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Content validity of an instrument for assessing skin lesions in a mother and child hospital

Validade de conteúdo de instrumento para avaliação de lesões de pele em um hospital materno-infantil

Validez de contenido de un instrumento para evaluar lesiones cutáneas en un hospital materno infantil

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Abstract

Objective: To describe the process of validating an instrument for assessing skin lesions in a maternal and child hospital. **Methods:** A methodological study of evidence of content validity was carried out between May and July 2022 in a mother and child service. The selection criteria for the experts were: being a nurse working in research or assisting patients with skin lesions. The instrument was sent by email via Google® forms, containing 23 items grouped into five topics on patient identification and hospitalization data, location and characterization of the lesions, and nursing care provided. The items were judged in terms of agreement using the Likert scale; qualitative evaluation of the instrument was also allowed, by including suggestions for the items presented. **Results:** Validation was carried out by 22 nurses using the Delphi technique, followed by reliability tests. All the items assessed obtained a level of agreement above 80%. Based on the score for each item, new tests were carried out to assess agreement with the instrument as a whole, resulting in the validation of its final version. **Conclusion:** The methodological validation process applied showed a high level of agreement, representing a cohesive instrument in the theoretical approach to skin lesions in the profile studied, which will enable it to be applied in the service, and perhaps has the potential to inspire other health services in similar contexts.

Descriptors: Maternal-Child Nursing; Enterostomal Therapy; Nursing Assessment; Wounds and Injuries; Validation Study.

Whats is already known on this?
There is a shortage of studies and validated instruments that can guide the creation and implementation of safe nursing care related to skin lesions aimed at the maternal and child public.

What this study adds?
The methodological process of content validity applied showed a high rate of agreement, contributing to the instrumentalization and direction of nursing management regarding skin care and health in the service, and in the maternal and child context.

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Resumo

Objetivo: *Descrever o processo de validação de um instrumento para a avaliação de lesões de pele em um hospital materno-infantil.* ***Métodos:*** *Estudo metodológico de evidências de validade de conteúdo desenvolvido de maio a julho de 2022, em um serviço materno-infantil. Os critérios de seleção dos peritos foram: ser enfermeiro atuante em pesquisa ou assistência aos pacientes com lesões de pele. O instrumento foi enviado por e-mail via Google® formulários, contendo 23 itens agrupados em cinco tópicos sobre dados de identificação e internação do paciente, localização e caracterização das lesões, e cuidados de Enfermagem realizados. Os itens foram julgados quanto à concordância pela escala de Likert; sendo permitida também, a avaliação qualitativa do instrumento, pela inclusão de sugestões dos itens apresentados.* ***Resultados:*** *A validação foi realizada por 22 enfermeiros, com aplicação da Técnica Delphi, seguida dos testes de confiabilidade. Todos os itens avaliados obtiveram nível de concordância acima de 80%. A partir da pontuação de cada item, foram equacionados novos testes de avaliação de concordância em relação à totalidade do instrumento, resultando na validação da sua versão final.* ***Conclusão:*** *O processo metodológico de validação aplicado apresentou elevado índice de concordância, representando um instrumento coeso na abordagem teórica referente às lesões de pele no perfil estudado, o que possibilitará sua aplicação no serviço, e quiçá tenha o potencial de inspirar outros serviços de saúde em contextos semelhantes.*

Descritores: *Enfermagem Materno-Infantil; Estomaterapia; Avaliação em Enfermagem; Ferimentos e Lesões; Estudo de Validação.*

Resumén

Objetivo: *Describir el proceso de validación de un instrumento para la evaluación de lesiones cutáneas en un hospital materno infantil.* ***Métodos:*** *Estudio metodológico de evidencias de validez de contenido desarrollado de mayo a julio de 2022, en un servicio materno infantil. Los criterios para seleccionar a los expertos fueron: ser enfermero trabajando en investigaciones o asistiendo a pacientes con lesiones cutáneas. El instrumento fue enviado por correo electrónico a través de formularios de Google®, con 23 ítems agrupados en cinco temas sobre identificación del paciente y datos de hospitalización, localización y caracterización de las lesiones y cuidados de Enfermería realizados. Se evaluó la concordancia de los ítems utilizando la escala Likert; También se permite la evaluación cualitativa del instrumento, incluyendo sugerencias para los ítems presentados.* ***Resultados:*** *La validación fue realizada por 22 enfermeros, mediante la Técnica Delphi, seguida de pruebas de confiabilidad. Todos los ítems evaluados tuvieron un nivel de acuerdo superior al 80%. A partir de la puntuación de cada ítem se desarrollaron nuevas pruebas para evaluar la concordancia en relación a todo el instrumento, dando como resultado la validación de su versión final.* ***Conclusión:*** *El proceso de validación metodológica aplicado mostró un alto nivel de acuerdo, representando un instrumento cohesivo en el abordaje teórico sobre las lesiones cutáneas en el perfil estudiado, lo que posibilitará su aplicación en el servicio, y tal vez tenga el potencial de inspirar a otros servicios de salud en contextos similares.*

Descriptores: *Enfermería Maternoinfantil; Estomaterapia; Evaluación en Enfermería; Heridas y Lesiones; Estudio de Validación.*

INTRODUCTION

Complications related to skin lesions have a multifactorial etiology.[1] When it comes to the maternal-infant binomial, they are usually the result of exposure to procedures and devices resulting from hospitalization in neonates,[2] such as punctures, ventilatory support, and various probes;[3] and puerperal infectious processes, which contribute to an increase in the morbidity and mortality rate.[4] In a hospital environment aimed at the maternal-infant population, Pressure Injuries (PI) are predominant.

In a hospital environment geared towards maternal and child patients, pressure injuries (PI) related to medical devices, PI itself, umbilical stump injuries, diaper dermatitis, and surgical wound injuries predominate.[5] In this context, the nursing professional has a fundamental role to play by planning and implementing measures to minimize risk factors for skin health, as well as keeping up to date on the subject, with a view to reducing patient suffering and length of stay, as well as institutional costs.[6] The use of specific instruments is therefore essential.

To this end, the use of specific, validated, and standardized instruments in health services directs nursing care toward the characterization of injuries and the planning of more effective and unique actions.[1] The instruments used to assess wounds allow for a variety of approaches, some of which are specific to the assessment of certain pathologies, while others are general. They also serve other purposes, such as predicting the wound's risk factor, assessing wound healing, and evaluating the quality of life of patients with chronic wounds.[7]

Given the peculiarities of maintaining the health of the skin of the public in question, this study is justified with the aim of describing the process of validating an instrument for assessing skin lesions in a mother and child hospital.

METHODS

This is a methodological study of content validity,[8] part of the project "Construction and validation of an instrument for assessing skin lesions in a maternal and child hospital", which previously consisted of two stages. The first characterized the demographic and clinical profile, as well as the nursing care provided to patients with skin lesions admitted to the service where this study took place;[5] and the second

described the construction of an instrument for assessing skin lesions aimed at the target audience (mother and child).[9]

From this perspective, the purpose of this article is to describe the process of validating an instrument for assessing skin lesions in a mother and child hospital, which is the third stage of the research project. It is therefore an instrument aimed at observing and assessing clinical characteristics, risk factors, and complications, monitoring the healing process, and, finally, guiding the care needed to manage the lesion, whether preventative or therapeutic.

The research was carried out in a reference maternal and child hospital located in the municipality of Petrolina, Pernambuco, between May and July 2022. The service specializes in high-risk care, Maternity, Gynaecology, Nursery, Kangaroo Care, and Paediatrics, as well as the Children's Emergency Room, Obstetric Triage, Paediatric Intensive Care Unit (ICU) and Maternal ICU. It provides a total of 255 beds, 10 of which are pediatric ICU beds and another 10 maternal ICU beds, covering 55 municipalities in the hinterland of Pernambuco and Bahia.[5]

The invitation to participate as an expert was sent to 77 nurses, following the inclusion criteria of having specialist, master's, and/or doctoral degrees; who had carried out research or worked in the care of patients with skin lesions; with an e-mail address registered on their Lattes CV; and who agreed to take part in the research by signing the Free and Informed Consent Form. Professionals who did not return the completed questionnaire to the researcher within 30 days of receiving it via e-mail were excluded. The sample was non-probabilistic and consisted of 22 participants.

The variables used relate to 1) patient identification data, 2) patient hospitalization data, 3) characterization of skin lesions, 4) nursing care provided, and 5) location of the skin lesion. The selection of the variables to be validated was based on information from the previous stages of the research project carried out at the service.[5,9]

Data was collected using a Google Forms® tool, containing 23 items grouped into five topics. Below each topic, the items for judgment were described, allowing the evaluator to add comments and suggestions in the space provided. The judgment criteria used, based on the literature on the subject, were pertinence, clarity, objectivity, precision, vocabulary, and comprehensiveness related to the topic. A Likert scale was used to describe the judgment, made up of five agreement scores: 1 (strongly agree); 2 (partially agree); 3 (neither agree nor disagree); 4 (partially disagree), and 5 (strongly disagree), in order to make improvements and/or alterations to the items.(10)

The experts were invited by e-mail, containing the invitation letter, the FICT, and the form, which had to be returned within 30 calendar days of receipt of the material. The data collected was tabulated by double entry in a Microsoft Office Excel® 2013 spreadsheet, with restricted access to the research team, and then analyzed using Stata version 14.0 statistical software, with the results presented in tables.

The content validation strategy used was the Delphi Technique, which consists of judging the instrument, where experts are allowed to analyze and discuss the items contained in each topic.(11) The Content Validity Index (CVI) was used to analyze the content validation of the instrument, which measures the proportion or percentage of experts who agree on certain aspects of the instrument and its items.

The calculation of the CVI is based on three mathematical equations described below:

- The first is the Content Validity Index for Items (I-CVI), which measures the validity of the content of the items analyzed individually, which is classified as valid when all the experts approve more than 80% (0.80) of its items, this being the minimum value accepted as a criterion for deciding whether or not to keep the item evaluated.[12] The I-CVI is calculated by dividing the total number of experts who gave a score of 100% [1], i.e. who fully agree with the item evaluated, by the total number of experts who evaluated the instrument.[13] The second is the Scale-Level Content Validity Index/Ave (S-CVI/AVE).
- The second is the Scale-Level Content Validity Index/Ave (S-CVI/AVE), which is the average of the Content Validation Indices for all the indices in the scale. It is calculated by adding the S-CVI divided by the total number of items in the instrument.[12]
- The third is the Scale-Level Content Validity Index/UA (S-CVI/UA), which measures the proportion of items in a scale that achieve "really relevant" and "very relevant" scores by all the experts. It is calculated by adding up the items that obtained 100% agreement by the experts, divided by the total number of items in the instrument.[14]

The Interrater Agreement (IRA) evaluates the proportion of agreement between the evaluators by the total number of items in the instrument. To calculate it, the number of items that obtained a score above

80% (0.8) of agreement between the evaluators was divided by the total number of items in the instrument.[12]

The research was approved by the Research Ethics Committee of the University of Pernambuco, Pro-Rectory of Postgraduate Studies, Research and Innovation, under opinion no. 5.177.803, on December 19, 2021.

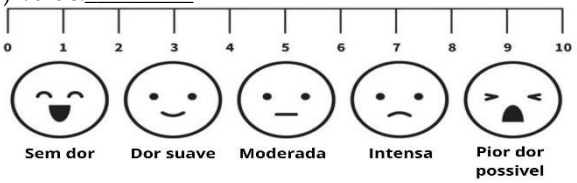
RESULTS

Twenty-two respondents took part in this study, eight of whom were stomatherapist nurses and 14 nurses who had a residency in maternal and child health. In order to better understand the results, we chose to present the instrument evaluated by separating the items into tables, according to data on patient identification and hospitalization (Figure 1); characterization of skin lesions (Figure 2); nursing care provided, and location of the skin lesion (Figure 3).

The form contained 23 items grouped into five topics. All the items were evaluated by the experts and a level of agreement was obtained for the I-CVI of over 80%, with a minimum value of 0.80 and a maximum of 1. A round of validation was therefore carried out, given that the suggestions for changes were minimal and did not invalidate the material previously evaluated.

Figure 1 shows the agreement of the experts on the topics relating to patient identification and hospitalization data; in item 1, the I-CVI was 82%, and it was necessary to add the sub-items age, gestational age, allergies and space for describing the information collected, as requested by the experts.

Figure 1. Experts' agreement with the items related to patient identification and hospitalization that make up the skin lesion assessment tool, based on the application of the I-CVI test. Petrolina (PE), Brazil, 2022.

<table>
<tr><th>Item</th><th>Description</th><th>I-CVI</th></tr>
<tr><td colspan="3">PATIENT IDENTIFICATION DATA</td></tr>
<tr><td>1</td><td>Name:_____
Sex: 1-Female ( ) 0-Male ( ) Birth date: ___/___/___
Age:_____Gestational age:_____ 1-Not applicable ( ) 2-Describe: _____
Allergies: 0-No ( ) 1-Yes ( ), which: _____</td><td>0.82</td></tr>
<tr><td>2</td><td>Bed: _____ Record no.: _____
Origin: 1-Home ( ) 2-Hospital ( ) 3-Other ( ). Which: _____</td><td>0.91</td></tr>
<tr><td colspan="3">PATIENT ADMISSION DATA</td></tr>
<tr><td>3</td><td>Hospitalization sector: _____
Date of admission to the sector: ___/___/____
Length of stay in the sector (in days): _____
Type of discharge: 1-Death ( ) 2-Transfer to another sector ( ). Which: _____
3-For clinical improvement ( ) 4-No prognosis ( ) 5-Evasion ( )
6-Discharge on request ( ) 7-External transfer ( )</td><td>0.86</td></tr>
<tr><td>4</td><td>Organic system involved: 1-Neurological ( ) 2-Gastrointestinal ( )
3-Spiratory ( ) 4-Cardiological ( ) 5-Musculoskeletal ( ) 6-Genitourinary ( )
7-Tegumentary ( ) 8-Other ( ). Qual: _____
Therapeutic approach: 1-Clinical ( ) 0-Surgical ( )
Diagnostic hypothesis: _____</td><td>1.00</td></tr>
<tr><td>5</td><td>Vital Signs: 1-*BP: _____ x _____ mmHg 2- †T: _____ °C 3-‡RR: _____ irpm 4-§HR: _____ bpm
5-||P: _____ bpm 6-¶SpO2: _____% 7-**HGT:_____ mg/dl
Pain: 0-No ( ) 1-Yes ( ) Value:_____
 

Pain faces scale. Google Images, 2022.
<table><tr><th>Indicator</th><th>0 points</th><th>1 point</th><th>2 points</th></tr><tr><td>Facial expression</td><td>Relaxed</td><td>Contracted</td><td>-</td></tr><tr><td>Crying</td><td>Absent</td><td>Grumbling</td><td>Vigorous</td></tr><tr><td>Breathing</td><td>Regular</td><td>Different from baseline</td><td>-</td></tr><tr><td>Arms</td><td>Relaxed</td><td>Flexed/extended</td><td>-</td></tr><tr><td>Legs</td><td>Relaxed</td><td>Flexed/extended</td><td>-</td></tr><tr><td>Alertness</td><td>Sleeping and/or calm</td><td>Agitated and/or irritated</td><td>-</td></tr></table>Pain classification: 0 - No pain, 1 to 2 - Weak pain, 3 to 5 - Moderate pain, 6 to 7 - Severe pain.</td><td>0.95</td></tr>
</table>

	††NIPS scale. Google Images, 2022.	

*BP = Blood Pressure; †T = Temperature; ‡RR = Respiratory Rate; §HR = Heart Rate; ||P = Pulse; ¶SpO_2 = Oxygen Saturation; **HGT = Hemoglycotest;††NIPS = Neonatal Infant Pain Scale.
Source: Elaborated by the Authors. (2022).

Although it had an I-CVI of 91%, information on the condition of the patients' transport was excluded from item 2, as they were hospitalized. In item 3 of the instrument (I-CVI 86%), terms related to the type of discharge were added.

Item 4 obtained an I-CVI of 100%, the term "medical diagnosis" was changed to "diagnostic hypothesis" and sub-items were added. Item 5 obtained an I-CVI of 95%, with the experts requesting the addition of data related to Oxygen Saturation (SpO_2), Hemoglucotest (HGT), and changing the pain assessment from a numerical scale to a pain faces scale and Neonatal Infant Pain Scale (NIPS). All requests were accepted.

As for the experts' agreement with the third topic on the characterization of skin lesions (Figure 2), item 6 had an I-CVI of 95%, and improvements were suggested with changes to sub-items and the addition of sub-items on the etiological characteristic, recurrence and time of lesion involvement.

Figure 2. Experts' agreement with the items related to the characterization of skin lesions, which make up the skin lesion assessment tool, based on the application of the I-CVI test. Petrolina (PE), Brazil, 2022.

Item	Description	I-CVI
	CHARACTERIZATION OF SKIN LESIONS	
6	**Time:** 1-Acute / up to 6 months ( ) 2-Chronic / more than 6 months ( ) Relapses 0-No ( ) 1-Yes ( ) Time: _____ **Etiology**: 1-Surgical ( ) 2-Traumatic ( ) 3-Neoplastic ( ) 4-Pressure Injury ( ) 5-Venous ( ) 6-Arterial ( ) 7-Burn ( ) 8-Dermatitis ( ) 9-Skin tear ( ) 10-Other ( ), which**:** _____ **Details:** _____	0.95
7	**Measurement (cm)**: Length _____, Width ____, Depth _____ Lesion classification: _____ **Microbial aspect**: 1-Clean ( ) 2-Contaminated ( ) 3-Colonized ( ) 4-Infected ( ) 5-Suspicion of biofilm ( )	0.91
8	**Bed:** 1-Granulation tissue ( ) 2-Wet necrosis (sphacelated/liquefactive) ( ) 3-Dry necrosis (coagulative) ( ) 4-Scar ( ) 5-Hypergranulation ( ) 6-Friable ( ) 6-With fistula/tunnel ( ) 7-Other ( ) Which: _____	0.86
9	**Margin / Edge:** 1-Intact ( ) 2-Decollected ( ) 3-Hyperemic ( ) 4-Macerated ( ) 5-With necrosis ( ) 6-Resected ( ) 7-Decamatous ( ) 8-Regular ( ) 9-Irregular ( ) 10- Pruriginous ( ) 11-Hyperkeratosis ( ) 12-Epipbole ( ) 13-Edematous ( ) 14-Other ( ) Which: _____	0.95
10	**Perilesional skin:** Perilesional skin: 1-Intact ( ) 2-Resected ( ) 3-Hyperemic ( ) 4-Edematous ( ) 5-Hot ( ) 6-Flaking ( ) 7-Macerated ( ) 8-Fibrotic ( ) 9-Ischemic ( ) 10-Hematoma ( ) 10-Other ( ) Which: _____	1.00
11	**Exudate quantity:** 1-Dry ( ) 2- Moist ( ) 3-Wet ( ) 4-Saturated ( ) 5-Leaking ( ) 6-Other ( ), which: _____ Exudate appearance: 1-Serous ( ) 2-Bloody ( ) 3-Bloody ( ) 4-Purulent ( ) 5-Bloody ( ) 6-Seropurulent ( ) 6-Other ( ) Which: _____	0.95

Source: Elaborated by the authors (2022).

Item 7 obtained an I-CVI of 91%, with the inclusion of the sub-item "classification of the lesion" plus the space for the insertion of the classification; and the experts' suggestion of the insertion of the sub-item "suspicion of biofilm" related to the microbial aspect of the lesions.

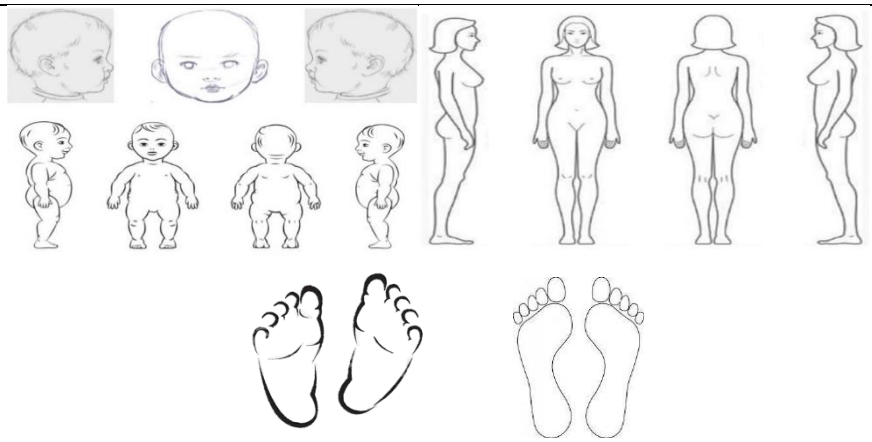
With regard to item 8, it had the lowest I-CVI (86%), and the suggestions regarding the insertion of the following terms relating to the tissue assessment of the lesions were accepted: granulation tissue; wet necrosis (sphacelated/liquefactive); dry necrosis (coagulative); eschar; hypergranulation; and friable.

In item 9 (I-CVI 95%), suggestions relating to the assessment of the wound margin/edge were accepted, with the term "hyperbola" being changed to "epibole", and the term "edematous" being added to the instrument's variable options. Although item 10 had an I-CVI of 100%, the insertion of the terms "ischemic" and "hematoma" in relation to the assessment of the perilesional skin were suggested and

accepted. With regard to item 11 (I-CVI 95%), the terms referring to the appearance and quantity of exudate were altered and added at the request of the experts.

Regarding the experts' agreement with the fourth topic on the nursing care provided and the location of the skin lesion (Figure 3), item 12 obtained 95% I-CVI, with the request to change the sub-items "cleaning" to "cleaning the lesion"; and the inclusion of the terms "occlusive" and "negative pressure therapy" related to the dressing technique used.

Figure 3. Experts' agreement in relation to the items referring to the nursing care provided and the location of skin lesions, which make up the skin lesion assessment tool, based on the application of the I-CVI test. Petrolina (PE), Brazil, 2022.

Item	Description	I-CVI
	NURSING CARE PROVIDED	
12	**Procedure performed:** 1-Hygienization ( ) 2-Curative ( ) 3-Debridement ( ) 4-Other ( ) Which: _____ **Dressing technique:** 1-Occlusive ( ) 2-Compressive ( ) 3-Negative pressure therapy ( ) 4-Other ( ) Which: _____	0.95
13	**Wound hygiene:** 1-*PS 0.9% ( ) 2-Chlorexidine, concentration _____ ( ) 3-Solution with †PHMB ( ) 4-Other ( ) Which: _____	1.00
14	**Debridement performed:** 0-No ( ) 1-Yes ( ) If yes, type: 1-Surgical ( ) 2-Mechanical ( ) 3-Enzymatic ( ) 4-Autolytic ( ) 5-Conservative instrumental ( )	1.00
15	**TType of dressing used:** 1-Simple: with *PS 0.9% + gauze/cloth ( ) 2-Special: use of technologies ( )	0.95
16	Use of antimicrobial cover: 1-No ( ) 0-Yes ( )	1.00
17	**If yes, which antimicrobial is present in the coating:** 1-Iodine ( ) 2-Silver( ) 3-†PHMB ( ) 4-‡DACC ( ) 5-Other ( ) Which:_____	1.00
18	**Presentation of the special cover used:** 1- §EFA ( ) 2-Hydrocolloid ( ) 3-Hydrogel ( ) 4-Alginate ( ) 5-Foam ( ) 6-Non-adherent ( ) 7-Collagenase ( ) 8-Silver sulfadiazine ( ) 9-Activated charcoal ( ) 11-Papain ( ) 10-Other ( ) Which: _____ **Details:** _____	1.00
19	**Use of adjuvants:** 1-No ( ) 0-Yes ( ) If yes, which: 1-Barrier cream ( ) 2-Barrier spray ( ) 3-Hydrating cream ( ) 4- Hydrocolloid powder/paste ( ) 5-Other ( ) Which: _____	0.91
20	**Dressing change:** 1-Complete ( ) 2-Secondary ( ) Change frequency: 1-every 12h ( ) 2-every 24h ( ) 3-every 48h 4-every 72h ( ) 5-Other ( ) Which: _____	0.95
21	**Use of support measures:** 1-No ( ) 0-Yes ( ) If yes, which: 1-Dynamic ( ) 2-Static ( ) **Type:** 1-Pneumatic mattress/continuous airflow ( ) 2-Cushion ( ) 3-Special preventive covers ( ) 4-Other ( ) Which: _____	1.00
22	**Other relevant information:** _____	0.91
	LOCATION OF THE SKIN LESION	
23	 Anatomical positions. Google Images, 2022.	1.00

*PS= Physiological Serum; †PHMB= Polyhexamethylene Biguanide; ‡DACC= Dialkyl Carbamoyl Chloride; §EFA= Essential Fatty Acids.

Source: Elaborated by the authors (2022).

With regard to item 13, despite achieving an I-CVI of 100%, the experts asked for the term "cleaning" to be changed to "sanitizing"; and for a space to be added for the concentration to be entered when using chlorhexidine solution.

Item 15 of the instrument obtained an I-CVI of 95%, with the suggestion of including the term "compress" in cases of simple dressings, and "use of technologies" in cases of applying special coverings. Although item 17 achieved 100% I-CVI, the experts suggested changes in relation to detailing the options for dressings containing antimicrobials in their composition; as well as the addition of the sub-item "Dialkyl Carbamoyl Chloride (DACC)", which were accepted.

The changes related to item 18 (I-CVI 100%) involved the inclusion of the description of the term "EFA", and the addition of the sub-item "papain" to the instrument's special coverage options. Item 19 (I-CVI 91%) underwent recommended changes regarding the use of adjuvants, with the addition of the following terms: Barrier Spray, Moisturizing Cream, and Hydrocolloid Powder/Paste as options.

Items 20 and 21, although they achieved I-CVI's of 95% and 100% respectively, were completely reformulated, with changes and additions of sub-items related to the change and frequency of dressing changes, as well as the use and type of support measures in the treatment of lesions.

In item 23, which achieved an I-CVI of 100%, an image of the plantar region of the lower limbs was added at the suggestion of the experts.

Items 14 and 16 reached 100% I-CVI, while item 22 reached 91%, and despite their high values, both remained unchanged.

Table 1. Experts' agreement with the items that make up the skin lesion assessment tool, based on the application of the CVI, S-CVI/UA, S-CVI/Ave, and IRA tests. Petrolina (PE), Brazil, 2022.

Equation	Value
*CVI	0.50
†S-CVI/AVE	0.95
‡S-CVI/UA	0.39
§IRA	1.00

*CVI = Content Validity Index; †S-CVI/AVE = Scale-Level Content Validity Index/Ave; ‡S-CVI/UA = Scale-Level Content Validity Index/UA; §IRA = Interrater Agreement.
Source: Elaborated by the authors (2022).

Based on the I-CVI score for each item, it was possible to equate new tests that assessed the experts' agreement with the instrument as a whole, whose values are described in Table 1. For all four equations, an agreement between the experts is suggested, resulting in the validation of the final version of the instrument.

It was noted in this study that the qualitative analysis of the data carried out by the experts reflected positively on the final product obtained, given the possibility of inserting comments and suggestions. The purpose of the instrument was to standardize the assessment, as well as the quality of the practices needed to care for patients with skin lesions in this hospital.

DISCUSSION

The evaluation of skin lesions is part of the systematization of care, which is essential for the evaluation process and subsequent registration; therefore, knowing the characteristics that make up the wound is vital for the proper choice of the therapeutic conduct applied, aiming at controlling expenses and the best resolution of the case, in addition to helping communication between professionals.[1]

The Federal Nursing Council (COFEN), through Resolution No. 567/2018, advocated the role of nursing professionals in caring for patients with skin lesions; making it necessary to use technologies that positively assist care,[1] such as the instrument created and validated in this research, which met the objective of describing the process of validating an instrument for assessing skin lesions in a maternal and child hospital.

With regard to the techniques used to analyze the data collected, the Delphi Technique has been used in the validation of instruments for the health field, with the aim of obtaining as much consensus as possible on the subject.[15-16] This technique is based on the assumption of the efficiency provided by a group of experts in terms of the multiplicity of analyses of the material, enabling a more valid result when compared to the judgment of a single expert, even if they are the best in their field.[17]

In this study, the number of experts represented a positive point for the validation of the instrument, since there is no consensus in the literature as to the number of experts considered ideal for the process.[16] There is a variation in the number of experts recommended by the authors of publications on the subject, with suggestions ranging from five to 10,[18] five to 17,[19-20] and 10 to 30 experts,[21] however, regardless of the total number of experts who carry out the validation, all of them must have proven expertise and work in the area of interest. In this sense, the validated instrument is included in the recommendations for the number of experts.

With regard to the patient's hospitalization data in the instrument, the items SpO_2 and HGT were included, as they are complementary elements in the assessment of injuries, corroborated by the literature which shows that oxygenation and glycemic levels directly affect the healing process, especially when they are inadequate.[22-23]

Changing the pain assessment to the faces scale and the NIPS scale was necessary due to the profile of the target audience, which was predominantly made up of patients in the early childhood age group. The faces scale allows the evaluator to classify the intensity of pain using visual descriptors of facial expressions.[24] The NIPS scale, on the other hand, analyzes the behavioral and physiological aspects of the newborn.[25]

With regard to the information related to the characterization of skin lesions, experts contributed to the microbial aspect, with the insertion of the item suspected biofilm, while new studies have pointed to biofilm as one of the main causes of delayed healing. Although the gold standard for diagnosis is a biopsy of a tissue fragment, the literature also describes visual assessment of the wound as a criterion for suspicion.[26]

The alteration of the item for classifying the amount of exudate was accepted with a view to a more didactic nomenclature and easier categorization of intensity;[27] as well as the modification of the term cleaning to sanitization of the lesion, in accordance with a recently published international consensus, justifying that the term sanitization encompasses a more comprehensive set as a proactive strategy for wound healing.[28] The inclusion of items related to adjuvants was accepted.

Regarding the inclusion of items related to adjuvants, the suggestions were accepted due to their preventive and complementary therapeutic importance for skin lesions,[19,29-30], especially in the case of the delicate skin of the patients seen in the maternal and child services.[31]

The limitations to carrying out this research were related to the scarcity of other validation studies, which made it difficult to develop more in-depth comparisons and inferences on the subject; the difficulty of contacting the experts through the Lattes Platform, as well as the slow return of the evaluation material by the experts within the established timeframe.

This study contributed to promoting the instrumentalization and direction of nursing actions based on the theoretical-scientific foundation of the mother-baby binomial in the context of skin health. Evidence of the instrument's content validity will contribute to improving professional practice in institutions that do not have the same material, which will enable the creation of a nursing care plan related to skin lesions in the binomial in question.

CONCLUSION

The objective of the study was achieved through the content validity of the instrument for assessing skin lesions, the first to be carried out in a maternal and child hospital service in the selected region.

The methodological procedure used in the validation resulted in a high rate of agreement by the experts, thus representing an instrument that was developed in line with the theoretical approach to skin lesions in the profile in question, which will enable it to be applied in the service, and perhaps has the potential to inspire other health services in similar contexts.

The importance of combining the use of validated assessment tools with systematized technical and scientific knowledge about the characteristics of skin lesions and the care provided by the nursing team is reiterated. Future studies are therefore suggested to evaluate the practical application and feasibility of instruments for assessing skin lesions in different services.

CONTRIBUITIONS

Contributed to the conception or design of the study/research: Mola R, Fernandes FECV, Melo RA. Contributed to data collection: Aguirre VCSP, Dória JPS, Mola R. Contributed to the analysis and/or interpretation of data: Mola R, Fernandes FECV, Melo RA. Contributed to article writing or critical review:

Aguirre VCSP, Dória JPS, Mola R, Fernandes FECV. Final approval of the version to be published: Mola R, Fernandes FECV, Melo RA.

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REFERENCES

1. Carvalho TB, Sampaio LRL, Silva FP, Silva ACO, Oliveira VAA, Dantas TP, et al. Validation with specialists of an instrument to classify the complexity of acute and chronic wounds. ESTIMA, Brazilian J Enteros Ther [Internet]. 2022;20: e1322. DOI: https://doi.org/10.30886/estima.v20.1161_IN.

2. Marcatto JO, Santos AS, Oliveira AJF, Costa ACL, Regne GRS, Trindade RE, et al. Medical adhesive-related skin injuries in the neonatology department of a teaching hospital. Nurs Crit Care [Internet]. 2022;27(4): 583–8. DOI: https://doi.org/10.1111/nicc.12621.

3. Costa ACL, Araújo FL, Simão DAS, Bueno M, Marcatto JO, Manzo BF. Correlational analysis between potentially painful procedures and pain control strategies in a neonatal unit. Texto Context - Enferm [Internet]. 2019;28: e20180299. DOI: https://doi.org/10.1590/1980-265X-TCE-2018-0299.

4. Sway A, Nthumba P, Solomkin J, Tarchini G, Gibbs R, Ren Y, et al. Burden of surgical site infection following cesarean section in sub-Saharan Africa: a narrative review. Int J Womens Health [Internet]. 2019;11: 309–18. DOI: https://doi.org/10.2147/IJWH.S182362.

5. Ferreira DLS, Fernandes FECV, Melo RA, Aguirre VCSP, Mola R. Perfil dos pacientes portadores de lesões de pele em um hospital materno-infantil. Brazilian J Heal Rev [Internet]. 2022;5(2): 5562–76. DOI: https://doi.org/10.34119/bjhrv5n2-136.

6. Tirgari B, Mirshekari L, Forouzi MA. Pressure Injury Prevention: Knowledge and Attitudes of Iranian Intensive Care Nurses. Adv Skin Wound Care [Internet]. 2018;31(4): 1–8. DOI: https://doi.org/10.1097/01.ASW.0000530848.50085.ef.

7. Cardinelli CC, Lopes LPN, Di Piero KC, Freitas ZMF. Instrumentos para avaliação de feridas: scoping review. Res., Soc. Dev. [Internet]. 2021;10(11): e144101119246. DOI: http://dx.doi.org/10.33448/rsd-v10i11.19246.

8. Vilarinho JOV, Felix JVC, Kalinke LP, Mazzo A, Lopes FDN, Boostel R, et al. Validação psicométrica do instrumento Creighton para avaliação de competências clínicas em simulação. Acta Paul Enferm [Internet]. 2020;33: eAPE20200314. DOI: https://doi.org/10.37689/acta-ape/2020AO03146.

9. Mola R, Dória JPS, Aguirre VCSP, Martins GMM, Melo RA, Fernandes FECV. Criação de instrumento para avaliação de lesões de pele com base no perfil materno-infantil. Rev. Enferm. Atual In Derme [Internet]. 2023;97(3): e023164. DOI: https://doi.org/10.31011/reaid-2023-v.97-n.3-art.1995.

10. Parker CN, Johnston S, Theobald KA. Promoting Person-Centered Care for Health Baccalaureate Students: Piloting an Interprofessional Education Approach to Wound Management. Adv Skin Wound Care [Internet]. 2022;35(10): 1–8. DOI: https://doi.org/10.1097/01.ASW.0000873684.24346.be.

11. Sastre J, Baldrich ES, Hita JCA, Herráez L, Jáuregui I, Martín-Santiago A, et al. Consensus on the Clinical Approach to Moderate-to-Severe Atopic Dermatitis in Spain: A Delphi Survey. Dermatol Res Pract [Internet]. 2020;2020: 1–10. DOI: https://doi.org/10.1155/2020/1524293.

12. Polit DF, Beck CT. The content validity index: Are you sure you know what's being reported? critique and recommendations. Res Nurs Health [Internet]. 2006;29(5): 489–97. DOI: https://doi.org/10.1002/nur.20147.

13. Bellucci JA Júnior, Matsuda LM. Construção e validação de instrumento para avaliação do Acolhimento com Classificação de Risco. Rev Bras Enferm [Internet]. 2012;65(5): 751–7. DOI: https://doi.org/10.1590/S0034-71672012000500006.

14. Rubio DM, Berg-Weger M, Tebb SS, Lee ES, Rauch S. Objectifying content validity: Conducting a content validity study in social work research. Soc Work Res [Internet]. 2003;27(2): 94–104. DOI: https://doi.org/10.1093/swr/27.2.94.

15. Lazarini LF, Ohler L, Schirmer J, Roza BA. Validation of the american quality assessment model and performance improvement to the brazilian transplant. Rev Lat Am Enfermagem [Internet]. 2020;28: e3252. DOI: https://doi.org/10.1590/1518-8345.3249.3252.

16. Cervellini MP, Coca KP, Gamba MA, Marcacine KO, Abrão ACFV. Construction and validation of an instrument for classifying nipple and areola complex lesions resulting from breastfeeding. Rev Bras Enferm [Internet]. 2022;75(1): e20210051 . DOI: https://doi.org/10.1590/0034-7167-2021-0051.

17. Niederberger M, Spranger J. Delphi Technique in Health Sciences: A Map. Front Public Heal [Internet]. 2020;8. DOI: https://doi.org/10.3389/fpubh.2020.00457.

18. Souza AC, Alexandre NMC, Guirardello EB. Psychometric properties in instruments evaluation of reliability and validity. Epidemiol e Serviços Saúde [Internet]. 2017;26(3): 649–59. DOI: https://doi.org/10.5123/S1679-49742017000300022.

19. Pierotti I, Nascimento LA, Rossetto EG, Furuya RK, Fonseca LF. Elaboration, validation and reliability of the safety protocol for pediatric thirst management. Rev Lat Am Enfermagem [Internet]. 2020;28: e3321. DOI: https://doi.org/10.1590/1518-8345.3333.3321.

20. Sena JF, Silva IP, Lucena SKP, Oliveira ACS, Costa IKF. Validation of educational material for the care of people with intestinal stoma. Rev Lat Am Enfermagem [Internet]. 2020;28: e3269. DOI: https://doi.org/10.1590/1518-8345.3179.3269.

21. Marques JBV, Freitas D. Método DELPHI: caracterização e potencialidades na pesquisa em Educação. Pro-Posições [Internet]. 2018;29: 389–415. DOI: https://doi.org/10.1590/1980-6248-2015-0140.

22. Liandro CL, Santos M, Carreiro MDA, Cunha KCS, Paula DG. Oxigenoterapia hiperbárica como tratamento adjuvante para feridas: estudo de prevalência. Enferm em Foco [Internet]. 2020;11(2): 31-6. DOI: https://doi.org/10.21675/2357-707X.2019.v10.n4.2375.

23. Zanoti MDU. Acompanhamento de pacientes com feridas crônicas em uma unidade básica de saúde do interior paulista. Cuid Enferm [Internet]. 2021;15(2):196–204. Available from: https://pesquisa.bvsalud.org/portal/resource/pt/biblio-1366271.

24. Mata LRF, Azevedo C, Menezes AC, Chagas SC, Izidoro LCR, Estevam FEB, Chianca TCM. Cross-cultural adaptation and validation of the Urinary Incontinence Scale After Radical Prostatectomy for the Brazilian context. Rev Gaúcha Enferm [Internet]. 2022;43: e20210163. DOI: https://doi.org/10.1590/1983-1447.2022.20210163.en.

25. Sousa VO, Beleza APM, Souza LGB, Souza RLU, Fonseca IAC. Implantação da escala para avaliação da dor em uma Unidade de Terapia Intensiva Neonatal (UTIN) Pública. Rev Eletrônica Acervo Saúde [Internet]. 2021;13(8): e8451. DOI: https://doi.org/10.25248/reas.e8451.2021.

26. González CVS, Thum M, Ramalho AO, Silva OB, Coelho MF, Queiroz WMS, et al. Análise da "1ª Recomendação Brasileira para o Gerenciamento do Biofilme em Feridas Crônicas e Complexas." ESTIMA, Brazilian J Enteros Ther [Internet]. 2019;17: e1819. DOI: https://doi.org/10.30886/estima.v17.783_PT.

27. Harding K, Carville K, Chadwick P, Moore Z, Nicodème M, Percival S, et al., organizadores. WUWHS Consensus Document: Wound Exudate, effective assessment and management. London: Wounds International; 2019.

28. Murphy C, Atkin L, Ceniga MV, Weir D, Swanson T, Walker A et al. Embedding Wound Hygiene into a proactive wound healing strategy. J Wound Care [Internet]. 2022;31(Sup4a): S1–S19. DOI: https://doi.org/10.12968/jowc.2022.31.Sup4a.S1.

29. Arco HMSLR, Costa AM, Gomes BM, Anacleto NMRA, Silva RAJ, Fonseca SCP. Nursing interventions in dermatitis associated to incontinence- integrative literature review. Enfermería Glob [Internet]. 2018;17(4): 717–30. Available from: https://scielo.isciii.es/pdf/eg/v17n52/en_1695-6141-eg-17-52-689.pdf

30. Galetto SGS, Nascimento ERP, Hermida PMV, Malfussi LBH. Medical Device-Related Pressure Injuries: an integrative literature review. Rev Bras Enferm [Internet]. 2019;72(2): 505–12. DOI: https://doi.org/10.1590/0034-7167-2018-0530.

31. Aredes NDA, Santos RCA, Fonseca LMM. Skin care of premature newborns: integrative review. Rev Eletrônica Enferm [Internet]. 2017;19: a59. DOI: https://doi.org/10.5216/ree.v19.43331.

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