

RESEARCH ARTICLE

Needs of older persons undergoing cardiac surgery: Exploring the perceptions of nurses, patients waiting for and patients having had surgery

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Abstract

Aims: The purpose of this research was to identify the needs of older persons waiting for elective open-heart surgery.

Design: A qualitative exploratory design methodology, using Focus Groups.

Methods: A purposive sampling technique was used. Three interviews were conducted with experienced nurses, individuals waiting for open-heart surgery (≥ 65 years) and individuals having had open-heart surgery (≥ 65 years); enrolling up to 17 participants from October 2019 to January 2020. Qualitative data analysis was conducted using the interactive model and MaxQDA[®] software, and EQUATOR COREQ guidelines were followed.

Results: Three themes were identified from the analysis of all three Focus Groups: (i) Needing health information; (ii) Needing emotional support; and (iii) Needing access to care.

KEYWORDS

cardiac surgery, cardiovascular diseases, evidence-based nursing, focus groups, nursing, qualitative research

1 | INTRODUCTION

Technological and medical advances are increasing which means a growing number of adults are having surgical performances, usually older, higher risk, disabled and debilitated (Abreu, 2018; McCann et al., 2019). Open-heart surgery emerges when conservative ways of treatment are no longer a viable resource, it leads to acute stress, and it is associated with morbidity and mortality related to the underlying disease, surgical technical procedures and other factors (Abreu, 2018; McCann et al., 2019). Relying on evidence found

through the years, we should not discuss whether implementing a pre-operative intervention in patients waiting for open-heart surgery is necessary, but rather how to implement it, making it more accessible to all (Ettema et al., 2014; McCann et al., 2019).

Open-heart surgery patients are getting older; therefore, caring is increasingly more complex due to comorbid disease, frailty and psychosocial concerns (Abreu, 2018; McCann et al., 2019). It is estimated that in the next few years, the ageing of population will affect the perioperative patient care, and the number of surgical procedures will rise and consequently surgery waiting times (Abreu, 2018).

Clinical trial registration number: The study was approved by the Research Ethics Committee of an Oporto hospital, Portugal (number: 119/2019-2).

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Nowadays, there are multiple interventions to improve health pre-operatively such as respiratory and muscle training, lifestyle modifications and psychological preparation that can lead to improved outcomes after surgery (Ettema et al., 2014; McCann et al., 2019). However, the existing research is limited, specifically targeted at the needs of older persons waiting for open-heart surgery (Abreu, 2018; McCann et al., 2019).

1.1 | Background

In Portugal, population continues to age steadily, due to the increase in average life expectancy (INE, 2020). Cardiovascular diseases (CVDs) remain the major cause of death, with ischaemic heart disease prevailing as the leading cause of death in Portugal, despite its decreasing mortality rate (INE, 2020). Healthcare professionals are concerned with this reality, due to the association of advanced age with poorer post-operative outcomes (Fowler et al., 2019; Preventza et al., 2019). The waiting period may be used as an opportunity to prepare patients mentally and physically for surgery (Knihs et al., 2017).

The benefits of pre-operative interventions, such as stopping alcohol and smoking habits before surgery, are associated with improved post-operative outcomes (Egholm et al., 2018; Gaskill et al., 2017; Levett et al., 2016). Pre-operative education and counselling can be completed in person, through printed material or new online tools (Hibbard & Greene, 2013). The explanations and goals are provided to improve patient care, to encourage patients to perform exercise, to increase knowledge, to decrease fear and to enhance recovery and early discharge (Hibbard & Greene, 2013; Emanuel, 2013). Pre-habilitation improves patients' functional capacity, readiness to surgery both physically and psychologically, and post-operative outcomes such as hospital length of stay (Sawatzky et al., 2014). Nurses must seize this opportunity to lead an effective intervention in the pre-operative period.

Through research, we were not able to find studies describing a pre-operative intervention aimed at persons waiting for open-heart surgery in Portugal, neither studies conducted among the Portuguese population that explored the needs of older persons waiting for open-heart surgery. So, the Medical Research Council (MRC) guide provided a structured approach to our current study (Hallberg & Richards, 2015). Our theoretical support is Kitson's Fundamental of Care theory since it guides practice to achieve goals established by both nurses and patients (Kitson, 2018). We aim to create a nurse-led intervention for older persons waiting for open-heart surgery, but firstly, we must understand the needs of this specific population.

To develop a pre-operative intervention for older persons, we aimed to explore their needs according to patients and nurses' perceptions through Focus Group (FG) interviews. Views and opinions of nurses appear to influence their attitudes, performance and work environment; therefore, it impacts patients' outcomes (Gallagher et al., 2018; Martorella et al., 2018). Furthermore, patients'

perception of their needs may help healthcare professionals identify areas of intervention that may be improved and tailored to their specific needs (Amofah et al., 2021; El-gafour et al., 2021). Nurses' and patients' perception of pre-operative cardiac surgery needs allows to explore areas of disagreement and enables nurses to clarify, improve or negotiate with patients (Ding et al., 2017). Several studies have explored the needs of patients waiting for open-heart surgery, yet we were not able to find research conducted on this topic regarding older patients and nurses and patients' perceptions correlated together. Thus, the research question was "What are the needs of older persons waiting for elective open-heart surgery according to the perceptions of nurses, patients waiting for surgery and patients having had surgery?"

2 | THE STUDY

2.1 | Aims

The aim of this qualitative research through FG interviews was to identify the needs of Portuguese older persons waiting for elective open-heart surgery, according to the perceptions of patients waiting for elective cardiac surgery, patients having had elective cardiac surgery and experienced nurses.

2.2 | Design

A qualitative exploratory approach was used to gain a deep understanding of the participants' perceptions of what are the needs of older persons waiting for elective cardiac surgery. FG interviews with patients waiting for elective open-heart surgery, patients having had elective open-heart surgery and experienced cardiothoracic staff nurses were chosen as a method because it encourages participants to express their perspectives about the topic (Morgan, 1996). A semi-structured interview was composed of five guiding questions with one or two sub-questions; the questions aimed to facilitate the discussion, while allowing the participants to give their opinion freely, enabling the moderator to explore topics emerging from the interview. One of the questions made to nurses during the interview was to consider the specific necessities of persons over 65 years old, waiting for elective open-heart surgery. Persons waiting for open-heart surgery were asked what they expected from a health professional while waiting for surgery. The group having had open-heart surgery, was asked to report to the time before surgery and reflect on what could have been made to better help them prepare for surgery.

2.3 | Sample/Participants

FG facilitate discussions among persons with similar characteristics or experiences, and we ensured that participants of each group had something in common with each other to help promote discussion

and exchange of experiences and points of view. The disadvantage of homogeneous groups is the possible narrowing of perspectives; hopefully, the different constitution of each group allowed three different viewpoints (Lazar et al., 2017). Three FG were conducted with three different participants to yield more valid results, that is why FG were conducted among nurses with expertise in the open-heart surgery field, and patients waiting for open-heart surgery and patients having had open-heart surgery to verify whether the experience changed their perceptions about their needs before surgery.

A purposive sampling, a non-probabilistic method, was used to recruit participants. Nurses were recruited based on their experience in the open-heart surgery field and availability to participate in the study: the goal was to form a group with nurses working at the intensive care and ward. All nurses were considered experts in these specific areas by their peers, and some were specialized in specific fields like rehabilitation or medical surgical nursing, to allow a stimulating discussion with different perspectives.

Older patients with heart disease (≥ 65 years old), waiting for open-heart surgery such as coronary artery bypass graft (CABG), valve replacement or combined procedures, had to be mentally fit.

Patients having had elective open-heart surgery, such as CABG, valve replacement or combined procedures, had to be 65 or plus years old, were selected based on their talkative tendencies, communication skills and had to be mentally fit.

2.4 | Data collection

All participants were recruited in person by the main researcher at the cardiothoracic department. Participants provided written informed consent. The approach used to recruit nurses limited the number of eligible participants, some were interested but were not able to be present, and the biggest difficulty encountered was trying to fit a schedule to fit all participants due to hospital shifts. Patients after being scheduled for elective surgery were approached in that same day, and they were interviewed when most willing participants could attend, around one week before surgery. Patients having had surgery were approached close to discharge day to understand their interest in participating in the study. The interview was scheduled to convey the time preference of most willing participants; the meeting occurred around one week after surgery, when a nursing appointment was made so it would not cause an extra disruption in their day-to-day lives. All FG interviews were conducted in a room at the cardiothoracic ward.

The data came from three group interviews with three to eight participants, background characteristics were searched using a questionnaire (Tables 1 and 2). The first FG was composed by cardiothoracic staff nurses, three male nurses and five female nurses; their ages ranged from 29 to 41, median 37.5 years; all had a bachelor's in nursing, one was concluding her master's in health management, and three were specialists, two in medical-surgery nursing and one in rehabilitation nursing. The second FG was conducted with three persons waiting for elective open-heart surgery; two men and one woman, two of the participants were waiting for CABG and one for

TABLE 1 Participant's characteristics (Focus Group 1)

Focus group	1
Total of participants	8
Gender (male/female)	37.5%/62.5%, 3/5
Age (mean, range)	37.5 SD 3.6, 29–41
Nurse degree	
Bachelor	62.5%, 5
Post-graduate specialization	37.5%, 3
Nurse credentials	
Nurse practitioner	62.5%, 5
Rehabilitation nurse specialist	12.5%, 1
Medical-surgery nurse specialist	25%, 2
Years of practice (mean, range)	15.1 SD 3.5, 7–18
Years working at Cardiothoracic (mean/range)	10.6 SD 5.4, 1–1
Intensive care unit	37.5%, 3
General ward	50%, 4
Rehabilitation	12.5%, 1

valve surgery. The third FG was composed by six persons having had elective open-heart surgery, two had valve surgery, three had CABG, and one had combined procedures performed, all full sternotomies, four men and two women.

Our goal was to have six to eight participants per group (Morgan, 1996), and we recruited around 10 participants per group to account for cancellations and “no-shows.” Two persons from the nurses FG skipped the meeting due to personal issues, five from the waiting surgery group did not show-up to the interview for health or personal matters and four from the surgery group were “no-shows.” The latter probably did not have enough incentives to appear, and money was not offered due to lack of resources and could not be used as leverage for the participants to show up to the meeting.

Subjects participated in one of three FG sessions that were held in a private conference room in the cardiothoracic department. Group sessions were audio-taped, and additional field notes were taken by the moderator and assistant.

FG interviews typically include six to ten persons per group and a total of three to five groups per project (Miles et al., 2018). The data came from three group interviews with three to eight participants, performed from October 2019 to January 2020 at the cardiothoracic wards of an Oporto hospital. Although one group was composed by only three participants, Morgan (1996) refers that if patients are highly involved in the discussion, the researcher should not feel obliged to follow boundaries.

Each session started with an introduction and explanation of the research study. All participants were encouraged to respond to questions in whichever manner they felt comfortable and to interact with each other. The interviewer was responsible for conducting the interview and recording it. A semi-structured interview sheet guided the discussion. The interviews lasted from 50 minutes to two hours. Participants' sociodemographic and health characteristics were collected through a questionnaire.

TABLE 2 Participant's characteristics (Focus Group 2 and 3)

Focus Group	2	3
Total of participants	3	6
Gender (male/female)	66.7%/33.3%, 2/1	66.7%/33.3%, 4/2
Age (mean, range)	67.7 SD 4.6, 65–71	69.8 SD 7.3, 65–80
Heart surgery		
CABG	66.7%, 2	33.3%, 2
Valve surgery	33.3%, 1	50%, 3
Combined procedures		16.7%, 1
Civil status		
Married	66.7%, 2	66.7%, 4
Widowed	33.3%, 1	16.7%, 1
Single		16.7%, 1
Children (mean, range)	1.7 SD 0.5, 1–2	12.5 SD 2.1, 1–7
Social living		
Family	100%, 3	100%, 6
Spouse	66.7%, 2	50%, 3
Children	33.3%, 1	16.7%, 1
Spouse and children		33.3%, 2
Education		
Illiterate		16.7%, 1
Primary school		33.3%, 2
Middle school	100%, 3	33.3%, 2
High school		16.7%, 1
Job statuses		
Working	66.7%, 2	66.7%, 4
Retired	33.3%, 1	33.3%, 2
CDVs risk factors		
High blood pressure	66.7%, 2	83.3%, 5
Dyslipidaemia	66.7%, 2	66.7%, 4
Sedentary lifestyle	33.3%, 1	33.3%, 2
Smoker	33.3%, 1	16.7%, 1
Stress	66.7%, 2	83.3%, 5
Ex-smoker	33.3%, 1	50%, 3

Memoing began as soon as the first field data were collected and transcribed, and when the ideas raised in memos started to settle down by one half or two-thirds of the way of the analysis, we decided "saturation" was reached, as no significantly new explanations for data could be found, as recommended by Miles et al. (2018).

2.5 | Data analysis

All interviews were transcribed verbatim, and transcripts were not returned to participants for comments. The transcribed interviews and notes were then coded and analysed using MaxQDA[®] software (v2020). The interactive model was used, as described by Miles

TABLE 3 Listing of themes and subthemes

Theme	1. Needing health information
Subtheme	1. Information to facilitate health promotion
	2. Information to facilitate self-care
	3. Information on hospital stay
	4. Granting access to information
Theme	2. Needing emotional support
Subtheme	1. Granting patients' emotional support
	2. Granting emotional support from families and caregivers
Theme	3. Needing access to care
Subtheme	1. Managing access to self-care
	2. Granting access to care

et al. (2018), from the collected findings, and the analysis consisted of three flows of simultaneous activity: data condensation, data display and conclusions (drawing/verifying). Data collection was entwined between all stages of analysis (Miles et al., 2018). Therefore, during data collection, the main researcher kept moving around nodes, and after the interviews were completed, the cyclical process was kept for the remainder of the study (Miles et al., 2018).

At first, we categorized similar data chunks by codes, allowing further analysis of data. Condensing data enabled us to retrieve the most statistically significant material, identifying similar chunks of data, further condensing it into a smaller number of categories. The analysis was guided by the research questions and by Kitson's fundamentals of care framework (Kitson, 2018; Miles et al., 2018). The interview themes were centered around the main aims of the study: the needs of older persons waiting for elective open-heart surgery and the pre-operative interventions that could be implemented to target those needs.

The EQUATOR's COREQ checklist for reporting qualitative research was followed (Tong et al., 2007).

2.6 | Rigour

To ensure reliability and validity of FG data, the same moderator (main researcher) was used in all FG to ensure consistency (Miles et al., 2018). Stability of FG's was maintained because groups met only once and the main investigator assumed the primary role, analysing data to ensure data coding internal consistency (Miles et al., 2018). The interactive model process of analysis provided our study a framework with a clear and transparent technique for managing the analysis of qualitative data (Miles et al., 2018). Repeated reviews were performed with the moderator and co-investigators as recommended (Polit & Beck, 2014). A formal audit trail was not engaged; however, the main researcher created documents related to the entire research process to be reviewed by two senior researchers: a previous document detailing the conceptual framework and planned methods, raw and processed data was extracted from MaxQDA[®] and shared with both senior researchers, and a final

TABLE 4 Themes and subthemes, with quotes

Theme	Needing health information	
Subtheme	1. Information to facilitate health promotion	<p>"(...) quit smoking, being overweight: healthy lifestyle habits because it's not after surgery... If he was unable to change his lifestyle while he was waiting for surgery and was afraid, it is not after being having had surgery that he will change... He has been saved!" (P6; FG1)</p> <p>"We have the opportunity to approach the person individually, we can even talk about beliefs, characteristics, functional limitations, caregiver, etc., medication, habits." (P2; FG1)</p> <p>"(...) the cardiologist immediately warned: not walking now, try not to get nervous, try to lead a calm life, be careful with everything and anything else. Go take this medication." (P12; FG3)</p>
	2. Information to facilitate self-care	<p>"I, at least, feel that patients are not prepared for the reality of the intensive care unit and for the reality of discharge, they often ask questions (...) They lack the information and knowledge of simple things sometimes, and also, if a consultation was created, all the language needs to be adapted to the person." (P7; FG1)</p> <p>"Remember that this is very slow. You have to be very calm, very calm. From now on employees become bosses, I've already said it all, haven't I?" (P13; FG3)</p> <p>"(...) I don't know beyond what I hear what I'm going to do next, that is, when I'm discharged, what do I have to do?" (P12; FG3)</p>
	3. Information on hospital stay	<p>"From the timeline you will go through, on average. Yes, always explain that it is an average, that it is not a strict number of days, so the person doesn't create false expectations and feel deceived." (P6; FG1)</p> <p>"Before surgery, call and say: it's like this, like this, like this... So, count on this, count on that. Is it not?" (P17; FG3)</p> <p>"I happened to have several opinions because I spoke with several people who knew or who had already gone through this, including some doctors. But the cardiologist from Santo António described to me very accurately how this was" (P12; FG3)</p>
	4. Granting access to information	<p>"(...) the person wouldn't be totally abandoned, would have support to be able to ask some questions, had the telephone, a website, something for clarification, not abandoned the person (...)" (P6; FG1)</p> <p>"A line, a line, it can be! (Phone line)" (P12, P16, P17; FG3)</p> <p>"Okay, but within the strictest possible criteria, someone (...) should provide more information. Very sincerely, I sent 2 emails to the doctor, (...). I sent 2 emails, not to him obviously, but to the service, but no response!" (P12; FG3)</p>
Theme:	Needing emotional support	
Subtheme:	1. Granting patients emotional support	<p>"I'm afraid of taking the anesthesia, that's what I'm afraid of. Because I may not wake up anymore!" (P11; FG2)</p> <p>"And I come with fear, as I already had the opportunity to tell the lady nurse. And I come in fear, why? I want to see if God gives me a little more time to live, don't you? And when a person comes to a situation, where it's our engine, which is working badly and it's going to be fixed... is it going to be good, is it going to be bad? Only God knows! So, I came a little nervous." (P9; FG2)</p> <p>"So, it should, it was essential that there was. Exactly, to give such support, even if it was psychological." (P12; FG3)</p>
Subtheme:	2. Granting emotional support from families and caregivers	<p>"I went outside, my husband was waiting for me and I started to cry. And he asked me 'What is it?' And that's when I told him, and he said, 'Oh there will be no problem, you'll see!'" (P13; FG3)</p> <p>"No, no... Even at the level of my family doctor, it was spectacular. She was the one who insisted, she was the one who insisted with my children, and everything..." (P10; FG2)</p> <p>"(...) families can be prepared for a change in the self-care the patient will need." (P3; FG1)</p>
	Needing access to care	
	1. Managing access to self-care	<p>"To share certain responsibilities with them, and to share it beforehand, it is not acceptable to want them to change everything after surgery." (P6; FG1)</p> <p>"Now the person can come here to have surgery and thinks that everything will be okay just because he was treated, and if he doesn't comply with the rest of the procedures that are necessary... This is what we are talking about, the person has to know how to manage their recovery too." (P2; FG1)</p> <p>"No, because the cardiologist immediately warned me: no walking for now, try not to get stressed, try to lead a calm life, be careful with everything and anything else. You are going to take this medication. Medication I've taken so far." (P12; FG3)</p>
	2. Granting access to care	<p>"I am of the opinion that it would be more effective, our consultation, 15 days, a week before the surgery, because if it is a long time before the information will be lost and the doubts will remain..." (P8; FG1)</p> <p>"To clarify doubts and to clarify everything that was important, I think so. I think it would be very important." (P12; FG3)</p> <p>"If you can provide that clarification, it is good, in fact it is." (P15, FG3)</p>

document in journal article format was written (De Kleijn & Van Leeuwen, 2018).

3 | FINDINGS

From the data analysis of all three FG's aiming to identify the needs of persons awaiting elective open-heart surgery, three themes were identified revealing the needs perceived by both patients and nurses: (i) needing health information; (ii) needing emotional support; and (iii) needing access to care (Tables 3 and 4). FG were stratified by experienced nurses and older patients waiting for elective open-heart surgery (≥ 65 years old); patients' groups were further stratified by surgery (patients waiting for open-heart surgery and patients having had open-heart surgery). All themes and subthemes were identified in the FG1 composed by nurses, and it was a long interview with points of view on multiple stances; FG2 participants, patients waiting for elective open-heart surgery, also identified the theme (i) needing health information (information on hospital stay and granting access to information) and the theme (ii) needing emotional support (granting patients emotional support and granting emotional support from families and caregivers). FG3 interview with patients having had open-heart surgery allowed us to identify all the themes and subthemes as well, although most of them were not discussed with the level of detail, eloquence and depth found in FG1.

3.1 | Theme 1: Needing health information

The need for information begins when there is a gap between information and knowledge to solve a problem that could be solved by providing the needed information (Kitson, 2018). Therefore, information should be tailored to the patient's information needs and preferences (Ruthven, 2019).

Nurses understand that patient's specific needs must be identified early, hence the importance of a pre-operative intervention. Patients felt the physician provided all the information needed, but when doubts aroused during the waiting period, they were not able to establish contact with any health professional from the cardiothoracic department.

3.1.1 | Subtheme 1: Information to facilitate health promotion

Waiting for elective open-heart surgery requires some healthcare management, and one patient mentioned the doctor alerted him to this topic. Nurses highlighted the importance of patients need to live an active life, managing physical effort, an adequate drug regime and stress management.

(...) the cardiologist immediately warned: not walking now, try not to get nervous, try to lead a calm life,

be careful with everything and anything else. Go take this medication

(P12; FG3).

(...) quit smoking, being overweight: healthy lifestyle habits because it's not after surgery... If he was unable to change his lifestyle while he was waiting for surgery and was afraid, it is not after being having had surgery that he will change... He has been saved!

(P6; FG1)

3.1.2 | Subtheme 2: Information to facilitate self-care

Some patients believe that after being discharged from hospital, they will return to their normal activities and others do not know what to expect.

(...) I don't know beyond what I hear what I'm going to do next, that is, when I'm discharged, what do I have to do?

(P12; FG3)

Therefore, nurses understand it is important to prepare patients and caregivers, by providing information to facilitate self-care.

What interests me is whether the patient will be prepared to face self-care and activities in his life in the postoperative period. What is going to change for him, and how can I be useful

(P3; FG1).

Another participant referred he did not want discuss surgery, and that the best moment to educate patients was the day before surgery, but with time to explain the process and clarify all doubts.

I think that to be done properly, there would have to be a person (nurse) dedicated only to admissions and it would be done the day before surgery. I speak as a patient! (...) I didn't want to know anything. Seriously. I didn't want to know anything

(P1; FG1).

3.1.3 | Subtheme 3: Information on hospital stay

Participants felt it was important to share with patients the timeline of events during hospital stay, especially their stay in the intensive care unit to avoid frustrations and aggravations.

I, at least, feel that patients are not prepared for the reality of the intensive care unit and for the reality of

discharge, they often ask questions (...) They lack the information and knowledge of simple things sometimes, and also, if a consultation was created, all the language needs to be adapted to the person

(P7; FG1).

I happened to have several opinions because I spoke with several people who knew or who had already gone through this, including some doctors. But the cardiologist from Santo António described to me very accurately how this was

(P12; FG3).

3.1.4 | Subtheme 4: Granting access to information

Participants felt there was insufficient or a complete lack of communication between patients and different health professionals. Information provided on paper could be supplied in the moment the person is registered for cardiac surgery.

Components that can support and link information across the continuum of care include new e-health technologies. Nurses believe that the existing televisions in two waiting areas of the ward should be used to display succinct information about hospital stay and health education.

The presentation on television would be a good idea (...) They could have access to a very succinct audiovisual there, but that would give them a bit of an image of what is done here

(P2; FG1).

One mentioned the opportunity of a virtual appointment. A website could be created with reliable information. A digital inter-communication support should be used, and it was mentioned in the three FGs by multiple participants. Communication can be performed using telephones, e-mails, support groups and frequently asked questions (FAQ's) (online).

(...) the person wouldn't be totally abandoned, they would have a support to be able to ask some questions, they would have a phone, a website, something to clarify; not to be abandoned (...) I think that the computer system would work well, for example, this colleague (nurse) who was in that consultation, could answer the questions (online)(...)

(P2; FG1)

A line, a line, it can be! (Phone line)

(P12, P16, P17; FG3)

Okay, but within the strictest possible criteria, someone (...) should provide more information. Very

sincerely, I sent 2 emails to the doctor, (...). I sent 2 emails, not to him obviously, but to the service, but no response!

(P12; FG3)

Having a former patient interested in sharing his story, leaving space for other people to ask questions and leave doubts, all these supervised by a moderator who would work as a filter for out of context questions.

A linear case. Like a group therapy, as if they were in an appointment in which the two could talk to each other

(P1; FG1).

3.2 | Theme 2: Needing emotional support

Emotional support can be accomplished by considering emotional issues of patients. Health professionals should pay attention to patient's anxiety regarding their physical status, treatment or prognosis; the illness impact in the family and finances (Scholl et al., 2014).

Patients have feelings of fear associated with the post-operative period, and they are fearful of not getting back to their previous self. In fact, many of the participants waiting for open-heart surgery mentioned they felt anxious when acknowledging they would have surgery.

3.2.1 | Subtheme 1: Granting patients' emotional support

This subtheme emerged from patients' reports and nurses' acknowledgement that patients get anxious about surgery and hospital stay, because of fear, stress and anxiety, which may hinder the patient's wellbeing.

To minimize all aspects, anxiety and so on, because we are often talking about something that increases our pain, increases our suffering, and so on, increases our difficulties in moving, etc

(P2; FG1).

And I come with fear, as I already had the opportunity to tell the lady nurse. And I come in fear, why? I want to see if God gives me a little more time to live... And when a person comes to a situation, where it's our engine, which is working badly and it's going to be fixed... is it going to be good, is it going to be bad? Only God knows! So, I came a little nervous

(P9; FG2).

3.2.2 | Subtheme 2: Granting emotional support from families and caregivers

This topic emerged as a subtheme, and some participants mentioned finding strength to endure surgery in their families, especially in spouses and children. Families and caregivers are the support system during this period of uncertainty and should be acknowledged and involved in the process of care.

I went outside, my husband was waiting for me and I started to cry. And he asked me 'What is it?' And that's when I told him, and he said, 'Oh there will be no problem, you'll see!'

(P12; FG3)

3.3 | Theme 3: Needing access to care

Access to care implies offering appropriate and preferred care that is conveniently located for the patient, and that can be accessed in time. It also includes accessibility to various health professionals or specialty services when needed and getting clear instructions on when and how to get the intended appointment (Scholl et al., 2014). Patients ought to know they can access care when needed.

3.3.1 | Subtheme 1: Managing access to self-care

This topic gathered consensus between nurses, and patients revealed they are willing to engage in their self-care to improve their health.

To share certain responsibilities with them, and to share it beforehand, it is not acceptable to want them to change everything after surgery

(P6; FG1).

No, because the cardiologist immediately warned me: no walking for now, try not to get stressed, try to lead a calm life, be careful with everything and anything else. You are going to take this medication. Medication I've taken so far

(P12; FG3).

3.3.2 | Subtheme 2: Granting access to care

Nurses agreed that if there would exist a contact in between registration to surgery and hospital admission, it should be between one month and fifteen days prior to hospital admission and focused on patients' needs.

I am of the opinion that it would be more effective, our consultation, 15 days, a week before the surgery,

because if it is a long time before, the information will be lost and the doubts will remain ...

(P8; FG1)

All patients and one nurse agreed there was no need for another appointment at the hospital, but it would be reassuring to have a way of contact if any doubt arise.

To clarify doubts and to clarify everything that was important, I think so. I think it would be very important

(P12; FG3).

4 | DISCUSSION

In our study, composed by three FGs, all identified themes and sub-themes were found in the nurses group discussion, which reveals these health professionals are very aware of their patient's needs; patients waiting for elective open-heart surgery showed some concerns about information and emotional support but were not completely aware of all the needs lying ahead of surgery. Participants having had open-heart surgery seemed to have gained a deeper perspective related to their pre-operative needs when compared to the group waiting for surgery, because they mentioned all same topics as nurses.

Nurses revealed that most patients believe they will return to their normal activities at hospital discharge. Korten (2020) mentioned that patients felt ill-informed which led them to underestimate the duration and challenges of the surgical recovery. Rief et al. (2017) found that optimizing patients' expectations prior to surgery led to improved outcomes in post-operative disabilities up to 6 months after surgery.

Many interventions can be used to educate and prepare patients for surgery, from breathing and muscle exercises, incentive to stop smoking, dietary counselling, and appropriate counselling or psychological intervention for patients at risk of distress (McCann et al., 2019). In older adults, the perioperative factors identified that fear of surgery should be accessed, as knowledge about the surgery and its recovery, pain, neurocognitive disorders and medication management (Abraham et al., 2020).

A research performed by Gomes et al., 2019 associated anxiety with female gender, years of study, absence of a companion, previous surgical experience and cancellation of surgery during hospitalization, and the risk factors for depression included female gender and hospital stay longer than 15 days. Some patients in our study mentioned that anxiety is part of the waiting period; they relied in their families and friends to get them through this time.

Providing access to information was a main point in our findings, either through a presential consultation, supplying information in paper support or through a telehealth intervention. An intervention that enabled access to a health professional or health information based on telehealth was debated through all FGs, because persons perceive it is a more accessible way to contact a health professional. Patients and nurses focused on the

importance of having reliable information on a website or application, making available a contact with a health professional to clarify doubts. A research revealed patients desire and seek clarifications to understand the surgery among friends and the Internet, which can lead to disinformation about the procedure, which can increase tension, fear and stress, impacting the existing clinical condition (Knihns et al., 2017). An investigation aiming to understand how users and non-users of digital services differ about electronic health literacy stated that no differences were found between users and non-users about age, sex, educational level and self-rated health (Holt et al., 2019).

Our aim was to develop an intervention design through a comprehensive interactive approach of combined elements of the MRC framework: We have identified a problem in our wards; systematic literature reviews to provide an understanding of what are the pre-operative education methods used in other health contexts are being conducted (Rodrigues et al., 2021); the underlying theory supporting our intervention is Kitsons' person-centred care, which is based on health care that involves the person experiencing a disease process in all decisions, providing them the power of choice, sensitive to the unique needs of each person (Kitson, 2018); the needs of older persons waiting for elective open-heart surgery according to patients and nurses perceptions were scrutinized in this FG research; an examination of the current practice and context of our cardi thoracic wards is ongoing; and modelling the process and its outcomes is being performed as information gathered is being synthesized. These elements were retrieved from existing models to provide researchers a better opportunity to design an intervention that is effective and will hopefully minimize research waste in health care (Bleijenberg et al., 2018).

4.1 | Limitations

This study was conducted in one Oporto hospital, limiting the geographic heterogeneity of participants, which can restrict the perceptions of the needs of older persons waiting for elective open-heart surgery. These limitations can be a sociocultural bias; therefore, these results are limited to this narrow population fringe. Also, only one FG was conducted with each participant group, and the number of participants is small and the focus of our study were older adults, which limits the generalizability of our findings. The knowledge and assumptions of the main researcher can be reflected in the qualitative data analyses, and we expect to have minimized this potential bias through joined revisions with two experienced researchers.

5 | CONCLUSION

Evidence-based practice is crucial to effective and efficient health-care practice. Nurses provide pre-operative care to patients waiting for elective open-heart surgery in hospitals around the world; therefore, we must leverage an adequate cost-effective intervention

to most healthcare settings as possible. That is our intention with this study, which is an important piece to define a nursing intervention for patients older than 65 years waiting for elective open-heart surgery, and this specific fringe of population needs full attention from healthcare providers.

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CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

AUTHOR CONTRIBUTIONS

Soraia Filipa Nicola Martins Rodrigues MSc, RN, and Maria Adriana Pereira Henriques PhD, conceived of the presented idea of research. Soraia Filipa Nicola Martins Rodrigues MSc, RN, developed the study design and conducted the Focus Group interviews. Soraia Filipa Nicola Martins Rodrigues MSc, RN, Helga Marília da Silva Rafael Henriques PhD, and Maria Adriana Pereira Henriques PhD analysed data. Helga Marília da Silva Rafael Henriques PhD, and Maria Adriana Pereira Henriques PhD, supervised and discussed the design, implementation and findings of the research. Soraia Filipa Nicola Martins Rodrigues MSc, RN, Helga Marília da Silva Rafael Henriques PhD, and Maria Adriana Pereira Henriques PhD, supervised and contributed to the final manuscript.

All authors have agreed on the final version and meet at least one of the following criteria [recommended by the ICMJE (<http://www.icmje.org/recommendations/>)]:

- substantial contributions to conception and design, acquisition of data or analysis and interpretation of data;
- drafting the article or revising it critically for important intellectual content.

ETHICAL APPROVAL

The study was approved by the Research Ethics Committee of an Oporto hospital, Portugal (number: 119/2019-2). Participants provided informed consent after receiving both written and verbal information about the study, including aspects related to voluntary participation, the opportunity of withdrawing at any time without explanation, and that all contributions to the interview would be handled confidentially and presented anonymously. There was no payment to any of the participants.

DATA AVAILABILITY STATEMENT

The data sets that support the findings of this study are available from the corresponding author, upon reasonable request.

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