was used in its version adapted to Portuguese. The QAC consists of 14 items assessed using a five-point Likert scale: (0) never, (1) rarely, (2) sometimes, (3) often and (4) always. This questionnaire has two domains: fear and hypervigilance of stimuli related to the heart (nine items) and avoidance of activities that may trigger the symptoms (five items). The total score is obtained by adding the answers to the 14 items, with a range of 0-56 being possible, with higher values indicating more perception of cardiac anxiety by the patient. It is also possible to obtain the scores for the two domains, therefore, the domain “fear and hypervigilance of stimuli related to the heart” may vary from 0-36, and the domain “avoidance of activities that can trigger the symptoms” variation from 0-20, both with higher values indicating a greater perception of cardiac anxiety by the patient.

This study was prepared according to the ethical precepts of Resolution CNS 466/12 and was approved by the Research Ethics Committee of the *Escola de Enfermagem de Ribeirão, Universidade de São Paulo*, Certificate of Presentation of Ethical Appreciation (CAAEE) number: 751207179.0000.5393, Consubstantiated Opinion of approval number: 2,669,114. The individuals were invited to participate in the study and signed two copies of

the Free and Informed Consent Form, as well as the researcher. One copy was left to the participant and the other to the researcher.

The data were entered in the IBM-SPSS program, version 22.0 for Windows (SPSS, Inc., Chicago, IL, USA). To compare the sociodemographic and clinical characteristics of patients according to the type of surgery, the Mann-Whitney test was performed for independent samples (age and education) and the chi-square test (sex and marital status). Fisher’s Exact test was used in the result that presented a frequency lower than five, obtained in the 2x2 Contingency Tables (professional situation and use of psychotropic drugs at home). To compare the measures of symptoms of anxiety, depression, and cardiac anxiety, according to the type of surgery, the Mann-Whitney test was performed for independent samples. The level of significance adopted was 5%.

RESULTS

In the period of data collection, 91 surgeries were performed, 39 of which for myocardial revascularization and 52 for correction of valvular heart diseases. Of this total, 50 patients were approached: three were excluded, as they did not have cognitive conditions, and one did not accept to participate in the research. The final sample consisted of 46 patients: 30 who underwent valvular heart surgery and 16 who underwent CABG. The sociodemographic characterization of patients is shown in Table 1.

Table 1 - Sociodemographic characterization of patients according to the type of surgery (correction of valvular heart disease or myocardial revascularization)

Variable	Correction of valvular heart disease (n=30)		Myocardial revascularization (n=16)		p
	Median	n (%)	Median	n (%)	
Sex					0.869*
Male		18 (60)		10 (62.5)	
Female		12 (40)		6 (37.5)	
Age	55.5		67.2		0.009**
Living with a partner					0.558*
Yes		18 (60)		11 (68.8)	
No		12 (40)		5 (31.2)	
Education (complete years)	5.0		7.5		
Monthly income (in Reais)	2.000.00		2.550.00		0.165**
Professional situation					0.559***
Inactive		20 (66.7)		12 (75)	
Active		10 (33.3)		4 (25)	

*chi-square test; **Mann-Whitney test for independent samples; ***Fisher's Exact test.

The mean age of patients awaiting surgeries for valvular heart corrections was 53.5 years (standard deviation - SD=14.5), ranging from 23.0 to 74.4 years, while the mean age of patients of CABG was 64.3 years (SD=9.5), ranging from 42.9 to 76.7 years.

The clinical characterization of patients is shown in Table 2. Most patients in both groups reported overweight/obesity and arterial hypertension. Most patients in the CABG group still had dyslipidemia and diabetes mellitus.

Table 2 - Clinical characterization of patients according to the type of surgery (correction of valvular heart disease or myocardial revascularization)

Variable	Correction of valvular heart disease (n=30)	Myocardial revascularization (n=16)
	n (%)	n (%)
Comorbidities		
Overweight/obesity		
Yes	21 (70.0)	13 (81.2)
Systemic arterial hypertension		
Yes	18 (60.0)	15 (93.8)
Dislipidemia		
Yes	14 (46.7)	14 (87.5)
Diabetes mellitus		
Yes	6 (20.0)	9 (56.3)
Hypothyroidism		
Yes	5 (16.7)	1 (6.3)
Atrial fibrillation		
Yes	4 (13.3)	0 (0)
Cardiac insufficiency		
Yes	1 (3.3)	1 (6.3)
Acute renal failure		
Yes	1 (3.3)	1 (6.3)
Neurological diseases		
Yes	1 (3.3)	0 (0)
Smoking		
Previous smoking		
Yes	13 (43.3)	10 (62.5)
Active smoking		
Yes	3 (10.0)	1 (6.3)
Use of psychotropic drugs at home		
Yes	11 (36.7)	4 (25.0)

Of the patients in the valvular heart surgery group, 36.7% reported the use of antidepressants and anxiolytics at home, to the detriment of 25.0% in the CABG group. However, when performing Fisher's Exact test, it was found that the difference was not statistically significant ($p=0.520$).

The comparison of medians of anxiety, depression, and cardiac anxiety symptoms, according to the type of cardiac surgery, is shown in Table 3.

Table 3 - Comparison of medians of symptoms of anxiety, depression, and cardiac anxiety according to the type of cardiac surgery (correction of valvular heart disease or CABG)

Variables	Correction of valvular heart disease (n=30)	Myocardial revascularization (n=16)
Ansiedade (0-21)		
Median	6.0	5.5
Range obtained	0-12	0-13
<i>p</i>	0.763	
Depression (0-21)		
Median	4.0	4.5
Range obtained	0-15	1-11
<i>p</i>	0.954	
Total cardiac anxiety(0-56)		
Median	35.0	26.5
Range obtained	11-52	4-44
<i>p</i>	0.020	
Fear and hypervigilance(0-36)		
Median	19.5	16
Range obtained	2-32	3-26
<i>p</i>	0.068	
Avoidance (0-20)		
Median	16.5	12.0
Range obtained	0-20	0-20
<i>p</i>	0.081	

p^* =valor de p proveniente do teste de Mann-Whitney para amostras independentes.

Patients in the preoperative period for correction of valvular heart disease had a higher score for the symptoms of cardiac anxiety when compared to patients in the preoperative period of CABG, and the difference found was statistically significant ($p=0.020$).

DISCUSSION

Resuming the objective of the study to compare the symptoms of anxiety, depression, and cardiac anxiety of patients in the preoperative period according to the type of cardiac surgery to be performed, it was found that the patients in the preoperative of correction of valvular heart disease had a higher score for cardiac anxiety

symptoms, when compared with patients in the preoperative period of CABG, the difference being statistically significant ($p=0.020$).

This result may reflect the nature of the signs and symptoms experienced by valvular heart patients, that is, dyspnea, fatigue, syncope, arrhythmias, pain and symptoms of heart failure whose frequencies and intensities are associated with the affected valve system, type of predominant lesion and stage of evolution of heart valve disease, remembering that the surgical indication occurs in case of severe lesions of the valve apparatus.¹⁶ Added to the nature of the signs and symptoms experienced by valvular heart patients, it is emphasized that the items in the "Cardiac Anxiety Questionnaire" assess, in depth, the concern of the individual with his heart, unlike the symptoms of general anxiety.

No studies were found in the literature that compared the cardiac anxiety symptoms of patients in the preoperative period according to the type of surgery to be performed. However, authors of a study compared the symptoms of cardiac anxiety before and after cardiac surgery (correction of valvular heart disease and CABG) and identified that the symptoms in the preoperative were (substantially) greater when compared to the postoperative.¹⁷

Cardiac anxiety has a different etiology, symptoms, and treatment different from anxiety. In cardiac anxiety, the symptoms of precordialgia prevail, which may be due to the feeling of anxiety itself, and not to the physical obstruction of the coronary arteries, feelings of avoidance in order not to overload the heart, as well as feelings of fear, directly related to the bad cardiac functioning, even though the medical team guarantees that heart disease is controlled at that time.⁵

Given the above and the main result found in the present investigation, it is emphasized that the difference in the perception of cardiac anxiety symptoms, according to the type of surgery to be performed, may be related to the profile of the patients, that is, the underlying diseases are different and cause different symptoms.

For example, patients with mitral valve injury have dyspnea and fatigue/weakness as the main symptoms, triggered initially by events that increase pulmonary venocapillary pressure (physical effort, atrial fibrillation, and pregnancy), progressing to dyspnea at rest and paroxysmal dyspnea nocturnal, which may be accompanied by palpitations, hemoptysis, dysphonia, dysphagia, cough, and edema. Finally, they may be accompanied by embolic events (brain, mesenteric and extremities). The symptoms of patients with aortic valve injury are

similar, in part, to the symptoms of patients with mitral valve injury. Dyspnea, for example, will be present, but due to other mechanisms, such as diastolic or systolic dysfunction. In addition, patients may experience symptoms of angina, resulting from the imbalance of oxygen supply/consumption in the hypertrophic myocardium; and syncope, as a result of the inability to increase cardiac output in situations of significant reduction in total peripheral resistance.¹²

Patients with CAD can experience angina as a discomfort caused by myocardial ischemia. Patients report pain in the chest, near the sternum, however, this pain can be felt anywhere in the epigastrium to the lower jaw or in any of the upper limbs. The discomfort is often described as pressure, tightness, or weight, sometimes burning. Dyspnea can accompany angina and chest discomfort can also be accompanied by less specific symptoms, such as fatigue or fainting, nausea, burning, restlessness, or a feeling of imminent death.¹⁸

Therefore, the underlying disease and indication of the type of surgery should be considered when assessing the emotional state of these patients, as, in addition to the difference in symptoms experienced, it is identified that patients with CAD are older and have a higher number of associated diseases, due to CAD being triggered by a syndrome.

Thus, studies were found in the literature that evaluated the symptoms of anxiety and depression exclusively in patients undergoing CABG,^{10,19-20} whereas only one study was found that investigated the symptoms exclusively in patients undergoing valve repair surgery.²¹

As for the sociodemographic and clinical characteristics of patients who were awaiting surgeries to correct valvular heart diseases, it appears that they partially corroborate the results already available in the literature. Most of the patients were male, as corroborating another study,²² but diverging from another study,²³ in which the majority of patients were female. The other data corroborate results found in the literature - most lived with a partner,²³ were inactive at hospitalization,²⁴ had low education and monthly income.²⁴

The mean age of patients with valvular heart disease was 53.5 years (SD=14.5), ranging from 23 to 74.4 years, data that corroborate some studies,²¹ but diverge from others.^{22,25}

The sociodemographic and clinical data of patients awaiting CABG also corroborate data found in the literature that the patients were mostly male,²⁰ lived with a partner²⁰ and had low education¹⁹ and low family monthly income.²⁴

The mean age of the patients was 64.3 years (SD=9.5), ranging from 42.9 to 76.7 years, conforming results similar to other studies conducted with patients undergoing CABG.¹⁹

Patients awaiting valve repair surgery in the present study were younger than those awaiting CABG. This was the only sociodemographic variable that differed between groups. One possible explanation may be in the profile of the patients since the symptoms of valvular heart disease occur more frequently between the third and fourth decades of life.¹²

Of the clinical comorbidities presented, most patients, from both groups, already showed overweight/obesity and arterial hypertension in the preoperative period, converging with the results of studies with patients undergoing cardiac surgery.^{23,24} Patients in the CABG group still had, most of them, dyslipidemia and diabetes *mellitus*, data that are similar to those of other investigations.²⁰

In relation to the use of antidepressants and anxiolytics at home, 36.7% of patients in the group of valvular heart surgery reported use, being similar to another study available.²⁶ In contrast, in the CABG group, 25.0% reported use, a superior result when compared to other studies.^{10,20} The difference between the two groups was not statistically significant.

In view of the above, the importance of evaluating the emotional state of these patients individually is emphasized, considering the underlying disease and indication for surgery, as it was identified that valvular heart patients who would undergo surgical treatment showed more symptoms of cardiac anxiety, as they were more concerned with the symptoms triggered by heart disease and the proper functioning of the heart.

This finding is important when one of the main activities of the surgical nurse is resumed - healthcare education -, which permeates the entire perioperative period. If the patient is anxious, overly concerned with the good/bad functioning of the heart, this education can be impaired, which can favor a worse recovery in the PO.

The main limitation of the study is related to the type of the sample. As the variance of the symptoms of anxiety, depression or cardiac anxiety in this population was not known, it was not possible to calculate the sample size. Thus, the inferences worked in the present research are exploratory, and not confirmatory. Therefore, the limitation of generalization of the results is assumed.

On the other hand, in view of these findings, further research may be developed, since the variance of symptoms of anxiety, depression and cardiac anxiety is now

known, through sample size calculation, with the possibility of confirming the hypotheses investigated here. In addition, longitudinal studies may also be developed to add to the scientific evidence about the existence of these symptoms in the perioperative period of cardiac surgery.

CONCLUSION

It was concluded that patients in the preoperative period for correction of valvular heart disease presented more symptoms of cardiac anxiety when compared with patients in the preoperative period of CABG. The results presented here added evidence about the emotional state of patients awaiting cardiac surgery and reinforce the importance of individualized planning for these patients.

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