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RESEARCH

APPARENT AND CONTENT VALIDATION OF A NURSING ASSESSMENT SCALE FOR PATIENTS IN THE POST-ANESTHESIA RECOVERY ROOM

VALIDAÇÃO APARENTE E DE CONTEÚDO DE ESCALA DE AVALIAÇÃO DE ENFERMAGEM PARA O PACIENTE NA SALA DE RECUPERAÇÃO PÓS-ANESTÉSICA

VALIDACIÓN APARENTE Y DE CONTENIDO DE LA ESCALA DE EVALUACIÓN DE ENFERMERÍA PARA PACIENTES EN LA SALA DE RECUPERACIÓN POSTANESTÉSICA

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ABSTRACT

Objective: to build and validate the content and apparent validity of a Nursing Assessment Scale for patients in the post-anesthesia recovery room. **Method:** methodological study, with stages of defining the concept to be measured, formulation of the instrument items, development of instructions for respondents, and apparent and content validity test carried out between December 2020 and March 2021. Initially, the scale was divided into three domains, with sociodemographic and clinical data, anesthetic-surgical procedure, and ten parameters to be assessed: body temperature, heart rate, respiration, systolic blood pressure, peripheral oxygen saturation, consciousness, mobility, pain, nausea and vomiting, and surgical wound. Each parameter has a minimum score of one (1) and a maximum score of four (4); thus, the total score can range from 10 to 40 points. The validation was performed with ten doctoral judges with experience in Perioperative Nursing. The analysis was performed using the content validity indices, with a questionnaire containing five possible answers (totally disagrees, disagrees, does not disagree and does not agree, agrees, and totally agrees), in addition to suggestions in descriptive form. **Results:** after the judges' validation, the scale remained with the third domain, with the ten parameters to be evaluated. The validation obtained an overall average of 89%, and none of the parameters evaluated had a content validity index below 80%. **Conclusion:** the proposed scale is a reliable and valid instrument for assessing the patient in the Post-Anesthesia Recovery Room.

Keywords: Validation Study; Perioperative Nursing; Postanesthesia Nursing; Postoperative Complications.

RESUMO

Objetivo: *realizar a construção e a validação de conteúdo e aparente de uma escala de Avaliação de Enfermagem para o paciente na sala de recuperação pós-anestésica.* ***Método:*** *estudo metodológico, com etapas de definição do conceito a ser mensurado, formulação dos itens do instrumento, desenvolvimento de instruções para os respondentes e teste de validade aparente e de conteúdo realizado entre os meses de dezembro de 2020 e março de 2021. Inicialmente, a escala foi dividida em três domínios, com dados sociodemográficos e clínicos, procedimento anestésico-cirúrgico e 10 parâmetros a serem avaliados: temperatura corpórea, frequência cardíaca, respiração, pressão arterial sistólica, saturação periférica de oxigênio, consciência, mobilidade, dor, náusea e vômito e ferida operatória. Cada um dos parâmetros tem o escore mínimo de um (1) e máximo de quatro (4); assim, o escore total pode variar de 10 a 40 pontos. A validação foi realizada com 10 juízes doutores e com experiência na área de Enfermagem Perioperatória. A análise foi realizada por meio dos Índices de Validade de Conteúdo, com questionário contendo cinco possíveis respostas (discordo totalmente; discordo; não discordo e não concordo; concordo; concordo totalmente), além sugestões de forma descritiva.* ***Resultados:*** *após validação dos juízes, a escala permaneceu com o terceiro domínio, com os 10 parâmetros a serem avaliados. A validação obteve a média global de 89%, e nenhum dos parâmetros avaliados apresentou Índice de Validade de Conteúdo inferior a 80%.* ***Conclusão:*** *a escala proposta é um instrumento confiável e válido para avaliação do paciente na Sala de Recuperação Pós-Anestésica.*

Palavras-chave: *Estudo de Validação; Enfermagem Perioperatória; Enfermagem em Pós-Anestésico; Complicações Pós-Operatórias.*

RESUMEN

Objetivo: *construir y validar el contenido y la validez aparente de una escala de evaluación de enfermería para pacientes en la Sala de Recuperación Postanestésica.* ***Método:*** *estudio metodológico, con etapas de definición del concepto a medir, formulación de los ítems del instrumento, desarrollo de instrucciones para los encuestados y la prueba de validez aparente y de contenido, realizado entre los meses de diciembre de 2020 y marzo de 2021. Inicialmente, la escala se dividió en tres ámbitos con datos sociodemográficos y clínicos, procedimiento anestésico-quirúrgico y diez parámetros a evaluar: temperatura corporal, frecuencia cardiaca, respiración, presión arterial sistólica, saturación periférica de oxígeno, consciencia, movilidad,*

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dolor, náuseas y vómitos y herida quirúrgica. Cada uno de los parámetros tiene una puntuación mínima de uno (1) y máxima de cuatro, por lo que la puntuación total puede variar de 10 a 40 puntos. La validación se realizó con diez jueces con doctorado y experiencia en el área de Enfermería Perioperatoria. El análisis se realizó utilizando el Índice de Validez de Contenido, con un cuestionario que contenía cinco posibles respuestas: totalmente en desacuerdo; en desacuerdo; no en desacuerdo y no de acuerdo; de acuerdo; totalmente de acuerdo; y sugerencias de forma descriptiva. ***Resultados:*** *tras la validación de los jueces, la escala quedó con el tercer dominio, con los diez parámetros a evaluar. La validación obtuvo una media global del 89% y ninguno de los parámetros evaluados tuvo un Índice de Validez del Contenido inferior al 80%.* ***Conclusión:*** *la escala propuesta es un instrumento fiable y válido para la evaluación de pacientes en la sala de recuperación Postanestésica.*

Palabras clave: *Estudio de Validación; Enfermería Perioperatoria; Enfermería Posanestésica; Complicaciones Posoperatorias.*

INTRODUCTION

The anesthetic recovery period is when the patient is most vulnerable and unstable due to the preoperative clinical conditions, anesthetic medications, the extent and type of surgery, and the length of stay in the Post-Anesthesia Recovery Room (PACR); thus, it requires constant assessment and assistance.[1,2] The Aldrete and Kroulik Scale (AKS) is the most widely used criterion for evaluating the postoperative patient today, and it assesses motor, respiratory and circulatory activity, state of consciousness, and oxygen saturation (SpO2).[3] In a systematic review to analyze the use of the AKS, the authors described the need to complement it with other systems to perform a more reliable postoperative assessment and, consequently, an adequate discharge without harm to the patient.[4]

A literature review showed that hypothermia, hypoxemia, pulmonary edema, apnea, tremors, nausea and vomiting, urinary retention, heart rhythm alterations, hypertension, hypotension, respiratory depression, bleeding, pain, and the surgical positioning itself are complications in the PACR and act as triggering factors for complications in the immediate postoperative period.[5]

Regarding validated, specific, and complete instruments to evaluate the patient during recovery from anesthesia, an integrative review of Brazilian literature found studies older than 15 years, most of which were based on the AKS. In the international literature, no study was found. Three studies from the last five years dealt with instruments that assess the patient in PACR as part of the Systematization of Perioperative Nursing Care (SPNC). In the specific part of the assessment of the patient in PACR, the AKS was applied to assess post-anesthesia conditions. One of these studies consists of an integrative review that sought to identify and analyze scientific articles describing the Systematization of Nursing Care (SNC) in PACR.[6] The next study sought to construct and validate the contents of an instrument for recording the SPNC in a teaching hospital in southern Brazil.[7] Lastly, the third study aimed to construct and validate the content of an instrument to support the teaching and learning of the Nursing process in PACR aimed at Nursing students.[8]

Since no complete and validated assessment tool for patients recovering from anesthesia was found in the literature, this study sought to develop such an instrument. Therefore, the question is: "which items should be part of an assessment tool for the patient in the PACR after the apparent and content validation?".

OBJECTIVE

To perform the construction, content, and apparent validation of a Nursing Evaluation Scale for the patient in the Post-Anesthesia Recovery Room.

METHODOLOGY

Study type

This is a methodological study. Methodological research aims to develop a valid and reliable instrument for a given type of assessment and is designed to produce methods for obtaining, organizing, and analyzing data.[9] Content validity refers to the degree to which the content of an instrument adequately reflects the construct being measured (i.e., it is the assessment of how representative a sample of items is of a defined universe or domain of the content).[10]

The steps followed in this study were defined according to the methodological framework recommended by Lobiondo-Wood and Haber, which contemplates: defining the concept or behavior to be measured, formulating the instrument's items, developing instructions for users and respondents, and testing the apparent and content validity.[11]

Content validity is the degree to which an instrument's content adequately reflects the measured construct. It also judges in what proportion the items selected to compose the instrument represent the relevant facets of the concept to be measured.[10,12]

Concept definition

Two integrative literature reviews were conducted to define the concept, focusing on post-anesthesia recovery and complications and patient assessment scales in the anesthetic recovery period. They were carried out in

July and August 2020. To build the variety of items, the researcher should initially define the construct of interest and its dimensions through a literature search and consultation with scholars in the area and representatives of the population of interest. Some authors have argued that this stage of instrument development should encompass three phases: domain identification, item formation, and instrument construction.[12] Hence, the concept to be measured was defined as the "Assessment of the patient in the post-anesthesia recovery room."

Instrument and instructions to respondents

The scale was named the Nursing Evaluation Scale for the Patient in the Post-Anesthesia Recovery Room (NESPPARR). The NESPPARR may be applied by Nursing team members and proposed upon arrival of the patient in the PACR, considered zero min, then every 15 min for the first hour, every 30 min for the second hour, and every hour after the third hour, and at discharge.

Initially, the NESPPARR was divided into three domains. The first domain related to sociodemographic and clinical data, the second to anesthetic-surgical procedure data, and the third domain was composed of 10 items to be assessed: body temperature, heart rate, respiration, systolic blood pressure, peripheral oxygen saturation (SpO2), consciousness, mobility, pain, nausea and vomiting, and surgical wound.

For each parameter of the scale, a score was proposed, which ranges from 1 to 4 points, where 1 indicates situations of greater severity, and 4 is the restored function. In this way, the total obtained by the patient can vary between 10 and 40 points. We decided that most of the references for the judges' instructions were basic books in Nursing. Notably, the bibliography was not composed of more recent books because there was a concern about the availability of these books in institutional or personal libraries.

In addition to the score obtained, the absolute values observed should also be noted for the parameters of body temperature, heart rate, respiration, systolic blood pressure, and peripheral oxygen saturation. Each parameter has its evaluation according to Table 1.

An evaluation questionnaire containing the three proposed domains was developed using a survey tool available online (survey software) called Google Forms (https://docs.google.com/forms/u/0/). After the presentation of each sub-item, the judges had five possible answers: totally disagrees, disagrees, does not disagree and does not agree, agrees, and totally agrees. For each item, the judge could also put their opinion in descriptive form after analyzing the set that made up each domain of the scale.

Judges selection

The Lattes Platform and members of the Brazilian Association of Surgical Center Nurses, Anesthetic Recovery and Material and Sterilization Center (SOBECC) associated in 2020 were used to select the judges. The contacts were made available after a formal request to the executive secretary of the SOBECC. The criteria for selection were: to be a nurse with a minimum degree of doctorate and with an area of knowledge of Perioperative Nursing. Fifty-six professionals were selected. The invitation was sent to all of them monthly between October and December 2020 by e-mail and three times. There was positive feedback from 10 professionals who participated as judges.

Data collection procedures

An e-mail was sent to the judges with an invitation letter containing the questionnaire link. Before accessing the questionnaire content to perform the apparent and content validation, each judge, as an indispensable condition, should read the informed consent form and give their positive opinion about participating in the study. Data collection was carried out between December 2020 and March 2021.

The preliminary part of the questionnaire sought information related to the characterization of the judges, including name, work institution, time of training and experience in the area, type of activity developed, information whether they had specialization in the Surgical Center and/or Anesthetic Recovery, e-mail, state and city of residence, and date of completion.

To perform the validity and content validity of NESPPARR, the judges evaluated the proposed items, checking whether they adequately represented the hypothetical universe of the object of this study, i.e., the assessment of the patient in PACR. Therefore, the judges received instructions about what each of the items/parameters was about before issuing the opinion.

The second round with the judges - although it strengthens the research evidence - is not a mandatory step. As presented by researchers in the psychometric field, the judges should analyze the domains and items created to interpret the questionnaire responses and, subsequently, the content. The judges should evaluate the scale for adequacy, consistency, and structure for the respondents.[11,12]

Table 1 - The parameters to be evaluated in the patient, scores assigned, and instructions referenced to the judges. Belo Horizonte - MG, 2021

Parameter/score	Instructions/references
Body temperature	The body temperature is classified as mild hypothermia between 32 and 35 ºC, moderate between 28 and 32 ºC, and severe below 28 ºC[13]
1	<28 °C or >37.8 °C
2	28-32 °C
3	32-35 °C
4	36-37.7 °C
Heart rate	A normal heart rate predicts heartbeats between 60 and 100 per minute. Values below 60 beats per minute (bpm) define the presence of bradycardia, and values above 100 bpm indicate the presence of tachycardia[14]
1	<50 bpm or >121 bpm
2	50-59 bpm
3	101-120 bpm
4	60-100 bpm
Ventilation	The normal respiratory rate is 12 to 22 respiratory incursions per minute (ripm). Values below 12 ripm define the presence of bradypnea, and values above 22 ripm, tachypnea. The amplitude of breathing is deep (hyperpnea) and shallow breathing or reduction (hypopnea). Dyspnea was defined as breathing difficulty, which can be characterized as the presence of noises or changes in breathing amplitude/time, and apnea as respiratory arrest[14]
1	Apnea
2	<10 bpm or >24 bpm and/or amplitude changes, with hyperpnea or hypopnea
3	10-11 or 23-24 ripm and/or mild or moderate amplitude changes, with hyperpnea or hypopnea
4	12-22 bpm, with no change in rhythm and amplitude
Systolic blood pressure	The parameters were based as presented by the Aldrete and Kroulik Scale
1	difference greater than 50% of the preoperative value
2	difference between 20-50% of the preoperative value
3	difference between 10-19% of the preoperative value
4	difference of less than 10% of the preoperative value
Peripheral oxygen saturation (SpO_2)	Parameters established according to the concept of hypoxemia and SpO_2 values[15]
1	<85%
2	86-90%
3	91-94% in ambient air or >91% with supplemental oxygen
4	>95% in ambient air
Consciousness	The parameters were based as presented by the Aldrete and Kroulik Scale[1]
1	unconscious
2	puzzled
3	sleepy, wakes up when asked
4	oriented as to time and space
Mobility	The parameters were based as presented by the Aldrete and Kroulik Scale[1]
1	does not move any limbs
2	moves two limbs (upper limbs)
3	moves three limbs (one upper and two lower) for for peripheral blocks
4	moves all four limbs

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Table 1 - The parameters to be evaluated in the patient, scores assigned, and instructions referenced to the judges. Belo Horizonte - MG, 2021

Parameter/score	Instructions/references
Pain	Definitions of the numeric pain scale[16]
1	severe pain (score between 7-10)
2	moderate pain (score between 4-6)
3	mild pain (score between 1-3)
4	no pain (score = 0)
Nausea/vomiting	Nausea evaluated by the patient's report and vomiting with the presence of the patient[1]
1	has severe nausea and/or vomiting
2	has vomiting
3	feels nauseated
4	no nausea and vomiting
Surgical wound (SW)	The characteristics and severity of surgical wounds[13] Covering of the FO or drain or natural orifice with bloody secretion:
1	fierce
2	moderate
3	lite
4	no bloody secretion

bpm: beats per minute; ripm: respiratory incursions per minute.

Afterward, a database was created with the information, and the content validity index (CVI) was calculated for each item and globally.

Statistical analysis

There is no specific statistical test to assess content validity. Thus, the most commonly used evaluation is made by a committee of experts qualitatively; later, a quantitative approach is made to the answers through the content validity index.[10] The judges' agreement on the measured aspects is metrically evaluated, starting from a minimum percentage of 80%; the values should preferably be higher than 90%.[10,12]

To build the database, an Excel spreadsheet was prepared. Statistical tests were performed using the R software (version 4.0.2). The judges' database was made up of 44 variables, 12 of which were for characterizing the individual, 16 for agreement with the questionnaire, and 16 questions with comments for each of the agreement questions. The judges analyzed the ability of the scale to measure what it proposes to measure (apparent validity), and the relevance of each item in the concept studied (content validity). The questions that dealt with the judges' agreement with the questionnaire were on a Likert scale, being: (0) totally disagree, (1) disagree, (2) neither disagree nor agree, (4) agree, and (5) totally agree.

The CVI was used to measure the percentage of judges who agreed with certain aspects of the instrument and its items. The index score was calculated by summing the agreement of the items marked by (4) agree or (5) totally agree, divided by the total number of responses.

Ethical aspects

This study followed the determinations of Resolution no. 466/2012 of the National Health Council. The research project was submitted and approved by the Research Ethics Committee of the *Universidade Federal de Minas Gerais* - UFMG. All participating judges signed the ICF.

RESULTS

The results are presented with the characterization of the judges and the apparent and content validation

Characterization of the judges

Regarding the characterization of the judges, the sample comprised 10 judges, all with doctoral degrees and experience in Perioperative Nursing (as per the inclusion criteria). They develop multiple activities, such as care, administration, teaching, and research activities.

There was the loss of one questionnaire from a judge who refused to participate in the research after reading the ICF. Most of the judges (7; 70.0%) had specialization in the operating room and/or anesthesia recovery and over 10 years of experience in the area. The average training time was 26 years, the shortest was nine years, and the longest was 42 years (standard deviation = 11.23 years). Of the judges, 6 reside in São Paulo, 1 in Belo Horizonte, 1 in Fortaleza, 1 in Porto Alegre, and 1 in Uberaba.

Apparent and content validation

Regarding the apparent and content validation, after suggestions from most judges (70.0%), the domains of patient identification and data related to the anesthetic-surgical procedure were excluded since these data are in the medical record. Table 2 lists other suggested changes and the presentation in NESPPARR after the accepted suggestions.

The version of the NESPPARR with the changes is presented in Appendix 1. No judge requested the inclusion of a complementary item; therefore, the second validation round was unnecessary. Notably, Appendix 1 presents the instructions to respondents, and one of them is the total points for discharge of the patient from the PACR, being above 38 points. For the statistical calculation of this cut-off point, concurrent and predictive validities were necessary, which are not addressed in this study. In order to estimate the cut-off point, linear regressions were performed for each of the total values. The quality of fit measures of sensitivity, specificity, and the area under the curve Receiver Operating Characteristic and the Area Under the Curve were evaluated.

Table 3 presents the descriptive analysis of the agreement questions and the corresponding CVI. One can observe that the questions with the highest validation index were pain and nausea/vomiting, with CVI equal to 100.0%. The lowest CVI items (80.0%) were heart rate, ventilation, and surgical wound, and the overall CVI was 89.0%.

DISCUSSION

Instruments with good psychometric qualities can positively influence decisions about care, treatment, and health interventions, bringing more security to the patient. This is because they favor the recognition of avoidable risk situations, optimizing the development of care plans, educational actions, professional valorization, and reducing the burden of healthcare inequities.[8,18]

The recommendations are that content validation should be performed by a committee of between 5 and 10 judges, who should verify if the content is appropriate for the respondents and if the instrument's structure is adequate. In addition, they should verify the representativeness of the content in general and, subsequently, on each item separately.[7,12]

After the judges' validation, the third domain remained, which referred to the 10 parameters to be evaluated, of which some changes were suggested and accepted. One of the suggestions was to include warming the patient with devices when the body temperature is below 36°C, characterizing hypothermia.[13] In the parameter of peripheral oxygen saturation with scores of 1 and 2, the inclusion was accepted if the patient is in ambient air or using supplemental oxygen, according to the recommended parameters.[1,15] In the surgical wound item, the judges suggested that the Bates-Jensen scale for exudate be used, changing the term "secretion" to "exudate," according to the recommended bibliography,[17] which was accepted.

The proposed scale obtained an overall CVI of 89.0%. Authors recommend CVI starting at a minimum percentage of 80.0%, with values preferably above 90%.[10,12] In literature, there is evidence that the CVI should not be less than 78%,[12] and this was the value adopted in developing and validating a measurement instrument on Nursing care for patients in intensive care units.[19]

The results of recent studies pointed out that the patient's complications in the PACR are common, although the interventions - especially Nursing ones - are partially performed, being, in part, attributed to the lack of instruments that allow the early identification of these alterations.[5,20,21] The validation of a practical and systematized data collection tool, based on international guidelines and the analysis of the inter-rater agreement, contributes to the effectiveness of training in basic and advanced life support for the Nursing team.[22]

Currently, the most commonly used scale to assess the patient in PACR is the AKS, which evaluates respiration, circulation (through arterial pressure), consciousness, muscle activity for muscle relaxants and regional anesthesia, and peripheral oxygen saturation - the latter since 1994. Although it is the most widely used, the AKS does not assess parameters such as body temperature, pain, nausea, and vomiting, which are frequent alterations and discomforts in the patient in the recovery period from anesthesia.[1,4,5,16]

It is also emphasized that the urinary elimination parameter must be monitored in PACR, especially in major surgeries, abdominal or pelvic surgeries, and

Table 2 - Suggested changes of the judges in NESPPARRd (draft version), Belo Horizonte (MG), Brazil, 2021

Change suggested by the judges	Presentation at NESPPARR after suggestions
Change temperature values for coverage in the range between 35 and 36 °C	Score 3: axillary temperature between 32-35.9 °C
Specify whether or not scores 1 and 2 are with the use of supplemental oxygen	Score 1: peripheral oxygen saturation <85% in ambient air or when using supplemental oxygen Score 2: peripheral oxygen saturation between 86–90% in ambient air or when using supplemental oxygen
Include the term "agreed" when it receives a score of 4, consciously	Score 4: the patient is awake and oriented in time and space
Include lower limbs in the mobility assessment when receiving a score of 2	Score 2: moves two limbs (upper or lower limbs)
Include in the mobility femoral blocks in the evaluation when receiving a score of 3	Score 3: moves three limbs (one upper and two lower or two upper and one lower) for peripheral blocks
Evaluate according to Bates-Jensen grading for exudate,[17] for assessment of the surgical wound, change the term secretion to exudate	Score 1: coverage of surgical wound or drain or natural orifice with heavy blood exudate (drainage involves >75% of the dressing) Score 2: cover surgical wound or drain or natural orifice with moderate bloody exudate (drainage involves less than 25-75% of the dressing) Score 3: cover surgical wound or drain or natural orifice with mild bloody exudate (drainage involves <25% of the dressing) Score 4: surgical wound cover or drain or natural orifice without bloody exudate

NESPPARR: Nursing Evaluation Scale for the Patient in the Post-Anesthesia Recovery Room (draft version)

Table 3 - Descriptive analysis and content validity index of the questions evaluated by the judges. Belo Horizonte (MG), 2021

Questions		N	%	CVI[1]
Body temperature	I agree	4	40.0	90
	Totally agree	5	50.0	
	I disagree	1	10.0	
Heart rate	I agree	4	40.0	80
	Totally agree	4	40.0	
	I disagree	1	10.0	
	I do not disagree and do not agree	1	10.0	
Ventilation	I agree	3	30.0	80
	Totally agree	5	50.0	
	I disagree	1	10.0	
	Totally disagree	1	10.0	
Systolic blood pressure	I agree	5	50.0	90
	Totally agree	4	40.0	
	I disagree	1	10.0	
Peripheral oxygen saturation	I agree	5	60.0	90
	Totally agree	4	30.0	
	I disagree	1	10.0	
Conciousness	I agree	6	60.0	90
	Totally agree	3	30.0	
	I disagree	1	10.0	
Mobility	I agree	5	50.0	90
	Totally agree	4	40.0	
	I disagree	1	10.0	

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Table 3 - Descriptive analysis and content validity index of the questions evaluated by the judges. Belo Horizonte (MG), 2021

Questions		N	%	CVI[1]
Pain	I agree	5	50.0	100
	Totally agree	5	50.0	
Nausea/vomiting	I agree	4	40.0	100
	Totally agree	6	60.0	
Surgical wound	I agree	4	40.0	80
	Totally agree	4	40.0	
	I disagree	2	20.0	
Global	I agree	45	45.0	89
	Totally agree	44	44.0	
	I do not disagree and do not agree	1	1.0	
	I disagree	9	9.0	
	Totally disagree	1	1.0	

[1]Content Validity Index

those in which the patient received regional anesthesia. All these conditions can alter urinary elimination.[20,21] As for the surgical wound, including or not the presence of drains, the monitoring of the amount of exudate is a necessary parameter to evaluate patients in PACR.[17]

This study was limited in relation to the gap in the research literature with a validated scale for assessing the patient in the PACR. As a limiting factor, we also considered the non-occurrence of the second round of assessment by the judges after modifications suggested by them - although it is not mandatory in the validation process. Another factor that is not a limitation - because it met what the literature suggests - but that we can consider, is the number of professionals who agreed to be judges: of 56 invited, 10 agreed to participate.

CONCLUSION

This study concluded that the apparent and content validity of the NESPPARR was performed by 10 judges, with an overall CVI of 89.0%, with none of the items having a CVI value of below 80.0%. The NESPPARR is a scale that contemplates the parameters presented in the patient's evaluation in this study. This assessment is developed by nurses and will contribute to Nursing care provided to patients during anesthetic recovery. The contribution also extends to the area of Nursing education, in which, by applying the scale, the student will be able to deepen the patient's complications. Furthermore, there are contributions in the area of research since the data recorded may provide new studies of the complications presented and the interventions to be instituted.

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APPENDIX 1 - NURSING ASSESSMENT SCALE OF THE PATIENT IN THE POST-ANESTHESIA RECOVERY ROOM

Name					Record				Date	
Time / Parameters	0	15	30	45	60	90	120	180	240	Discharge Time:
1. Body temperature	Score: Value:	Score: Value:	Score: Value:	Score: Value:	Score: Value:	Score: Value:	Score: Value:	Score: Value:	Score: Value:	Score: Value:
2. Heart rate	Score: Value:	Score: Value:	Score: Value:	Score: Value:	Score: Value:	Score: Value:	Score: Value:	Score: Value:	Score: Value:	Score: Value:
3. Ventilation	Score: Value:	Score: Value:	Score: Value:	Score: Value:	Score: Value:	Score: Value:	Score: Value:	Score: Value:	Score: Value:	Score: Value:
4. Systolic blood pressure	Score: Value:	Score: Value:	Score: Value:	Score: Value:	Score: Value:	Score: Value:	Score: Value:	Score: Value:	Score: Value:	Score: Value:
5. Peripheral oxygen saturation	Score: Value:	Score: Value:	Score: Value:	Score: Value:	Score: Value:	Score: Value:	Score: Value:	Score: Value:	Score: Value:	Score: Value:
6. Consciousness	Score: Value:	Score: Value:	Score: Value:	Score: Value:	Score: Value:	Score: Value:	Score: Value:	Score: Value:	Score: Value:	Score: Value:
7. Mobility	Score: Value:	Score: Value:	Score: Value:	Score: Value:	Score: Value:	Score: Value:	Score: Value:	Score: Value:	Score: Value:	Score: Value:
8. Pain	Score: Value:	Score: Value:	Score: Value:	Score: Value:	Score: Value:	Score: Value:	Score: Value:	Score: Value:	Score: Value:	Score: Value:
9. Nausea/vomiting	Score:	Score:	Score:	Score:	Score:	Score:	Score:	Score:	Score:	Score:
10. Surgical wound	Score:	Score:	Score:	Score:	Score:	Score:	Score:	Score:	Score:	Score:
TOTAL										
Other complications:										

Guidelines for respondents

Members of the Nursing team may perform the application of NESPPARR. It must occur when the patient enters the PACR, every 15 min during the first hour, every 30 min during the second hour, and every hour after the third hour. As discharge criteria, the patient must meet the following three recommendations: score above 38 points in total; minimum stay of 60 min; no score below two points in any parameter. When applicable, the score fields must be filled according to the categorical determination specified below and the value field, with the absolute value of the parameter.

Notes	Parameters	
	Body temperature	**Consciousness**
1	<28 °C or >37.8 °C	unconscious
2	28-32 °C	confused
3	32.1-35.9 °C	sleepy, waking up when requested
4	36-37.7 °C	awake, oriented in time and space
	Heart rate	**Mobility**
1	<50 or >121 bpm	does not move any limbs
2	50-59 bpm	moves two limbs (upper or lower limbs)
3	101-120 bpm	moves three limbs (one upper and two lower or two upper and one lower) for peripheral blocks
4	60-100 bpm	moves all four limbs (upper and lower limbs)

Continue...

...continuation

APPENDIX 1 - NURSING ASSESSMENT SCALE OF THE PATIENT IN THE POST-ANESTHESIA RECOVERY ROOM

Notes	Parameters	
	Ventilation	**Pain**
1	apnea	severe pain (score between 7-10)
2	<10 bpm or >24 bpm, and/or changes in the amplitude of breathing, being deep (hyperpnea) and shallow breathing or reduction (hypopnea)	moderate pain (score between 4-6)
3	ripm between 10-11 or 23-24 ripm and/or mild or moderate changes in the amplitude of breathing, being deep (hyperpnea) and shallow breathing or reduction (hypopnea)	mild pain (score between 1-3)
4	ripm between 12-22, no change in rhythm and amplitude	no pain (score=0)
	Systolic blood pressure	**Nausea/vomiting**
1	difference greater than 50% of the preoperative value	nausea and/or intense vomiting
2	difference between 20-50% of the value recorded preoperatively	vomit
3	difference between 10-19% of the preoperative recorded value	nausea
4	difference of less than 10% of the preoperative value	no nausea and vomiting
	Peripheral oxygen saturation	**Surgical Wound**
1	less than 85% in ambient air or when using supplemental oxygen	coverage of the surgical wound or drain or natural orifice with heavy blood exudate (drainage involves more than 75% of the dressing)
2	between 86-90% in room air or when using supplemental oxygen	moderate surgical wound cover or drain or natural orifice with moderate bloody exudate (drainage involves less than 25-75% image of the dressing)
3	between 91-94% in ambient air, or above 91% with supplemental oxygen	surgical wound cover or drain or natural orifice with light bloody exudate (drainage involves less than 25% of the dressing)
4	greater than 95% in ambient air	surgical wound cover or drain or natural orifice without bloody exudate