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ORIGINALES

Risk factors for anxiety and depression in the preoperative period of cardiac surgerv

Fatores de risco para ansiedade e depressão no período pré-operatório de cirurgia cardíaca

Factores de riesgo para ansiedad y depresión en el periodo preoperatorio de cirugía cardiaca

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ABSTRACT:

Objective: To evaluate the risk factors of anxiety and depression in the preoperative period of cardiac surgery.

Method: This is a sectional study, conducted between January and June 2017, in a university hospital of reference in cardiology in northeastern Brazil. A total of 174 patients were evaluated using their own questionnaire and the Hospital Anxiety and Depression Scale (HADS) and Odds Ratios were calculated to assess the risk.

Results: In the assessment of anxiety, significant risk factors were: female gender, years of study, absence of companion, previous experience of cardiac surgery and cancellation of surgery during hospitalization. As for depression, risk factors were revealed: female sex and hospitalization time greater than 15 days.

Conclusion: The nurse has instruments available to recognize anxiety and depression, including nursing diagnoses and validated scales, as well as having a preponderant role in these cases. It should be an institutional challenge to streamline the service in order to avoid prolongation of hospitalization and cancellations of surgery for structural reasons.

Key words: Anxiety; Depression; Cardiac Surgery; Perioperative period; Nursing

RESUMO:

Objetivo: avaliar os fatores de risco de ansiedade e depressão no período pré-operatório de cirurgia cardíaca.

Método: Trata-se de um estudo seccional, realizado entre janeiro e junho de 2017, em um hospital universitário de referência em cardiologia no nordeste do Brasil. Foram avaliados 174 pacientes utilizando-se um questionário próprio e a Escala Hospitalar de Ansiedade e Depressão (HADS) e calculadas as *Odds Ratios* para avaliar o risco.

Resultados: Na avaliação da ansiedade, foram fatores de risco significativos: sexo feminino, anos de estudo, ausência de acompanhante, experiência prévia de cirurgia cardíaca e o cancelamento da cirurgia durante o internamento. Quanto à depressão, revelaram-se fatores de risco: sexo feminino e tempo de internamento maior de 15 dias.

Conclusão: O enfermeiro tem instrumentos disponíveis para reconhecer a ansiedade e a depressão, incluindo os diagnósticos de enfermagem e as escalas validadas, assim como tem papel preponderante na atuação nestes casos. Deve ser um desafio institucional dinamizar o serviço de forma a evitar prolongamentos do internamento e cancelamentos de cirurgia por questões estruturais.

Palavras-chave: Ansiedade; Depressão; Cirurgia Cardíaca; Período pré-operatório; Enfermagem.

RESUMEN:

Objetivo: Evaluar los factores de riesgo de ansiedad y depresión en el período preoperatorio de la cirugía cardíaca.

Método: Se trata de un estudio seccional, realizado entre enero y junio de 2017, en un hospital universitario de referencia en cardiología en el nordeste de Brasil. Se evaluaron 174 pacientes utilizando un cuestionario propio y la Escala Hospitalaria de Ansiedad y Depresión (HADS) y calculadas las Odds Ratios para evaluar el riesgo.

Resultados: En la evaluación de la ansiedad, fueron factores de riesgo significativos: sexo femenino, años de estudio, ausencia de acompañante, experiencia previa de cirugía cardiaca y la cancelación de la cirugía durante el internamiento. En cuanto a la depresión, se revelaron factores de riesgo: sexo femenino y tiempo de internamiento mayor de 15 días.

Conclusión: El enfermero tiene instrumentos disponibles para reconocer la ansiedad y la depresión, incluyendo los diagnósticos de enfermería y las escalas validadas, así como tiene un papel preponderante en la actuación en estos casos. Debe ser un desafío institucional dinamizar el servicio para evitar prolongaciones de la internación y cancelaciones de cirugía por cuestiones estructurales.

Palabras clave: Ansiedad; Depresión; Cirugía Cardiaca; Período preoperatorio; Enfermería

INTRODUCTION

The preoperative period is considered the stage in which the individual becomes more vulnerable for their needs, particularly the psychological needs, becoming more prone to an emotional imbalance, anguish, fear, often translating into anxiety and depression^(1,2).

The preoperative period represents not only the possibility of cure but also the failure(1,3). Cardiac surgery has the peculiarity of involving the organ popularly recognized as the noblest and directly related to the maintenance of life⁽³⁾. The unknown along with the possibility of failure aggravate the anguish that patients have to face and, consequently, they have anxiety and depression^(1,3). Despite the benefits brought to the patient, the surgery also generates pain in many aspects, from the pain and the risks that exposes the patient to his/her daily life, the uncertainties and limitations involved⁽⁴⁾.

Initially, cardiac surgery for patients may represent a magical intervention to rid them of the risk of heart attack and death, the pain and discomfort that heart disease has forced them to live with⁽⁵⁾. However, anxiety, depression, stress, fear, and other negative feelings and emotions are found that require the patient to develop coping and adaptation strategies ^(5,6).

Cardiac surgery has been linked to high rates of preoperative anxiety. The hospitalization for cardiological reasons, even non-surgical ones has already great repercussion in the levels of anxiety. In the preoperative period of general surgery, the presence of anxiety and depression measured by the Hospital Anxiety and Depression Scale (HADS) was estimated in 44.3% and 26.6%, respectively⁽⁷⁾. In the preoperative study of myocardial revascularization surgery, the presence of anxiety and depression investigated with the same scale occurred in 34.4% and 28.1%, respectively, reinforcing the importance of using this scale in the early detection of these symptoms⁽⁸⁾.

Although there is evidence that cardiac surgery is a major stressor with repercussions on significant levels of preoperative anxiety and depression, it is extremely important to understand the factors worsening or alleviating the condition and the intrinsic or extrinsic resources to patients that nurses can use in their interventions⁽⁴⁾.

The nurse should develop care that includes the risk factors, but it is necessary to know the intervening factors. Besides the sense of seeking to understand these gaps in the therapeutic relationship between professional and patient, more research should be carried out with the aim of providing evidence for comprehensive care. With the incorporation of new evidences and the result of well-delineated researches, the assistance protocols can be reformulated considering dimensions neglected until then in health care.

This study aimed to evaluate the risk factors of anxiety and depression in the preoperative period of cardiac surgery.

METHOD

This is a cross-sectional, observational study with a quantitative approach performed in the coronary arteries, cardiomyopathies and valvular heart diseases at a university hospital of reference in Northeastern Brazil, between January and April 2017.

A calculation for the delimitation of the sample was performed using the equation to calculate the sample size for means, considering that the variable-outcome is quantitative continuous. For this calculation, an error α of 5% was used, which corresponds to the difference between the value estimated by the research and the true value; and a 95% confidence level was used, which is the probability that the effective sampling error is smaller than the sampling error allowed by the research. The standard deviation adopted with a reference was found in an international study using the same scale with 142 patients evaluating anxiety and depression two days before they underwent cardiac surgery. The value of the standard deviation found in the study was 8.72⁽⁹⁾. The maximum error was 1.5 points in the mean. Considering the finite population of 200 patients submitted to cardiac surgery on average and for a period of five months of collection, the sample was estimated in 130 patients. There was a goal to collect, but 30% more patients were collected (169) considering the possible losses. Thus, in the end, a total of 174 patients were collected.

Based on the weekly surgical schedule released on Fridays by the surgical team, visits to the wards were scheduled from Monday to investigate the patients who were eligible for the survey and who were aware by the surgical indication team. All patients had been informed of the surgical indication and the expected date of the surgery by

the team. Patients hospitalized in the preoperative period of cardiac surgery for myocardial revascularization, valve replacement or valvuloplasty with written agreement were included and those with aortic disease or congenital heart disease, lowered level of consciousness, impaired verbal communication or any clinical or psychological condition that interfere with the interview or make them uncomfortable, previous use of anti-depressant, prior medical diagnosis of mood, anxiety, or other psychiatric disorders and refusal at any stage of the interview were excluded of the study.

The data were collected by the researchers using a specific instrument containing: a questionnaire created for a socio-demographic survey, such as gender, age, origin, income, education level, type of surgery, hospitalization time, among others and the Hospital Anxiety and Depression Scale.

The Hospital Anxiety and Depression Scale (HADS) is composed of 14 questions, seven of them to evaluate anxiety and seven to evaluate depression, with each item scored on a scale of 0 to 3, with a total of 21 points for each scale. The cutoff point of adopted is without anxiety or depression from 0 to 8, with anxiety or depression >9 on each sub-scale, respectively^(7,8). This scale has been used for its quick and simple use (in up to ten minutes), since its validity and reliability has been demonstrated in several studies and because it does not contain somatic symptom assessment^{(8).}

The primary data were stored using spreadsheets of the Microsoft Excel 2013 software. Data were analyzed using descriptive and inferential statistics using the Statistical Package for the Social Sciences - SPSS 20.0 software. The Kolmogorov-Smirnov Normality test showed that the evaluated outcomes had no normal distribution (). The Odds Ratio was calculated to assess the risk of anxiety and depression among dichotomized groups by the variables collected, which are presented with the 95% confidence interval and p-value, considering the level of statistical significance of the test for p <0.05. The internal consistency of the scales items was evaluated by Cronbach's alpha. The reliability of the application in the sample was considered high for both the subscale Anxiety (Cronbach's alpha = 0.815) and Depression (Cronbach's alpha = 0.845), indicating its good representation of the desired information.

The patients were evaluated in the afternoon, before the visit time of the relatives, considering that the routine visits of the nursing and medical teams are performed in the morning. Data collection took place in two main phases. In the first stage, the study participants were informed about the procedures and objectives of the research and invited to participate by signing the Informed Consent Form (ICF). In the second stage, the interviews were carried out and the collection instrument was applied.

The interviews were conducted at the bedside, with the consent of the nurse responsible for the sector and the companions who were instructed not to intervene in any answer if they stayed with the patients. Patients were approached and invited to participate in the research, agreeing in writing after they were informed about the objectives, risk, and benefits involved. The research was elaborated according to the precepts of Resolution CNS nº436/12, approved by the Research Ethics Committee of the institution (Opinion nº 1,915,220/CAAE: 30622414.7.0000.5192).

RESULTS

There were 50.6% of men and 49.4% of women. Most patients (54.6%) were married, Catholic (55.2%), and from the interior (49.1%), married or with companion (54.6%). The mean age was 59.16 \pm 13.86 years old, and 55.7% were over 60 years old. Most of the sample was reported without work (66.7%), with only one-third of them active in the labor market (33.3%). The average income observed between them was 1.31 \pm 0.96 minimum wages in force in the period (R\$ 880.0), and 70.7% declared receiving up to 1 minimum wage.

Only a little more than a fifth of the sample (22.5%) has already undergone previous cardiac surgery. In 34.5% of cases, surgery was canceled and the mean number of cancellations observed was 0.57 ± 0.98 (Table 1).

On average, the patients were hospitalized for 22.06 ± 11.08 days, with 70.7% more than 15 days; the mean preoperative period was 20.95 ± 29.78 with 56.9% of the patients within 15 days and 43.1% with a period of more than 15 days, according to Table 2. Most of the patients had a companion (85.6%) and religious visit (65.5%), but a daily visit was not observed so frequently (25.3%). In only 6.9% of cases, there was a request for a religious visit.

| Variables | n/% | Md±sd |
|------------------------------------|----------|-----------|
| Types of surgery | | |
| Myocardial revascularization | 92/52.9 | |
| Valve replacement or valvuloplasty | 82/47.1 | |
| Previous cardiac surgery | | |
| Yes | 39/22.5 | |
| No | 134/77.5 | |
| Was the surgery canceled? | | |
| Yes | 60/34.5 | |
| No | 114/65.5 | |
| How many cancellations? | | 0.6±0.9 |
| Length of hospital stay | | 22.1±11.1 |
| Up to 15 days | 51/29.3 | |
| > 15 days | 123/70.7 | |
| Preoperative length | | 20.9±29.8 |
| Up to 15 days | 99/56.9 | |
| > 15 days | 75/43.1 | |
| Was there a companion? | | |
| Yes | 149/85.6 | |
| No | 25/14.4 | |
| Was there religious visitation? | | |
| Yes | 114/65.5 | |
| No | 60 /34.5 | |
| Was there a daily visit? | | |
| Yes | 44/25.3 | |

Table 1 - Preoperative surgery and hospitalization data. Recife, Pernambuco, Brazil, 2017.

| No | 130/74.7 |
|----------------------------------|----------|
| Has religious visitation been | |
| requested? | |
| Yes | 12/6.9 |
| No | 162/93.1 |
| * Md+dp: moon+standard doviation | |

ivid±dp: mean±standard deviation

The mean value found for anxiety was 5.68 \pm 4.79, lower than the cut-off point (8 points), which classified the patients as anxious, and only 27.6% of the patients fit into this classification. For the subscale depression, the values are even better, with a mean score of 3.99 ± 4.40 , with only 17.8% of depressive patients.

There was no significant association between socio-demographic characteristics and anxiety in the preoperative period. Only in the gender issue, women were 3.46 times more anxious than men (p < 0.01), and higher education (OR: 0.477, CI 0.247-0.962, p = 0.037) (Table 2).

Table 2 - Risk factors for anxiety related to socio-demographic characteristics in the preoperative period of cardiac surgery, Recife, Pernambuco, Brazil, 2017,

| Variables | Anxious (n/%) | OR* | CI 95%† | р‡ |
|------------------------|---------------|-------|----------------|-------|
| Gender | | | | |
| Male | 14/29.2 | 0.289 | 0.141-0.592 | ~0 0· |
| Female | 34/70.8 | 0.209 | 0.141-0.592 | <0.0 |
| Age | | | | |
| More than 60 years old | 23/47.9 | 0.646 | 0.004.4.004 | 0.199 |
| Up to 60 years old | 25/52.1 | 0.040 | 0.331-1.261 | 0.19 |
| Years of study | | | | |
| Up 5 years | 25/52.1 | 0 407 | 0.047.0.000 | 0.00 |
| More than 5 years | 23/47.9 | 0.487 | 0.247-0.962 | 0.037 |
| Work activity | | | | |
| With activity | 15/31.2 | 0.077 | 0.430-1.790 | 0.719 |
| Without activity | 33/68.8 | 0.877 | | |
| Income | | | | |
| Up to 1 minimum wage | 32/66.7 | | 0.376-1.573 | 0.472 |
| More than 1 minimum | 16/33.3 | 0.769 | | |
| wage | 10/33.3 | | | |
| Number of children | | | | |
| Up to 2 children | 24/50.0 | 1.471 | 0.754-2.869 | 0.257 |
| More than 2 children | 24/50.0 | 1.471 | | |
| Marital Status | | | | |
| With a partner | 30/62.5 | 1.564 | 0.792-3.090 | 0.196 |
| Without a partner | 18/37.5 | 1.504 | | |
| Religion | | | | |
| Catholic | 29/60.4 | 1.344 | 0.684-2.643 | 0.391 |
| Evangelical | 19/39.6 | | | |
| Origin | | | | |
| Interior | 24/50.0 | 1 005 | 65 0.548-2.072 | 0.851 |
| Metropolitan Region | 24/50.0 | 1.065 | | |

Analyzing the data related to surgery and hospitalization as risk factors for anxiety, in a statistically significant way, the cancellation of surgery increases by 1.96 times the risk of anxiety and the absence of companions increased in 2.37 times (Table 3).

| Table 3 - Risk factors for anxiety related to surgery and hospitalization in | n the |
|--|-------|
| preoperative period of cardiac surgery. Recife, Pernambuco, Brazil, 2017. | |

| Variables | Anxious (n/%) | OR* | CI95%† | p‡ |
|---------------------------------------|---------------|---------|-------------------|-------|
| Surgery | | | | |
| Myocardial Revascularization | 23/47.9 | | | |
| Valve replacement or valvuloplasty | 25/52.1 | 0.566 | 0.289-1.107 | 0.095 |
| Previous cardiac surgery | | | | |
| Yes | 14/29.2 | 1.647 | 0.769-3.526 | 0 106 |
| No | 34/70.8 | 1.047 | 0.709-3.520 | 0.196 |
| Surgery canceled | | | | |
| Yes | 22/45.8 | 1.96 | 0.989-3.881 | 0.05 |
| No | 26/54.2 | 1.90 | 0.909-3.001 | 0.05 |
| Companion | | | | |
| Yes | 37/77.1 | 0.421 | 0.176-0.998 | 0.047 |
| No | 11/22.9 | 0.421 | 0.170-0.990 | 0.047 |
| Length of hospital stay | | | | |
| More than 15 days | 10/20.8 | 0 5 4 0 | 0.248-1.202 | 0.129 |
| Up to 15 days | 38/79.2 | 0.546 | | |
| Preoperative time | | | | |
| More than 15 days | 24/50.0 | 0.680 | 0.349-1.327 | 0.257 |
| Up to 15 days | 24/50.0 | 0.000 | 0.000 0.049-1.021 | 0.237 |

*odds ratio + confidence interval (95%) + Chi-square test

Table 4 shows that, regarding the depression, the risk was approximately three times higher in women (p = 0.008). The other socio-demographic aspects were not statistically significant as risk factors or protection for the presence of depression (Table 4).

Table 4 - Risk factors for depression related to socio-demographic characteristics in the preoperative period of cardiac surgery. Recife, Pernambuco, Brazil, 2017.

| Variables | Depression (n/%) | OR* | Cl95%† | p‡ |
|------------------------|------------------|-------|-------------|-------|
| Gender | | | | |
| Male | 9/29.0 | 0.331 | 0.143-0.770 | 0 000 |
| Female | 22/71.0 | 0.551 | 0.143-0.770 | 0.008 |
| Age | | | | |
| More than 60 years old | 16/51.6 | 0.816 | 0.375-1.778 | 0.609 |
| Up 60 years old | 15/48.4 | 0.816 | 0.375-1.776 | 0.009 |
| Years of study | | | | |
| Up to 5 years | 19/61.3 | 0 951 | 0.382-1.895 | 0.693 |
| More than 5 years | 12/38.7 | 0.851 | 0.302-1.095 | 0.095 |
| Work activity | | | | |
| With activity | 8/25.8 | 0.647 | 0.279-1.552 | 0.327 |
| Without activity | 23/74.2 | 0.647 | 0.279-1.552 | 0.327 |
| Income | | | | |

| Up to 1 minimum wage | 23/74.2 | | | |
|------------------------------|---------|------------|-------------|-------|
| More than 1 minimum wage | 8/25.8 | 1.236 | 0.513-2.981 | 0.636 |
| Number of children | | | | |
| Up to 2 children | 17/54.8 | 1.780 | 0.814-3.890 | 0.146 |
| More than 2 children | 14/45.2 | 1.700 | 0.014-3.090 | 0.140 |
| Marital Status | | | | |
| With a partner | 19/61.3 | 1.396 | 0.631-3.087 | 0.409 |
| Without a partner | 12/38.7 | 1.390 | 0.031-3.007 | 0.409 |
| Religion | | | | |
| Catholic | 18/58.1 | 1 1 5 1 | 0.526-2.531 | 0.721 |
| Evangelical | 13/41.9 | 1.154 | 0.526-2.531 | 0.721 |
| Origin | | | | |
| Interior | 13/41.9 | 0 740 | 0 225 4 562 | 0.205 |
| Metropolitan Region | 18/58.1 | 0.712 | 0.325-1.562 | 0.395 |
| * adda ratia + aanfidanaa in | t_{0} | Chi aquara | toot | |

*odds ratio + confidence interval (95%) + Chi-square test

There was no difference between the surgery and the hospitalization data to influence the risk of depression among those patients evaluated. The hospitalization time greater than 15 days increased by 7.6 times the risk of depression (p = 0.002) (Table 5).

Table 5 - Risk factors related to surgery and hospitalization for depression in the preoperative period of cardiac surgery. Recife, Pernambuco, Brazil, 2017.

| Variables | Depression (n/%) | OR* | CI95%† | p‡ |
|---------------------------------------|------------------|---------|---------------|---------|
| Surgery | | | | |
| Myocardial Revascularization | 16/51.6 | 0.728 | 0.334-1.587 | 0.423 |
| Valve replacement or valvuloplasty | 15/48.4 | 0.720 | 0.004 1.007 | 0.420 |
| Previous cardiac surgery | | | | |
| Yes | 10/32.2 | 1.856 | 0.788-4.369 | 0.153 |
| No | 21/67.7 | 1.000 | 0.700-4.309 | 0.155 |
| Surgery canceled | | | | |
| Yes | 13/41.9 | 1.475 | 0 667 0 064 | 0 226 |
| No | 18/58.1 | 1.475 | 0.667-3.264 | 0.336 |
| Companion | | | | |
| Yes | 24/77.4 | 0 404 | 0 400 4 044 | 0 4 5 4 |
| No | 7/22.6 | 0.494 | 0.186-1.311 | 0.151 |
| Length of hospital stay | | | | |
| More than 15 days | 2/6.4 | 0 4 9 9 | 0 0 0 0 5 7 0 | 0 000 |
| Up to 15 days | 29/93.6 | 0.132 | 0.030-0.578 | 0.002 |
| Preoperative time | | | | |
| More than 15 days | 17/54.8 | 0.002 | 0 444 4 070 | 0 700 |
| Up to 15 days | 14/45.2 | 0.903 | 0.414-1.973 | 0.799 |

*odds ratio † confidence interval (95%) ‡ Chi-square test

DISCUSSION

Other studies with similar samples found approximate frequencies of anxiety and depression(8-14). A review on the topic showed that the prevalence for anxiety and depression reach 41.5% and 28.3%, respectively⁽⁴⁾.

Other references revealed that these symptoms are relevant in the preoperative period and may last a week after surgery, and may interfere in the recovery and adaptation of patients to the new reality^(11,14,15). The association of anxiety with postoperative mortality was have increased the risk in up to five times⁽¹²⁾. There are references that these preoperative mood disorders reflect in a higher incidence of postoperative anxiety and depression, and resulting in greater long-term mortality^(11,15,16). Also in the postoperative repercussion, another follow-up with 1071 patients showed that preoperative anxiety, which lasts after surgery, is a predictor of postoperative chest pain for two years⁽¹⁷⁾.

A recent Spanish study obtained averages of anxiety and depression very close to those found with a sample of preoperative cardiac surgery patients of the same size (n = 100), measured on the same scale⁽¹³⁾. The research showed that the age under 65 years old would be a risk factor for preoperative anxiety. However, in the sample presented here, there was no significant difference according to their age⁽¹³⁾. This publication did not find differences between genders, whereas our findings revealed female gender as a risk factor for anxiety and depression ⁽¹³⁾, while in our sample women were 3.46 times more anxious than men, and according to Tables 2 and Table 4their risk of women was approximately three times more than men (p <0.01, p = 0.008). Consistent with the results presented, this study pointed out that the increase in hospital stay is associated with higher depression scores and preoperative anxiety is related to increased postoperative pain, although it does not show relationships with other outcomes such as mechanical ventilation, intensive care unit stay, and death⁽¹³⁾.

Another study showed a weak association between preoperative state anxiety in cardiac surgery and age (r = 0.226, p < 0.001), higher values in women, negative correlation with education level (p < 0.001), and higher scores in patients with companions than without companion (single, widowed and divorced)(18). The female gender was statistically significantly associated with higher scores of depression in a study of patients with heart disease after percutaneous intervention⁽¹⁹⁾.

Table 3 shows that education level over 5 years was a protective factor (OR: 0.487, CI: 0.247-0.962; p = 0.037) for anxiety. An international cohort study showed that patients with preoperative anxiety traits and lower levels of formal education had higher long-term mortality, followed by 10 years, as EUROSCORE, which assesses the risk of cardiac surgery through clinical variables⁽²⁰⁾.

The presence of a companion was shown as a protective factor for both anxiety and depression, and the absence of companions increased the risk of anxiety by 2.37 times, according to Table 3. A national study compared the variation of anxiety in a control group in the preoperative period, a group with a trained nurse and a group that received visits from relatives and found that the presence of family members in the period was responsible for the greater reduction of the scores⁽²¹⁾.

On average, the patients were hospitalized for 22.06 ± 11.08 days, with 70.7% more than 15 days; the mean preoperative period was 20.95 ± 29.78 with 56.9% of the patients within 15 days and 43.1% with a period of more than 15 days.

The hospitalization time greater than 15 days increased by 7.6 times the risk of depression (p = 0.002), according to Table 5. The increase in depressive symptoms has also been evidenced in other studies^(12, 20, 22). Despite evaluating a small sample and not considering depression, one study showed that the short waiting time for surgery (approximately 6 days) may also be related to fear and anxiety^{(23).}

Although there was no other reference in the cardiac surgery that confronted the results of the present study, the relevance of a situation that occurs commonly in the public health system should be highlighted: the cancellation of the surgery. Patients who had this experience had almost double the risk (OR = 1.96, p <0.05). Surgeries can be canceled due to clinical situations such as unwanted infections to be treated previously or structural reasons, including lack of blood reserve, specific material or not for surgery.

Studies of a qualitative approach reveal that for patients, the ideation of the disease is associated with a limiting situation and that delay in performing surgery may result in greater complications or even death^(3,22). Feelings related to the preoperative period of cardiac surgery involve waiting anxiety, fear of surgery and future expectation after surgery, religiosity, and introspection⁽²²⁾. Surgery can also be understood in its empowering aspects of individuals reorganizing their lives and their relationships⁽²²⁾.

Also in the qualitative approach, a research investigating the strategies that patients use to deal not only with anxiety and depression before a cardiac surgery but with all the psycho-emotional repercussions of the event for the individual, acknowledged that this confrontation is based in the presence and support of the family, in the quality of interfamily relationships, in the use of spiritual resources and in the participation of a rehabilitation program that, in addition to physical conditioning, it enables social interaction⁽²⁴⁾. Other references found that spirituality was the main support for facing heart surgery and the presence of belief in God is considered as an important factor for this confrontation^(3, 25). Preoperative anxiety in another sample had a significant and negative association with hope and a positive response to avoidance and anger behavior and negative religious coping⁽²⁶⁾.

Finally, a national study concluded that despite being considered a major stressor and having a great impact on the patients' lives, cardiac surgery had a fundamental role in improving quality of life, depression, and anxiety in all evaluated aspects, corroborating with the positive value of the surgery besides the clinical aspect⁽²⁷⁾.

Nurses should be aware of anxiety and depression in the preoperative period, including nursing diagnoses and interventions in the systematization of the care provided, and should also consider the possible relation with the knowledge deficit of the disease or the procedure^(1,3).</sup>

A recent systematic review showed that preoperative education offered or coordinated by nurses has an effect on preoperative anxiety and on improving physical or psychological recovery, and the relationship with pain reduction and hospital stay should be further explored since the analysis of the studies was not conclusive in these aspects⁽²⁸⁾.

The failure to establish therapeutic relationships with the professionals leads to a lack of guidance regarding the surgery and lack of support by the health team, causing the patients to stay in an anxious and depressed state throughout the hospitalization. However, the presence of information on surgery contributes to the reduction of anxiety levels⁽²⁹⁾.

The present study was limited because although the findings were confronted with the literature and they were found in other studies, they reflect the reality of only one service. In other hospital environments and other interdisciplinary preoperative care routines, the results may be different. Also, the relationships with quality of life with personality trait anxiety and with previous cardiovascular symptoms were not considered, since the literature has shown that such factors have a major influence on anxiety before the cardiac surgery, nor were predictive risk for surgery, such as EuroSCORE.

FINAL CONSIDERATIONS

The main risk factors for anxiety and depression found should be given special attention to women, unaccompanied patients, those who have undergone previous surgeries, those who spend more time in hospital and with their surgery schedule canceled.

Two factors that can be considered modifiable are highlighted: length of hospital stay and cancellation of surgery. It is a challenge to improve the service to avoid long hospitalization and cancellations of surgery for structural reasons. Identifying the cause of cancellations for these patients and the reason for the delay in performing the surgery should be the theme of further research and health professionals and managers should prevent such events.

The institutions that attend the patient in the perioperative period of cardiac surgery should favor and encourage strategies of preventive action of the mood disorders, in particular in the moments that precede the surgery.

The nurse has instruments available to recognize anxiety and depression, including nursing diagnoses and validated scales, as well as having a preponderant role in acting in these cases. The nurse should be articulated with the multi-professional team to elaborate the best approach for the patient.

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