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ASSESSMENT OF NURSING STUDENTS' SATISFACTION AFTER ACUTE CORONARY SYNDROME SIMULATION: A CROSS-SECTIONAL STUDY

Avaliação da satisfação de estudantes de enfermagem após simulação de síndrome coronariana aguda: estudo transversal

Evaluación de la satisfacción de estudiantes de enfermería después de simulación de síndrome coronario agudo: estudio transversal

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RESUMO

Objetivo: avaliar a satisfação dos estudantes após simulação de síndrome coronariana. **Método:** trata-se de um estudo quantitativo transversal, desenvolvido em uma universidade do norte do Paraná. A amostra composta por 33 estudantes matriculados no curso de enfermagem. A coleta de dados feita através da Escala de Satisfação com Experiências Clínicas Simuladas. **Resultados:** destacou-se maior satisfação nos itens "Qualidade dos simuladores" (9,18±1,07), "Ligação dos cenários a teoria"

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(8,67±1,55) e "Qualidade do equipamento utilizado nas práticas" (8,52±1,37). Por outro lado, nos itens "Motivação quanto às vindas para as aulas práticas" (7,12±2,09) e "Satisfação com o grau de dificuldade dos cenários" (7,52±2,12) observou-se menor satisfação. Na distribuição das médias da escala, as três dimensões ("dimensão prática", "dimensão realismo" e "dimensão cognitiva") apresentaram altos escores. **Conclusão:** os estudantes apresentaram-se motivados com o ensino baseado em simulação ao concordar que este método de ensino proporciona bons níveis de satisfação como observou-se nos resultados.

DESCRITORES: Simulação de paciente; Estudantes de enfermagem; Satisfação pessoal.

ABSTRACT

Objective: to assess students' satisfaction after acute coronary syndrome simulation. **Method:** this is a quantitative cross-sectional study, developed at a university in northern Paraná. The sample consisted of 33 students enrolled in the nursing course. Data collection was performed using the Scale of Satisfaction with Simulated Clinical Experiences. **Results:** there was greater satisfaction highlighted in the items "Quality of the simulators" (9.18±1.07), "Linking of scenarios to theory" (8.67±1.55), and "Quality of the equipment used in practical sessions" (8.52±1.37). On the other hand, lower satisfaction was observed in the items "Motivation regarding attendance to practical classes" (7.12±2.09) and "Satisfaction with the level of difficulty of the scenarios" (7.52±2.12). In terms of the distribution of mean scores on the scale, all three dimensions ("practical dimension", "realism dimension", and "cognitive dimension") showed high scores.**Conclusion:** students demonstrated motivation with simulation-based education, agreeing that this teaching method provides satisfactory levels of satisfaction, as observed in the results.

DESCRIPTORS: Patient simulation; Students, nursing; Personal Satisfaction.

RESUMEN

Objetivo: evaluar la satisfacción de los estudiantes después de la simulación del síndrome coronario. **Método:** it is a quantitative cross-sectional study conducted at a university in northern Paraná. The sample consisted of 33 students enrolled in the nursing course. Data collection was carried out using the Scale of Satisfaction with Simulated Clinical Experiences. **Resultados:** se destacó una mayor satisfacción en los ítems "Calidad de los simuladores" (9,18 ± 1,07), "Vinculación de los escenarios con la teoría" (8,67 ± 1,55) y "Calidad del equipamiento utilizado en las prácticas" (8,52 ± 1,37). Por otro lado, se observó una menor satisfacción en los ítems "Motivación respecto a la asistencia a las clases prácticas" (7,12 ± 2,09) y "Satisfacción con el grado de dificultad de los escenarios" (7,52 ± 2,12). En cuanto a la distribución de las medias en la escala, las tres dimensiones ("dimensión práctica", "dimensión realismo" y "dimensión cognitiva") mostraron altos puntajes. **Conclusión:** los estudiantes mostraron estar motivados con la enseñanza basada en simulación al estar de acuerdo en que este método proporciona niveles satisfactorios, como se observó en los resultados.

DESCRIPTORES: Simulación de paciente; Estudiantes de enfermería; Satisfacción personal.

INTRODUCTION

Satisfaction is the desire for pleasure or disappointment that arises from the outcome of events and an individual's previous expectations of themselves. It is an emotional response that, whether perceived or not, involves a service. In teaching activities, it is generally linked to the learning experience and its relationship with the learner's expectations, and can be expressed within the whole process, or at various stages of the lived experience.[1]

The perception of the ways in which students learn, based on what motivates them and makes them confident, can serve as relevant evidence for improving the quality of training and preparation of professional nurses.[1] Thus, Simulation-Based Education (SBA) has proven to be a promising method for developing students through the acquisition of personal satisfaction and, as a consequence, self-confidence in order to improve skills and care.

The emotional preparation of future nurses allows students to practice their skills while having to deal with feelings such as anxiety and stress, regulating them, and thus better learning can be achieved.[2] Simulation offers learners the chance to experience a variety of real-life situations that may occur in a commonplace way in the professional environment, allowing them to train skills such as problem-solving, critical thinking, decision-making, individual and group communication and teamwork, without jeopardizing their safety or that of the patient.[3]

Nursing students need to be prepared to intervene quickly and rapidly in cases of complex pathologies such as

cardiovascular disease (CVD), which is one of the main causes of morbidity and mortality in Brazil and worldwide.[4] Among the causes of death from CVD, Acute Coronary Syndrome (ACS), including Acute Myocardial Infarction and Unstable Angina, are responsible for around 300,000 deaths a year throughout the country.[5]

Chest pain is the main symptom for recognizing ACS, but it should be noted that around 35% of patients may not have this symptom. Other symptoms that may accompany it are dyspnea, weakness, fatigue, tachycardia and hypoxemia, which can lead to interference in the body's homeostasis.[6]

Nurses are involved in all stages of the care process for patients with suspected ACS. From their admission to the emergency unit to therapeutic interventions, with good performance of their duties, this professional promotes a service based on prior knowledge and protocols, directly interfering in the prognosis of patients, because, as soon as care is initiated, it can reduce the risk of death of these patients[7], under these conditions, EBS can be an important tool to encourage and facilitate care when faced in the professional life of these students and future professionals.

The aim of this study was to assess the satisfaction of nursing students after simulating ACS.

METHOD

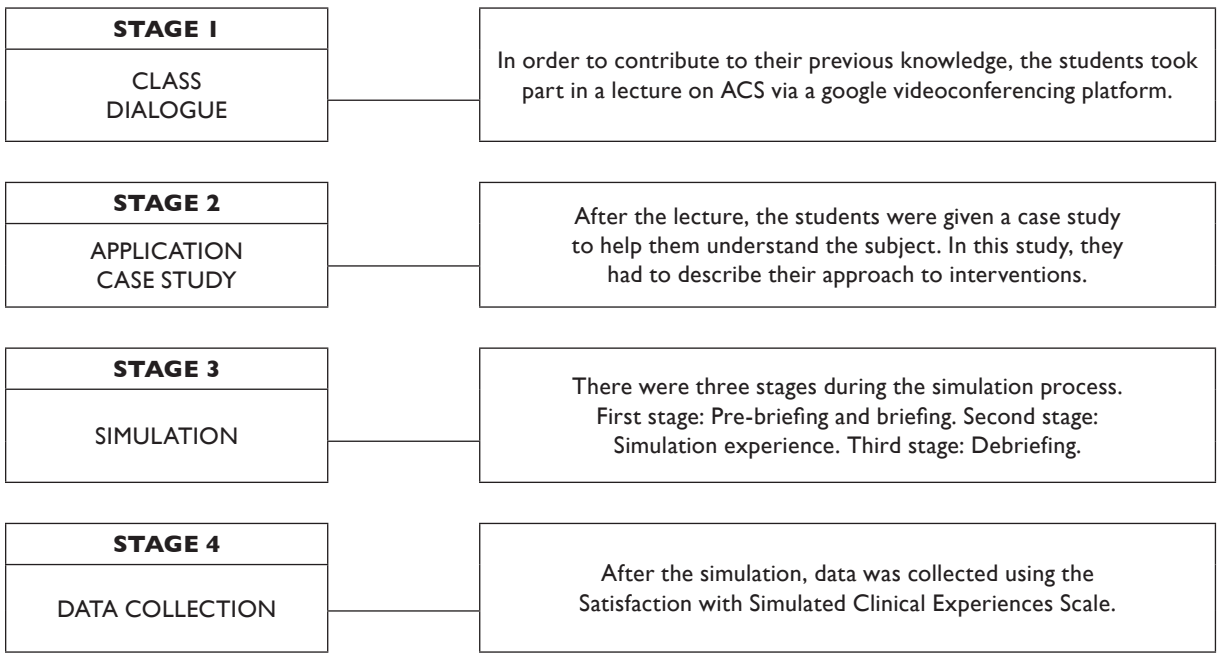
This was a cross-sectional quantitative study carried out in the nursing laboratory of a public university in Paraná. The sample consisted of 33 students enrolled in the 4th year of the university's nursing course, divided into 15 pairs and 1 trio. The students' participation was conditional on signing the Informed Consent Form (ICF). In line with the Resolution of the National Research Ethics Council, this study was approved by the ethics committee with opinion 3.989.981.

The inclusion criteria were to be regularly enrolled in the fourth year of the nursing course in 2021, to be linked to the discipline of Clinical Practices in High Complexity and not to have a previous degree in the health area. Those who, for whatever reason, had missed one or more stages prior to the simulation, such as theoretical classes on the subject, were excluded from the analysis.

The theoretical and methodological framework used for the research was The League Nursing (NLN)/Jeffries Simulation Theory model, which has five components: the characteristics of the facilitator; knowledge about the participants; the characteristics of the simulation design; the educational practices and the results relating to the skills performed, critical thinking, self-confidence and the contributions of simulation as a teaching-learning method.[8]

The stages for carrying out the EBS can be seen in Figure 1 below:

Figure 1 - Research flow. Bandeirantes, PR, Brazil, 2022



Source: The author himself.

As prior knowledge, the students were introduced to the classification of ACS, pathophysiology, signs and symptoms, diagnoses and nursing interventions. They also learned about the electrocardiogram, sinus and supra-sinus rhythm, ST-segment depression, T-wave inversion and the American Heart Association's ACS protocol.

With regard to the stages of the simulation, in the first stage the Pre-briefing was carried out, which consists of a contract between the participants in the simulation and the facilitator so that ethics are maintained in the simulation as they should be in real care in a hospital environment, and the Briefing in which the objectives of the scenario, the environment and the materials that would be used were presented respectively, and then the case was read out to the participants:

> *Mrs. J.O, 68 years old, was referred to the emergency department of a medium-complexity hospital, without a hemodynamics room, by the emergency medical service. She reported substernal chest pain radiating to the left arm and difficulty breathing, which started 1 hour ago. The pain is not relieved by rest and she has a history of high cholesterol. You are the nurse in charge of this sector; the doctor is currently carrying out other care and has instructed you to follow the protocol for Mrs. J.O, with the help of your nu*rsing team.[9.:67]

In the second stage, the simulation experience was carried out using a high-fidelity patient simulator, Nursing Anne Laerdal®, together with its Laerdal® SIMPAD, which indicated signs and symptoms of ACS. During the simulation experience, the participants had 10 minutes to perform nursing interventions on the patient in a physical setting as close to reality as possible, which included drugs such as antiplatelet agents, anticoagulants, beta-blockers, nitrates, fibrinolytics, an adjustable hospital stretcher, a multi-parameter monitor simulator with cardiac electrical tracing, an IV stand, masks, catheters and an oxygen cylinder. Intervention measures would include requesting an ECG, anamnesis, physical examination, oxygen therapy, administration of oral medication and infusion of intravenous medication.

The primary objective of the scenario would be to provide care for patients with chest pain according to the American Heart Association's coronary syndrome protocol. Secondary objectives would be non-technical skills such as introducing oneself to the patient, communicating clearly, defining a leader and distributing workload with defined roles, assigning targeted requests, communicating in a closed loop, sharing knowledge. Technical skills included identifying vital signs and intervening, requesting an electrocardiogram, carrying out a physical examination and anamnesis, administering medication according to the protocol/medical prescription, interpreting the electrocardiogram and classifying the patient into one of the three coronary syndrome groups.

For the third stage, 20 minutes were set aside for a good judgment debriefing, conducted by the teacher responsible for the subject. In this, the facilitator with expertise in the subject verbalizes the activity observed and invites the participant to express themselves actively, valuing the student's point of view and jointly articulating the mistakes made as a learning opportunity; therefore, there is a critical and constructive judgment that favors reflective thinking.[10]

Data was collected immediately after the debriefing, and the Satisfaction with Simulated Clinical Experiences Scale was used to analyze nursing students' satisfaction.[11] The scale consists of 17 items, graded on a gradual scale from 0 to 10, where the closer to zero, the less satisfied, and the closer to 10, the more satisfied the student was with the simulated practice. The scale is divided into three dimensions: practical, cognitive and realism.

RESULTS

33 students took part in the study, all of them female. The average age of the participants was 21.93 (±1.57).

The data relating to student satisfaction is shown in Table 1.

Table 1 - Distribution of the satisfaction scale measures for nursing students during the high-fidelity simulation. Bandeirantes, PR, Brazil, 2022

Itens	Minimum	Maximum	Mean	SD
Overall satisfaction with the practical classes	4	10	8,00	1,80
The learning achieved	3	10	7,79	1,75
Motivation for coming to classes Practical classes	2	10	7,12	2,09
Dynamism of practical classes	5	10	7,91	1,86
Active active in scenarios Developed	3	10	7,91	1,63
Interaction with colleagues	4	10	8,45	1,82

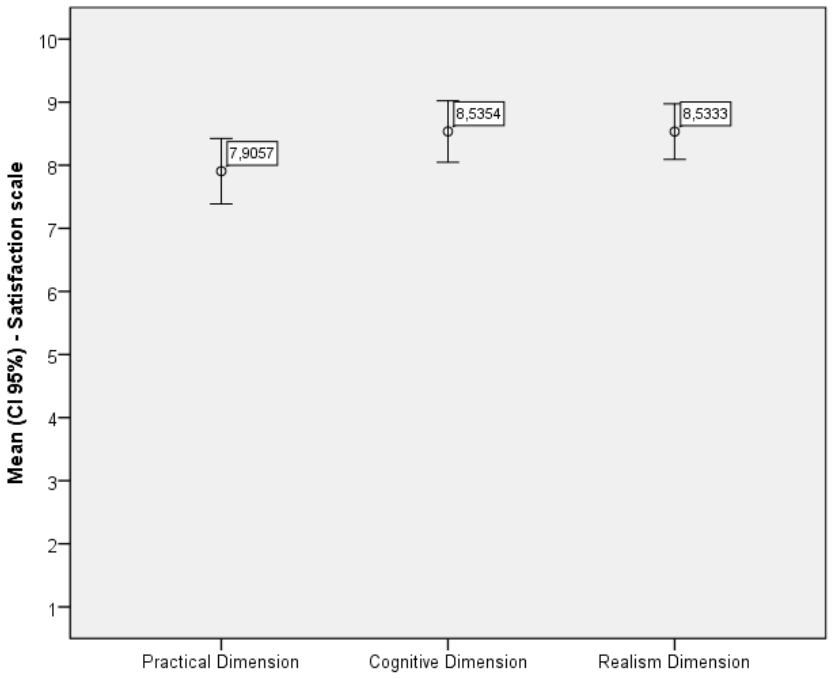
Itens	Minimum	Maximum	Mean	SD
Interaction with teachers	4	10	8,36	1,76
Satisfaction with the level of difficulty of the Scenarios	1	10	7,52	2,12
Satisfaction with the post-scenario discussion (debriefing)	1	10	8,42	2,03
Link between scenarios and theory	5	10	8,67	1,55
Adequacy of the themes developed in theoretical/practical classes	5	10	8,52	1,52
Productivity during practical classes	2	10	8,09	1,83
Realism of the scenarios developed	4	10	8,30	1,61
Credibility during the scenario	5	10	8,24	1,50
Quality of the material used in the Practical	5	10	8,42	1,54
Quality of the equipment used Practical	5	10	8,52	1,37
Quality of simulators	6	10	9,18	1,07

Source: The author himself. Note. SD = Standard Deviation

The items "Quality of the simulators" had the highest mean of nine point eighteen (9.18±1.07), followed by "Linking the scenarios to the theory" with eight point sixty-seven (8.67±1.55) and "Quality of the equipment used in the practicals" with a mean of eight point fifty-two (8.52±1.37). On the other hand, the items "Motivation for coming to practical classes" with seven point twelve (7.12±2.09) and "Satisfaction with the degree of difficulty of the scenarios" with seven point fifty-two (7.52±2.12) can be highlighted as the least satisfied by the participants.

Figure 2 shows the average percentage per dimension, practical, cognitive and realism.

Figure 2 - Distribution of the means of the satisfaction scale for nursing students during high-fidelity simulation, according to the practical, cognitive and realism dimensions. Bandeirantes, PR, Brazil, 2022



Source: The author himself.

It can be seen that there was greater satisfaction in the cognitive dimension, alongside the realism dimension. In the practical dimension, there was less satisfaction among the students.

DISCUSSION

This study assessed the satisfaction of nursing students after simulating ACS in the High Complexity Clinical Practices course. When suggestive of ACS, chest pain usually persists for more than 20 minutes. It is usually severe and has an oppressive, squeezing, burning or heavy characteristic, and can be associated with nausea, vomiting, sweating and dyspnea.[12]

In their professional experience, nurses are responsible for providing comprehensive care to patients, so they need to be able to interpret clinical signs and methods of early diagnosis of diseases such as ACS during the admission process, anamnesis and patient care.[13]

Based on the results of the survey, it was possible to see that the students were satisfied with the simulated environment, with the items "Linking the scenario to the theory", "Quality of the simulator" and "Quality of the learning environment" standing out.

These results show that the students were satisfied with the way the training was conducted and the choice of resources used by the researchers. The scenario and materials used were designed to help the students learn better. These results corroborate the author, responsible for the reference model used to choose the scenario, who says that theory goes hand in hand with the process of producing and constructing knowledge.[13]

With regard to the quality of the simulator, it is worth noting that good research has also been carried out with low-fidelity simulators and scenarios, but in this study, it is clear that the use of a high-fidelity simulator ends up familiarizing the student with the real patient, as the mannequin's speech and reactions are close to reality. It is known that student satisfaction is related to greater motivation to learn.[14] As for the quality of the environment, it lives up to the aim of simulation, which is to bring participants as close as possible to the real world, so that they can feel the adrenaline and emotion of the moment they are experiencing, a result found in this study.

EBS can be an important component in preparing students for a successful transition to clinical practice. It also contributes to student satisfaction, confidence and critical thinking. For these reasons, simulated experiences can be an option to complement traditional methods of nursing education.[15] Students need satisfaction and self-confidence to be successful in their professional integration[16], and this is acquired through practice, as provided in this study.

Although the item "Motivation to come to practical classes" had the lowest average, it is worth noting that only two students rated it negatively, which lowered the final average for this item. This may be related to students not being culturally accustomed to being responsible for their own learning, with the teacher merely mediating learning. Students are used to traditional teaching, which is why they often feel unmotivated when they are primarily responsible for their learning. A motivated student acquires more knowledge quantitatively and qualitatively when they believe in the potential of what they learn for their future practice.[17]

Participants need to feel comfortable enough to ask questions and self-evaluate, without the fear of being embarrassed, identifying their own mistakes by connecting practice to theory and developing teamwork skills. In this sense, if the debriefing is not conducted well, all the learning gains can be jeopardized, leading to a decrease in the participant's clinical performance, loss of self-reflection and motivation and difficulties in the relationship with the facilitator.[18]

However, this was not the case in this study. A study on this subject demonstrated the ability of debriefing to structure thinking, focusing on the important aspects of performance with the aim of improving performance in future work.[19] It is worth noting that everyone has their own desires and perceptions, and even though the debriefing is a moment of reflection without judgment, not everyone is ready to face or manage emotions. The moment between the facilitator and the participant, at the end of the simulation, with comments on how the participant felt in the role played, is important for the training of the student.[20]

Among the items with the lowest averages was "Satisfaction with the degree of difficulty of the scenarios". It was observed that the participants in general were not satisfied with the degree of difficulty of the scenario. This may have been due to the stress and anxiety that some students may experience in environments that encourage conflict resolution actions.[21] It is worth highlighting the complexity of clinical simulation. The method requires students to develop many skills at the same time: cognitive, technical, leadership, teamwork and conflict resolution skills, and this completeness means that a simple scenario objective becomes something very complex.

It is therefore important that before being immersed in the realistic scenario, the student first needs to understand the complexity of this teaching-learning method and what objectives will be developed and expected during the scenario. Despite this, the students were satisfied with the quality of the simulators and the link between the scenario and theory, as already mentioned. With a focus on training critical, problem-solving, ethical and scientifically-based professionals, the active methodology provides this training, whether virtual or realistic, low or high fidelity.[22]

Due to the characteristics of the career, nursing education involves constant contact with stressful situations for students right from the start of the course. This situation can cause anxiety, fear, anguish, tension and various other feelings present in the uncertainties of what may happen during the training process and in the care provided to patients.[23]

In the distribution of the means of the satisfaction scale for nursing students during high-fidelity simulation, the three dimensions ("practical dimension", "realism dimension" and "cognitive dimension") showed high scores. It is believed that the high level of satisfaction with the simulated experience may have contributed to a greater gain in satisfaction.[16] In the questions related to the practical dimension, the average was slightly lower than the others, showing results that may be related to dissatisfaction with the degree of difficulty of the scenario.

In general, in nursing there will be situations in which the professional or student will need to choose the best procedure, the best action to take and be assertive in their conduct, and this refers to the true purpose of clinical simulation. Assessing this satisfaction with the teaching strategies used is an important indicator of the quality of the teaching process. Students who are satisfied with the acquisition of knowledge are more motivated to learn, which has an impact on the quality of the educational process.[6]

A better understanding of their emotions, their manifestations and their impact on academic performance and the associated factors can help students understand future problems in their professional practice and, from then on, look for alternatives to deal with situations with the aim of improving safety and reducing stress so that they can better assimilate their feelings and anxieties.

In view of this, this study presents the satisfaction data, demonstrating that EBS is a strategy that can contribute to learning, generating more autonomy and confidence in nursing students in a realistic simulation environment in an ACS scenario. In this research, these statements are portrayed in the values realism, practical and cognitive.

CONCLUSION

EBS is of great importance in the process of students' professional development, reinforcing learning by allowing them to live experiences that simulate real life, contributing to an academic education that includes patient safety, promoting greater satisfaction and autonomy in applying theory and acting in practice.

It can thus be seen that the students were satisfied with the simulation-based teaching in the ACS scenario, as they agreed that this teaching method provided good levels of satisfaction in terms of the items linking the scenario to theory, the quality of the simulator and the quality of the learning environment. It is known that satisfaction can be linked to better learning developed through the use of active teaching methodology, enabling a moment of understanding of the factors experienced and being of paramount importance in the professional development of future nurses.

In this way, we emphasize that the study implies contributions to education, by demonstrating a modern and efficient teaching method as evidenced in the results of this research, opening up new avenues for future research and training, in order to encourage students to study and, above all, to build safe professionals capable of properly handling an emergency situation. One limitation of the study was the fact that the data was collected in just one location, which made it difficult to compare the results absolutely.

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