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ORIGINAL ARTICLE

Validation of simulated scenarios for nursing students: assessment and treatment of Pressure Ulcers

Validação de cenários simulados para estudantes de enfermagem: avaliação e tratamento de Lesão por Pressão

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ABSTRACT

Objective: to validate simulated scenarios for the teaching and learning of nursing students about the assessment and treatment of Pressure Ulcers. **Method:** methodological study, with scenarios built using Fabri's reference and standards of best practices from the International Nursing Association for Clinical Simulation and Learning. The selection of judges followed the Fehring criteria and snowball technique, and data collection took place in two stages according to Delphi. The analysis of the results considered the level of agreement of 0.80. **Results:** two scenarios have been validated resulting in a global Scale-Level Content Validity Index greater than 0.80; both have items about the learner's prior knowledge, general and specific learning objectives, theoretical foundation, responsible persons, complexity, documentation, briefing, topic, human and material resources, target audience, team training, debriefing, and assessment. **Conclusions:** the simulated scenarios have been validated for the teaching-learning of nursing students to assess and treat Pressure Ulcers in the hospital and home context.

Descriptors: Simulation Technique; Pressure Ulcer; Students, Nursing; Education, Nursing; Nursing Assessment.

RESUMO

Objetivo: validar cenários simulados para ensino e aprendizagem de estudantes de enfermagem sobre avaliação e tratamento de Lesão por Pressão. **Método:** estudo metodológico, com cenários construídos por meio do referencial de Fabri e normas de práticas recomendadas da *International Nursing Association for Clinical Simulation and Learning*. A seleção dos juízes seguiu os critérios de Fehring e *snowball technique*, a coleta de dados ocorreu em duas etapas conforme Delphi. A análise dos resultados considerou o nível de concordância 0,80. **Resultados:** dois cenários foram validados resultando o *Scale-Level Content Validity Index* global maior que 0,80; ambos compõem itens sobre o conhecimento prévio do aprendiz, objetivo geral e específicos de aprendizagem, fundamentação teórica, responsáveis, complexidade, documentação, Briefing, tema, recursos humanos e materiais, público-alvo, treino da equipe, *Debriefing* e avaliação. **Conclusões:** cenários simulados foram validados para o ensino-aprendizagem de estudantes de enfermagem, para avaliar e tratar Lesão por Pressão no contexto hospitalar e domiciliar.

Descritores: Simulação; Lesão por Pressão; Estudantes de Enfermagem; Educação em Enfermagem; Avaliação em Enfermagem.

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INTRODUCTION

The constant discussions about the need for change and the compliance to new conducts related to traditional education in higher education come largely from the social transformations and technological advances developed in recent decades, especially in undergraduate health courses[1].

In view of this, the development and use of new teaching strategies has become essential, and the use of clinical simulation as a teaching tool came to be widely encouraged when applied as a pedagogical strategy within universities. Educators have started to use clinical simulation as a teaching strategy that enables active learning and allows the construction of knowledge and the development of critical thinking and decision-making in situations very similar to the reality of the care context, thus giving new meaning to learning and building new knowledge aimed at professional excellence[2]. In this way, simulation-based experiences support the development and assessment of knowledge, skills, attitudes, and behaviors demonstrated in the cognitive, affective, and psychomotor domains of learning[3].

The standards of good practice of the International Nursing Association for Clinical Simulation and Learning (INACSL) [3] recommend the use of scripts in the elaboration of scenarios to ensure the quality and validity of the content, besides offering support to the expected objectives and results. Thus, the script of a scenario or case developed with consistency and standardization helps to increase its repeatability and reliability[3]. The use of scripts in scenarios has become an integral and fundamental part of clinical simulation. When preparing a simulated clinical activity, the professor, in their role of facilitator, directs the students' learning objectives and provides them with experiences and the opportunity to apply the theoretical knowledge acquired in the classroom to clinical practice environments[4].

In order to provide a reflective and transformative environment – aiming to develop essential skills in patient-centered care and achieve the proposed objectives and results[5] –, clinical scenarios gain greater credibility when created and based on real-life clinical cases, as they allow the reproduction of common events present in the systematized and care routine of nurses; for example, the care of patients with Pressure Ulcers (PU).

Pressure Ulcers are a highly complex, multifactorial, and costly public health problem. They can cause physical and/or emotional disorders, influence morbidity and mortality, and are associated with several contributing or confounding factors that are not fully understood. They are defined as any ulcer located in the skin and/or underlying tissues – usually over a bony prominence – as a result of pressure or a combination of pressure and torsional forces, and they are associated with several contributing or confounding factors[6]. The care for patients with PU is planned in the various care complexities, and it is extremely important for the nurse, as a team leader, to be properly trained to meet this need.

In this context, during the training process, the nursing student needs to be given the opportunity to acquire skills to care for individuals at risk of developing PU or for those who have wounds established during care practice. Validated clinical scenarios can be valuable resources, as they guide the professor towards an effective and objective teaching-learning process for the nursing student. Thus, this study has aimed to validate simulated scenarios for the teaching and learning of nursing students about the assessment and treatment of Pressure Ulcers.

METHOD

This is a methodological study carried out in the two following stages: construction of simulated scenarios and validation by judges of the appearance and content of simulated scenarios. To write the article, we complied with the assumptions of the Revised Standards for Quality Improvement Reporting Excellence (SQUIRE 2.0) available on the Equator Network website.

The first stage of the study took place in December 2019, when we carried out a narrative review of the literature on the construction of simulated scenarios and on nursing care for patients with PU. The planning of the scenarios was based on Bloom's Taxonomy – which lists the objectives of educational processes based on the cognitive, affective, and psychomotor domains[7] –, on the standards of recommended practices for simulation design by INACSL[3], and on the script for construction of simulated scenario by Fabri et al.[4] – in addition to the references of the National Pressure Injury Advisory Panel (NPIAP), European Pressure Ulcer Advisory Panel (EPUAP), Pan Pacific Pressure Injury Alliance (PPPIA) [8], and the Brazilian Association of Stomal Therapy[9] –, which resulted in two scenarios, entitled: "Scenario of Nursing Care in the assessment of Pressure Ulcer for hospitalized patients" and "Scenario of Nursing Care in the treatment of Pressure Ulcer for bedridden patients at home".

Stage two took place from January to February 2020, in which the constructed material was validated with the participation of experts in the area of interest, appointed as content judges. For the selection of these professionals, the reference adapted from Fehring[10] was used considering the need for professional nurses who presented any of the following items: at least one year of experience in clinical care, expert certification in the area of interest of the study, master's degree with dissertation in the area of interest of the study, doctor's degree with thesis in the area of interest of the study, publication of research relevant to the area of interest, and publication of an article on the subject in a reference journal.

At this stage, we used the snowball technique[11]. To start recruiting using the technique, we selected a professor from the university and department (key informant) where the study took place, inviting them in person to participate and asking for the name and email address of other professionals that met the inclusion criteria. Based on this data, invitations were sent by email explaining the objective of the research to each one. Among the 19 judges invited, 10 actually returned to the assessments.

During the validation process, we presented to each judge the consent form, through *Google Forms*[R], with the explanation of the objectives of the study. After acceptance, they could answer the biographical and professional characterization form. Then, the judges assessed the simulated script and answered an agreement scale with information about the appearance and content of the scenario. Each topic of the scenarios had a Likert scale with scores from one to five, according to the degree of agreement on each item. Thus, the answer could be classified as: (1) strongly disagree, (2) disagree, (3) indifferent, (4) agree, or (5) strongly agree, for clarity of language, practical relevance, and theoretical relevance[12-14].

After the organization of the data, we carefully analyzed the considerations and suggestions made by the judges. For the calculation of the Content Validity Index (CVI), the responses of "strongly agree" and "agree" were grouped as agreement, and the responses of "strongly disagree", "disagree", and "indifferent" were grouped as disagreement. The minimum index of 0.80 for Global S-CVI (S-CVI: Scale-level Content Validity Index) was considered acceptable in the calculation of the CVI[11]. Thus, we calculated Global S-CVI, the average of I-CVIs (Item-level Content Validity Index) of all validation criteria according to all the assessments of judges, and S-CVI/AVE (Scale-level Content Validity Index/ Average Calculation Method), which is the average of the validity indexes of each established criterion (clarity of language, practical relevance, and theoretical relevance) of the scenario.

In this phase of appearance and content validation, we used the Delphi Technique[15], which took place in two rounds. After the contributions made by the judges in the first round, only one item did not reach Global S-CVI. Thus, a new round of opinions was created, so that the judges could validate only the change made. Thus, we sent through e-mail another invitation to the 10 participants of the first session to participate in the second round and a new electronic link to access the informed consent, the appearance and content scale of agreement, and the two simulated scenarios provided by *Google Forms*[R]. Ten judges responded to this round of the study.

The study was approved by the Research Ethics Committee, respecting the standards of Resolution No. 466/12 of the Brazilian Health Council. All participants of the research signed the Informed Consent.

RESULTS

Ten judges participated in the validation of the simulated scenarios, being all of them nurses – five males and five females; nine (90%) had the maximum academic title of Doctor. As for professional practice, five (50%) mentioned the care area and eight (80%) worked in university education; there was more than one answer per participant – for most –, and nine (90%) reported more than ten years of professional training and five (50%) reported more than ten years of experience. About publications of research and/or articles with the topic of Clinical Simulation, nine (90%) answered positively.

As for care or management experience in caring for patients with PU, six (60%) of the judges answered positively, seven (70%) had experience in training nursing students or professionals with PU, and all (100%) had experience in the development of simulated clinical scenarios. We present below, in Table 1, the items of the Scenario of "Nursing Care in the assessment of Pressure Ulcer for hospitalized patients" forwarded through the *Google Forms*[R] platform for the ten judges to carry out the validation of content and appearance.

Table 2 presents the items of the Scenario of "Nursing Care in the treatment of Pressure Ulcer for bedridden patients at home" sent through the *Google Forms*[R] platform for the ten judges to carry out the validation of content and appearance.

For both scenarios, the item "Documentation" presented general S-CVI and I-CVI lower than the minimum index considered. Participants expressed the following suggestions: "I didn't understand the use of the Pieper Scale in the context, why such a scale was chosen"; "Review the scale name and purpose. Whether it is a prevention or a risk prediction scale for developing PU", and "The checklist elaborated was based on the items of the Pieper Scale. Why didn't you use the Braden Scale?". The suggestions of all items presented by the judges were analyzed and compared with the literature, discussed, and accepted. Regarding the contributions of the item "Documentation", the researchers decided to keep the original item, as the Braden scale and the Pieper scale[16] have different purposes. Thus, the full Pieper scale was sent to each participant in order to minimize the conflicts described in the suggestions. The second Delphi round had the participation of the same ten judges with no loss of participants. In this round, the two simulated scenarios, after restructuring, were evaluated by the judges using the appearance and content agreement scale with validation of only the changes made, and we obtained: in the scenario of "Nursing Care in the assessment of Pressure Ulcer for hospitalized patients", Global S-CVI of 0.85, S-CVI of 0.87 for theoretical relevance, S-CVI of 0.82 for clarity of language, and S-CVI of 0.87 for practical relevance; and, in the scenario "Nursing Care in the treatment of Pressure Ulcer for bedridden patients at home", Global S-CVI of 0.88, S-CVI of 0.83 for clarity of language, S-CVI of 0.89 for theoretical relevance, and S-CVI

Table 1. Items of the scenario of "Nursing Care in the assessment of Pressure Ulcer for hospitalized patients" validated among the judges (n=10) and distribution of Content Validity Indexes.

Items of the Scenario "Nursing Care in the assessment of Pressure Ulcer for hospitalized patients"	*I-CVI (CL)	**I-CVI (P)	***I-CVI (R)	†S-CVI
Prior knowledge of the apprentice	0.80	0.80	0.80	0.80
Learning objectives	0.80	0.90	0.90	0.86
Theoretical foundation	0.90	0.90	0.90	0.90
Persons responsible for the scenario	0.90	0.90	0.90	0.90
Scenario complexity/fidelity	0.80	0.90	0.90	0.86
Documentation (checklist, preparation and revision date, description of the scenario for the instructor, description of the script for the actors, medical diagnosis, structure of the proposed case/summary, script/ instructions)	0.70	0.70	0.70	0.70
Clinical situation/case	0.70	0.90	0.90	0.83
Material and human resources used in the scenario	0.70	0.90	0.90	0.83
Human resources (Target audience, Professors/Facilitators/Instructors/ Technicians, Training of facilitators, Actors, Collaborators)	0.90	0.90	0.90	0.90
Team training for the activity	0.90	0.90	0.90	0.90
Debriefing	0.90	0.90	0.90	0.90
Assessment	0.90	0.90	0.90	0.90
‡S-CVI/Ave	0.82	0.87	0.87	0.85

Source: Designed for this study.

Note: *I-CVI (CL): Content Validity of Individual Items in the criterion of clarity of language; **I-CVI (R): Content Validity of Individual Items in the criterion of theoretical relevance; ***I-CVI (P): Content Validity of Individual Items in the criterion of practical relevance; †S-CVI: Scale-level Content Validity Index; ‡:S-CVI/Ave: Scale-level Content Validity Index/ Average Calculation Method.

of 0.89 for practical relevance. Chart 1 presents the script of the simulated clinical scenario with validation by the judges.

Below, Chart 2 presents the script of the simulated clinical scenario with validation by judges on nursing care in the treatment of PU.

DISCUSSION

This study has aimed to validate simulated clinical scenarios to be used in the teaching and learning of nursing students for the assessment and treatment of PU. The elaboration of scenarios is directly related to the topic exposed in the literature and to the practical complexity of the care, which involves nursing care that requires technique, science, and knowledge often allied to the lack of resources in professional training.

Simulation-based education plays, every day, an increasingly important role in health education around the world because, in addition to protecting the patient from possible risks, simulation is valued for its ability to create conditions that optimize learning. Educational content deemed difficult to teach or learn can be selectively rehearsed and repeatedly produced, and students can improve the skill through deliberate and repeated practice, aided by timely feedback and/or debriefing with appropriate reflection[19].

The guidelines of a theoretical-practical script for the construction of a simulated scenario represent an important contribution to the student's teaching-learning process[4]. The rigor and scientific background of validated scenarios allow professors to increase their confidence in their use, as well as to strengthen the simulation strategy aimed at an integrated, critical, and resolute learning[20].

For the materialization of these simulation characteristics, it is evident the need to prepare students in relation to the knowledge to be put into practice during the resolution of scenarios in order to favor the success of the teaching-learning experience[4].

In this context, the judges participating in this study have contributed to the importance of equalizing the knowledge of students, or, at least, to the provision of the theoretical-practical knowledge necessary for development in the scenario. The student, when participating in a simulated clinical scenario, must have prior knowledge that they are able to understand, organize, incorporate, and memorize, so that the new information can become meaningful and the

Table 2. Items of the Scenario of "Nursing Care in the treatment of Pressure Ulcer for bedridden patients at home" validated among the judges (n=10) and distribution of Content Validity Indexes.

Items of the Scenario of "Nursing Care in the treatment of Pressure Ulcer for bedridden patients at home"	*I-CVI (CL)	**I-CVI (P)	***I-CVI (R)	†S-CVI
Prior knowledge of the apprentice	0.80	0.80	0.80	0.80
Learning objectives	0.80	0.90	0.90	0.86
Theoretical foundation	0.90	0.90	0.90	0.90
Persons responsible for the scenario	0.90	0.90	0.90	0.90
Scenario complexity/fidelity	0.80	0.90	0.90	0.86
Documentation (checklist, preparation and revision date, description of the scenario for the instructor, description of the script for the actors, medical diagnosis, structure of the proposed case/summary, script/ instructions)	0.90	0.70	0.70	0.76
Clinical situation/case	0.90	0.90	0.90	0.90
Material and human resources used in the scenario	1.00	1.00	1.00	1.00
Human resources (Target audience, Professors/Facilitators/ Instructors/Technicians, Training of facilitators, Actors, Collaborators)	0.90	1.00	1.00	0.96
Team training for the activity	0.90	0.90	0.90	0.90
Debriefing	0.90	0.90	0.90	0.90
Assessment	0.90	0.90	0.90	0.90
‡S-CVI/Ave	0.83	0.89	0.89	0.88

Source: Designed for this study.

Note: *I-CVI (CL): Content Validity of Individual Items in the criterion of clarity of language; **I-CVI (R): Content Validity of Individual Items in the criterion of theoretical relevance; ***I-CVI (P): Content Validity of Individual Items in the criterion of practical relevance; †S-CVI: Scale-level Content Validity Index; ‡:S-CVI/Ave: Scale-level Content Validity Index/ Average Calculation Method.

Chart 1. Description of the script for the scenario of "Nursing Care in the assessment of Pressure Ulcer for hospitalized patients".

Apprentice's prior knowledge: for the participation of the student in the activity, they must have taken a course with Pressure Ulcer content.
General learning objective: to develop nursing care in the assessment of Pressure Ulcer for hospitalized patients.
Specific learning objectives: to assess the tissues present in the Pressure Ulcer bed, to classify the Pressure Ulcer, to measure the Pressure Ulcer, and to carry out the nursing record.
Theoretical Foundation: current published references on Pressure Ulcer prevention. The selected material will be sent via email, at least 15 days in advance, to all those enrolled in the workshop with guidance on the study. Approximately 7 days before the event, a reminder will be sent via e-mail to all subscribers reinforcing the need to read and study the material sent beforehand.
Persons responsible for the scenario: a teaching facilitator specialized in clinical simulation, a teaching facilitator with theoretical and clinical experience in the subject, two laboratory technicians, and two support students.
Scenario complexity: high complexity.
Documentation (checklist, preparation and revision date, description of the scenario for the instructor, description of the script for the actors, medical diagnosis, structure of the proposed case/summary, script/instructions): Checklist prepared by the authors based on the items of the Pieper Scale[14].

Continue...

Chart 1. Continuation.

Checklist prepared by the authors based on the items of the Pieper Scale[16], to be used by the scenario evaluator: Did the students identify and classify the anatomical location of the Pressure Ulcer? Did the students rate the stage of the Pressure Ulcer? Did the students measure the size (length, width, and depth) of the Pressure Ulcer? Did the students assess and classify the tissues present in the Pressure Ulcer bed? Did the students identify and classify tissue types? Did the students identify and classify pain? Did the students identify and classify the condition of the skin around the lesion? Did the students identify and classify the edges of the wound? Did the students identify and classify the presence of tunnels and cavities?
Did the students identify and classify the aspects of the exudate? Did the students make the nursing record?
Briefing: Prior to the start of the scenario, researchers/facilitators will brief the participants demonstrating the resources of the scenarios.
Scenario topic: Nursing Care in the assessment of Pressure Ulcer for hospitalized patients.
Clinical situation/case The morning shift nurse will hand over the shift to the afternoon nurses: patient J.G.B., male, 30 years old. He was admitted this morning to the Municipal Hospital Emergency Room. He reports that approximately a month ago he suffered trauma resulting from a car accident with a fracture of the bilateral costal arches and the right femur; he claims to have undergone surgery and prosthesis implantation in the RLL, remaining hospitalized for 7 days. He reports that he has been presenting fever spikes for approximately two days and that he has a "wound" on his trochanter E, which happened at home from lying down for a long time. At the moment, he is conscious, oriented, communicative, spontaneously breathing in room air, and he reports that he is bedridden for a long time and that he is losing weight because he is not eating well. The morning shift nurse did not assess the Pressure Ulcer.
Human resources used in the scenario: an actor (simulated patient).
Characterization of the actor: The actor who plays the role of patient must be dressed in a T-shirt and shorts. The patient must have a bandage occluded with gauze and dirty adhesive tape (exudative).
Material resources used in the scenario: The simulated scenario will be developed in the Simulation Unit ward, which has the necessary fixed infrastructure that mimics the Emergency Room environment: hospital bed, gas system, ladder, hospital linen, folding screens, IV stand, laundry hamper, patient's medical record with nursing history, and vital signs. All necessary supplies for patient care will be made available, such as disposable gloves, a disposable ruler, and medical records for notes. Moulage Materials: Stage 3, exudative pressure ulcer: Bi-Centrifuged and Prevulcanized Latex, professional modeling putty, (vivid) red artificial blood, cotton, talc, edible dyes in yellow, ivory, brown, and olive green, ultrasound gel to simulate exudate, wedge makeup sponge, metal spatula, and makeup brushes. Professional who will make the moulage: Scenario facilitators. Photos: Scenario facilitators and evaluators will receive photos of the PU (moulage) to facilitate the understanding of the scenario.
Target audience: Undergraduate Nursing Students who took a course with content on Pressure Ulcer.
Team training for the activity: The actor will receive the clinical case, the guidelines regarding speech, and answers to be provided in the clinical case, that is, the scripts. The entire team must be knowledgeable about the objectives of the scenario to be achieved by the participating students. The actor will receive guidance on the clues that can be used to lead students to learning success.
Debriefing: Right after the end of the scenario, facilitators will gather the students participating in the simulation together with the other students in the room, who watched the simulated clinical scenario, to carry out the structured debriefing. Participants will be asked to describe the activity and report the positive points and the points to be improved.
Assessment: Scale of Satisfaction with Simulated Clinical Experiences (ESECS)[17], Scale of Satisfaction and Self-confidence in Learning (students' satisfaction and self-confidence in learning)[18], and Pieper's Knowledge Test[16].

Chart 2. Description of the script for the scenario of "Nursing Care in the treatment of Pressure Ulcer for bedridden patients at home".

Apprentice's prior knowledge: for the participation of the student in the activity, they must have taken a course with Pressure Ulcer content.
General learning objective: to perform nursing care in the treatment of Pressure Ulcer for bedridden patients at home.
Specific learning objectives: to evaluate the tissues present in the Pressure Ulcer, to assess the Pressure Ulcer, to identify the dressings to be used in the Pressure Ulcer bed, to justify the choice of dressings, and to guide the patient/family about the dressing.
Theoretical Foundation: current published references on Pressure Ulcer treatment. The selected material will be sent via email at least 15 days in advance to all those enrolled in the workshop with guidance on the study; approximately 7 days before the event, a reminder will be sent via email to all subscribers reinforcing the need to read and study the material sent beforehand.
Persons responsible for the scenario: a teaching facilitator specialized in clinical simulation, a teaching facilitator with theoretical and clinical experience in the subject, two laboratory technicians, and two support students.
Scenario complexity: high complexity.
Documentation (checklist, preparation and revision date, description of the scenario for the instructor, description of the script for the actors, medical diagnosis, structure of the proposed case/summary, script/instructions): Checklist prepared by the authors based on the items of the Pieper Scale[14].
Checklist prepared by the authors based on the items of the Pieper Scale[16], to be used by the scenario evaluator: Did the students identify and rate the stage of the Pressure Ulcer? Did the students select and report the appropriate dressings to be used in the Pressure Ulcer bed? Did the students justify the choice (indication) of the dressings? Did the students guide the patient/family about the dressing and other procedures that imply the improvement of the general condition of the PU?
Briefing: Prior to the start of the scenario, researchers/facilitators will brief the participants demonstrating the resources of the scenarios.
Scenario topic: Nursing care in the treatment of Pressure Ulcer for bedridden patients at home.
Clinical situation/case: The nurse coordinator of the Family Health Strategy will ask the nurse on duty to assess the patient:
The clinical case to be developed: The nurse responsible for the home visit of the Family Health Unit (FHS) together with the two students participating in the scenario will go to the patient's home with the dressing material. In the anamnesis, the patient reports having Chronic Kidney Disease (CKD), Chronic Obstructive Pulmonary Disease (COPD), being a smoker, and having lower limb sequelae from cerebrovascular accident (CVA). Patient C.B.G, male, 45 years old, single, retired, former intercity transport driver. He informs that his daughter is his caregiver, who refers to living with her father, who spends part of the time bedridden or in a wheelchair, without the strength to move alone. She works all day outside the house, but sometimes at lunchtime from work she manages to take care of him. She reports that her father's wounds are getting worse and that she realizes that in some of them he feels pain, so she decided to request a visit from the FHS nurse.
Human resources used in the scenario: an actor (simulated patient).
Characterization of the actor: The actor who plays the role of patient must be dressed in a T-shirt and shorts. The patient will present in trochanter E a stage 3 Pressure Ulcer, in calcaneus E an Unstageable Pressure Ulcer, and in calcaneus D a Stage 1 Pressure Ulcer, all with occluded dressing with gauze and adhesive tape and/or bandage.
Material resources used in the scenario: The simulated scenario will be developed in the University's Simulation Unit house, which has the necessary fixed infrastructure that mimics the home environment: bed, wardrobe, bedding, and wheelchair. All necessary supplies for patient care will be made available, such as disposable gloves, dressings, and medical records for notes.

Contine...

Chart 2. Continuation.

Moulage Materials: Trochanter E, stage 3 pressure ulcer: Bi-Centrifuged and Prevulcanized Latex, professional modeling putty, (vivid) red and (necrosis) black artificial blood, cotton, talc, edible dyes in yellow, ivory, brown, and olive green, ultrasound gel to simulate exudate, wedge makeup sponge, metal spatula, and makeup brushes. Calcaneus E, unstageable pressure ulcer: Bi-Centrifuged and Prevulcanized Latex, professional modeling putty, (vivid) red and (necrosis) black artificial blood, cotton, talc, edible dyes in yellow, ivory, brown, and olive green, ultrasound gel to simulate exudate, wedge makeup sponge, metal spatula, and makeup brushes. Calcaneus E, unstageable pressure ulcer: Bi-Centrifuged and Prevulcanized Latex, professional modeling putty, (necrosis) black artificial blood, cotton, talc, edible dye in brown, wedge makeup sponge, metal spatula, and makeup brushes. Calcaneus D, stage 1 pressure ulcer: Pancake in pink and red. Professional who will make the moulage: Scenario facilitators. Photos: Scenario facilitators and evaluators will receive photos of the PU (moulage) to facilitate the understanding of the scenario.
Target audience: Undergraduate Nursing Students who took a course with content on Pressure Ulcer.
Team training for the activity: The actor will receive the clinical case, the guidelines regarding speech, and answers to be provided in the clinical case, that is, the scripts. The entire team must be knowledgeable about the objectives of the scenario to be achieved by the participating students. The actor will receive guidance on the clues that can be used to lead students to learning success.
Debriefing: Right after the scenario ends, facilitators will gather the students participating in the scenario together with the other students – who were in the room and watched the simulated clinical scenario – to carry out the structured debriefing. Participants will be asked to describe the activity and report the positive points and the points to be improved.
Assessment: Scale of Satisfaction with Simulated Clinical Experiences (ESECS)[17], Scale of Satisfaction and Self-confidence in Learning (students' satisfaction and self-confidence in learning)[18], and Pieper's Knowledge Test[16].

reference material can offer a structured and logical content about the topic[2-3].

The results of the validation on the "Learning Objectives" were very positive and the experts' suggestions added greater quality to the scenario, thus strengthening the objectives so they would improve technical and non-technical skills; that is, the scenario should involve the participant in a broad context of clinical reasoning and decision making. The literature confirms that the student is expected to develop clinical reasoning with potential for decision-making regarding the treatment to be implemented, thus developing skills to understand the need to identify, classify, and measure the wound[21].

Guidelines[3] recommend the availability of objectives to participants before the beginning of the scenario but in a way that does not direct the solution of the scenario, so as not to compromise clinical reasoning and decision-making. Authors[5] recommend preparing and making available only the general objectives to students, and specific objectives should have their access restricted to the facilitator and/or instructor of the scenario. In this study, the general learning objective, established for each scenario, directs the student to carry out the nursing care contextualizing the environment in which it should be performed. The specific objectives detail the technical and non-technical skills to be developed by the participants and observed by the facilitator.

For this scenario, in relation to the item "Theoretical foundation", the judges recommended the need for updated and attractive materials in order to arouse the learning of the target audience and especially reliable references, in addition to reinforcing the participants' need for reading. Authors[22-23] recommend that all participants should receive, in advance, preparation materials and resources to understand the concepts and contents to be addressed in the simulated scenario.

The briefing or pre-briefing, according to the reference[24], is characterized as an important information session or guidance that is given to the participants before the beginning of the scenario to help them reach the objectives. It is at this point that guidance on equipment, environment, simulator, simulation time, objectives, and the patient's situation should occur.

Both proposed scenarios showed the strategy of demonstrating the resources present in the environment to students. Authors[5] report that this moment is extremely important for the creation of a favorable and interactive climate. Other resources are mentioned – instructional videos, presentation dynamics – that contribute to greater interaction and breaking resistance among participants. This is also the time to establish a work "contract" with them to ensure a psychologically safe environment during the simulation[22].

Student involvement is essential to deepen the learning experience, as its components, critical to the success of the simulation, involve the perception of the activity including how realistically it is portrayed[25]. Regarding the proposed scenario, given the importance of the fidelity of PU in the item "Material resources used in the scenario", the judges' request for the description of materials for the development

of moulage was accepted by the authors, as the participant's involvement is enhanced by fidelity, realism, and authenticity in the simulation environment[26], and it can be used in order to mimic signs or characteristics of diseases and wounds, thus acting as visual and tactile clues for the student.

The judges have validated the items about the "Characterization of the actor", "Human resources used in the scenario and Material resources used in the scenario", and the composition items for the "Team training for the activity". For Kaneko and Lopes[5], it is important to have a record of the actor's speeches, that is a pre-established script, in order to provide the realism of the scenario and to achieve the defined objectives. In addition, the actor's physical characterization, costumes, and expressions are elements that help them to create and reproduce the character.

Both scripts have guiding questions present in the "scenario evaluator checklist" for use by the assistant facilitator at the moment of the scene and triggers in the debriefing. The literature suggests that a script should be followed, thus allowing the facilitator to properly conduct the reflections safely[27]. Debriefing can be performed in different ways, with different references depending on the skills and, often, on the aspects of study and work of the facilitator. The authors did not specify a reference.

The scenarios have validated scales in order to assess the participants' knowledge about PU – before and after the scenario – and also to verify satisfaction and self-confidence with the learning and simulation. Checking satisfaction and self-confidence within the teaching environment is important, as they represent a strong indication for the use and evaluation of teaching strategies.

This study has some limitations, although the validation stage (participation of judges) corroborates the literature. The fact that the scenario has not been tested by the judges in a clinical simulation laboratory and that its validation was carried out with undergraduate students suggests that this step should be completed to complement the validation process regarding fidelity, complexity, time, and material and human resources.

CONCLUSION

The study has achieved its objectives with the validation of two simulated scenarios to be used in the teaching and learning of nursing students to assess and treat PU.

The results showed detailed scripts with practices aimed at assisting patients with PU in the hospital and home context, aiming to contribute to the teaching and learning process in the training of critical and reflective professionals in the different care areas of the health system.

Further studies on scenario validation should address the topic in different contexts involving the complexity of prevention and care for patients with PU.

REFERENCES

1. Rosa MEC, Pereira-Ávila FMV, Góes FGB, Pereira-Caldeira NMV, Sousa LRM, Goulart MCL. Aspectos positivos e negativos da simulação clínica no ensino de enfermagem. Esc. Anna Nery [Internet]. 2020 [cited 2021 jul. 01];24(3):e20190353. Available from: https://doi.org/10.1590/2177-9465-ean-2019-0353.
2. Mazzo A, Miranda FBG, Meska MHG, Bianchini A, Bernardes RM, Pereira Junior GA. Teaching of pressure injury prevention and treatment using simulation. Esc. Anna Nery [Internet]. 2018 [cited 2021 jul. 01];22(1):e20170182. Available from:: https://doi.org/10.1590/2177-9465-ean-2017-0182.
3. INACSL Standards Committee. INACSL Standards of Best Practice: SimulationSM Simulation Design. Clinical Simulation in Nursing [Internet]. 2016 [cited 2021 jul. 01];12 (supl.):S5-S12. Available from: https://doi.org/10.1016/j.ecns.2016.09.005.
4. Fabri RP, Mazzo A, Martins JCA, Fonseca AS, Pedersoli CE, Miranda FBG et al. Development of a theoretical-practical script for clinical simulation. Rev. esc. enferm. USP [Internet]. 2017 [cited 2021 jul. 01];51:e03218. Available from: https://doi.org/10.1590/S1980-220X2016016403218.
5. Kaneko RMU, Lopes MHBM. Realistic health care simulation scenario: what is relevant for its design? Rev. esc. enferm. USP [Internet]. 2019 [cited 2021 jul. 01] ;53:e03453. Available from: https://doi.org/10.1590/S1980-220X2018015703453.
6. National Pressure Ulcer Advisory Panel, European Pressure Ulcer Advisory Panel and Pan Pacific Pressure Injury Alliance. Prevention and Treatment of Pressure Ulcers: Quick Reference Guide. Emily Haesler (Ed.). Cambridge Media: Osborne Park, Australia; 2014 [cited 2021 jul. 01]. Available from: https://www.epuap.org/wp-content/uploads/2016/10/portuguese-quick-reference-guide-jan2016.pdf.
7. Ferraz APCM, Belhot RV. Taxonomia de Bloom: revisão teórica e apresentação das adequações do instrumento para definição de objetivos instrucionais. Gest. Prod. [Internet]. 2010 [cited 2021 jul. 01];17(2):421-31. Available from: https://doi.org/10.1590/S0104-530X2010000200015.
8. European Pressure Ulcer Advisory Panel, National Pressure Injury Advisory Panel and Pan Pacific Pressure Injury Alliance. Prevenção e tratamento de úlceras / lesões por pressão: guia de consulta rápida [Internet].

(edição em português brasileiro). Haesler E, editora. Wijma M, tradutora. Praga: EPUAP/NPIAP/PPPIA; 2019 [cited 2021 jul. 01]. Available from: https://www.epuap.org/wp-content/uploads/2020/11/qrg-2020-brazilian-portuguese.pdf.

9. Associação Brasileira de Estomaterapia: estomias, feridas e incontinência (SOBEST) e Associação Brasileira de Enfermagem em Dermatologia (SOBENDE). Classificação das lesões por pressão: consenso NPUAP 2016 – adaptada culturalmente para o Brasil. São Paulo: SOBEST; 2016 [cited 2021 jul. 01]. Available from: http://www.sobest.org.br/textod/35.
10. Fehring R. Methods to validate nursing diagnoses. Heart Lung [Internet]. 1987 [cited 2021 jul. 01];16(6 pt1):625-29. Available from: https://epublications.marquette.edu/cgi/viewcontent.cgi?article=1026&context=nursing_fac.
11. Polit DF, Beck CT, Hungler BP. Fundamentos de pesquisa em enfermagem: métodos, avaliação e utilização. 6ª ed. Porto Alegre: Artmed; 2011.
12. Grant JS, Davis LL. Selection and use of content experts for instrument development. Res Nurs Health [Internet]. 1997 [cited 2021 jul. 01];20(3):269-74. Available from: https://doi.org/10.1002/(sici)1098-240x(199706)20:3%3C269::aid-nur9%3E3.0.co;2-g.
13. Regis CF. Construção e validação de instrumento para avaliação de habilidades clínicas dos estudantes de graduação na simulação realística em atendimento pré-hospitalar [Dissertação na Internet]. [Recife]: Faculdade Pernambucana de Saúde; 2019 [cited 2021 jul. 01]. Available from: http://repositorio.fps.edu.br/handle/4861/189.
14. Lynn MR. Determination and quantification of content validity. Nurs Res [Internet]. 1986 [cited 2021 jul. 01];35(6):382-85. Available from: https://doi.org/10.1097/00006199-198611000-00017.
15. Scarparo AF, Laus AM, Azevedo ALCS, Freitas MRI, Gabriel CS, Chaves LDP. Reflexões sobre o uso da técnica delphi em pesquisas na enfermagem. Rev RENE [Internet]. 2012 [cited 2021 jul. 01]13(1):242-51. Available from: http://www.periodicos.ufc.br/rene/article/view/3803.
16. Pieper B, Mott M. Nurses' knowledge of pressure ulcer prevention, stating, and description. Adv Wound Care [Internet]. 1995 [cited 2021 jul. 01];8(3):34-48. Available from: http://europepmc.org/abstract/med/7795877.
17. Baptista RCN, Martins JCA, Pereira MFCR, Mazzo A. Students' satisfaction with simulated clinical experiences: validation of an assessment scale. Rev. Latino-Am. Enfermagem [Internet]. 2014 [cited 2021 jul. 01];22(5):709-15. Available from: https://doi.org/10.1590/0104-1169.3295.2471.
18. Almeida RGS, Mazzo A, Martins JCA, Baptista RCN, Girão FB, Mendes IAC. Validation to Portuguese of the Scale of Student Satisfaction and Self-Confidence in Learning. Rev Latino Am Enferm [Internet]. 2015 [cited 2021 jul. 01];23(6):1007-13. Available from: http://doi.org/10.1590/0104-1169.0472.2643.
19. Offiah G, Ekpotu LP, Murphy S, Kane D, Gordon A, O'Sullivan M et.al. Evaluation of medical student retention of clinical skills following simulation training. BMC Med Educ [Internet]. 2019 [cited 2021 jul. 01];19:263. Available from: https://doi.org/10.1186/s12909-019-1663-2.
20. Lavoie P, Micahud C, Belisle M, Boyer L, Gosslein E, Grondin M et al. Learning theories and tools for the assessment of core nursing competencies in simulation: a theoretical review. J Adv Nurs [Internet]. 2018 [cited 2021 jul. 01];74(2):239-50. Available from: https://doi.org/10.1111/jan.13416.
21. Silva JLG, Oliveira-Kumakura ARS. Clinical simulation to teach nursing care for wounded patients. Rev. Bras. Enferm [Internet]. 2018 [cited 2021 jul. 01];71(Suppl 4):1785-90. Available from: https://doi.org/10.1590/0034-7167-2017-0170.
22. INACSL Standards Committee. INACSL Standards of Best Practice: SimulationSM Simulation-Enhanced Interprofessional Education (Sim-IPE). Clinical Simulation in Nursing [Internet]. 2016 [cited 2021 jul. 01];12 (supl.):S34-S8. Available from: https://doi.org/10.1016/j.ecns.2016.09.011.
23. Souza RS, Oliveira PP, Dias AAL, SDAS, Pelizari AEB, Figueiredo RM. Prevention of infections associated with peripheral catheters: construction and validation of clinical scenario. Rev. Bras. Enferm [Internet]. 2020 [cited 2021 jul. 01];73(5):e20190390. Available from: https://doi.org/10.1590/0034-7167-2019-0390.
24. Meakim C, Boese T, Decker S. Franklin AE, Gloe D, Lioce L, et. al. Standards of Best Practice: Simulation Standard I: Terminology. Clin Simul Nurs [Internet]. 2013 [cited 2021 jul. 01];9(6S),S3-11. Available from: https://doi.org/10.1016/j.ecns.2013.04.001.
25. Stokes-Parish JB, Duvivier R, Jolly B. Does Appearance Matter? Current Issues and Formulation of a Research Agenda for Moulage in Simulation. Simul Healthc [Internet]. 2017 [cited 2021 jul. 01];12(1):47-50. Available from: https://doi.org/10.1097/SIH.0000000000000211.
26. Diamond S, Middleton A, Mather R. A cross-faculty simulation model for authentic learning. Innovations in Education and Teaching International [Internet]. 2011

[cited 2021 jul. 01],48(1),25-35. Available from: https://doi.org/10.1080/14703297.2010.518423.

27. Eppich W, Cheng A. Promoting Excellence and Reflective Learning in Simulation (PEARLS): development and rationale for a blended approach to health care simulation debriefing society for simulation in healthcare. Simul Healthc [Internet]. 2015 [cited 2021 jul. 01];10(2):106-15. Available from: https://doi.org/10.1097/SIH.0000000000000072.