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Original Article

Semantic validation of an instrument for nursing consultations in the preoperative period of cardiac surgery

Validação semântica de instrumento para a consulta de enfermagem no pré-operatório de cirurgias cardíacas

Validación semántica de un instrumento para la consulta de enfermería en el período preoperatorio de cirugías cardíacas

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ABSTRACT

Objective: To perform the semantic validation of an instrument for nursing consultations in the preoperative assessment of patients eligible for elective cardiac surgery at a referral hospital in the Northern region. **Methods:** A quantitative methodological study for the semantic validation of an instrument applied to outpatient nursing consultations in cardiology, conducted at a hospital in Belém, Pará, Brazil, between 2024 and 2025, with the participation of expert judges in cardiology and quality management**. Results:** The instrument demonstrated excellent content validity, with most items rated as clear, relevant, and coherent by the 11 specialists. The overall Content Validity Index was high, with emphasis on items scoring above 0.80. Only one item showed limited applicability (CVI = 0.73), which was revised and reached the maximum score after reassessment. The findings indicate that the instrument is suitable for preoperative evaluation and has potential to standardize and enhance nursing care in cardiac surgery. **Conclusion:** The instrument showed strong content validity, improved through iterative refinements, proving to be clear, applicable, and aligned with the preoperative context, representing a robust tool to strengthen patient safety and improve perioperative care.

DESCRIPTORS:
Nursing; Preoperative Care; Thoracic Surgery.

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RESUMO

Objetivo: Realizar a validação semântica de um instrumento para consulta de enfermagem na avaliação pré-operatória de pacientes candidatos a cirurgias cardíacas eletivas em um hospital de referência na região Norte. **Métodos:** Estudo metodológico quantitativo para validação semântica de instrumento aplicado à consulta ambulatorial de enfermagem em cardiologia, realizado em um hospital de Belém-PA, entre 2024 e 2025, com participação de juízes especialistas em cardiologia e gestão da qualidade. **Resultados:** O instrumento apresentou excelente validade de conteúdo, com itens considerados claros, relevantes e coerentes pelos 11 especialistas. O Índice de Validade de Conteúdo geral foi elevado, destacando-se itens acima de 0,80. Apenas um item apresentou aplicabilidade limitada (IVC = 0,73), sendo revisado e atingindo escore máximo após reavaliação. Os dados indicam que o instrumento é adequado ao pré-operatório e tem potencial para padronizar e qualificar a assistência em cirurgia cardíaca. **Conclusão:** O instrumento demonstrou validade de conteúdo consistente, aprimorada após ajustes sucessivos, mostrando-se claro, aplicável e alinhado ao contexto do pré-operatório, configurando uma ferramenta robusta para fortalecer a segurança do paciente e aprimorar o cuidado perioperatório.

DESCRITORES:
Enfermagem; Pré-Operatório; Cirurgia Torácica.

RESUMEN

Objetivo: Realizar la validación semántica de un instrumento para la consulta de enfermería en la evaluación preoperatoria de pacientes candidatos a cirugías cardíacas electivas en un hospital de referencia de la región Norte. **Métodos:** Estudio metodológico cuantitativo para la validación semántica de un instrumento aplicado a la consulta ambulatoria de enfermería en cardiología, realizado en un hospital de Belém, Pará, Brasil, entre 2024 y 2025, con la participación de jueces expertos en cardiología y gestión de la calidad. **Resultados:** El instrumento presentó una excelente validez de contenido, con la mayoría de los ítems evaluados como claros, relevantes y coherentes por los 11 especialistas. El Índice de Validez de Contenido general fue elevado, destacándose ítems con puntuaciones superiores a 0,80. Solo un ítem mostró aplicabilidad limitada (IVC = 0,73); tras su revisión, alcanzó la puntuación máxima en la reevaluación. Los hallazgos indican que el instrumento es adecuado para el periodo preoperatorio y tiene potencial para estandarizar y mejorar la atención en cirugía cardíaca. **Conclusión:** El instrumento demostró una validez de contenido sólida, perfeccionada mediante ajustes sucesivos, resultando claro, aplicable y alineado con el contexto preoperatorio, constituyendo una herramienta robusta para fortalecer la seguridad del paciente y optimizar el cuidado perioperatorio.

DESCRIPTORES:
Enfermería; Preoperatorio; Cirugía Torácica.

INTRODUCTION

Cardiac surgery represents one of the major advances in modern medicine, being essential in the treatment of cardiovascular diseases such as coronary artery disease, valvular heart disease and congenital heart disease[1]. The most common cardiac surgeries are reconstructive surgeries, which include myocardial revascularizations and valve plasties, which are complex interventions and require appropriate treatment in all surgical phases[2].

However, this procedure involves suffering in multiple dimensions: biologically, the patient faces pain, risk of infection, invasive procedures and risk of death; socially, there is distance from living, restriction of autonomy and labor limitation, requiring rigorous preoperative evaluation. In this scenario, individualized preoperative nursing consultation, with planning and evidence-based education, assumes

a central role in patient preparation and the reduction of clinical risks[3].

Surgical procedures affect the entire body of the patient and cause many physiological, psychological changes and complications, such as impaired homeostatic balance, fear, susceptibility to infections and pain. The planning of nursing care appropriate for the preoperative period prevents the development of postoperative complications and ensures the patient's recovery and return to daily life in the shortest possible time[4].

Preoperative nursing care includes from the decision for surgery to the transfer to the operating room[5]. It is at this time that the nurse identifies and evaluates the patient's conditions, obtaining information in order to reduce their fears and insecurities, promoting quality of care for the next surgical procedures[6].

The adoption of systematic preoperative clinical protocols, supported by high-quality scientific evidence, has been effective in optimizing clinical outcomes and in qualifying care, especially given the technological advance in nursing practices[7]. Thus, the guiding question arose: "What is the validity and reliability of a nursing consultation instrument for preoperative evaluation of cardiac surgeries, and what is the impact of its implementation in the electronic medical record on the quality of care and patient safety in a reference hospital in the northern region?"

In this context, there is a lack of validated instruments for nursing consultation in the preoperative evaluation of cardiac surgeries in reference hospitals in the northern region, which highlights a gap relevant to clinical practice and research in nursing.

OBJECTIVE

To conduct the semantic validation of an instrument for nursing consultation in the preoperative evaluation of patients candidates for elective cardiac surgeries in a reference hospital in the North region.

METHODOLOGY

Design, study site and period

It was a methodological study, with a quantitative approach, aimed at the semantic validation of an instrument for ambulatory nursing consultations in cardiology, conducted through the Delphi method. The research was conducted in the capital Belém-PA, between 2024 and 2025, with the participation of expert judges with experience in cardiology and quality management in health.

Population or sample

For the semantic validation of the instrument used in the pre-operative nursing consultation of valve replacement surgeries, an intentional sample composed by 11 expert judges, selected based on professional expertise criteria, was adopted, in order to obtain consensus according to the Delphi method. The literature recommends the participation of six to twenty experts in instrument validation studies,

considering the training, qualification and availability of evaluators[8].

The sample consisted of eight cardiologist nurses and three nurses specialized in quality and patient safety. The cardiologist nurses had clinical expertise and in-depth knowledge in the area, acting directly in the care of patients undergoing valve replacement surgeries. Professionals with training in quality and patient safety contributed with technical skills related to document analysis, standardization of processes and evaluation of consistency and applicability of the items of the instrument.

In total, 15 nurses were invited to participate in the evaluation; however, only 11 accepted and completed all stages of the validation process. The Informed Consent Form was made available electronically through the Google Forms® platform, in which the judges read and registered their consent, with access to the instrument conditional on formal consent in the form itself.

Inclusion and exclusion criteria

To ensure the proper selection of expert judges responsible for semantic validation of the instrument, specific inclusion and exclusion criteria were established, considering the methodological recommendations for studies conducted through the Delphi method and the need for expertise to obtain consensus.

For the cardiologist nurses, the inclusion criteria included specialization in cardiology or proven professional experience in outpatient care of medium and high complexity, as well as knowledge of protocols and guidelines related to the care of patients undergoing cardiac surgery. We excluded professionals in temporary positions, in stage or transition phase of the sector, besides those dismissed from clinical activities for a period longer than six months.

For professional nurses specialized in quality and patient safety, the inclusion criteria involved specialization in the area, associated with proven experience, including performance in the organization, standardization and control of institutional and care documents. Professionals without experience in health institutions and those who were absent from their activities for more than six months were excluded.

The selection of judges was carried out by means of intentional sampling based on expertise criteria, using the Lattes curriculum for verification of academic training, qualification and professional performance. The survey of specialists took place in the sectors of the institution where these professionals were crowded, specifically in the cardiological care areas and in the Quality and Patient Safety Center. Upon institutional authorization, the People Management Center provided the institutional e-mail addresses for sending invitations.

Study Protocol

The semantic validation of the instrument was conducted by means of the Delphi method, structured in two rounds, with the objective of obtaining a consensus among expert judges on the clarity,

understanding and adequacy of the items of the instrument.

In the first round, the judges received the original instrument containing 10 evaluative items, which were analyzed by means of a four-point Likert scale. The criteria evaluated included: (1) clarity of questions; (2) adequacy of content for preoperative consultation; (3) consistency of information presented; (4) comprehensiveness of content; (5) clinical relevance of items to preoperative; (6) ease of use of the instrument by the nursing staff; (7) adequacy to the profile of patients undergoing surgery; (8) contribution of the instrument to nursing practice; (9) applicability in the outpatient context; and (10) organization and structure of the instrument.

The categories of the Likert scale were defined as: 1 - no relevance; 2 - needs major revision; 3 - relevant with minor changes; and 4 - absolutely relevant. The form also included an open field for qualitative suggestions from judges. The items that received a score of 1 or 2 were considered inappropriate and revised, with all suggestions analyzed and incorporated into the subsequent version of the instrument. The Content Validity Index (CVI) was adopted as a consensus criterion, establishing the minimum value of 0.80 for the semantic adequacy of the items.

In the second round of the Delphi method, a new form was sent to the same judges containing exclusively the item that presented an CVI lower than the reference value in the initial round, accompanied by the revised version of the instrument. This step aimed to confirm the semantic adequacy of the reformulated item, again using the four-point Likert scale.

The average response time of participants varied between 15 and 20 minutes per form. The data collection took place remotely, over four weeks, after approval by the Research Ethics Committee and the sending of invitations. The data were organized in spreadsheets and analyzed by means of CVI calculation, complemented by qualitative analysis of the suggestions presented by the judges.

Analysis of results and statistics

The calculation of the Content Validity Index (CVI) was carried out considering as concordant the answers classified as 3 (relevant with minor changes) and 4 (strongly relevant), dividing this number by the total of answers attributed to each item. The agreement index of 0.80 was adopted as the minimum acceptable value, and values greater than 0.90 were considered ideal, according to literature recommendations[9].

Thus, all items that presented CVI below 0.80 were subjected to reassessment in the second round of the Delphi method, in order to ensure consistency, semantic clarity and robustness of the validation process.

To ensure the confidentiality of information, participants were identified exclusively by numerical codes, and the data collected was stored in a password-protected computer, with restricted access to the responsible researcher and study advisors.

Ethical aspects

The research was based on the precepts of the Declaration of Helsinki and the Nuremberg Code, respecting the requirements of the Resolution of the National Health Council 466/2012 and 580/2018, regarding the standards of research involving human beings. The project was submitted to *Plataforma Brasil* and the FHCGV Research Ethics Committee and approved with the opinion: 7.988.908.

RESULTS

First step of validation of the instrument by experts

The content validation step of the instrument was carried out by 11 expert judges, 8 (72.7%) nurses with specialization in Cardiology and 3 (27.3%) with specialization in Quality Management, ensuring an analysis that covered both clinical and methodological aspects.

The experts evaluated the instrument using a four-point Likert scale, considering ten criteria: clarity of the items addressed, adequacy of the content for preoperative consultation, coherence of the information presented, comprehensiveness of the content, Clinical relevance of the items for preoperative, ease of use of the instrument by nursing staff, adequacy to the profile of cardiac surgery patients, contribution to improving nursing practice, practical applicability in the ambulatory context and organization and structure of the instrument. Each item was evaluated according to the following levels: 1 for "irrelevant item", 2 for "item that needs major revision", 3 for "relevant item but requires minor changes" and 4 for "absolutely relevant item".

In general, there was a predominance of positive responses among the evaluators, with most items being classified as "absolutely relevant" or "relevant, but requiring minor changes". This pattern of responses reinforces that the instrument has good clarity, coherence, clinical relevance and practical applicability, evidencing its suitability for use in preoperative nursing consultation in patients who are candidates for cardiac surgery.

In the detailed analysis of the items, the clarity of the information was well evaluated, receiving 6 (54.5%) ratings as "absolutely relevant", 1 (9.1%) as "needs a major review" and 4 (36.4%) as "relevant, but requires minor changes". The adequacy of content for preoperative consultation presented a similar distribution, with 5 (45.5%) responses as "absolutely relevant", 2 (18.2%) as "needs major review" and 4 (36.4%) as "relevant, but requires minor changes".

The consistency of the information was also considered satisfactory, having received 5 (45.5%) evaluations as "absolutely relevant", 2 (18.2%) as "needs a major review" and 4 (36.4%) as "relevant but requires minor changes". Similar results were observed for the content coverage, which obtained 5 (45.5%) ratings as "absolutely relevant", 2 (18.2%) as "needs a major review" and 4 (36.4%) as "relevant, but requires minor changes". As for the clinical relevance to preoperative, the instrument was considered robust by 6 (54.5%) experts, while 1 (9.1%) pointed out the need for a major review and 4 (36.4%)

indicated small changes. Regarding the ease of use by nursing staff, the responses showed 4 (36.4%) evaluations as "strongly relevant", 2 (18.2%) as "needs a major review" and 5 (45.5%) as "relevant, but requires minor changes".

The adequacy to the profile of patients undergoing cardiac surgery was also well evaluated, being considered "absolutely relevant" by 6 (54.5%) of the judges, while 1 (9.1%) classified the item as "needs a major review" and 4 (36.4%) as "relevant, but needs minor changes". Regarding the contribution of the instrument to improve nursing practice, the results were even more expressive: 7 (63.6%) specialists classified it as "absolutely relevant", 1 (9.1%) as "needs a major review" and 3 (27.3%) as "relevant, but needs minor changes".

Finally, the item regarding practical applicability in the ambulatory context presented greater variability in figure 1, with 4 (36.4%) evaluations as "absolutely relevant", 2 (18.2%) as "needs a major review" and 5 (45.5%) as "relevant, but requires minor changes", indicating the need for subsequent adjustments to optimize the instrument. The organization and structure of the instrument received 4 (36.4%) evaluations as "absolutely relevant", 2 (18.2%) as "needs major revision" and 5 (345.4%) as "relevant, but requires minor changes".

Figure 1. Evaluation using the Likert scale for practical applicability. Belém-PA, 2025.

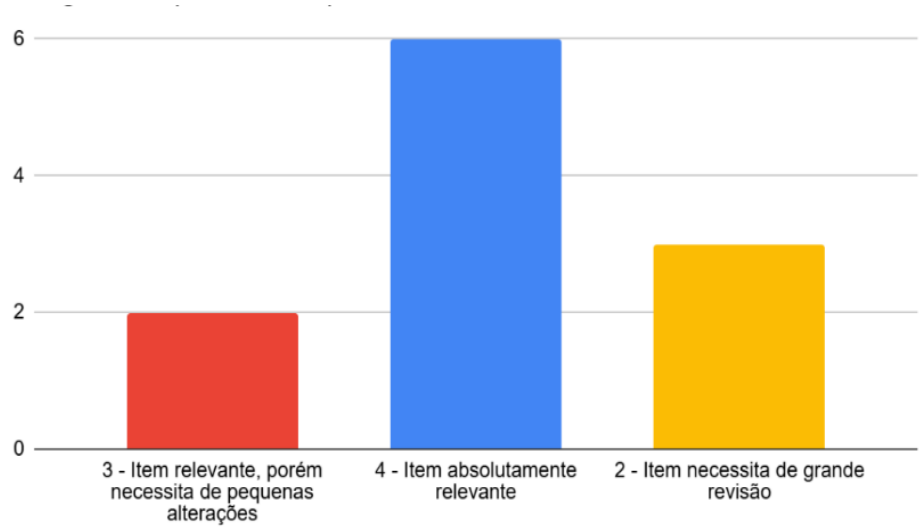

Figure translation: Practical applicability in the outpatient context. 3 - Relevant item, but requires minor changes. 4 - Absolutely relevant item. 2 - Item needs major revision.

In total, 11 expert judges participated in the evaluation of the instrument. The CVI calculation was obtained by the ratio between the number of answers 3 or 4 and the total number of answers (CVI = no of answers 3 or 4 in the total of answers). The results of Table 1 showed that CVI values varied between 0.73 and 0.91, with an overall CVI of 0.86, indicating adequate validity of the instrument content. It was observed that nine of the ten items evaluated had indices equal or greater than 0.82, demonstrating high agreement among the judges on relevance, clarity and applicability.

The item "Practical applicability in the ambulatory context" presented an CVI of 0.73, a value slightly lower than the recommended cut-off point, suggesting the need for adjustments to improve its clarity and adequacy to the context of use. The other items obtained indices ranging between 0.82 and 0.91, being considered adequate and representative of the proposed construct.

Table 1. Evaluation of the instrument according to criteria analyzed. Belém-PA, 2025.

Assessed criterion	Answers 3 or 4	CVI (answers÷11)
a) Clarity of the items addressed	10	10÷11=0.91
b) Adequacy of the content for preoperative consultation	9	9÷11=0.82
c) Consistency of the information presented	10	10÷11=0.91
d) Content coverage	9	9÷11=0,82
e) Clinical relevance of the items for preoperative	10	10÷11=0.91
f) Ease of use of the instrument by nursing staff	9	9÷11=0.82
j) Adequacy to the profile of surgery patients	10	10÷11=0.91
k) Contribution to improve nursing practice	10	10÷11=0.91
) Practical applicability in the ambulatory context	8	8÷11=0.73
m) Organization and structure of the instrument	9	9÷11=0.82

$$\text{Total CVI} = \frac{0.91+0.82+0.91+0.82+0.91+0.82++0.91+0.91+0.73+0.82}{10} = 0.86$$

ICV: Content Validity Index.

In addition to the table with comments that generated changes in the instrument, we prepared Table 2 containing the comments of the Likert scale that did not result in changes, but were considered in the critical analysis of the instrument.

Table 2. Qualitative analysis of the judges' comments according to the Likert scale, with comparison between the first and the modified version of the instrument. Belém- PA, 2025.

Items version 1	Suggestions	Items version 2
PVD ( ) HEPATOPATHY ( ) HEMORRHAGIC DISORDERS ( ) THYROID DISORDERS ( ) SAH ( ) DM ( ) FH ( ) SMO ( ) AMI ( ) DLP ( ) CRI ( ) HDL↓ ( ) LDL↑ ( ) TPCA ( ) TGC↑ ( ) SURGERY ( ) ASTHMA ( ) COPD ( ) ALLERGY ( ) CAD ( ) CHF ( ) VALVULAR HEART DISEASES ( ) AVB ( ) PREGNANCY ( )	"Uso excessivo de siglas"	**PVD -** Peripheral Vascular Disease **HEPATOPATHY -** Liver disease (chronic or acute liver changes) **HEMORRHAGIC DISORDERS -** Changes in coagulation that increase the risk of bleeding **THYROID DISORDERS -** Hormonal changes such as hypothyroidism or hyperthyroidism **SAH -** Systemic Arterial Hypertension **DM -** Diabetes Mellitus **FH -** Family History (of cardiovascular or other relevant diseases) **SMO -** Smoking **AMI -** Acute Myocardial Infarction **DLP -** Dyslipidemia (changes in cholesterol and triglyceride levels) **CRI -** Chronic Renal Insufficiency **HDL -** Reduction of HDL cholesterol ("good cholesterol") **LDL -** Elevated LDL cholesterol ("bad cholesterol") **TPCA -** Transluminal Percutaneous Coronary Angioplasty **TGC -** High triglycerides **SURGERY -** Previous history of cardiac surgery or other relevant **ASTHMA -** Chronic inflammatory airway disease **COPD -** Chronic Obstructive Pulmonary Disease **ALLERGY -** Allergic reaction to medicines, food or other substances **CAD -** Coronary Artery Disease **CHF -** Congestive Heart Failure **VALVULAR HEART DISEASES -** Heart valve diseases **AVB -** Atrioventricular Block **PREGNANCY -** Current or recent gestational status
Preoperative imaging tests Date of examination/perceived changes:	"Does not stratify different imaging study needs depending on the pathology	Catheterization: ( ) yes ( ) no Tomography: ( ) yes ( )no Doppler: ( ) yes ( )no Echo: ( ) yes ( ) no
-	Does not mention the need for suspension of dapagliflozin.	Dapaglifozina ( ) yes ( ) no obs: suspend 72 hours before the surgery due to the risk of lactic acidosis, euglycemic ketoacidosis and hypovolemia.
-	Does not mention important laboratory tests such as iron and thyroid profile	Iron: delivery date __/___/___ result: TSH: delivery date __/___/__ result: T3: delivery date __/__/___ result: T4: delivery date __/___/__ result:
-	Need to confirm if the patient has a previous surgical report."	Surgical bulletin: ( ) yes ( ) no
-	Does not address adult congenital surgeries."	Performed correction of congenital heart disease previously? ( ) yes ( ) no if yes, which? _____
-	Does not address the need for Orthoses, Prostheses and Special Materials (OPME) such as the intra-aortic balloon (patients with heart failure with reduced ejection fraction <40%) or specific prostheses	Need for intra-aortic balloon: ( ) yes ( )no The intra-aortic balloon (IAB) is indicated when there is severe left ventricular dysfunction - usually with ejection fraction (fe) 35%, especially in situations of low cardiac output and systemic hypoperfusion. Others opme: _____
-	I suggest including oral cavity assessment by the dentist for endocarditis prevention.	Odontological evaluation Performed odontological evaluation: ( ) yes ( ) no

Second step of validation of the instrument by experts

In the reassessment, the 11 expert judges attributed to item I) Practical applicability in the ambulatory context notes exclusively between 3 and 4, demonstrating unanimous agreement on its adequacy after the modifications presented in Figure 2.

Figure 2. Assessment using the Likert scale for practical applicability. Belém- PA, 2025

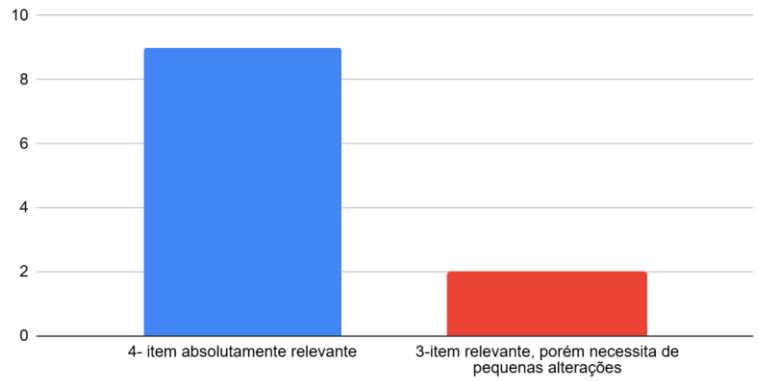

Figure translation: Applicability in the outpatient context. 4 - Strongly relevant item. 3 - Relevant item, but requires minor changes

DISCUSSION

The content validation performed by 11 expert judges enabled a broad and qualified analysis of the instrument developed for the preoperative nursing consultation in cardiac surgery. Despite the innovations, cardiac surgery still involves risks, especially in elderly or patients with multiple comorbidities. Therefore, surgical planning should consider risk assessments and shared decisions between the medical team and the patient[10]. The literature highlights that validation studies are valued in health services, given the need to base care practice on scientific evidence, especially in nursing. Validity refers to the degree to which the measure represents, in a coherent way, the property that one wishes to investigate, and not only to the precision with which it is quantified[11].

The literature also highlights that professionals acting cardiological nursing allows: early identification of risks that develop cardiovascular diseases, improve the quality of life of patients through Optimize resources and their better distribution by health levels and value the professional[12]. Thus, the relevance scores attributed by these judges reflect not only theoretical knowledge but also practical experience in the management of cardiovascular patients, ensuring that the items evaluated maintain adherence to the real needs of the clinical context.

On the other hand, judges with training and experience in health quality management favored an analysis focused on the clarity, organization and applicability of the instrument. Freitas, Caetano & Oliveira highlight the importance of nurses' performance in managerial functions that require decision-making and alignment of care practices to institutional guidelines[13]. Nurses in management positions have a decisive role in the promotion of safe environments, in the qualification of communication between teams and in the adoption of standardized practices. Process-centered management, often conducted by nursing professionals, contributes to the continuous improvement of care flows and efficient organization of services[14].

In general, there was a predominance of positive evaluations, with most items classified as "strongly relevant" or "relevant with minor changes". These findings reinforce that the instrument presents clarity, conceptual consistency and clinical relevance to the context of preoperative consultation. Evaluative studies are essential, because they guide adjustments and improvements in the face of demands for efficiency and qualification of assistance. Thus, validation contributes to define precisely the intervention and the structures necessary to achieve its objectives [15].

The high performance of items such as clarity, clinical relevance, coherence and adequacy to the patient profile demonstrates that the instrument captured essential elements of the evaluation process and is aligned with methodological recommendations for building valid tools. Values above 0.80 reinforce strong content validity and suggest adequate clinical applicability. Recent studies also highlight the use of CVI as a validation tool and the importance of scenario standardization[16].

The presence of evaluations indicating "needs a major review", although infrequent, is fundamental and expected in methodological studies, because it signals points that require refinement. This feedback contributed directly to the improvement of the items, reinforcing the iterative character of content validation. The participation of specialists, including cardiology and quality management professionals, increased the robustness of the analysis, incorporating both clinical knowledge and documentary evaluation expertise. The diversity of training of the 11 judges, including cardiologists and quality management specialists, increased the accuracy of the analysis, as recommended by Boateng et al. for inclusion of multiple expertises in content validation[17].

The most critical finding was the low practical applicability in the ambulatory context (CVI = 0.73), only below the recommended value, indicating the need for greater simplification and objectivity for use in rapid care. The literature reinforces that content validation is a complex and essential process to ensure relevance and comprehensibility, requiring revision of fragile items. After adjustments, the item reached a maximum grade (1.0) in the reevaluation, showing the effectiveness of the modifications[18]. The current literature reinforces that content validation goes beyond statistical indexes: it is necessary to ensure that the instruments are understandable, relevant and applicable in the real context of care, what demands

stages of evaluation by specialists and critical analysis of the practicality of the instrument in outpatient or transition care scenarios[19].

The literature also highlights that instrument validation should integrate qualitative analysis, based on expert comments, and quantitative evaluation through CVI. This alignment makes it possible to identify undetectable weaknesses and this refinement resulting from the experts' observations reinforces the quality of the process. A second round for items below ideal, as recommended by modern psychometrics, was essential to improve the instrument[20]. The use of multiple rounds, with reformulations based on qualitative comments and new quantitative evaluation, reinforces the iterative and incremental character of validation, something that you describe in your text[21]. Thus, the results of this step demonstrate that the instrument has satisfactory content validity, being suitable for application in the preoperative context of cardiac surgeries, with potential to qualify the care, standardize practices and contribute to more accurate clinical outcomes.

Study Limitations

The first one refers to the number of participating judges, although it is appropriate to the methodological recommendations and may have limited the diversity of perceptions about certain items of the instrument. The inclusion of professionals exclusively from the area of cardiology and quality management, although relevant to the research objective, may have restricted evaluation under other perspectives of perioperative nursing practice.

Another limitation concerns the geographical delimitation, since the instrument was validated in a reference hospital in the North region. This may influence the generalization of results, considering structural, organizational and cultural differences between health services in other regions of the country. In addition, the study was based on content validation, an essential but initial step in the process of instrument construction. Thus, although a solid validation was obtained regarding the clarity, relevance and organization of the items, other psychometric properties such as reliability, construct validity or clinical applicability in the field were not evaluated at this stage. This indicates the future need for additional studies to consolidate the robustness of the instrument.

Contributions to the area of Nursing, Health or Public Policy

The validated instrument contributes significantly to cardiology nursing by offering a clear, systematic and evidence-based roadmap for the preoperative evaluation of patients who are candidates for elective cardiac surgery. Its application standardizes the nursing consultation, facilitates the early identification of risks and improves interdisciplinary communication, strengthening professional autonomy and patient safety. By organizing and standardizing the evaluation process, the instrument improves the quality of care in the preoperative period, reduces registration failures and favors better clinical outcomes.

In addition, it supports managers in the implementation of institutional protocols and contributes to the harmonization of care practices. Its validation, adapted to the reality of the North region, highlights the importance of instruments sensitive to regional specificities and aligned with health equity and quality policies.

CONCLUSION

The results show that the developed instrument has solid content validity, supported by consistent quantitative and qualitative evaluations. The participation of 11 specialists allowed to improve items, correct frailties and ensure that the material is clear, relevant and appropriate to the context of preoperative cardiac surgery. The iterative review, aligned with the recommendations of modern psychometrics, ensured greater accuracy and clinical applicability, especially after the restructuring of the item related to ambulatory applicability.

Thus, the final instrument is technically robust, standardized and compatible with the needs of care practice, being able to support the nurse in carrying out a systematic, safe and evidence-based preoperative consultation. By organizing clinical evaluation, guiding educational actions and reducing omissions, the tool has the potential to qualify care, optimize flows, strengthen patient safety and contribute to better cardiac perioperative outcomes.

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