

# LEARNING NEEDS ABOUT CARDIAC SURGERY FROM THE PERSPECTIVE OF PATIENTS AND NURSES

*Necessidades de aprendizagem acerca da cirurgia cardíaca na perspectiva de pacientes e enfermeiros*

*Necesidades de aprendizaje acerca de la cirugía cardíaca en la perspectiva de pacientes y enfermeros*

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**ABSTRACT: Objective:** To verify the agreement between nurses' perceptions about learning needs of patients in the preoperative period of cardiac surgery, and the topics that patients show to have less knowledge about. **Method:** Descriptive-exploratory study carried out in two steps, at two university hospitals in the city of Recife, Pernambuco, Brazil. In the first step, researchers questioned 30 nurses on which topics they believed patients had more questions or less knowledge about. In the second step, 50 patients were interviewed so as to check their knowledge about the 18 topics that the nurses had judged. **Results:** The mean of correct answers was 5.92. In 16 of the 18 topics assessed, patients had less knowledge in nurses' perspective than their correct answers represented. **Conclusion:** The topics patients had more queries about should become the focus of attention in nurses' formation, as these professionals should be acquainted with the population they're caring for in order to better plan their actions.

**Keywords:** Health education. Preoperative period. Thoracic surgery. Nursing care.

**RESUMO: Objetivo:** Verificar a concordância entre a percepção dos enfermeiros sobre a necessidade de aprendizagem dos pacientes em período pré-operatório acerca da cirurgia cardíaca e os tópicos sobre os quais os pacientes mostram menor conhecimento. **Método:** Trata-se de um estudo descritivo-exploratório, realizado em duas etapas, em dois hospitais universitários na cidade do Recife, Pernambuco, Brasil. Em uma primeira etapa, os pesquisadores questionaram 30 enfermeiros sobre quais tópicos eles acreditavam que os pacientes tivessem mais dúvidas ou menor conhecimento. Na segunda etapa, 50 pacientes foram entrevistados para verificar seu conhecimento acerca dos 18 tópicos que os enfermeiros haviam julgado. **Resultados:** A média de acertos dos pacientes foi igual a 5,92. Em 16 dos 18 tópicos avaliados, o conhecimento dos pacientes era menor na perspectiva dos enfermeiros do que nos valores representados pelos acertos dos próprios pacientes. **Conclusão:** Os tópicos que os pacientes tiveram mais dúvidas devem se tornar focos de atenção no processo educativo do enfermeiro, que necessita conhecer a população sob seus cuidados para melhor planejar suas ações.

**Palavras-chave:** Educação em saúde. Período pré-operatório. Cirurgia cardíaca. Cuidados de enfermagem.

**RESUMEN: Objetivo:** Verificar la concordancia entre la percepción de los enfermeros sobre la necesidad de aprendizaje de los pacientes en período preoperatorio acerca de la cirugía cardíaca y los tópicos sobre los cuales los pacientes muestran menor conocimiento. **Método:** Se trata de un estudio descriptivo-exploratorio, realizado en dos etapas, en dos hospitales universitarios en la ciudad de Recife, Pernambuco, Brasil. En una primera etapa, los investigadores cuestionaron a 30 enfermeros sobre qué tópicos creían que los pacientes tenían más dudas o menor conocimiento. En la segunda etapa, 50 pacientes fueron entrevistados para verificar su conocimiento acerca de los 18 tópicos que los enfermeros habían juzgado. **Resultados:** El promedio de aciertos de los pacientes fue igual a 5,92. En 16 de los 18 tópicos evaluados, el conocimiento de los pacientes era menor en la perspectiva de los enfermeros que en los valores representados por los aciertos de los propios pacientes. **Conclusión:** Los tópicos que los pacientes tuvieron más dudas deben convertirse en focos de atención en el proceso educativo del enfermero, que necesita conocer a la población bajo sus cuidados para mejor planificar sus acciones.

**Palabras clave:** Educación en salud. Periodo preoperatorio. Cirugía torácica. Atención de enfermería.

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## INTRODUCTION

The preoperative period is intended to the preparation of a patient in all aspects, and is also the moment to clear issues and doubts about the procedures, how they should get prepared and how the postoperative period will likely be<sup>1,2</sup>. Waiting for surgery is often a moment permeated with the fear of disability, death, or the possibility of changes in body image, which causes distress and anxiety<sup>3</sup>.

Anxiety and stress bring both psychological and physiological repercussions that can lead to decreased tissue recovery capacity and slow immune response, thus contributing to a greater predisposition to infections<sup>4</sup>.

In order to enforce health education, nurses should seek to understand the patients' learning needs and be familiar with scientific evidence necessary to plan care and guide this process<sup>5</sup>. Health education promotes reflection and critical awareness, with emphasis to a dialogic process that orients the work with people, therefore not being just a merely instructional act<sup>6</sup>. Thus, nursing professional must know how to communicate with people, understand patients' demands and, in a more popular sense, speak their language.

In order to make health education practice more effective and efficient in the preoperative period of cardiac surgeries, it is important to think of strategies that encompass language accessible to the target public and propose educational and interactive actions between the professional and the patient. Preoperative orientation and visits are extremely relevant, as they reduce anxiety and increase adherence to therapeutic proposals<sup>2,5,7</sup>.

## OBJECTIVE

To check the agreement between nurses' perception about the learning needs of patients in the preoperative period of cardiac surgery and the topics that patients show to have less knowledge about.

## METHOD

This is an exploratory, descriptive study with quantitative approach.

The research had two steps and was carried out at two university hospitals in the city of Recife, Pernambuco, Brazil: a reference specialized cardiology center, and a center for cardiac surgery and other surgical specialties.

In the first step, the researchers made questions to 30 nurses on which topics they believed patients had more queries or less knowledge about. To collect these replies, the questioning was based upon the content taught in the health education strategy of the hospital, the most common queries of patients and the authors' experience with the theme. The content used in guidelines to patients at the hospital was conceived after an extensive review of the literature, and also drawn on the experience of professionals involved and on the hospital's protocols.

In this stage, an instrument with 18 topics was created and allowed nurses to evaluate, on a 1-to-5 Likert scale, the level of queries or lack of knowledge about each topic by patients they deal with on a daily basis. Score 1 was attributed to lowest level of queries, and each topic the patients had more questioning about was scored as 5.

For data analysis, topics with scores 3, 4 and 5 were considered relevant from the perspective of nurses, since these portray the greater needs of patients from the professionals' point of view.

In the second step, 50 patients were assessed as to the same topics. Their responses were classified as follows:

- the patient *does not know* anything about the topic addressed (when no or a completely wrong answer was given);
- the patient *knows partially* about the topic addressed (when the patients could not use terms correctly or did not know details, but had an idea about the subject addressed);
- the patient *knows* about the topic addressed (when a correct answer, in their own layman words, was given).

The authors were cautious not to interview patients who had already undergone any educational intervention, in order to seek the most primary doubts, that is, never before addressed to them by any professional<sup>8</sup>.

Data were analyzed using the SPSS 20.0 software. Afterwards, the  $\chi^2$  test was applied to compare the differences between the percentage of answers by patients who did not know anything about the subject and the percentage of importance attributed by nurses to each item, considering the level of statistical significance at  $p < 0.05$ .

The research was conceived on the basis and ethical precepts of Resolution no. 466/2012 by the National Health Council (CNS), and was initiated after approval by the Research Ethics Committee of the Hospital Complex of University of Pernambuco, via Plataforma Brasil, under CAAE number 12600113.4.0000.5192.

## RESULTS

Thirty nurses were invited to participate, mostly women (24/80.0%), with mean time since graduation of 5.5 years ( $\pm 10.43$ ) and professional experience time similar to that of graduation completion ( $5.0 \pm 10.78$ ). The background time varied between 4 and 28 years and all of them were from the field of welfare care.

As for academic qualification, 18 professionals (60.0%) had a Masters' degree in Nursing and 27 (90.0%) had specialization in Cardiology, Surgical Clinics or related areas aimed at adult health; only 2 (6.77%) had a doctoral degree. Twenty (66.7%) had articles published in journals of the field of Cardiology Nursing; 17 (56.7%) had participated or were taking part in research in the area; and 23 (76.7%) had experience with welfare in the field of cardiology; the others

(7/23.3%) were experienced in Surgical Clinics, including assistance in pre- and postoperative periods.

The sample of 50 patients was predominantly composed of women (27/54.0%), aged 65 years or more (37/74.0%), coming from the countryside (25/50.0%), with partners regardless of marital status bond (26/52.0%). The most common religion of patients was Catholic (25/50.0%) and 22 patients (44.0%) were retired. Most of them had normal body mass index (BMI) (32/64.0%). The leading comorbidity in the sample was hypertension (25/50.0%), followed by diabetes (13/26.0%); high rates of smoking (23/56.0%) and alcoholism (23/56.0%) were also pointed out. A portion of 32.0% (16) of the sample had previously undergone cardiac surgery already. Table 1 shows descriptive statistics of correct answers given by patients interviewed.

**Table 1.** Descriptive statistics of number of correct answers by patients interviewed. Recife, Pernambuco, Brazil, 2017.

	Median	Mean	Standard deviation	Min.	Max.	25 percentile	75 percentile
Correct answers	5.0	5.92	4.35	1.0	15.0	4.0	8.0

**Table 2.** Comparison between patients who could not answer and nurses' perspectives about their queries and level of knowledge per topic. Recife, Pernambuco, Brazil, 2017.

Question	Patient could not answer (n/%)	Nurse's perspective (n/%)	p-value
1. Which surgery was performed?	18/36.0	26/86.7	<0.001
2. What was the reason for surgery?	16/32.0	29/96.7	<0.001
3. How is this type of surgery performed?	35/70.0	17/56.7	0.238
4. What is fasting?	02/4.0	19/63.3	<0.001
5. For how long should one fast before surgery?	32/64.0	30/100.0	<0.001
6. What the reason for fasting?	40/80.0	24/84.0	1
7. Which trichotomy is needed?	15/30.0	23/76.7	<0.001
8. After surgery, can one cough?	40/80.0	29/96.7	0.046
9. What is the right position for sleeping at the hospital after surgery?	11/22.0	27/90.0	<0.001
10. Where will you be when you wake up from surgery?	17/34.0	28/93.3	<0.001
11. How is your diet after surgery?	25/50.0	30/100.0	<0.001
12. Is it possible to resume daily living activities that used to be performed before surgery?	17/34.0	28/93.3	<0.001
13. Is it possible to do physical activities again?	20/40.0	27/90.0	<0.001
14. Will you be allowed to make physical effort, such as picking up heavy objects, after hospital discharge?	05/10.0	26/86.7	<0.001
15. Is it possible to have a normal sexual life after surgery?	24/48	30/100.0	<0.001
16. How is the care of post-surgical wound?	36/72	30/100.0	<0.001
17. Which are the signs of surgical wound infection?	34/68	30/100.0	<0.001
18. Will you be allowed to smoke again after surgery?	0/0	30/100.0	<0.001

Comparing the topics proposed, the number of patients who could not answer properly and the view of nurses about their queries and lack of knowledge, one notices that the percentage of patients who actually did not know the answers was lower than nurses estimated, considering 16 out of 18 topics (Table 2). This means that, for nurses, the level of knowledge of patients is lower than what they actually portrayed. Item 6 alone, which addressed the reasons for fasting before surgery and same percentage (80.0%), and item 3, on the means of surgery performance, the nurses had estimated that they would know the answer less often than they did ( $p=0.238$ ).

## DISCUSSION

It is extremely important to create and validate scales and instruments to evaluate subjective aspects related to health care and, in particular, to patients' knowledge<sup>9-11</sup>. Such instruments allow a more accurate evaluation and a more focused, optimized proposition of intervention measures for a better-quality care to patients<sup>11,12</sup>.

Educational actions conducted by the nurse with patients and relatives increase adherence to self-care in addition to reducing anxiety, which is necessary in both pre- and postoperative periods<sup>13</sup>. Studies have shown that adherence to the rehabilitation process is associated with the patient's being aware of the procedures they will be submitted to and the recovery process they will be facing<sup>14</sup>. Nursing interventions in preoperative period are fundamental to empower patients with the knowledge necessary to become responsible, along with the medical team, for their recovery process and self-care<sup>15</sup>.

From the results, one can infer that nurses considered that the knowledge of patients would be lower than actually portrayed by them when answering — even partially — the questions. However, the fact that nurses underestimate patients' knowledge does not directly affect the education process, since only the opposite would be a reason for concern.

Wrong answers relating to aspects that may be considered basic, such as type and reason of surgery (40; 80.0%) and fasting time (32; 64.0%), represent low levels of knowledge that can be overcome in the preoperative visit, to be performed by nurses of the sector or even by Surgical Center's professional. However, nurses providing preoperative care may have other strategies for health education, such as booklets, videos and lectures. Important to underline that questions about the postoperative period should also be emphasized, once there is evidence that it can contribute to lower preoperative anxiety and to improve recovery and patient adaptation, affecting the

length of stay in intensive care and the incidence of postoperative complications<sup>16-18</sup>. In this sample, questions about self-care in the postoperative period did not have satisfactory answers.

Overall, the mean score of 5.92 ( $\pm 4.35$ ) was considered low, as 75.0% of patients answered up to eight questions correctly out of 18, that is, less than half (Table 1). Considering that the distribution of correct answers was 1 to 15 topics answered correctly, we must continue to investigate factors that could improve results, including access to the Internet, the media, and presence of companions.

A national survey on the clinical validation of the Nursing Diagnosis "Poor knowledge" indicated that more than 75.0% of patients were framed in this category, similarly to findings of other studies<sup>19-21</sup>. This percentage is close to the view of nurses taking part in the present study about patients' lack of knowledge about cardiac surgery.

Another study with 80 patients, which used a specific questionnaire on coronary disease and revascularization, reported more than 50.0% of patients in the sample as not able to answer the questions about name of disease, signs and symptoms of complications, objectives and type of surgery, and anesthesia<sup>22</sup>. Brazil still lacks a questionnaire addressing patients' knowledge about the preoperative period of cardiac surgeries.

One limitation of this research project was not investigating whether the patients had sought previous information about the procedures that could significantly impact on their knowledge, that is, accessed the Internet, learned from acquaintances' or relatives' experience, or even from other patients in the nursing ward who had been previously submitted to the surgery.

## CONCLUSION

Nurses were shown to consider patients' levels of knowledge lower than they actually were as far as answering the questions, even partially, is concerned. Out of 18 topics evaluated, patients knew less than nurses thought they did in 16 of them, considering the number of correct answers by patients themselves.

The topics patients had more queries about should become the focus of greater attention in nurses' academic formation.

To press ahead with this study, the authors will continue to work on the elaboration and validation of a scale to evaluate the knowledge of patients in the preoperative period about cardiac surgery. With this scale, nursing professionals will be able to investigate the topics that raise more queries in the population under their care, as well as to evaluate the impact of educational strategies used.

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