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ORIGINAL ARTICLE

KNOWLEDGE OF PATIENTS IN THE PRE-OPERATIVE ABOUT THE CARDIAC SURGERY

CONHECIMENTO DE PACIENTES NO PRÉ-OPERATÓRIO ACERCA DA CIRURGIA CARDÍACA CONOCIMIENTO DE PACIENTES EN EL PREOPERATORIO ACERCA DE LA CIRUGÍA CARDÍACA

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ABSTRACT

Objective: to evaluate patients' knowledge about perioperative care about cardiac surgery. **Method:** this is a descriptive cross-sectional study with a quantitative approach, in which 50 patients were interviewed in the preoperative period of cardiac surgery. A specific instrument was used with sociodemographic questions and 18 propositions about the perioperative period. The data was tabulated in the Microsoft Excel program and analyzed by SPSS version 20.0. For its analysis, statistical resources were used. **Results:** the mean number of correct answers (5.92 ± 4.35) did not vary statistically between the genders, age or years of study, and it was only considerably higher among patients who had undergone previous cardiac surgery ($9.12 \pm 2.82 \times 4.42 \pm 1.78$, $p < 0.01$). **Conclusion:** the average number of correct answers was low and the items that the patients presented were less accurate should serve as a reference to the reflection of health education strategies. **Descriptors:** Health Education; Preoperative Period; Cardiac Surgery; Nursing Care.

RESUMO

Objetivo: avaliar o conhecimento dos pacientes sobre os cuidados perioperatórios acerca da cirurgia cardíaca. **Método:** estudo descritivo, de corte transversal, com abordagem quantitativa, em que foram entrevistados 50 pacientes no período pré-operatório de cirurgia cardíaca. Utilizou-se um instrumento próprio com questões sociodemográficas e 18 proposições acerca do período perioperatório. Os dados foram tabulados no programa Microsoft Excel e analisados pelo SPSS versão 20.0. Para sua análise, foram utilizados recursos de estatística. **Resultados:** a média de acertos ($5,92 \pm 4,35$) não variou de forma estatisticamente significativa entre os sexos, idade ou anos de estudo, sendo apenas consideravelmente maior entre os pacientes que já haviam se submetido a uma cirurgia cardíaca anterior ($9,12 \pm 2,82 \times 4,42 \pm 1,78$; $p < 0,01$). **Conclusão:** a média de acertos foi baixa e os itens que os pacientes apresentaram menos acertos devem servir de referência à reflexão de estratégias de educação em saúde. **Descritores:** Educação em Saúde; Período Pré-Operatório; Cirurgia Cardíaca; Cuidados de Enfermagem.

RESUMEN

Objetivo: evaluar el conocimiento de los pacientes sobre los cuidados perioperatorios acerca de la cirugía cardíaca. **Método:** estudio descriptivo, de cohorte transversal, con enfoque cuantitativo, en que fueron entrevistados 50 pacientes em el período pre-operatorio de cirugía cardíaca. Fue utilizado un instrumento propio con preguntas sociodemográficas y 18 proposiciones acerca del período perioperatorio. Los datos fueron tabulados en el programa Microsoft Excel y analizados por el SPSS versión 20.0. Para su análisis, fueron utilizados recursos de estadística. **Resultados:** la media de aciertos ($5,92 \pm 4,35$) no varió de forma estadísticamente significativa entre los sexos, edad o años de estudio, siendo apenas considerablemente mayor entre los pacientes que ya se habían sometido a una cirugía cardíaca anterior ($9,12 \pm 2,82 \times 4,42 \pm 1,78$; $p < 0,01$). **Conclusión:** la media de aciertos fue baja y los ítems que los pacientes presentaron menos aciertos deben servir de referencia a la reflexión de estrategias de educación en salud. **Descriptores:** Educación para la Salud; Pre-Operatorio; Cirugía Cardíaca; Cuidados de Enfermería.

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INTRODUCTION

Cardiac surgery is a large invasive procedure restoring the functional capacity of the heart, reducing the symptoms and providing the individual with a return to normal activities.¹⁻² Due to the chronicity of cardiovascular diseases, treatment is indicated as a definitive method, when the clinical treatment option is not effective in maintaining the patient's quality of life.³

The prospect of undergoing surgery is commonly perceived by the individual as an event related to the incapacity and/or alteration of the body image.⁴ When it comes to cardiac surgery, it usually generates psychological and physiological repercussions, since the heart is an organ with great symbology in the minds of people, being idealized as the center of emotions, life and the body.^{1,3}

The psychological repercussions (fear, anguish, and anxiety) may contribute to physiological changes (tremors, sweating, tachycardia, arterial hypertension, myocardial ischemia, and arrhythmias), with consequent increase in oxygen consumption, regression of prognosis and expansion of the morbidity and mortality rate.⁵⁻⁶ Also, it can trigger a slow immune response, increasing the predisposition to infections.⁷

Because it is a highly complex surgery, it is necessary to carry out a plan scientifically based on the multi-professional team to implement health education, since it is a social practice capable of developing reflection and critical awareness of people about their health problems, by triggering of a process based on dialogue, working only with people.^{2,8}

With accessible language and through educational actions, it is essential to guide patients to clarify doubts and educate them about the surgical procedure and the care that must be performed during the perioperative period.^{2,9} For this, it is ideal that its execution is in the preoperative period since it is when the patient is informed about the surgical process and begins the process of preparation of the patient as a whole, besides being the moment related to the dissemination of information.^{3,10}

When the patient has this knowledge, it is possible to prevent complications, allowing tranquility to accept the reality of their health-disease process, supplying their psychological needs and contributing to a faster improvement after surgery.¹⁰

This study aimed to evaluate patients' knowledge about perioperative care about cardiac surgery.

METHOD

This study is descriptive, cross-sectional with a quantitative approach, carried out in the Pernambuco University Cardiovascular Emergency Room (PROCAPE), a university hospital of the University of Pernambuco (UPE), in the period of April and May 2016.

This study is a pilot for a reference to a larger project in which the authors aim at the elaboration and validation of a scale to evaluate the knowledge of preoperative patients about cardiac surgery.

The study population consisted of patients in the preoperative period who were to undergo elective cardiac surgery, admitted and hospitalized to the hospital. The sample consisted of 50 patients, in a census sample that included patients of both genders, aged over 18 years old and who accepted to participate in the study by signing the Informed Consent Term (TCLE). Patients were invited when they had scheduled surgery. Patients who were still waiting to know about the surgical definition and with cognitive deficits, who were unable to understand the guidelines discussed and those who participated in some health education strategy promoted by the institution's multi-professional team were excluded.

The researchers invited the patients who were listed on the institution's weekly surgical agenda. They used two questionnaires for collection: one for the sociodemographic survey and another for the evaluation of the patients' knowledge. The questions used to evaluate the patients were elaborated from the service protocols, which guided the patients' preoperative orientations. These protocols also were a reference for the evaluation of the answers, although there was more current evidence related to preoperative care.

After the interview with the patient, for each item evaluated, the questionnaire was filled out, considering its answers in three categories: the patient did not know when there was no response from him or when he was completely wrong; The patient knew partially when he did not use the terms correctly or did not know the details, but he knew the primordial about the care to which the item refers; The patient knew when he answered with his words correctly about the main one related to the care to which the item refers.

The data was tabulated in the Microsoft Excel program and analyzed by SPSS version 20.0, of public domain. For its analysis, descriptive statistics resources were used (absolute, relative, mean, standard deviation, median and 25 and 75 percentiles). The Cochran's Q test and the t-test were used for comparison of means, both with a level of statistical significance for $p < 0.05$ to compare the possible results of the answers to each questioning.

The research was elaborated based on the ethical precepts of Resolution CNS 466/12 and

was initiated after approval of the Research Ethics Committee of the Hospital Complex of the University of Pernambuco, with CAAE: 12600113.4.0000.5192.

RESULTS

Table 1 shows that the sample consisted predominantly of women (54%), with up to 65 years old(74%), coming from the interior (50%), with partners, regardless of the formal bond of marital status (52.0%). The main religion was Catholic (50.0%), and 44.0% were retirees or pensioners.

Table 1. Characterization of patients in the preoperative period of cardiac surgery. Recife (PE), Brazil, 2016.

Variables	n=50	%
Gender		
Women	27	54.0
Men	23	46.0
Age group		
Up to 65 years old	37	74.0
More than 65 years old	13	26.0
Years of study		
Up to 5 years	27	54
More than 5 Years	23	46
Origin		
Capital	17	34.0
RMR *	8	16.0
Interior	25	50.0
Rural zone	12	24.0
Urban zone	38	76.0
Marital status		
With a partner	26	52.0
Without a partner	17	34.0
Religion		
Catholic	25	50.0
Evangelic	19	38.0
Spiritist	2	4.0
Without religion	4	8.0
Occupation		
Employed	9	18.0
Unemployed	7	14.0
Retired/pensioner	22	44.0
Student	1	2.0
Self-employed	11	22.0

RMR* Metropolitan region of Recife.

Most of the participants were in the normal BMI range (64%), according to Table 2. The main comorbidity in the sample was arterial hypertension (50%), followed by diabetes

(26.0%), as well as high levels of smoking (56%) and alcoholism (56%). A portion of 32% of patients had previously undergone cardiac surgery.

Table 2. Health profile of the patients interviewed in the preoperative period of cardiac surgery. Recife (PE), Brazil, 2016.

Variables	n=50	%
BMI index*		
Normal weight	32	64
Overweight or obesity	18	36
Personal background		
Diabetes	13	26
Hypertension	25	50
Kidney disease	5	10
Rheumatic fever	9	18
Sedentary lifestyle	15	30
Smoking	28	56
Ethicism	28	56
Asthma	6	12
AVC	5	10
Anterior heart surgery	16	32

BMI: Body mass index

The propositions about cardiac surgery were answered, evaluating the differences between the responses and presented in Table 3. Significantly, it can be evaluated that most of the patients were classified as not knowing the answer to the following propositions: Type of surgery (70%); Required fasting time before

surgery (64%); Reason for fasting (80%); Cough after surgery (80%); Diet after surgery (50%); Possibility of normal sexual life after discharge (48%); Wound care after discharge (72%); Signs of surgical wound infection (68.0%).

Table 3. Patients' responses to the perioperative period of cardiac surgery. Recife (PE), Brazil, 2016.

Propositions	Do not know		Partially knowing		Knowing		p
	n	%	n	%	n	%	
1. What is the surgery to be performed?	18	36	15	30	17	34	0.87
2. What is the purpose of this surgery?	16	32	24	48	10	20	0.05
3. How is this type of surgery performed?	35	70	13	26	2	4	<0.01
4. What is fasting?	2	4	28	56	20	40	<0.01
5. How much time do I need to fast before surgery?	32	64	11	22	7	14	<0.01
6. What is the reason for fasting?	40	80	7	14	3	6	<0.01
7. What trichotomy is needed?	15	30	20	40	15	30	0.61
8. After surgery can you cough?	40	80	3	6	7	14	<0.01
9. What is the position to sleep in the hospital after surgery?	11	22	3	6	36	72	<0.01
10. Where will you be when you wake up from surgery?	17	34	1	2	32	64	<0.01
11. How will your food and diet be after your surgery?	25	50	17	34	8	16	0.01
12. Is it possible to return to activities of daily living performed before surgery?	17	34	16	32	17	34	0.98
13. Is there a possibility of returning to physical activities?	20	40	15	30	15	30	0.61
14. Can you make a physical effort, such as picking up heavy objects after discharge?	5	10	3	6	42	84	<0.01
15. Is there a possibility of normal sex life after discharge?	24	48	17	34	9	18	0.03
16. What are the care for the postoperative surgical wound?	36	72	9	18	5	10	<0.01
17. What are the signs of infection of the operative wound?	34	68	13	26	3	6	<0.01
18. Can you return smoking after surgery?	0	0	1	2	49	98	<0.01

* Q of Cochran test

The median of correct answers in the sample was five correct answers, with an average of 5.92 ± 4.35 . The range of responses ranged from 1 to 15 correct answers, that is, no patient answered all the questions. In the percentile, the median 25 percentile was four correct and eight correct for the 75 percentile. (Table 4)

Table 4. Descriptive statistics of the number of correct answers among the interviewees. Recife (PE), Brazil, 2016.

	Median	Average	Standard deviation	Minimum	Maximum	Percentile 25	Percentile 75
Number of correct answers	5	5.9	4.3	1	15	4	8

The mean number of correct answers did not vary statistically between the genders, age or years of study and it was only considerably higher among patients who had undergone previous cardiac surgery (9.12 ± 2.82 X 4.42 ± 1.78 , $p < 0.01$). (Table 5)

Table 5. Correct medians according to gender, age, years of study and previous cardiac surgery. Recife (PE), Brasil, 2016.

Variables	Md±sd*	p**
Gender		
Women	5.74±3.07	0.661
Men	6.13±3.15	
Age group		
Up to 65 years old	5.32±2.78	0.78
More than 65 years old	6.52±3.01	
Years of study		
Up to 5 years	5.76±2.83	0.67
More than five years	6.59±3.69	
Previous Cardiac Surgery		
Yes	9.12±2.82	<0.01
No	4.42±1.78	

Md±dp: median±standard deviation; t-test

DISCUSSION

There is a need to evaluate the issue of patient knowledge in the preoperative period. Some authors point out that lack of knowledge may influence the presence of mood disorders in the preoperative period in general.¹¹⁻² However, studies on anxiety, depression, and stress in the preoperative period of cardiac surgery did not consider knowledge deficient about the procedure as a possible variable that may increase their incidence.¹³⁻⁵

The preoperative nursing visit is a crucial moment to resolve doubts that may exist in patients and their families.^{3,10} High percentage of erroneous or absent answers to questions about aspects that may be considered basic, such as the type of surgery and the reason (80%) and fasting time (64%), represent doubts that can be remedied at the preoperative visit to be performed by the nurse in the sector, and may also be performed by the nurse at the surgical center.

Besides the preoperative visit, other forms of health education such as booklets, educational videos, lectures can be used to educate already before the surgery.

The results revealed that, besides the preoperative issues, postoperative aspects such as a cough after surgery, diet, surgical wound care after discharge, have a high percentage of patients' lack of knowledge. The postoperative period should be

emphasized in the preparation process for the surgery, considering that there are references to the timely contribution to recovery and adaptation of the patient.¹⁶

The preoperative nursing visit is a crucial moment to resolve doubts that may exist between patients and their families.^{3,10} High percentage of erroneous or absent answers to questions about aspects that may be considered basic, such as the type of surgery and the (80%) and fasting time (64%), represent doubts that can be remedied at the preoperative visit to be performed by the nurse in the sector, and may also be performed by the nurse at the surgical center.

An international study randomized 153 patients who were awaiting cardiac surgery in two groups, one group being the control group and the other undergoing an educational intervention on cardiac surgery. The result showed that the intervention favored the reduction of anxiety and depression, and in the postoperative period, the duration of intensive care was reduced, without shortening the length of hospital stay.¹⁷ Like other national studies, this study did not evaluate the knowledge and the one acquired by the intervention to verify if the impact on the variables measured is related to the understanding of the surgical procedure.¹⁶⁻⁷ Another randomized controlled study with a larger sample found similar results, also not identifying impact on the length of

hospitalization, but in the number of postoperative complications.¹⁸

Studies show the educational interventions impacting on better results, regardless of the variable measured, in a larger instance also indicating that knowledge about the perioperative process has repercussions on the psychological dynamics with impact on patient coping and recovery.¹⁶⁻⁸

In general, it can be stated that the mean number of correct answers (5.92 ± 4.35) was low, considering that the 75% percentile of the patients answered up to 8 questions, out of a total of 18, that is, less than half (Table 4). Considering that the distribution of the correct answers had one of 15 correctly answered, one must continue investigating the factors that improve the results, since average answers did not vary between the genders, age or years of study, but only being higher among patients who had undergone previous cardiac surgery (9.12 ± 2.82 to 4.42 ± 1.78 ; $p < 0.01$), as shown in Table 5. Other factors, such as access to the Internet, media, and others must be investigated.

Among the studies developed in Brazil in the area of nursing diagnoses, there is one finding the clinical validation of the nursing diagnosis as *Poor knowledge*, indicating that more than 75% of the patients presented it, similar to findings in other studies.¹⁹⁻²¹ In this study, the defining characteristics of the diagnosis are used, which is not specific to any procedure and does not comprehensively cover the evaluation of knowledge, reinforcing the need for a scale to evaluate knowledge.²⁰

CONCLUSION

This study has as a limitation the quantitative of patients that may not have been satisfactory to evaluate the relationships tested. Also, it was not investigated whether the patients had sought some previous information about the surgery, which could significantly impact their knowledge, such as the internet, experience of friends, relatives and even nurses who performed the surgery previously.

The average number of correct answers was a low and the items that the patients had the least correct answers should be a reference to the reflection and reinforcement of health education strategies.

In the continuity of this study, the authors will follow in the elaboration and validation of a scale to evaluate the knowledge of patients in the preoperative period about the cardiac surgery. A validated scale will be used for the

elaboration of health education strategies as well as for risk assessment, considering that poor knowledge can have negative impacts on the surgical procedure.

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