

# SIMULATION AS A TEACHING-LEARNING STRATEGY IN WOUND TREATMENT: EXPERIENCE REPORT

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## SIMULAÇÃO COMO ESTRATÉGIA DE ENSINO-APRENDIZAGEM NO TRATAMENTO DE FERIDAS: RELATO DE EXPERIÊNCIA

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## SIMULACIÓN COMO ESTRATEGIA DE ENSEÑANZA-APRENDIZAJE EN EL TRATAMIENTO DE HERIDAS: INFORME DE EXPERIENCIA

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**Objective:** to report the experience of nursing technical students on the use of simulation as a teaching-learning strategy in wound treatment. **Method:** report of simulation experience in wound treatment as a teaching-learning strategy. The participants were 25 students and 2 professors of a nursing technical course in a city of Paraná. The simulation was carried out in November and December 2019. **Results:** the simulation applied in the treatment of wounds was developed in seven steps. During the steps, the participants studied wounds and practice of dressings, made the wounds and performed the care simulation. **Conclusion:** the experience revealed that this method offers benefits in the teaching-learning process, favors students the opportunity of a proactive attitude in the construction of knowledge, as well as enables and approaches them to professional practice.

**Descriptors:** Education, Nursing. Wounds and Injuries. Teaching. Simulation Technique.

*Objetivo:* relatar a experiência de estudantes do curso técnico em enfermagem sobre a utilização da simulação como estratégia de ensino-aprendizagem no tratamento de feridas. *Método:* relato de experiência de simulação no tratamento de feridas como estratégia de ensino-aprendizagem. *Participaram* 25 estudantes e 2 docentes de um curso técnico em enfermagem em um município paranaense. *A simulação foi realizada nos meses de novembro e dezembro de 2019. Resultados:* a simulação aplicada no tratamento de feridas desenvolveu-se em sete etapas. *No decorrer das etapas, os participantes estudaram sobre feridas e prática de realização de curativos, confeccionaram as feridas e realizaram a simulação do cuidado. Conclusão:* a experiência revelou que este método oferece benefícios

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*no processo ensino-aprendizagem, favorece aos estudantes a oportunidade de uma atitude proativa na construção do conhecimento, bem como habilita-os e aproxima-os da prática profissional.*

*Descritores: Educação em Enfermagem. Ferimentos e Lesões. Ensino. Simulação.*

*Objetivo: informar la experiencia de los estudiantes técnicos de enfermería sobre el uso de la simulación como estrategia de enseñanza-aprendizaje en el tratamiento de heridas. Método: informe de experiencia de simulación en el tratamiento de heridas como estrategia de enseñanza-aprendizaje. Los participantes fueron 25 estudiantes y 2 profesores de un curso técnico de enfermería en un municipio de Paraná. La simulación se llevó a cabo en noviembre y diciembre de 2019. Resultados: la simulación aplicada en el tratamiento de heridas se desarrolló en siete etapas. Durante las etapas, los participantes estudiaron heridas y practicaron curativos, realizaron las heridas y la simulación del cuidado. Conclusión: la experiencia revela que este método ofrece beneficios en el proceso de enseñanza-aprendizaje, favorece a los estudiantes la oportunidad de una actitud proactiva en la construcción del conocimiento, así como les permite y los acerca a la práctica profesional.*

*Descriptorios: Educación en Enfermería. Heridas y Traumatismos. Enseñanza. Simulación.*

## Introduction

The training process in health and nursing should be discussed and re-discussed permanently, considering the characteristics of the current work world, as well as the needs for adequacy of the health sector in relation to the new existing realities<sup>(1)</sup>. It is noteworthy that this process is dynamic and is constantly changing. Thus, the act of teaching and learning, in the age of ultra-fast communications and fake news, needs to be rethought and demands innovative methods that aim to culminate in an ethical, critical, reflexive and transformative pedagogical practice<sup>(2)</sup>.

Regarding the teaching-learning process, it should be emphasized that the student should be considered as the main actor, so that learning permeates his/her life and plays an important role. Many educators define learning as an element of behavioral change, which derives from experiences lived by the subject. The learning style is unique and varies according to the perception, cognitive, emotional and physiological structure of each individual<sup>(3)</sup>.

Nursing education, as in other health courses, has frequently sought effective learning that offers technical-scientific baggage throughout the course<sup>(4)</sup>. The use of active methodologies, such as simulation, has increasingly integrated nursing education.

In this sense, simulation is presented as a dynamic process, which involves the creation of a hypothetical situation and incorporates an authentic representation of reality. It also allows the active participation of the student, integrating the complexities of practical and theoretical learning with the opportunity of repetition, feedback, evaluation and reflection, reducing adverse events. It may contribute to increased self-confidence, as well as to reducing anxiety and fear in different age groups and different educational levels<sup>(3-4)</sup>.

A study conducted in Salvador (BA) showed that simulation with the use of mannequins allows students to improve their skills, as it is an instrument of teaching and evaluation that brings advantages for learning basic and complex practices. In nursing, among the various procedures that require training, there is the dressing technique in the treatment of wounds, thus making the students' simulated teaching fundamental<sup>(5)</sup>.

In view of this scenario, the role of simulation in nursing education has been discussed. However, little or nothing is related to the training of the nursing technician. Students of different educational levels in the health area can benefit from the teaching method through simulation, as

a reflexive holistic learning opportunity, which integrates theory with practice.

In this context, the present study aimed to report the experience of nursing technical students in using simulation as a teaching-learning strategy in wound treatment.

## **Method**

This is a descriptive report of simulation experience in the treatment of wounds as a teaching-learning strategy with the students of the nursing technical course. It is noteworthy that this type of study allows describing the situations experienced by the actors, reinforcing the importance of the achievement in the construction and remodeling of scientific and popular knowledge<sup>(6)</sup>. The activity included 25 students and 2 professors of a nursing technical course in a city in Northern Paraná.

This action was integrated with a curricular component called "Nursing Basics II" and an extension project entitled "365 days promoting health and care" registered in the Institutional Research and Extension Committee.

The action was carried out in November and December 2019, almost at the end of the curricular component. By this time, the students had already had an approximation with wounds and dressings. The scenario of the action was the nursing laboratory of the Instituto Federal do Paraná, Londrina campus. It is noteworthy that this laboratory was organized to specifically meet this activity, not being a laboratory of realistic simulation practices. The professors allocated materials and equipment to better reproduce the creation of the scenario of an infirmary and/or care room.

The construction of this simulation arose from the concern of the professors with the students' understanding difficulties and with the lack of technical execution in the performance of dressings of chronic wounds and of great extent. The professors met and reflected on a method

of addressing this theme, in which the students' understanding was effective.

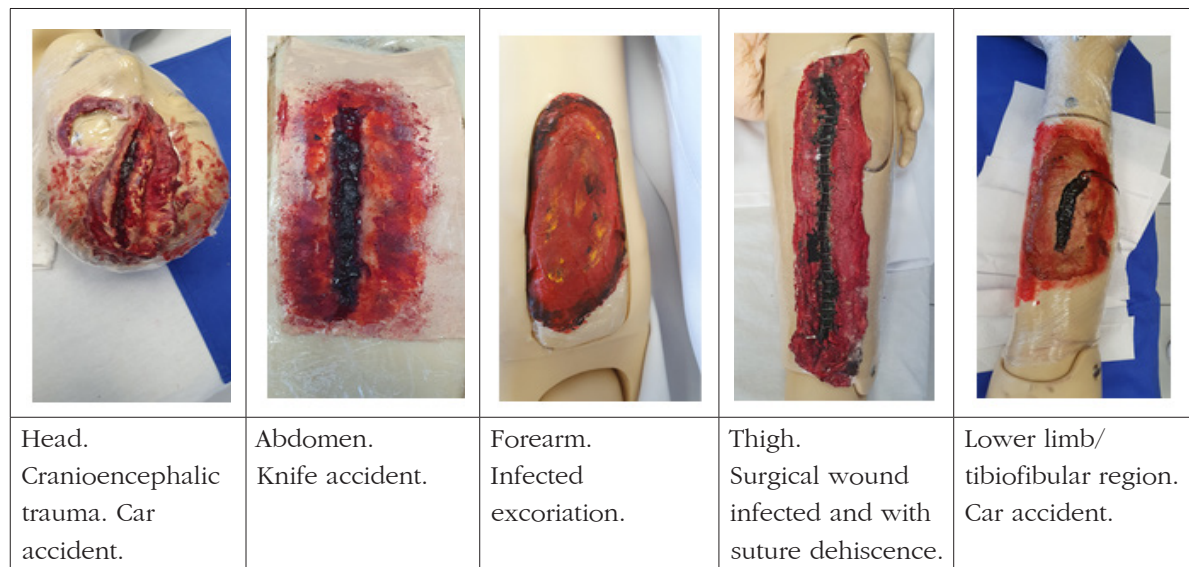
Thus, the simulation action permeated seven steps that are described in detail in the results section, which followed from orientations (Briefing or Prebriefing) to the discussion and reflection on the theme and evaluation of the activity (Debriefing), followed by presentation and dissemination to the entire academic community.

## **Results**

The simulation applied in the treatment of wounds was carried out in seven steps. In the first meeting, the theme about chronic and/or large wounds was addressed with the students. At that moment, there were discussions and reflections on types of lesion, tissues, exudates, among other aspects. In the second moment, the participants learned about dressing techniques in activities in the nursing laboratory. In the third meeting, simulation in wound care was discussed. The students were divided into five groups of four or five participants each, who were responsible for the construction of wounds to later discuss and make dressings with the large group.

In the three initial steps, called Briefing or Prebriefing, preceding the simulation, guidance and information are made available to participants in order to prepare them for the development of the simulation experience. It is intended to clarify the objectives of the scenario, as well as to transmit guidelines for the use of equipment, mannequins, in addition to the time for simulation<sup>(7)</sup>.

After the end of the first steps, the participants met for the construction of the wounds, which configured the step. The wounds were constructed with materials chosen by the groups (cotton, paint, makeup, dyes and culinary flours, glue, among others) and the lesion sites were of free choice, as shown in Figure 1:

**Figure 1** – Wounds made by the students with the practical simulation

Source: Created by the authors.

In step five, on a previously scheduled date, the dressing simulation activity occurred. Each group was responsible for organizing this activity and applying the simulation to colleagues. The groups presented the history of the wound, how it was caused, how long since its appearance, the tissues that were exposed and the treatment that would be performed.

In addition to the application of dressings, performed with saline solution, gauze and application of prescribed medications, the professors presented several dressings and special coverings, which can be applied in specific situations. Another treatment presented by the professors was vacuum dressing or negative pressure therapy, which is an important method in the treatment of complex wounds and its main proposal is to accelerate the process of repair and preparation of the wound bed until its definitive coverage<sup>(8)</sup>.

It is noteworthy that the nursing technician only performs the treatment prescribed by medical professionals and/or nurses. Thus, as the nursing technician does not prescribe wound treatment, the students presented possible treatments, which were discussed in the large group. Each simulation lasted, on average, 30 minutes.

The sixth step consisted of gathering the students for discussion and reflection on the theme and evaluation of the activity. The Debriefing technique was used, which is a moment of post-experience reflection, performed immediately after the simulation, aiming to reflect on the practice, in order to consolidate and actualize the students' learning<sup>(9)</sup>.

In the seventh and final step, the students exposed, to the academic community, the wounds built, which were exposed for four days. Invitations were sent for the visitation, in order to give visibility to the action and for people from other areas be able to know the nursing work and the different teaching-learning methodologies adopted by the nursing technical course.

The performance of simulation in the teaching-learning process has been gaining strength in recent years, due to the positive results presented by professors and students from various health areas<sup>(3-4)</sup>.

Throughout this activity, participants were able to present their doubts, discuss and train the best dressing methods in each case. Visualizing the different tissues and exudates was of great value, because the use of only figures arranged in slideshows or books is often not enough for the grasp of the content.

During the simulation process, in order to achieve a better result with the use, dissemination and application of the method, it is necessary to establish a correlation with daily practice and add other elements that are deemed important<sup>(10)</sup>. The professors were mediators of the simulations, in order to provide a satisfactory result in the proposed activity. Thus, the action affected and created the care in chronic and/or large wounds performed by the nursing technician.

This experience of performing large and/or chronic wound care simulations allowed nursing technical students to perceive the need to expand these activities for the other care. Patient safety, understood as reducing the risk of harm associated with health care<sup>(11)</sup> to an acceptable minimum, has been widely discussed in the development of comprehensive care. Thus, this global challenge should be inserted in local activities and discussions. It is understood that the use of simulations can contribute to implement the “thinking” of patient safety in the treatment of wounds, as well as to the demand for training and updates of nursing technical professionals, in their action in the work world.

In relation to the difficulties experienced, there stood out the lack of a proper simulation scenario, so that the activity would provide greater reality, in addition to the approximation to the practice experienced. However, this difficulty was overcome through adaptations of the available spaces and scenarios, allowing the satisfactory execution of the simulation.

A study also pointed out the difficulty of developing a scenario that would allow the experience of reality, since many professor did not have time for such elaboration, as well as many educational institutions did not provide places and materials for these activities<sup>(12)</sup>.

Another point that needs to be explored is that simulation is not yet part of the educational routine of technical level. Thus, some students were not comfortable to simulate, not interacting effectively with other colleagues. Authors state that it is recommended to provide subsidies for students to incorporate the character, and

a pre-established script is indicated to meet the defined objectives<sup>(10)</sup>.

It is noteworthy that simulation does not replace field activities in the training of the student of the nursing technical course, but can aggregate and replace traditional teaching methods, which do not match the new profile of students. Therefore, professors should be aware of the student's interest in learning and understanding the nursing care process.

## Conclusion

The experience revealed that the simulation strategy in the treatment of wounds offers several benefits in the teaching-learning process, highlighting the fact of favoring the student the opportunity to experience a proactive attitude in the construction of knowledge, with the involvement between professors and students. Thus, it is essential that professors seek methodologies that provide a more attractive teaching, always preferring an innovative and meaningful teaching.

The simulation of the wound procedure associated with the dressing proved to be advantageous for the teaching-learning process of the nursing technical course, as a strategy capable of qualifying and approaching students to professional practice, so that they can provide quality care to patients in their professional performance.

Thus, the dissemination of this simulation activity of the nursing technical course aims to encourage other professors and technical education institutions to realize the possibility of performing this teaching strategy and adopt simulation as a reality.

## Collaborations:

1 – conception, design, analysis and interpretation of data: Simone Roecker and Juliane Pagliari Araujo;

2 – writing of the article and relevant critical review of the intellectual content: Alice Molonha,

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3 – final approval of the version to be published: Simone Roecker and Juliane Pagliari Araujo.

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