Construction and Validation of Simulated scenario for the development of Nursing Students Diagnostic Reasoning

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ABSTRACT

Objective: to describe the process of construction and validation of a clinical simulation scenario whose objective of the scenario was the development of diagnostic reasoning skills in nursing students. Method: this is a descriptive study of the process of construction and content validation of a clinical simulation scenario for the development of diagnostic reasoning skills in students of the fourth semester of the Undergraduate Nursing course. Results: The scenario was validated by eight experts in the area covered by the study. The level of agreement between the judges above 90% was considered. Conclusion: In order for clinical simulation to be effective, it is necessary to have prior planning and clear objectives. Following a practical theoretical-script facilitates the development of the scenario, favoring the student's learning process.

Keywords: Patient simulation; Nrsing; Validation studies

1 INTRODUCTION

Nursing education can be challenging when only certain learning opportunities are available or when clinical experiences depend on a specific patient population. Clinical experiences are usually linked to the type of patient

and the experience of the practical field. Therefore, experiencing certain situations related to care practice are essential for nurse training, as it will enable the development of skills necessary for the effectiveness of care (AEBERSOLD; TSCHANNEN; BATHISH, 2012).

In this sense, it is essential to develop teaching strategies that focus on better qualification and training of future health professionals, especially nurses, aiming at the safety and quality of care offered to patients. In nursing, the positive impact of active methodologies on student training is evident, especially those that benefit from the simulated method in the teaching and learning processes (BAPTISTA *et al.*, 2014; MORENTE; MORALES-ASENCIO; VEREDAS, 2013).

Among the potentialities of active methodologies, clinical simulation stands out, which is a technique and not a technology. It is a dynamic and interactive process that involves creating a hypothetical situation in order to experience a real event, facilitating the active participation of the student and integrating the complexities of practical and theoretical learning with opportunities for repetition, feedback, evaluation and reflection, without the risk of causing harm to the patient (BLAND; TOPPING; WOOD, 2011; GABA, 2007).

Clinical simulation is a strategy capable of articulating teaching and research practices necessary for the qualification of health professionals, at different levels of health care, offering students the opportunity to practice their skills in a safe and programmed environment, allowing for improvement and promoting the stimulation of clinical reasoning and decision making, skills that are necessary for the proper exercise of the profession Nurse (BLAND; TOPPING; WOOD, 2011).

In addition to the aforementioned skills, it is expected that the student develops diagnostic reasoning skills during graduation, allowing them to give meaning and to classify a phenomenon in a clinical situation, integrating observation and critical reasoning (CARVALHO; JESUS, 1997).

The use of clinical simulation, as a meaningful learning strategy, allows the student's active participation in the construction of knowledge, making it possible to assume a condition of co-participation in the development of their expertise in nursing diagnostic reasoning (JERÔNIMO *et al.*, 2018).

In order to achieve the expected results of learning in clinical simulation, the design of the simulation and its development need well-designed criteria for the effectiveness of the simulation-based experience to be effective, as well as support material that fosters the discussion and development of the learning situations. These educational experiences require systematic, cyclical and flexible planning (COMMITTEE INACSL, 2016; KIM *et al.*, 2006).

Under these circumstances, for the clinical simulation to be effective, it must be planned and comply with a level of complexity, allowing the student to demonstrate his skills acquired in his training phase. For that, it is essential that the construction of the clinical simulation scenario is well planned, with clear objectives and that report to the student as close to reality as possible, enabling cognitive, psychomotor and affective experiences that integrate the theoretical knowledge to the clinical environments (MEDLEY, C., HORNE, 2013; NEHRING; LASHLEY, 2009; TUORINIEMI; SCHOTT-BAER, 2008).

After the construction of the simulation scenario it is necessary its validation and test in order to identify missing data, detect problems and make adjustments before the execution with the student. The validation is performed by a group of experts (judges) in the area for which the scene is intended, with experience in the subject, to indicate the necessary adaptations, if necessary, and, thus, ensuring an adequate development of the scene (QUILICI *et al.*, 2012; MUNROE *et al.*, 2016).

On this matter, the present study aims to describe the process of construction and validation of a clinical simulation scenario whose objective of the scenario was the development of diagnostic reasoning skills in nursing students.

2 METHODOLOGY

2.1 Study design

This article is a descriptive study of the process of construction and content validation of a clinical simulation scenario for the development of diagnostic

reasoning skills in undergraduate students of the fourth semester of the Nursing course from a Public University located in Minas Gerais, Brazil.

2.2 Ethical aspect

This study complied with the guidelines of the National Health Council, Resolution No. 466/2012. The project was approved by the Human Research Ethics Committee under Project Number: 3.709.469. All participants who agreed to participate in the research signed the Free and Informed Consent Form.

2.3 Construction of the scenario

For the construction of the simulation scenario, a case already validated by the literature by Almeida et al. (2001, p.191). The case consisted of a patient hospitalized in a clinical unit for the treatment of multiple pressure injuries in different degrees and locations, with a history of two strokes, difficulty in swallowing and left hemiplegia. Accompanied by a wife (caregiver), who performs activities of daily routine by the patient at home.

The simulation featured standardized actors interpreting the roles of the patient and caregiver. To bring realism and fidelity to the simulation scenario, moulage techniques (artistic makeup) were used to characterize pressure injuries.

The simulated scene of the present study was elaborated following the criteria proposed by Fabri *et al.* (2017). The script for the development of the simulation consisted of three main areas, which are: 1) Previous scenario components, 2) Preparation, 3) Final scenario components. Each major area has units and subunits of contextual significance.

2.4 Scenario Testing

After the construction, two scenarios were tested, one before the validation by the judges and the other after the validation. The test was carried out so that the scenario of the studied case would represent with the greatest fidelity as

possible. The scenario, in both moments, was tested by two nurses and a group of undergraduate students from the 4th, 6th and 10th semester of the Nursing course. The scenario testing took place at the Skills Laboratory of the University where the study was conducted.

2.5 Scenario validation

For the validation of the scenario, after its construction, the selection of judges was carried out. The number of judges was determined according to the literature that recommends a number between six and twenty judges (HAYNES; RICHARD; KUBANY, 1995). They were selected through the Lattes Platform (Plataforma Lattes) based on criteria established by the scoring system proposed by the literature (FABRI *et al.*, 2017; FEHRING, 1987): at least a master's degree in nursing or health sciences, experience in clinical practice, experiences in the area of clinical simulation and teaching, research in the area of interest of the study, articles published on the subject, participation in events and training / course in clinical simulation.

The participation of experts was requested by sending the invitation letter and the informed consent form, through the electronic address. In order for the participation of experts in the simulation scenario validation process to be carried out, in addition to the documents mentioned above, the Scenario Validation Form including the following major areas: previous scenario components, scenario preparation and final scenario components, in addition to the Scenario Script containing the scene description and attached photos in detail. The invited experts were asked to return by filling in the documents by e-mail within a maximum of fifteen days after receiving the same.

Sixteen experts on the subject from several Universities in Brazil or from Simulation Centers were invited to take part in the research as experts. In total, eight experts agreed to participate.

2.6 Data processing and analysis

After the return of the completed documents and the signed informed consent forms, the data were grouped in a spreadsheet of the Excell for Windows program.

For data analysis, the index of agreement between experts was used. The agreement was established by comparing the answers provided in the document Scenario Validation Form. The agreement index was verified using the formula: AI = (NC / NC + ND) × 100, where NC is the number of concordances; and ND, the number of disagreements. The interpretation of results occurs when a result greater than or equal to 90% of agreement is obtained, meaning that the domains are adequate. When the result is less than 90%, the domain needs to be discussed and changed (ALEXANDRE; COLUCI, 2011; COLUCI; ALEXANDRE; MILANI, 2015).

3 RESULTS AND DISCUSSIONS

Among the eight participating experts, with an average age of 41 years, only one was male. All graduated in Nursing between 1983 and 2010 years. Regarding academic degrees, only one was a Master in Health Sciences, the remaining are Doctors in Nursing. The average time of professional experience among the experts was 17.25 years (minimum nine years and maximum 30 years). All had experience in clinical simulation, with the following fields: teaching, interprofessional simulation and clinical reasoning. Regarding simulation research, four (50%) had experience in this area.

Regarding the scenario validation, only one judge considered an item as inappropriate, being "Scenario time", requesting an increase in time, going from ten minutes to fifteen minutes of estimated scenario time. The experts made suggestions and adjustments that were accepted by the researchers. They suggested changes in the objectives, inclusion of references, increase in the time of the scenario, adjustment in the clinical case regarding complexity, inclusion of drugs and reduction of pressure injuries. The AI scenario validation among the

experts, according to the items proposed by Fabri et al. (2017), was 96%, and this result was achieved in only one evaluation round (Table 1).

Table 1 – Agreement index of the simulation scenario validation process among the experts. Viçosa, Minas Gerais, Brazil, 2020

Items	Inappropriate		Partially adequate		Adequate	
	n	%	n	%	n	%
Previous scenario components						
The scenario contemplates the learning objectives	0	0	0	0	8	100
The objectives are clear	0	0	0	0	8	100
The objectives are consistent with the student's level of knowledge	0	0	0	0	8	100
+Theoretical basis is adequate and updated	0	0	0	0	8	100
The student's prior knowledge is consistent with the case	0	0	0	0	8	100
Setting the Scenario						
Scenario complexity is in accordance with the student's knowledge and skill level	0	0	0	0	8	100
There is a logical sequence of content	0	0	0	0	8	100
The development of the case is consistent with the complexity	0	0	0	0	8	100
The content of the scenario assists the student in critical thinking and decision making	0	0	0	0	8	100
Expected interventions match the scenario	0	0	0	0	8	100
Expected results are consistent with the scenario	0	0	0	0	8	100
Scenario fidelity	0	0	0	0	8	100
The case is appropriate for the scenario	0	0	0	0	8	100
Information and description of the proposed case for the Instructor	0	0	0	0	8	100
Information and case description for the actor (patient)	0	0	0	0	8	100
Information and case description for the actor (companion)	0	0	0	0	8	100
Material resources are in agreement for the development of the scenario	0	0	0	0	8	100
Characterization of actors regarding realism	0	0	0	0	8	100
Physical space where the simulation will take place	0	0	0	0	8	100
Human resources involved in the scenario	0	0	0	0	8	100
Scenario time	1	12,5	0	0	7	87,5

Continuation...

Conclusion

Items	Inappropriate		Partially adequate		Adequate	
	n	%	n	%	n	%
Final components of the scenario						
The clues provided to the participant	0	0	0	0	8	100
The scenario provides knowledge to the student	0	0	0	0	8	100
Conducting Debriefing regarding reflection and analysis	0	0	0	0	8	100
Simulation evaluation	0	0	0	0	8	100

The simulation scenario for this article, built from the one proposed by Fabri *et al.* (2017) and after validation, is shown in Chart 1.

Chart 1 - Description of the scenario as proposed by Fabri et al. (2017)

Scenario Script	
Admission of the patient to a hospital for treatment of pressure injuries	
Previous scenario components	
Prior knowledge of the learner	2nd year undergraduate Nursing students who are taking the Nursing Skills II discipline, who have already had content on pressure injuries and elaboration of Nursing Diagnoses. Therefore, presenting the necessary elements for decision making and nursing care required in the scenario.
Learning objectives	Primary •Perform diagnostic accuracy in nursing Secondary • Perform evaluation of pressure injuries presented by the patient • Perform patient history •Perform a physical examination directed at the patient's complaint
Theoretical foundation	• BORGES, E.L. Feridas: como tratar. 2.ed. Belo Horizonte: COOPMED/UFMG, 2008. 246 p. • MORAES, J.T.; BORGES, E.L.; LISBOA, C.R.; et al. Conceito e classificação de lesão por pressão: atualização do national pressure ulcer advisory panel. Enferm. Cent. O. Min. 2016 mai/ago; 6(2):2292-2306 DOI: 10.19175/recom.v6i2.1423 • NANDA INTERNATIONAL. Diagnósticos de enfermagem da NANDA-I: definições e classificação 2018-2020. 11. ed. Porto Alegre: Artmed, 2018 • The material will be sent to students prior to the simulated activity

Continuation – Chart 1

Scenario Script	
Admission of the patient to a hospital for treatment of pressure injuries	
Setting the Scenario	
Theme	Admission of the patient to a hospital for treatment of pressure injuries
Date of elaboration	01/10/2019
Name of the person responsible for the scenario	Nurse Marcella Ferroni Gouveia
Scenario Complexity	Medium complexity
Expected interventions	The student is expected to: • Perform the diagnostic accuracy of the Nursing Diagnosis "Impaired Tissue Integrity" • Perform anamnesis directed to the patient's complaint • Perform the physical examination directed at the patient's complaint • Perform the assessment of pressure injuries presented by the patient
Expected results	It is expected that after the simulated scenario the student will be able to perform the admission of a patient to a hospital unit, with the evaluation of pressure injuries and develop the ability of clinical reasoning.
Fidelity	High Fidelity A standardized male patient with the necessary knowledge and training for the development of this role will be used. Moulage (artistic makeup) will be used to characterize the lesions and characterize the age of the patient.
Description of the proposed case for the Instructor	Mr. Mauricio Rubens Souza, 58 years old, male, white, from the interior of Rio Grande do Sul, from the emergency service, admitted to a clinical unit for the treatment of multiple pressure injuries (LP) in different degrees and locations. He has a history of two hospitalizations in the institution, having been left with sequelae of two cerebral vascular diseases (CVAs) – the last one a year ago, when he remained hospitalized for a month – and systemic arterial hypertension. The sequelae were: difficulty in swallowing and left hemiplegia. Ex-drinker and ex-smoker. Patient from the emergency service. Upon arrival at the unit, he was in regular general condition, hydrated and without fever. Isochoric and photoreagent pupils. Ventilating in room air, without signs of respiratory dysfunction, pulmonary auscultation with the presence of uniformly distributed vesicular murmurs, maintaining a good 94% digital oxygenation, acyanotic. Hemodynamically stable, with BP 130/80 mmHg; FC 68 bpm; FR 22 mpm; Tax 35.6 ºC. Normal peripheral pulses, without extremity edema. No chewing and swallowing conditions, due to muscle weakness, using a nasoenteric tube (SNE) diet. Abdomen flaccid, depressible on palpation, without palpable masses, hydro-aerial noises present. Thin - with body mass index (BMI) = 18 kg / m². Presenting urinary and intestinal incontinence (diaper use). Reaching a score of 7 on the Braden Scale. He has stage 2 pressure injury in the dorsal region, next to the left scapula, in addition to stage 3 pressure injury in calcaneus E. Presence of stage 4 pressure injury in trochanter L, with necrosis edges and yellowish secretion. Maintains saline peripheral venous catheter in the right upper limb. Restricted to bed due to left hemiplegia and multiple pressure injuries. Sleeps well. Accompanied by family / caregiver (wife), who performs activities of daily routine by the patient (at home).

Continuation – Chart 1

Scenario Script
Admission of the patient to a hospital for treatment of pressure injuries

Setting the Scenario	
Vital Parameters	• Blood pressure 130/80 mmHg; • Heart rate 68 bpm; • Respiratory Rate 22 irpm; • Axillary temperature 35.6 °C.
Reason for Hospitalization	Pressure Injury Treatment
Doctor's prescription	• Fisiologic serum 500 ml - EV if necessary • Dipyrone 1g, diluted in 20 ml of distilled water - EV if fever or pain, perform slowly - 8/8 hours • Enteral nutrition - via SNE as assessed by the nutritionist • 6/6 hour vital data • Dressing in injuries according to the nursing prescription
Case description for the student	You will be the nurse who will evaluate Mr. Mauricio Rubens Souza, 58 years old, male, from the interior of Rio Grande do Sul, coming from the emergency service, he was admitted to a clinical unit for the treatment of multiple pressure injuries. The patient is lying in bed, waiting for the nurse's evaluation.
Case description for the actor (patient)	You will be Mauricio Rubens Souza, 58 years old, male, from the interior of Rio Grande do Sul, has a history of two hospitalizations in the institution, having been left with sequelae of two strokes - the last one a year ago - and high blood pressure systemic. The sequels were: difficulty in swallowing (that is why he will use SNE) and hemiplegia on the left (so he does not move the left side). He is an ex-drinker and ex-smoker.
Description of the case for the actor (companion)	You will be Lurdes Souza, 54 years old, female, from the interior of Rio Grande do Sul, has been the wife of Mr. Mauricio Rubens Souza for 20 years, lives alone and do not have caregivers to help. She is distressed due to her husband's hospitalization, but is well informed about his health problems. You will only answer what the nurse asks you. Questioning in relation to pathological history: You will say that your husband had two strokes - the last one year ago, and that your husband has high blood pressure (systemic arterial hypertension). And is an ex-drinker and ex-smoker.

Continuation – Chart 1

Scenario Script
Admission of the patient to a hospital for treatment of pressure injuries
Setting the Scenario

Description of the case for the actor (companion)	"My husband had two strokes of that type that lacked oxygen and that is why he does not walk, does not eat alone "." The last stroke was a year ago, where he stayed in the hospital a month and then opened his wounds "(with intonation of lamentation). Questioning in relation to the sequelae of strokes: You will say that your husband has difficulty swallowing and that he does not move the left side of the body (hemiplegia on the left). "He feeds through the tube, I put the diet myself". "I put him in the wheelchair in the morning, it's very difficult, because there is no one to help me, but I've got the hang of it". "He stays in the chair all day, just at bedtime that I put him back in bed and in the bath, when I change the chair". Questioning in relation to activities of daily routine: sleeps well, your husband uses diapers and as you are alone, you have difficulty bathing and changing diapers. "He sleeps all night, sometimes complains, but he sleeps well" "I usually change his diaper about 3 times a day, only if he poops I change it right away , as it's just me, it's too heavy to do that " " I use a wet wipe and sometimes ointment, and when his bandage is is dirty I change it too" "The bath time is not so good, he doesn't like it very much, because it must hurt" Questioning regarding pressure injuries: You will say that at the time of the second stroke, your husband had the need for hospitalization for a month, and he left the hospital already with the injuries. "Look, he has these wounds there since the last stroke he had, he was hospitalized for a month and left like this" "I cleaned them myself, the nurse whent tomy home and taught me" "I first clean it with physiologic serum and then apply the ointments he asked for, I do it once a day"

Continuation – Chart 1

Scenario Script	
Admission of the patient to a hospital for treatment of pressure injuries	
Setting the Scenario	
Material resources	Scene composition: Hospital bed with manual regulation and identification of the bed, gas ruler on the wall, hospital clothes, garbage can, companion chair, cabinet, serum support, screen, sink, nursing station and medical record containing prescription, emergency room admission form and hospitalization documentation. Necessary materials for the participant's performance: stethoscope, sphygmomanometer, axillary thermometer, pulse oximeter, clock with second hands, vat, bowl, tray, procedure glove, sterile glove, gauze, saline, individual protective glasses, simple mask, clipboard for notes, pen.
Characterization of the actors	• Patient: male, dressed in hospital gown, salinized peripheral venous catheter in superior right arm, nasoenteric tube closed in right nostril, wearing a diaper. • Characterization of pressure injuries and age: Moulage (artistic makeup). - Pressure injuries region: Stage 2: in the dorsal region, next to the left scapula (Figure 1a) Stage 3: calcaneus E (Figure 1b) Stage 4: trochanter E (Figure 1c and d) - Moulage to characterize the lesion: latex, liquid facial base, face powder, modeling clay, red, burgundy and yellow food coloring, commercial blood, corn glucose, beef steak, pork fat, cheese (odor), gauze, brush, cotton. Banana and honey used for the exudate. - Moulage to characterize aging: white pancake makeup, brown eyeshadow and gray hair spray. • Companion: female dressed in casual clothing and ornaments. For the characterization of aging age, Moulage (artistic makeup) will be used - Moulage to characterize aging: white pancake makeup, brown eyeshadow and gray hair spray will be used.

Continuation – Chart 1

Scenario Script	
Admission of the patient to a hospital for treatment of pressure injuries	
Setting the Scenario	
Physical space	University Skills Laboratory with necessary infrastructure for the development of the scene, such as hospital stretcher with manual regulation, gas ruler on the wall, hospital clothes, garbage can, companion chair, cabinet, screen, sink and nursing station, as well as good ventilation and acoustics. Students who will not actively participate in the scenario, that is, the observers, remain seated in the same environment.
Human Resources	• Target audience: 2nd year undergraduate nursing students who are coursing the Nursing Skills II discipline, one student is needed to work in the scenario. • Facilitator: In the present study it was the researcher itself, a post graduated nurse which coursed a postgraduate discipline entitled "Clinical Simulation in Nursing", with the objective of helping at the preparation of the clinical simulation, and a professor of the Nursing graduate course at a Federal institution, with knowledge in Clinical Simulation. Both held a workshop entitled "Advanced Debriefing" to assist in conducting the same. • Actors Companion: In the present study it was a student in the last year of undergraduate nursing in the same institution. • Patient: In the present study it was a student of the 8th period of undergraduate nursing in the same institution.
Estimated scenario time	• 15 minuts
Scenario Validation	• After the judges' evaluation and suggestions, adjustments were made and the scenario will be tested.

Conclusion – Chart 1

Scenario Script	
Admission of the patient to a hospital for treatment of pressure injuries	
Final componentes of the scenario	
Scenario development	Evolution of the situation • End of the scenario after the end of time or after the participant has evaluated the pressure injury. Critical scenario factor • After the student has completed the anamnesis, it is expected that he identifies the main complaint and, based on that information, make the decision and reach the primary objective of the scenario, which is to perform the pressure injury assessment. Clues • The companion will provide clues to the participant only if he deviates from the objectives proposed by the simulation. - Anamnesis: Reinforce that the husband does not move his left side. - Physical examination: Companion asks how the injuries look like. - Assessment of injuries: The companion question whether you are taking proper care of your husband's injuries.
Debriefing	Debriefing was carried out in a structured and reflective way. In the first moment, the students who participated in the scenario described the scenario, expressed their feelings about the performance and performed a self-assessment about the service. Participants' feelings and what they would do differently in future situations were discussed. During the Debriefing session, the positive points made in the scenario were highlighted and knowledge gaps were identified.
Evaluation	For the assessment of the participants' Diagnostic Reasoning, the Diagnostic Reasoning Inventory was used. It is noteworthy that for the preparation of the priority nursing diagnosis, the NANDA-International nursing diagnosis taxonomy book was made available to students.

Source: Authors (2020)

Figure 1 – Figure 2(A) Pressure injury Stage 2: in the dorsal region, next to the left scapula. Figure 2(B) Pressure injury Stage Stage 3: left heel. Figure 2(C) Pressure injury Stage 4: left trochanter. Figure 2(D) Pressure injury Stage 4: left trochanter. Figure 2(C) and 2(D) refer to the same injury in different increments

Source: Authors (2020)

The scenario of this article, followed elaboration criteria pre-established by the literature (FABRI *et al.*, 2017), being guided by a theoretical-practical script with the definition of the proposed objectives and structured in three main units, which are: previous components of the scenario, preparation of the scenario and final components of the preparation.

The first stage "Previous Scenario Components" covers the items prior knowledge of the learner, learning objectives and theoretical foundation. Corresponds to a means of organization to incorporate, understand and memorize the new information (FABRI *et al.*, 2017).

The first step in creating a simulation scenario is to establish the objectives to be achieved and for whom the simulation is intended. According to Bradley and Postlethwaite (2003) the construction of the learning objectives must involve specifications of the curricular content to be addressed, consider the target audience and the prerequisites for the participation in the activity.

For the construction of a simulated scenario, objectives can be divided into primary and secondary objectives. Waxman (2010) discusses in his work that the primary objectives must be broad, with essential competencies, being able to follow the competences established by an academic institution or the performance criteria for the clinical stage of a course. Secondary objectives, on the other hand, must be specific, include technical objectives, psychomotor, affective and cognitive skills, such as communication, basic principles of the topic addressed, performance of procedures, among others. The language used to construct all objectives should follow standard guidelines and criteria for educational objectives, including cognitive taxonomy, such as Bloom's Taxonomy (WAXMAN, 2010).

In order to achieve the objectives proposed by the simulated activity and the good development of the scenario, there must be a theoretical basis based on the best available scientific evidence (ROMANO; PAZIN FILHO, 2007).

In the "Preparing the Scenario" unit, the teacher or instructor responsible for the simulation activity must determine the complexity of the scenario, and for that, the student's level of knowledge in relation to the simulated case must be taken into account. The expected actions of a simulated scene must be in accordance with the student's prior knowledge, both in cognitive and technical skills. From that moment on, it is important that you define which results and interventions are expected to develop with the scenario (FABRI *et al.*, 2017; ROMANO; PAZIN FILHO, 2007).

Still within the previous components of the scenario, during the process of building a simulation scenario, another factor must be taken into account, fidelity, which presents realism, that is, how much the scene reproduces reality within the

simulated environment is extremely important, since an environment similar to the real clinical space can provoke the same psychological responses in the individual that he would have in clinical practice (BRADY; BOGOSSIAN; GIBBONS, 2015; TUN *et al.*, 2015).

Some techniques can be used to favor the realism of the simulation scenario. Varga *et al.* (2009) brings in his study that the use of standardized actors contributes to the performance of students according to the situation, Kawakame and Miyadahira (2015) present that some resources can be used in the scenario such as makeup, clothing and accessories.

Pywell *et al.* (2016) reports in their research that the participants felt that the use of moulage (artistic makeup) contributed positively to the training experience and was very useful in the scenarios. In the scene of the study, the researchers chose to use a standardized patient, with artistic makeup that characterized their aging, clothing, such as a hospital gown, and moulage for the reproduction of pressure injuries.

Regarding to Human Resources, it is recommended the need to establish the number of participants in the scenario and, above all, the target audience, involving teachers or facilitators, the actors and collaborators of the scenario. Still, the need for the facilitator or teacher to have experience in the area or to be trained by experts on the subject, so that the teaching-learning process is effective during the construction of the scenario (FABRI *et al.*, 2017).

Another point to be discussed is the testing of the scenario in advance before executing it, so that important details in its execution are not neglected (MARTINS *et al.*, 2014). The simulation scene of this research was tested before and after validation by the experts.

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4 CONCLUSION

This article aimed to describe the construction and validation process by a group of experts, of a clinical simulation scenario to assist in the development of diagnostic reasoning skills in nursing students.

The possible consequences of not following a structure for the elaboration of a simulation scenario, can include the ineffective development of the participant and the inability of the participant to achieve the expected objectives and results, which can generate frustrations for both the participant and the teacher.

In addition, the study also proves that the use of moulage in practices designed to characterize patients with pressure injuries, contributed to the approximation of reality, allowing an appropriate development of the scene and absorption of learning by the student.

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