Validation of a preoperative nursing teleconsultation protocol for hernioplasty and cholecystectomy

Validação de um protocolo de teleconsulta pré-operatória de enfermagem em hernioplastia e colecistectomia

Validación de un protocolo de teleconsulta de enfermería preoperatoria en hernioplastia y colecistectomía

Tatiany Marques Bandeira[1]*, Natália Kaizer Rezende Ortega de Barros[2], Rosimere Ferreira Santana[3], Greiciane da Silva Rocha[4], Thalita Gomes do Carmo[3]

ABSTRACT: Objective: To validate a preoperative nursing teleconsultation protocol for hernioplasty and cholecystectomy. **Method:** This is a methodological study carried out at a philanthropic hospital located in the city of Rio Branco, state of Acre, Brazil. Ten nurses specialized in perioperative care participated in the study. The validation took place from August to October 2021. The study protocol was based on the scoping review by the Joanna Briggs Institute (JBI) and on nursing diagnoses and interventions for anxiety and the risk of delayed surgical recovery. Data were analyzed using the content validity index, adopting a value greater than or equal to 0.8 in the overall analysis. **Results:** The nurses validated the proposed content, attesting to its comprehensiveness, clarity, and relevance in all items, with high overall content validity indices greater than 0.95. **Conclusions:** The developed protocol was validated by experts, showing the comprehensiveness, clarity, and relevance of its instructional didactic technology for clinical applicability in the preoperative period.
Keywords: Telenursing. Perioperative nursing; Validation study; Protocol.

RESUMO: Objetivo: Validar um protocolo de teleconsulta pré-operatória de enfermagem em hernioplastia e colecistectomia. **Método:** Estudo metodológico realizado em um hospital filantrópico localizado em Rio Branco, Acre. Participaram dez enfermeiros especialistas em assistência perioperatória. A validação ocorreu no período de agosto a outubro de 2021. O protocolo do estudo foi fundamentado na revisão de escopo do Instituto Joanna Briggs (JBI) e nos diagnósticos e nas intervenções de enfermagem de ansiedade e o risco de recuperação cirúrgica retardada. Os dados foram analisados pelo índice de validade de conteúdo, adotando o valor maior ou igual a 0,8 na análise global. **Resultados:** Os enfermeiros validaram o conteúdo proposto, atestando sua abrangência, clareza e relevância em todos os itens, com altos índices de validade de conteúdo globais maiores que 0,95. **Conclusão:** O protocolo construído foi validado por especialistas, sendo evidenciadas sua abrangência, clareza e relevância de sua tecnologia didática instrucional para aplicabilidade clínica no período pré-operatório.
Palavras-chave: Telenfermagem. Enfermagem perioperatória; Estudo de validação; Protocolo.

RESUMEN: Objetivo: Validar un protocolo de teleenfermería preoperatoria en hernioplastia y colecistectomía. **Método:** Estudio metodológico realizado en un hospital filantrópico ubicado en Rio Branco, Acre. Participaron diez enfermeros especializados en cuidados perioperatorios. La validación tuvo lugar de agosto a octubre de 2021. El protocolo de estudio se basó en la revisión de alcance del Instituto Joanna Briggs (JBI) y en los diagnósticos e intervenciones de enfermería de Ansiedad y Riesgo de recuperación quirúrgica tardía. Los datos fueron analizados mediante el índice de validez de contenido, adoptando un valor mayor o igual a 0,8 en el análisis global. **Resultados:** Los enfermeros validaron el contenido propuesto, comprobando su amplitud, claridad y pertinencia en todos los ítems, con altos índices de validez de contenido global superiores a 0,95. **Conclusión:** El protocolo construido fue validado por especialistas, destacándose su alcance, claridad y pertinencia de su tecnología didáctica instruccional para la aplicabilidad clínica en el preoperatorio.
Palabras clave: Teleenfermería. Enfermería perioperatoria. Estudio de validación; Protocolos.

[1]Hospital Santa Juliana – Rio Branco (AC), Brazil.
[2]Hospital Barra D'Or, Rede D'Or São Luiz – Niterói (RJ), Brazil.
[3]Universidade Federal Fluminense, Aurora de Afonso Costa School of Nursing – Niterói (RJ), Brazil.
[4]Universidade Federal do Acre, Center for Health and Sport Sciences – Rio Branco (AC), Brazil.
*Corresponding author: tatiany_marques19@hotmail.com
Received: 03/17/2023 – Approved: 06/16/2023
https://doi.org/10.5327/Z1414-4425202328893

INTRODUCTION

Among the most common surgical procedures performed by the Brazilian Unified Health System (SUS) are hernia repair (hernioplasty) and gallbladder removal (cholecystectomy). In Brazil, approximately 1,167,754 cholecystectomies were performed from 2015 to 2020, and it is estimated that over 300 thousand hernioplasty procedures will be performed per year[1].

In view of the high demand, these procedures were included by ORDINANCE GM/MS No. 1,388 in the list of priority surgeries covered by the SUS, aiming to reduce the population's waiting time and ensure that care is provided in a timely manner[2].

However, in March 2020, there was the emergence of the pandemic of the new coronavirus (SARS-CoV-2), which causes COVID-19. This implied health restrictions and social isolation, resulting in repercussions on the work of health professionals such as undertaking the preoperative nursing visit in person.

The beginning of the systematization of perioperative nursing care consists of undertaking the preoperative nursing visit (PNV). According to the recent practical guidelines of the Brazilian Association of Nurses of the Surgical Center, Anesthetic Recovery, and Sterile Processing Department (2021), PNV represents the patient's first contact with perioperative care, providing nurses with the opportunity to know the patient beforehand, identifying the existing needs/problems, and allowing physical and emotional preparation for the surgical procedure and the postoperative period[3].

This visit seeks to efficiently satisfy the needs of surgical patients, based on the humanization of the care provided in the operating room. Upon assessment of the patient's health status, considering the comorbidities, anesthesia, and surgery to be performed, as well as the identified risks, the nursing diagnoses and the prescription of the care plan with the necessary interventions for intra- and postoperative management are defined[3].

Faced with this pandemic context, health services needed to develop strategies and measures to provide the continuity of services. In the area of perioperative nursing, the Portuguese Association of Operating Room Nurses indicated preoperative nursing consultation via teleconsultation as a strategy[4].

Nursing teleconsultation, according to Resolution No. 634 of 2020 of the Federal Nursing Council (*Conselho Federal de Enfermagem* – COFEN), is a measure that enables communication between nurses and patients via technological resources for the practice of consultation, instruction, and referral in real time (synchronous) or non-simultaneously (asynchronous)[5].

This practice in the Brazilian context was regulated by COFEN Resolution No. 696 of 2022, which provides for nurses in digital health, seeking to provide reliable information about health status. The resolution also highlights that this practice can be developed within the SUS, in private institutions, or by self-employed individuals[6].

In turn, in other countries, such as the United States of America, Canada, and the United Kingdom, teleconsultation has been widely used to promote access to health care in an agile way, with reduced time, and savings on resources. The services offered include monitoring of signs and symptoms, assessment, provision of care, education, and rehabilitation[7].

Teleconsultation in the perioperative context has demonstrated efficient provision of care, as evidenced in a recent study conducted with 320 patients before and after surgery, which increased patient satisfaction and comfort and decreased discharge time[8].

However, despite the relevance of the topic and the interest of several countries in the subject, teleconsultation in the perioperative area presents a knowledge gap regarding the existence of protocols that guide nurses to carry out this practice, considering the absence of publications that have protocols aimed at nursing care in the preoperative period via teleconsultation.

Nursing protocols are necessary because they allow greater professional autonomy and safety for the user during the development of care activities. They establish criteria, parameters, and standards for the use of a specific technology in a given disease or condition[9].

OBJECTIVES

To validate a preoperative nursing teleconsultation protocol for hernioplasty and cholecystectomy.

METHODS

This is a methodological study to validate the content of the protocol named preoperative nursing teleconsultation to assist patients who will undergo hernioplasty and cholecystectomy.

This method seeks to perform a content analysis in quantitative and qualitative terms by a panel of experts[10].

The research was conducted from August to October 2021 at a philanthropic hospital in the city of Rio Branco, state of Acre (AC), Brazil, with 177 beds and an average of 600 monthly surgeries. The sample comprised ten nurses who work in the operating room of the study institution, considering two years of experience in perioperative practice and graduate degree (specialization, master's degree, doctorate) as inclusion criteria. Those who were on vacation or on leave were excluded. Regarding the number of experts for validation, there is no evidence in the literature on the number of required judges, which may vary from three to 20 for this purpose[11].

For this study, the experts were contacted via e-mail. For those who agreed to participate, a face-to-face meeting was held to sign the Informed Consent Form and deliver the developed protocol and the questionnaire with instructions for filling it out. In addition to the protocol to be evaluated, experts were provided with a form to characterize the professional, with information on: name, level of education, and length of service in the operating room.

The validation method uses the Likert scale, which contains categories with four levels of relevance, and can only select a single response for each analyzed item as follows: Strongly agree (3), Agree (2), Partially agree (1), and Disagree (0). For each item proposed in the created instrument, research experts state whether they agree, have doubts, or disagree with the content of the presented items, and the assessment is represented by a numerical score containing levels of agreement[12].

The study followed three stages:

1. Theoretical, based on the scoping review of preoperative nursing consultation instruments based on the Joanna Briggs Institute (JBI) method and on nursing diagnoses and interventions for anxiety and risk of delayed surgical recovery;
2. Empirical, with the preparation of the nursing teleconsultation instrument following the sequencing for development, such as: clear determination of what was evaluated, preparation of the set of items, determination of the evaluation format, and review of the set of items by the panel of experts;
3. Analytical, for the assessment of this teleconsultation instrument by surgical center nurses, considering the content validity index (CVI).

For the scoping review, the protocol used for its development was registered with the Open Science Framework with the following DOI number: 10.17605/OSF.IO/P7CJE. The use of these nursing diagnoses in the study is justified by the fact that preoperative patients of general surgery have more than 80 nursing diagnoses. However, anxiety is present in 81.3% of these patients; and the risk of delayed surgical recovery, in 52.6% of general surgery patients[13].

From this perspective, the instrument presented for validation contains a set of questions concerning the nurses' interventions related to the aforementioned diagnoses. The experts validated the content for clarity, relevance, and comprehensiveness for application in clinical practice in the preoperative context.

Content validation concerns the representation of the concept that the instrument seeks to consider and provides for the evaluation of the items, according to clarity, relevance, and comprehensiveness. By clarity, the preparation of the protocol items is evaluated in terms of the writing mode, provides adequate reading, and allows the comprehension of the described content. Relevance consists of involving the content under consideration, and comprehensiveness, if the instrument involves all the items that are sought to be evaluated[14].

For validation, the CVI was used, which includes a method that estimates the proportion of experts who agree with certain characteristics and components of the instrument, in addition to enabling the analysis of each item[12]. Considering a method that uses a Likert scale with answers from 1 to 4, where 1 equals "Disagree"; 2, "Partially agree"; 3, "Agree"; and 4, "Strongly agree," the CVI is calculated as the proportion of 3 or 4 answers in the set of all the judges' answers.

To verify the validity of the item or instrument, there must be a CVI greater than or equal to 0.80[14]. In this study, the analyzed content will be validated only if it presents a CVI greater than or equal to 0.8 in the overall analysis and in the analysis of each domain, and a maximum of 10% of the questions have a CVI lower than 0.8. All analyses were performed with computational resources from the software Microsoft Excel, version 2019, and IBM SPSS, version 22.0.

This study is an excerpt from the project entitled *Teleconsulta de enfermagem no pré-operatório de cirurgia geral* ["Nursing teleconsultation in the preoperative period of general surgery"], upon approval No. 4.723.807 (Certificate of Presentation of Ethical Appreciation – CAAE: 44536221.0.0000.5243).

RESULTS

Data from this study refer to the evaluation of ten experts. Regarding the level of education, 100% had specialization in the perioperative area as the highest degree. Regarding the characterization, 50% had two to four years of experience in the area, and 50% had six to ten years of experience, with an average of 5.0 years (standard deviation [SD]=3.2 years), a median of 4.5 years, and a Pearson's coefficient of variation of 63%, which explains high variability in the experts' time working in the area.

Based on the results of the review, the instrument was structured in the form of an interview, based on a checklist to optimize the recording of the collected information, in addition to providing clarifications of perioperative care distributed in 22 questions contained in seven topics, which include: presentation to the patient; open-ended questions for recognition and evaluation; evaluation regarding clarification for hospital admission; guidance for preoperative care; description of the preoperative routine; encouragement to self-care in the postoperative period; open-ended questions for further clarification.

At the end of each question, a set of interventions was included to guide the professional in providing remote perioperative care. The Nursing Interventions Classification (Chart 1) was used to develop and define the nursing interventions to be adopted in this instrument.

In Table 1 we show the descriptive analysis of the respondents' evaluations in terms of comprehensiveness, clarity, and relevance as well as the CVI for each item evaluated and the overall CVI.

Chart 1. Content validated by the experts.

I – PRESENTATION TO THE PATIENT
1. Good afternoon, this is nurse **(NAME OF THE PROFESSIONAL)**, from Hospital **(NAME OF THE INSTITUTION).** May I ask with whom I am speaking? May I speak with **NAME OF THE PATIENT**? ( ) **No. INTERVENTION:** Make up to three telephone call attempts at different times and write down the time; After all unsuccessful attempts, justify the reason for not carrying out the teleconsultation. ( ) **Yes. INTERVENTION:** Explain how teleconsultation is carried out, its benefits and advantages for the patient and proceed to question number two.
2. Do you agree to have the preoperative nursing teleconsultation at no financial cost? ( ) **Yes. INTERVENTION:** Proceed to Stage II ( ) **No. INTERVENTION:** End the telephone call and write down the patient's refusal to consent:
II – QUESTIONS FOR RECOGNITION
3. How have you been?
4. How do you feel about your surgery? **INTERVENTION:** Identify the patient's level of anxiety/fear regarding the surgical procedure; Provide clear guidance on how to access the necessary care, if concerns are serious; Determine if concerns require further evaluation; (Psychology Service of the Institution).
III – ASSESSMENT REGARDING CLARIFICATION FOR HOSPITAL ADMISSION
5. Do you know the date, time, and hospital where the surgical procedure will take place? ( ) Yes. ( ) **No. INTERVENTION:** Inform the date, time, and place of hospital admission.
6. Do you know what documentation is necessary to be admitted to the hospital? ( ) Yes. ( ) **No. INTERVENTION:** Inform the procedures (by explaining the documentation to be admitted to the hospital).
7. Some belongings are not recommended to take to the hospital. Do you know what they are? ( ) Yes. ( ) **No. INTERVENTION:** Explain the preoperative routine, regarding accessories and belongings that are not recommended for use in the hospital;

Continue...

Chart 1. Continuation.

8. Do you know the name of your surgery? ( ) Yes. Which one is it? _____ ( ) **No.**
9. Do you know the region of the body in which the surgery will be performed? ( ) Yes. Which one is it? _____ ( ) **No.**
III – ASSESSMENT REGARDING CLARIFICATION FOR HOSPITAL ADMISSION
10. Do you know the name of the doctor who will perform your surgery? ( ) Yes. Who is it? _____ ( ) **No.**
11. Can you explain why you need to have this surgery? ( ) Yes. Why? _____ ( ) **No.**
INTERVENTION: Explain information on the surgery to the patient: Name of the procedure; Surgeon's name; Purpose and body region of the procedure.
IV – GUIDANCE FOR PREOPERATIVE PREPARATION
12. Do you know the importance of preoperative fasting? ( ) **Yes.** ( ) **No. INTERVENTION:** Advise the patient about the importance of preoperative fasting for the necessary time that must be followed. **2 hrs:** (clear liquids without solid particulates) e.g.: water; **4 hrs**: (clear liquids with solid particulates) e.g.: juice; **6 hrs** (soft solid foods) e.g.: toast; **8 hrs** (high fat solid foods) e.g.: meat.
13. Do you smoke? ( ) No. ( ) **Yes. INTERVENTION:** Advise the patient with regard to cessation of smoking. Explain that it is recommended to avoid smoking **at least 48 hours** before surgery.
14. Do you know why hair removal should be performed? ( ) Yes. ( ) **No. INTERVENTION:** Explain the preoperative routine regarding skin preparation (hair removal is recommended no later than **two hours before surgery**; if there is no appropriate time, they will be removed at the operating room).
15. Do you take medication on a daily basis? ( ) No. ( ) **Yes. INTERVENTION:** Advise the patient regarding the need to suspend the use of certain medications due to surgery and others that may continue to be taken daily, including:
IV – GUIDANCE FOR PREOPERATIVE PREPARATION
Suspend use: **Marevan:** five days before surgery; **Ginseng:** five days before surgery; **Coplidogrel:** seven days before surgery; **Ticlopidine:** 14 days before surgery; **Sibrutamine:** 14 days before surgery; **Ginkgo biloba**: five days before surgery; **Garlic and ginger**: five days before surgery; **Lithium Carbonate**: seven days before surgery; **Weight-loss medications:** 14 days before surgery; **Acetylsalicylic acid (ASA)**: As per the surgeon's recommendation; **Enoxaparin:** As per the anesthetist's recommendation; **Oral Hypoglycemic Medications**: As per the anesthetist's recommendation;

Continue...

Chart 1. Continuation.

Maintain use: **Valproic Acid:** Maintain use; **Blood pressure medications:** Maintain use; **Serotonin reuptake inhibitors:** Maintain use.
V – DESCRIPTION OF THE PREOPERATIVE ROUTINE
16. Do you know the care flow after admission to the hospital? ( ) Yes. ( ) **No. INTERVENTION:** Explain the care flow of patients within the hospital unit from the inpatient sector to the entrance to the operating room;
17. Do you know what type of anesthesia you will be given?
18. If not, would you like to know it? ( ) Yes. ( ) **No. INTERVENTION:** Explain the anesthesia the patient will be given and its effects during and after surgery;
IF GENERAL ANESTHESIA: Anesthetic medications are administered by inhalation or intravenously, which promote muscle relaxation and you will sleep soundly for surgery to be performed.
IF SPINAL ANESTHESIA: Anesthetic medication will be administered to make you sleep soundly, and then the anesthetic will be applied in the "back" region of the body, which blocks pain and sensitivity in the body region, generally from the waist down, which includes the abdomen, back, and legs.
19. Do you know where you will be sent after the surgery is over? ( ) Yes. ( ) **No. INTERVENTION:** Present postoperative care; Describe the equipment and the postoperative routine; Explain the Post-anesthesia Care Unit for the patient and the care that will be provided at that unit; Clarify the patient about the criteria for anesthetic discharge and return to the infirmary.
VI – ENCOURAGING SELF-CARE IN THE POSTOPERATIVE PERIOD
20. Do you know what surgical wound care is? ( ) Yes. ( ) **No. INTERVENTION:** Advise the patient about surgical wound care; Advise the patient on ways to care for the incision while bathing; Advise on how to put on a dressing; Advise on the application of an antiseptic solution according to medical prescription.
21. Do you know when you can resume daily activities after surgery? ( ) Yes. ( ) **No. INTERVENTION:** Explain how the patient will resume the daily activities: **Driving:** 15 days **Working:** Between 45 and 60 days **Lifting heavy objects:** Between 45 and 60 days **Sexual activity:** After ten days
VII – OPEN-ENDED QUESTIONS FOR FURTHER CLARIFICATION
22. Are there any questions or concerns about the surgery? ( ) **No** ( ) **Yes** (Write it down)
23. Are there any questions or doubts? ( ) **No** ( ) **Yes** (Write it down)
INTERVENTION: Outline the patient's understanding of the provided information.

Source: Prepared by the authors, 2022.

Table 1. Analysis of the respondents' assessment in relation to comprehensiveness, clarity, and relevance.

Question	Answer	Comprehensiveness			Clarity			Relevance		
		f	%	CVI	f	%	CVI	f	%	CVI
1	Agree	3	30.0	1.00	2	20.0	1.00	3	30.0	1.00
	Strongly agree	7	70.0		8	80.0		7	70.0	
2	Agree	3	30.0	1.00	3	30.0	1.00	3	30.0	1.00
	Strongly agree	7	70.0		7	70.0		7	70.0	
3	Agree	3	30.0	1.00	2	20.0	1.00	3	30.0	1.00
	Strongly agree	7	70.0		8	80.0		7	70.0	
4	Agree	3	30.0	1.00	2	20.0	1.00	3	30.0	1.00
	Strongly agree	7	70.0		8	80.0		7	70.0	
5	Partially agree	0	0.0	1.00	1	10.0	0.90	0	0.0	1.00
	Agree	3	30.0		3	30.0		3	30.0	
	Strongly agree	7	70.0		6	60.0		7	70.0	
6	Agree	4	40.0	1.00	3	30.0	1.00	3	30.0	1.00
	Strongly agree	6	60.0		7	70.0		7	70.0	
7	Partially agree	0	0.0	1.00	2	20.0	0.80	0	0.0	1.00
	Agree	3	30.0		1	10.0		3	30.0	
	Strongly agree	7	70.0		7	70.0		7	70.0	
8	Agree	3	30.0	1.00	1	10.0	1.00	3	30.0	1.00
	Strongly agree	7	70.0		9	90.0		7	70.0	
9	Agree	3	30.0	1.00	1	10.0	1.00	3	30.0	1.00
	Strongly agree	7	70.0		9	90.0		7	70.0	
10	Agree	3	30.0	1.00	1	10.0	1.00	2	20.0	1.00
	Strongly agree	7	70.0		9	90.0		8	80.0	
11	Agree	3	30.0	1.00	2	20.0	1.00	3	30.0	1.00
	Strongly agree	7	70.0		8	80.0		7	70.0	
12	Agree	3	30.0	1.00	2	20.0	1.00	3	30.0	1.00
	Strongly agree	7	70.0		8	80.0		7	70.0	
13	Agree	3	30.0	1.00	1	10.0	1.00	3	30.0	1.00
	Strongly agree	7	70.0		9	90.0		7	70.0	
14	Agree	3	30.0	1.00	3	30.0	1.00	2	20.0	1.00
	Strongly agree	7	70.0		7	70.0		8	80.0	
15	Agree	3	30.0	1.00	1	10.0	1.00	3	30.0	1.00
	Strongly agree	7	70.0		9	90.0		7	70.0	
16	Partially agree	0	0.0	1.00	2	20.0	0.80	0	0.0	1.00
	Agree	4	40.0		1	10.0		3	30.0	
	Strongly agree	6	60.0		7	70.0		7	70.0	
17	Disagree	1	10.0	0.90	0	0.0	1.00	1	10.0	0.90
	Agree	2	20.0		2	20.0		2	20.0	
	Strongly agree	7	70.0		8	80.0		7	70.0	
18	Agree	3	30.0	1.00	2	20.0	1.00	3	30.0	1.00
	Strongly agree	7	70.0		8	80.0		7	70.0	

Continue...

Table 1. Continuation.

Question	Answer	Comprehensiveness			Clarity			Relevance		
		f	%	CVI	f	%	CVI	f	%	CVI
19	Partially agree	1	10.0	0.90	0	0.0	1.00	1	10.0	0.90
	Agree	3	30.0		2	20.0		3	30.0	
	Strongly agree	6	60.0		8	80.0		6	60.0	
20	Disagree	1	10.0	0.90	0	0.0	0.90	1	10.0	0.90
	Partially agree	0	0.0		1	10.0		0	0.0	
	Agree	2	20.0		2	20.0		2	20.0	
	Strongly agree	7	70.0		7	70.0		7	70.0	
21	Agree	3	30.0	1.00	2	20.0	1.00	4	40.0	1.00
	Strongly agree	7	70.0		8	80.0		6	60.0	
22	Agree	3	30.0	1.00	2	20.0	1.00	4	40.0	1.00
	Strongly agree	7	70.0		8	80.0		6	60.0	
Overall	Disagree	2	0.9	0.99	0	0.0	0.97	2	0.9	0.99
	Partially agree	1	0.5		6	2.7		1	0.5	
	Agree	66	30.0		41	18.6		64	29.1	
	Strongly agree	151	68.6		173	78.6		153	69.5	

Source: Prepared by the authors, 2022.

In the comprehensiveness analysis, all questions were validated (with CVI greater than or equal to 0.80), of which 19 (86.4%) with CVI=1.00, and three (13.6%) with CVI=0.90. The content items validated with the lowest CVI were related to questions 17, 19, and 20; nonetheless, all had a high CVI, equal to 0.90. The overall CVI of comprehensiveness is equal to 0.99 (greater than 0.80); therefore, the comprehensiveness of the proposed instrument is validated by item and overall.

In the analysis of clarity, all questions were validated (with CVI greater than or equal to 0.80), of which 18 (81.80%) with CVI=1.00; two (9.10%) with CVI=0.90; and two with CVI=0.80 (9.10%). The content components validated with the lowest CVI were related to questions 7 and 16, with CVI=0.80. The overall CVI of clarity is equal to 0.97 (greater than 0.80); therefore, the clarity of the proposed instrument is validated by item and overall.

Regarding the relevance of the instrument, all questions were validated (with CVI greater than or equal to 0.80), 19 (86.40%) with CVI=1.00 and three (13.60%) with CVI=0.90. The content components validated with the lowest CVI were related to questions 17, 19, and 20, all with CVI=0.90. The overall CVI of relevance is equal to 0.99 (greater than 0.80); therefore, the relevance of the proposed instrument is validated by item and overall.

DISCUSSION

The practice of nursing teleconsultation has several benefits because it is an alternative that alleviates the difficulties of accessing healthcare services and the workload. Its use enables to overcome the obstacles of geographical distance, promote quick access, agility in care without traveling to traditional environments, in addition to allowing family members to be involved in the care process to which the patient will be submitted[15].

Open-ended questions 3) "How have you been?"; 4) "How do you feel about your surgery?"; 21) "Are there any questions or concerns about the surgery?"; and 22) "Are there any questions or doubts that were not addressed in this teleconsultation but that you need clarification?" were included in the instrument not only for preoperative evaluation, but also to allow the welcoming of the patient. They had a positive assessment (100.0%) of agreement and strong agreement in terms of comprehensiveness, clarity, and relevance. This statement was also highlighted in a study conducted in Sweden, whose authors concluded that the use of open-ended questions during preoperative consultation is essential for the development of communication centered on the surgical patient[16].

As for the questions that concern the flow for hospital admission, documentation, tests, and personal belongings, 6) "Do you know what documentation is necessary to be admitted to the hospital on the day of surgery?"; 7) "Some belongings are not recommended to take to the hospital. Do you know what they are?"; and 16) "Do you know the care flow after admission to the hospital?" aim to verify that all tests have been done and that they are on acceptable dates to assess the risk of perioperative morbidity as well as to reinforce the importance of the patient presenting them on the day of admission. In this sense, studies have shown that institutions that do not provide these clarifications have flaws in the entire perioperative care process, in addition to favoring the cancellation of surgery for preventable causes[17].

Regarding fasting, 12) "Do you know the importance of preoperative fasting?", the guidance enables professionals to enlighten the patient about the gastrointestinal preparation and to prevent it from being carried out for long periods. From this perspective, its implementation prevents the regurgitation of gastric contents and pulmonary aspiration. Furthermore, when performed for a prolonged period, it may favor the systemic response that results in protein catabolism, insulin resistance, and hyperglycemia after the surgical procedure[18].

Regarding the use of cigarettes, described in question 13) "Do you smoke?", it is worth considering its relevance based on a recent study on patients undergoing general surgery, in which the authors highlight the importance of promoting adequate education for smoking cessation and reducing the risks associated with pulmonary diseases, cardiovascular diseases, and postoperative morbidity and mortality[19].

As for the use of medications, described in question 15) "Do you take medication on a daily basis?", in the preoperative period, authors of a recent retrospective cohort study on 704 patients on preoperative medications showed that those taking continuous medications presented an increased risk of prolonged postoperative stay, and it is essential to advise the patient about medications that may or may not be taken during this period[20].

Questions about anesthesia and the post-anesthesia care unit, 17) "Do you know what type of anesthesia you will be given?" and 18) "Do you know where you will be sent after surgery?" were relevant to clarify doubts that may favor the patient's fear and anxiety. Corroborating this statement, authors of a recent prospective observational study on 90 patients showed that guidelines about anesthesia reduced anxiety levels[21].

Regarding clarifications about surgery, 8) "Do you know the name of your surgery?"; 9) "Do you know the region of the body in which the surgery will be performed?"; 10) "Do you know the name of the doctor who will perform your surgery?"; and 22) "Do you know when you can resume daily activities after surgery?" were essential for patient education and evaluation about their care process. From this perspective, authors of a systematic review concluded that guidelines that include such issues promote adherence to preoperative guidelines and the successful management of recovery[22].

Questions about hair removal — 14) "Do you know what hair removal is?" — and surgical wound care at home — 19) "Do you know what surgical wound care is?" — are relevant for patient self-management in the postoperative period. Corroborating this statement, authors of a recent clinical study conducted with 270 patients showed that 78% of them prefer receiving this guidance from nurses and, after receiving them, the patients reported feeling autonomous when caring for the surgical wound at home[23].

Regarding the study limitations, we mention the choice of only two types of general surgeries and the restriction to only one hospital unit, making it necessary, in future studies, to evaluate and understand nursing teleconsultation in other surgical procedures in the classification of general surgical procedures as well as in other hospital units with care flows different from the health unit considered in the present study.

CONCLUSION

The experts validated the content of the proposed instrument, attesting to its comprehensiveness, clarity, and relevance in all items and overall, favoring preoperative nursing teleconsultation. The protocol developed in this study provides new scientific evidence of preoperative nursing. In addition, it presents digital healthcare strategies in a qualified manner, with emphasis on the incorporation of evidence-based practices via telephone as a care technology.

Thus, the relevance of our study on preoperative nursing teleconsultation is related to the development of complete and continuous care for surgical patients, even in times of social distancing, as it promotes efficient preoperative nursing care, generating good results on the knowledge score about preoperative guidelines and anxiety levels before surgery by clarifications, actions, and interventions via teleconsultation.

Moreover, this methodology enables the repercussion on care management by process and outcome indicators of the

operating room of the study institution, favoring postoperative recovery and early hospital discharge with quality and survival. However, we recommend similar studies, applicable by teleconsultation, to be conducted as well as the training and improvement of nursing professionals in digital health.

FUNDING

This study was carried out with the support of the Coordination for the Improvement of Higher Education Personnel – Brazil (CAPES), by the granting of scholarships. Financing Code 001.

CONFLICT OF INTERESTS

The authors declare no conflict of interests.

AUTHORS' CONTRIBUTIONS

TMB: Research, Methodology, Writing – original draft, Software, Validation. NKROB: Writing – review & editing. RFS: Conceptualization, Resources, Visualization. GSR: Formal Analysis, Methodology, Writing – review & editing. TGC: Project administration, Supervision.

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