DOI 10.18471/rbe.v37.48540 Original Article

RELIGIOUS-SPIRITUAL COPING OF PATIENTS IN THE PREOPERATIVE PERIOD OF CARDIAC SURGERY

COPING RELIGIOSO-ESPIRITUAL DE PACIENTES NO PERÍODO PRÉ-OPERATÓRIO DE CIRURGIA CARDÍACA

COPING RELIGIOSO-ESPIRITUAL DE PACIENTES EN EL PERÍODO PREOPERATORIO DE CIRUGÍA CARDÍACA

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How to cite this article: Galvão PCC, Gomes ET, Bezerra SMMS. Religious-spiritual coping of patients in the preoperative period of cardiac surgery. Rev baiana enferm. 2023;37:e48540.

Objective: to evaluate the religious-spiritual coping in patients in the preoperative period of cardiac surgery. Method: cross-sectional, analytical study, in which 62 patients hospitalized in the preoperative period of cardiac surgery, between September and December 2020, in two reference hospitals in cardiac surgery in northeastern Brazil, were evaluated. Results: the patients showed a high use of religious-spiritual coping, with predominance for the positive. The main factors used for positive religious-spiritual coping were *Positive position towards God* and *Distancing through God/Religion/Spirituality*. Conclusion: nurses can consider and invest in interventions that favor positive coping, aiming to reflect better patient experience in the face of important stressors, such as cardiac surgery.

Descriptors: Preoperative Period. Thoracic Surgery. Spirituality. Adaptation, Psychological. Nursing.

Objetivo: avaliar o coping religioso-espiritual em pacientes no período pré-operatório de cirurgia cardíaca. Método: estudo transversal, analítico, no qual foram avaliados 62 pacientes internados no período pré-operatório de cirurgia cardíaca, entre os meses setembro e dezembro de 2020, em dois hospitais de referência em cirurgia cardíaca no Nordeste do Brasil. Resultados: os pacientes apresentaram um alto uso do coping religioso-espiritual total, com predominância para o positivo. Os principais fatores utilizados para o coping religioso-espiritual positivo foram Posição positiva frente a Deus e Afastamento através Deus/Religião/Espiritualidade. Conclusão: os enfermeiros podem considerar e investir em intervenções que favoreçam o coping positivo, visando repercutir melhor experiência do paciente diante de estressores importantes, como a cirurgia cardíaca.

Descritores: Período Pré-Operatório. Cirurgia Torácica. Espiritualidade. Adaptação Psicológica. Enfermagem.

Objetivo: evaluar el coping religioso-espiritual en pacientes en el período preoperatorio de cirugía cardíaca. Método: estudio transversal, analítico, en el cual fueron evaluados 62 pacientes internados en el período preoperatorio de cirugía cardíaca, entre los meses septiembre y diciembre de 2020, en dos hospitales de referencia en cirugía cardíaca en el nordeste de Brasil. Resultados: los pacientes presentaron un alto uso del coping religioso-espiritual total, con predominio para el positivo. Los principales factores utilizados para el coping religioso-espiritual positivo fueron

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Posición positiva frente a Dios y Alejamiento a través de Dios/Religión/Espiritualidad. Conclusión: los enfermeros pueden considerar e invertir en intervenciones que favorezcan el afrontamiento positivo, buscando repercutir mejor experiencia del paciente ante estresantes importantes, como la cirugía cardíaca.

Descriptores: Periodo Preoperatorio. Cirugía Torácica. Espiritualidad. Adaptación Psicológica. Enfermería.

Introduction

The preoperative period is characterized by a sum of feelings and concerns in which patients undergoing surgical intervention often experience distress, which can also be influenced by psychiatric disorders such as anxiety and depression[1].

When subjected to stressful situations intermittently or continuously, individuals develop forms of adaptation or management to the distressing situation, with mechanisms that can be positive or negative[2]. In this context, the term coping, although not fully translated into Portuguese in everything it encompasses, can be interpreted as *management, adaptation, facing,* which results in the way individuals face their intimate difficulties[2].

Among the coping strategies used to manage feelings in the preoperative period of cardiac surgery are family and social support (classic sources of support), and religiosity and spirituality[2-4]. These strategies contribute to the maintenance of well-being, relief of anguish and maintenance of hope in the face of the unknown and the threats posed by cardiac surgery[4-5]. There are studies that show that sustainable coping, which includes spirituality, can be used by up to 50% of patients, and that patients seek to maintain positive feelings and search for faith and hope, using religious and spiritual resources, which demonstrates how much religiosity and spirituality are important for the patient and, therefore, should receive attention from nurses and professionals involved in the care[2,6].

This study aims to evaluate the religious-spiritual coping in patients in the preoperative period of cardiac surgery.

Method

This is a cross-sectional, exploratory, analytical study with a quantitative approach. The research was conducted in the wards of two public hospitals of reference in cardiac surgery in northeastern Brazil, between September and December 2020. The report follows the guidelines contained in the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE).

The study included patients hospitalized in the preoperative period of coronary artery bypass grafting cardiac surgery, valve replacement or repair, older than 18 years, of both sexes. Patients who were waiting for aortic surgeries were excluded because they were insidious and often emergency and congenital surgeries. There was no neuro-cognitive disorder that prevented the participation in the study of any patient, as well as there was no refusal to participate in the research.

To quantify the sample, the sample size equation was applied for means, considering that the outcome variable is continuous quantitative. Among the scales used, the Religious-Spiritual Coping (RSC) was chosen as the outcome to be considered in this calculation, because it is the main variable. The α error used was 5%, confidence level of 95%, standard deviation of 0.366 found in the scale validation study and error of 0.1, and a finite population of 200 cardiac surgeries in the collection period in both hospitals (reduced amount due to the coronavirus pandemic), calculating a sample of 42 patients to be evaluated[7-8]. However, considering possible losses and to increase the power of analysis, 62 patients were surveyed.

After the publication of the weekly surgical map, patients were approached, informed about the research and invited to participate. After agreeing and signing the Informed Consent Form (ICF), a form was applied. The first part of the form contained variables such as sex, age, origin, income, schooling (years of study), religion and information regarding surgery, length of hospitalization and presence of a companion in most of the hospitalization. The preoperative time was considered from the moment of the surgical decision, which could have happened during hospitalization or previously. The length of hospitalization was considered from hospital admission to surgery. The form was also composed of two validated instruments: the Duke Religiosity Index (DUREL) and the Religious-Spiritual Coping Scale (RSC- brief?)[7-9].

The Brief Religious-Spiritual Coping Scale is composed of 49 items with answers given in five-point Likert scale, ranging from 1 (not at all) to 5 (very much), whose items allow the evaluation of: Positive RSC (PRSC), which indicates the level of positive religious-spiritual coping practiced by the participant, through the average of the positive dimensions of the scale (34 questions that make up seven factors – P1 to P7); Negative RSC (NRSC), which indicates the level of negative religious-spiritual coping experienced by the participant, found by the average of the negative dimensions of the scale (15 questions that make up 4 factors – N1 to N4); Total RSC, which indicates the total amount of religious-spiritual coping strategies, obtained by the mean of the positive dimensions of the scale and the inverted dimensions of the negative scale[7-8]. For analysis of the results, the following parameter was used: none or derisory: 1.00 to 1.50; low: 1.51 to 2.50; mean: 2.51 to 3.50; high: 3.51 to 4.50; very high 4.51 to 5.00[7-8].

DUREL is a five-item scale that evaluates three nuances of religious involvement: Organizational Religiosity (OR) scores from 1 to 6, related to participation in cults and religious communities; Non-Organizational Religiosity (NOR) scores from 1 to 6, related to the religious practices that the individual adopts for themselves in daily life; and the Intrinsic Religiosity (IR) scores from 3 to 15, related to the search for the internalization of the concepts learned in their religion or philosophy of life[9].

The Microsoft Excel 2010 software was used to build the database and the Statistical Package for the Social Sciences (SPSS), version 20.0, for the analyses. The characterization of the sample is presented with descriptive statistics resources (absolute and relative frequencies, mean and standard deviation, maximum and minimum values). The reliability of the use of Likert scales was evaluated by Cronbach's alpha, presenting all scales and high domains ($\alpha>0.7$). The Kolmogorov-Smirnov test verified the normal distribution for the outcomes of religiosity and RSC. Next, there were the multiple linear regression analyses of the dependent variables Positive, Negative and Total Religious-Spiritual Coping, related to continuous quantitative socio-demographic variables (age, income, years of study), time of hospitalization and religiosity scores, with inclusion of the independent variables by the hierarchical method. The regressions are presented with the standardized coefficients, t test and p-values of the inserted variables and the coefficient of determination and result of the ANOVA for the model under test. Among the variables included, it was verified whether there was presence of multicollinearity, homoscedasticity and outliers in the residuals of the regression. All tests considered statistical significance for p-value <0.05.

The research was elaborated based on the precepts of Resolution n. 466/2012, of the National Health Council. The data collection began after the evaluation and approval of the Research Ethics Committee of the Pernambuco University Hospital Complex under Opinion n. 2,929,458.

Results

Most participants were male (61.3%), aged over 60 years (53.2%), coming from outside the metropolitan region (56.5%). There was a predominance of schooling below seven years of study (67.7%), income up to one minimum wage (1,039.00 BRL) in force during the collection period (59.7%) and no work activity (80.6%). The most prevalent religions were Catholic (61.3%) and Protestant, including all denominations (29.0%) (Table 1).

Table 1 – Sociodemographic variables of patients waiting for cardiac surgery. Recife, Pernambuco, Brazil – 2020. (N=62)

Variables	n	%
Sex		
Male	38	61.3
Female	24	38.7
Origin		
Interior	35	56.5
Capital	16	25.8
Metropolitan region	11	17.7
Age		
≤ 60 years	29	46.8
> 60 years	33	53.2
Years of study		
≤ 7 years	42	67.7
> 7 years	20	32.3
Income		
≤ 1 Minimum Wage	37	59.7
> 1 Minimum Wage	25	40.3
Work activity		
Unemployed	11	17.7
Retired	39	62.9
Employed	10	16.1
Self-employed	2	3.2
Religion		
Catholic	38	61.3
Evangelical	18	29
Spiritist	3	4.8
Other	3	4.8

Source: created by the authors.

Patients expected coronary artery bypass grafting (49;79.0%) and valve replacement or repair (13;21.0%), with an average hospitalization time of 25.4±24.87 days, ranging from 3 to 180 days, with 39 (62.9%) patients hospitalized for more than 15 days at the date of the interview, and 48 (77.4%) with companions during hospitalization (Table 2).

Table 2 – Type of surgery, length of stay and pre-operative period of patients waiting for cardiac surgery. Recife, Pernambuco, Brazil – 2020. (N=62)

Variables	n	%
Type of surgery		
Coronary artery bypass grafting	49	79
Valve replacement or repair	13	21
Presence of Companion		
Yes	48	77.4
No	14	22.6
Length of hospitalization		
≤ 15 days	23	37.1
> 15 days	39	62.9
Pre-operative length		
≤ 15 days	55	88.7
> 15 days	7	11.3

Source: created by the authors.

The religiosity of the patients presented higher scores for the organizational dimension, with high results in all dimensions. Reliability was considered high for all domains (OR - α=0.734; NOR - α=0.798; IR - α= 0.821). The positive RSC was considered medium (3.01±0.54), and the negative was low (1.96±0.52), with only the use of the Total RSC considered high (3.52±0.38), with a higher proportion for the use of the Positive RSC (Negative/Positive RSC Ratio 0.67±0.21) (Table 3).

Table 3 – Religiosity and religious-spiritual coping of patients waiting for cardiac surgery. Recife, Pernambuco, Brazil – 2020. (N=62)

Variables	Mean	Standard-deviation	Minimum	Maximum
Religiosity				
Organizational Religiosity	4.05	1.67	1.00	6.00
Non-Organizational Religiosity	3.58	1.70	1.00	6.00
Intrinsic Religiosity	12.26	1.95	8.00	15.00
Religious-Spiritual Coping				
Positive Religious-Spiritual Coping	3.01	0.54	1.59	4.00
Negative Religious-Spiritual Coping	1.96	0.52	1.07	3.27
Total Religious-Spiritual Coping	3.52	0.38	2.71	4.34
Negative/Positive Religious-Spiritual Coping Ratio	0.67	0.21	0.32	1.22
Positive Religious-Spiritual Coping Factors				
P1 – Transformation of Yourself/Your Life	3.15	0.75	1.33	4.67
P2 – Search for spiritual help	2.10	0.96	1.00	4.00
P3 – Help offer to the other	3.02	0.93	1.40	4.80
P4 – Positive position before God	3.94	0.61	2.60	5.00
P5 – Search for the institutional other	2.49	0.92	1.00	4.50
P6 – Distancing through God/Religion/Spirituality	3.60	0.80	1.67	4.67
P7 – Search for spiritual knowledge	2.69	0.94	1.00	4.67
Negative Religious-Spiritual Coping Factors				
N1 – Negative re-evaluation of God	1.56	0.55	1.00	3.00
N2 – Negative position before God	3.27	0.75	1.00	4.67
N3 – Dissatisfaction with the institutional other	1.62	0.83	1.00	4.00
N4 – Negative meaning re-evaluation	1.78	0.87	1.00	4.00

Source: created by the author.

The main factors used for the Positive RSC were Positive position before God (3.94±0.61) and Distancing through God/Religion/Spirituality (3.60±0.8). For the Negative RSC, the main factor used was Negative position before God (3.27±0.75).

An explanatory model for RSC including age, income, schooling and length of stay was tested and showed no significance by ANOVA for PRSC (p=0.332), Neg RSC (p=0.656) and Total RSC (p=0.539). Then, considering the hypothesis that religiosity influences religious-spiritual coping, a model was developed considering the independent variables Organizational Religiosity, Non-Organizational Religiosity and Intrinsic Religiosity, which was significant by ANOVA in relation to chance, to explain the behavior of the dependent variables Positive RSC (p = 0.041) and Negative RSC (p = 0.048), but not to explain the Total RSC (p = 0.221).

There was no multicollinearity between the dimensions of religiosity, despite a moderate correlation between organizational and non-organizational religiosity (r=0.7; p=0.00). In the

model, there were homoscedasticity and no outliers with the variables Positive RSC and Negative RSC, however, there was no normal distribution of residuals for the dependent variable Total RSC. Therefore, it was chosen to consider the explanatory model for the Positive and Negative RSC, presented in Table 4.

For Positive Religious-Spiritual Coping, the Religiosity model showed weak to moderate correlation (R=0.362), explaining only 13.1% (R^2) of the variable's behavior. Non-organizational religiosity was the only isolated predictor of positive religious-spiritual coping in the sample (β=0.481; t=2.748; p=0.008).

The comparison of the model elaborated with the variables of religiosity for the dependent variable Negative RSC was presented with weak to moderate correlation (R=0.335) and explaining only 11.2% (R^2) of the behavior of the variable. Organizational Religiosity was the only isolated predictor of Negative Religious-Spiritual Coping in the sample (β=-0.435; t=-2.481; p=0.016) (Table 4).

Table 4 – Multiple linear regression of the dependent variables Positive and Negative Religious-Spiritual Coping related to religiosity. Recife, Pernambuco, Brazil – 2020. (N=62)

Dimensions of Religiosity	Positive RSC			Negative RSC		
	β (1)	t	p	β (1)	t	p
Organizational Religiosity	-0.203	-1.169	0.247	-0.435	-2.481	0.016
Non-Organizational Religiosity	0.481	2.747	0.008	0.275	1.553	0.126
Intrinsic Religiosity	-0.190	-1.435	0.157	-0.084	-0.624	0.535

Source: Created by the authors.

(1) standardized coefficient.

Discussion

The sociodemographic distribution found in the study and the predominance of the Catholic religion corroborate the findings of other national studies with similar populations in the Brazilian Unified Health System (UHS)[4-5].

Regarding the variables related to the type of surgery and length of hospitalization, 79% of patients were waiting for coronary artery bypass grafting surgery, with most patients hospitalized for more than 15 days at the date of the interview. The preoperative period is characterized by a series of doubts and uncertainties, in which a range of conflicting feelings may arise and become generators of great challenges in this phase[5-6]. The longer the hospital stay, the more the patient is susceptible to anxiety and negative ways of coping with the disease. More than 70% of the patients were in the presence of a companion, which for them represents a certain security, considering that the presence of the family together with the patient helps reduce the anxiety symptoms they experience before the surgical procedure[4].

There are references that family support and spirituality are the main factors that individuals use to cope with surgery and control preoperative anxiety[10-11].

Religiosity presented a small power to explain the use of religious-spiritual coping, according to regression analysis. This result points to the fact that the search for religiosity during the period of difficulty happens even in those who do not have a significant experience of religiosity.

As for coping strategies used, when analyzing the results of the RSC scale, it was found that the positive domain of the RSC, that is, the positive form of coping, was considered medium and the negative, low, being only the use of the Total RSC considered high with higher proportion for the use of the Positive RSC. There must be a way in which the use of religious-spiritual coping impacts preoperatively, alleviating anxiety, depression and stress generated by the

expectation that the uncertainties of surgery bring[12-13].

The main factors used for the Positive RSC were *Positive position towards God* and *Distancing through God/Religion/Spirituality*. The *Positive position before God* is characterized by the search for the approach of God or integration with the creative sources of life, for generation of well-being and motivation. On the other hand, *Distancing through God/ Religion/Spirituality* is how religiosity serves as a distancing from problems, to take the focus and allow living other aspects of life[7].

Religiosity positively impacts the encounter with a new meaning for the surgical procedure, strengthening the coping process and even recovery[14]. Studies show that coping strategies based on patients' faith and beliefs, for example, prayer, reading, etc., predict less anxiety and depression and better spiritual well-being and post-traumatic growth[15-16]. Spirituality plays such an important role in maintaining well-being and mood, that a clinical study with a large sample found that there was no difference between the beneficial influence that a psychological intervention can bring in comparison with spiritual intervention[16].

Non-organizational religiosity was the only isolated predictor variable of Positive Religious-Spiritual Coping in the sample. This indicates that the way patients begin to adapt the expression of their faith is not directly related to institutional religious standards, which does not mean an abandonment of their belief. Possibly, there is a process of remodeling this organizational structure in the face of the stress of hospitalization and surgical decision. Organizational Religiosity was the only isolated predictor variable of Negative Religious-Spiritual Coping in the sample.

The relevance of spirituality has been recognized in studies on coping with diseases and has been investigated in other publications, showing that spirituality improves adherence and opens space for the search for other therapeutic alternatives[17-19]. Perhaps spirituality is the key to understanding this coping process, being more important than religiosity. Another study, evaluating the issue of hope, with the same population, found that, although religious well-being was better than existential well-being, there was no direct correlation with hope[20]. The authors argue that probably, although waiting for heart surgery may bring existential problems and some harm to religious well-being, hope remained high, probably because it is well supported by spirituality, disregarding existential crises or religiosity[20].

This research was limited to consider the dimensions of religiosity, however, without considering and using a validated scale for the construct spirituality, which could bring more information and contribute to a greater understanding of religious-spiritual coping for patients waiting for cardiac surgery.

This study is expected to contribute to the understanding that the spiritual/religious issues cannot be dissociated from the nurse's care practice, considering that they are part of the reality of most individuals.

Conclusion

The patients' religiosity presented higher scores for the organizational dimension. Patients had a high use of Total Religious-Spiritual Coping, with a predominance of positive RSC. Non-organizational Religiosity was the only isolated predictor variable of Positive Religious-Spiritual Coping in the sample, while Organizational Religiosity was the only isolated predictor of Negative Religious-Spiritual Coping.

It is emphasized that there are specific instruments for spiritual anamnesis, and, in the Nursing taxonomies, there are both Nursing Diagnoses and Interventions for the domain of religiosity.

It is suggested to investigate, later, which factors contribute to the use or not of this strategy and how the nurse can favor it for the patient's sake. It is concluded that nurses can consider and invest in interventions that favor positive coping, reflecting on better patient experience

in the face of important stressors such as cardiac surgery.

Collaborations:

1 – conception and planning of the project: Paulo Cesar da Costa Galvão, Eduardo Tavares Gomes and Simone Maria Muniz da Silva Bezerra;

2 – analysis and interpretation of data: Paulo Cesar da Costa Galvão, Eduardo Tavares Gomes and Simone Maria Muniz da Silva Bezerra;

3 – writing and/or critical review: Paulo Cesar da Costa Galvão, Eduardo Tavares Gomes and Simone Maria Muniz da Silva Bezerra;

4 – approval of the final version: Paulo Cesar da Costa Galvão, Eduardo Tavares Gomes and Simone Maria Muniz da Silva Bezerra.

Competing interests

There are no competing interests.

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Received: March 19, 2022

Approved: October 27, 2023

Published: December 6, 2023