






IMPLICATIONS OF THE CLINICAL PRACTICE IN SIMULATED ACTIVITIES: STUDENT SATISFACTION AND SELF-CONFIDENCE

IMPLICAÇÕES DA PRÁTICA CLÍNICA EM ATIVIDADES SIMULADAS: SATISFAÇÃO E AUTOCONFIANÇA DOS ESTUDANTES

IMPLICACIONES DE LA PRÁCTICA CLÍNICA EN ACTIVIDADES SIMULADAS: SATISFACCIÓN Y AUTOCONFIANZA DE LOS ESTUDIANTES

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ABSTRACT

Introduction: the literature shows that students who participate in simulated activities with previous clinical experience achieve less positive results in simulation than those without previous contact with the clinical field. **Objective:** to identify the implications of the clinical practice on student satisfaction and self-confidence with simulated clinical activities in comfort and hygiene measures for patients using disposable diapers. **Method:** a quantitative, quasi-experimental study conducted in a public university in the inland of the state of São Paulo, Brazil, using two instruments for assessing student satisfaction and self-confidence with simulated clinical practices: the Scale of Satisfaction and Self-confidence in Learning (*Escala de Satisfação e Autoconfiança no Aprendizado* - ESAA) and the Scale of Satisfaction with Simulated Clinical Experiences (*Escala de Satisfação com as Experiências Clínicas Simuladas* - ESECS). **Results:** 100 undergraduate nursing students participated in the study. Students with previous clinical experience had more significant values in the "self-confidence" item, so did students without clinical experience for the "realism" item of the scales. **Conclusion:** clinical simulation is enriching from the point of view of student learning, satisfaction and self-confidence, but it does not dispense with the actual clinical practice of students in the clinical field. **Keywords:** Education, Nursing; High Fidelity Simulation Training; Personal Satisfaction.

RESUMO

Introdução: a literatura demonstra que alunos que participam de atividades simuladas com experiência clínica prévia alcançam resultados menos positivos em simulação do que aqueles sem contato prévio com o campo clínico. **Objetivo:** identificar as implicações da prática clínica na satisfação e autoconfiança do estudante com atividades clínicas simuladas em medidas de conforto e higiene ao paciente usuário de fraldas descartáveis. **Método:** estudo quantitativo, quase-experimental realizado em uma universidade pública do interior do estado de São Paulo, no Brasil, utilizando dois instrumentos de avaliação da satisfação e autoconfiança do estudante com as práticas clínicas simuladas, a Escala de Satisfação e Autoconfiança no Aprendizado (ESAA) e a Escala de Satisfação com as Experiências Clínicas Simuladas (ESECS). **Resultados:** participaram do estudo 100 estudantes de graduação em Enfermagem. Alunos com experiência clínica anterior tiveram valores mais significativos no item "autoconfiança"; estudantes sem experiência clínica para o item "realismo" das escalas. **Conclusão:** a simulação clínica é enriquecedora do ponto de vista do aprendizado, satisfação e autoconfiança do estudante, mas não dispensa a prática clínica real dos estudantes em campo clínico. **Palavras-chave:** Educação em Enfermagem; Treinamento com Simulação de Alta Fidelidade; Satisfação Pessoal.

RESUMEN

Introducción: la literatura indica que los estudiantes que participan en actividades simuladas con experiencia clínica previa logran resultados menos positivos en la simulación que aquellos sin contacto previo con el campo clínico. **Objetivo:**

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identificar las implicaciones de la práctica clínica para la satisfacción y la autoconfianza del estudiante con actividades clínicas simuladas en medidas de comodidad e higiene para pacientes que usan pañales desechables. **Método:** estudio cuantitativo, cuasiexperimental realizado en una universidad pública del interior del estado de São Paulo, Brasil, utilizando dos instrumentos para evaluar la satisfacción y la autoconfianza de los estudiantes con prácticas clínicas simuladas: la Escala de Satisfacción y Autoconfianza en el Aprendizaje (ESAA) y la Escala de Satisfacción con Experiencias Clínicas Simuladas (ESECS). **Resultados:** participaron 100 estudiantes de grado en enfermería. Los estudiantes con experiencia clínica previa obtuvieron valores más significativos en las escalas en "autoconfianza"; los estudiantes sin experiencia clínica en "realismo". **Conclusión:** la simulación clínica es enriquecedora desde el punto de vista del aprendizaje, la satisfacción y la autoconfianza, pero no prescinde de la práctica clínica real de los estudiantes en el campo clínico.

Palabras clave: Educación en Enfermería; Enseñanza Mediante Simulación de Alta Fidelidad; Satisfacción Personal.

INTRODUCTION

Simulation offers learners the possibility to experience a variety of real situations, in safe environments, which allow for skills training, problem solving, critical thinking, decision making, individual and group communication and teamwork without jeopardizing their safety. The method also has the advantage of reducing anxiety levels in the clinical field and increasing the levels of satisfaction, self-confidence, knowledge and clinical competence.¹⁻⁵

Depending on the learning objectives defined, the simulated clinical experiences can be developed with a variety of resources and in a multitude of scenarios that are classified by levels of complexity in low, medium and high fidelity simulation. Among these different modalities, high-fidelity simulation is not characterized as such by the equipment it uses, but by the complexity of the scenario it understands, which usually involves teamwork, decision making, and clinical reasoning, among others. The high-fidelity simulation has also been perceived for its effectiveness in behavioral and cognitive education, levels of self-esteem, self-confidence, and student satisfaction. In addition, it provides challenging and more stimulating learning to learners, which seems to be related to the levels of technology and interaction, which contribute to the recognition of real or potential situations and to the formation of more active professionals in the clinical practice.⁶⁻⁸

The literature records a significant increase in satisfaction and knowledge after simulated high fidelity practices for the student's development in the assessment of elimination needs. Associated with other factors, satisfaction with the simulated practice overcomes the feeling experienced in traditional

teaching, helps in coping with clinical practice, and minimizes feelings of fear and anxiety in the face of the profession.^{6,9,10}

Student satisfaction in the face of simulated scenarios is increasingly considered by educational institutions as a translator of good practices and good working conditions. It is an excellent measurement unit for evaluating teaching, teachers, employees, and the institution itself. In a clinical simulation, the satisfaction that students show has resulted in the realism of the scenarios, in the articulation of theory with practice in the laboratory, and in the interaction with the simulator.¹¹ The success of the simulated high-fidelity activity requires theoretical and practical knowledge.^{9,12}

The literature has described that students who participate in simulated activities with previous clinical experience demonstrate less positive results in clinical simulation than those without previous contact with the clinical field. Students who have never had contact with the clinical field exhibit more use of the learning tool to improve their skills and knowledge.¹³ With regard to clinical and simulated activities, some authors have reinforced that, at the end of the simulated activities, the development of clinical practices in real fields is essential.¹⁴ In this context, it is necessary to explore more effectively the relationship of the students with the clinical simulation, the clinical practice and the type of simulated practice, investigating whether the order in which such events are offered during the training process can in any way compromise the students' level of satisfaction with the simulated practices.

In this sense, the objective of this work is to identify the implications of the clinical practice on the satisfaction and self-confidence of students with simulated high-fidelity clinical activities in nursing care to measures of comfort and hygiene to patients using disposable diapers.

METHODOLOGY

A quantitative and quasi-experimental study.¹⁵

PLACE AND SAMPLE

This study was carried out in a public university in the inland of the state of *São Paulo*. Nursing undergraduate students were invited to participate. 100 students participated in the workshop for data collection and constituted the sample, thus making up a convenience sample. The students participated in a workshop and there was no sample loss among the participants.

DATA COLLECTION INSTRUMENTS

The following instruments were used for data collection:
a) Scale of Satisfaction with Simulated Clinical Experiences

(ESECS),⁸ which aims to identify student satisfaction with the use of simulation. ESECS is an instrument divided into the practical, realism and cognitive dimensions, composed of 17 statements, before which the student expresses his opinion, on a Likert-type scale ranging from one to 10, where the value of one represents the lowest level of satisfaction and the value of 10 the highest level of satisfaction; b) Scale of Satisfaction and Self-confidence in Learning (ESAA).¹⁶ This scale aims to measure the levels of satisfaction and self-confidence acquired from the high-fidelity simulation. It consists of a scale with 13 five-point Likert-type items, divided into two dimensions (satisfaction, five items; and self-confidence in learning, eight items).

DEVELOPMENT OF THE STUDY

The study was divided into two stages. In the first, a medium-fidelity scenario was created and validated, entitled "hygiene and comfort measures for the patient wearing a disposable diaper" and was characterized by nursing care for a clinical patient who had evacuated in large quantities. At this stage of the study, the students should carry out the skills training of performing the diaper change, using correct techniques for the procedure together with monitors, clarifying doubts and practicing the technique in the appropriate way. For the characterization of the color, odor and consistency of the feces, food scraps were used (beans cooked and crushed with onion and broccoli).

In stage two, a simulated high-fidelity practice was performed using high-fidelity simulators. After training in diaper changing skills, the students participated in a simulated high-fidelity scenario. The scenario consisted of a bedridden patient who needed care related to the needs for disposal, hygiene and diaper care. After the simulated activity, a debriefing session was performed with all the participants.

The scenarios were composed based on the literature review and on the opinion of specialists. Before being applied, the scenarios were validated in appearance and content by a group of five specialists. There was 100.0% agreement among the judges.¹⁷

As a strategy for publicizing the event, written pamphlets and a virtual network were used. The event was held on two consecutive days and 120 vacancies were made available, with all registration completed. The 100 graduates who participated in the event comprised the sample of this study. Groups of 10 people were formed; these individuals participated in five simulated scenarios offered in the workshop.

The activities of the workshop had theoretical content previously sent for reading and simulated high fidelity practice activity. After the high fidelity simulated practice (hygiene and comfort measures to the patient wearing a disposable diaper),

the students answered ESECS⁸ and ESAA¹⁶ and the instrument for characterizing the subjects.

DATA PROCESSING AND ANALYSIS

The survey data was encoded and double typed into Excel application spreadsheets, exported and analyzed in Statistical Package for Social Science (SPSS), version 23 (Windows). For analysis of ESECS and ESAA, internal consistency calculation tests were performed, based on Cronbach's alpha (α) coefficient. On the original scales in ESECS⁸ the items were evaluated in the practical, cognitive and behavioral dimensions. And in ESAA,¹⁶ in the dimensions of satisfaction and self-confidence. The t test was used to compare the results.

ETHICAL ASPECTS

This project has ethical authorization under Opinion 119/2016. The participants signed the Free and Informed Consent Form (FICF). The subjects who participated in the workshop were also guaranteed the right not to participate in the study. There were no refusals.

RESULTS

100 nursing students from the municipality participated in the study. Among the participants, 90 (90%) were female and 10 (10%) were male. The mean age was 24 years old, the median was 22, the minimum age was 18 and the maximum age was 48.

Among the study subjects, 23 (23%) were in the 1st year of the course, 21 (21%) in the 2nd year, 25 (25%) in the 3rd year, 18 (18%) in the 4th year of the course and 13 (13%) in the 5th year.

The students' responses to the positive and negative experiences and the grade given to the workshop activity are described in Table 1.

When asked about previous training, the majority (81, 81%) stated that they had already performed some type of laboratory practice and 61 (61%) had already participated in simulated scenarios. Among the students, 67 (67.0%) had already passed clinical practices during the course and 48 (48.0%) had already had experience with diaper change.

To compare the level of satisfaction in the high fidelity simulated scenario of the students who had had previous experiences with diaper change (48, 48.0%) with that of those who had never changed diapers (52, 52.0%), ESECS⁸ and ESAA were used,¹⁶ which demonstrated high reliability in their application (Cronbach's Alpha of 0.862 for ESECS⁸, and of 0.842 for ESAA¹⁶).

Table 1 - Distribution of the subjects regarding the aspects identified in the workshop and the grade awarded. Possibility from 0 to 10. *Ribeirão Preto, 2016*

Positive factors	Frequency
Scenario	50
Interaction	14
Learning	14
Practice	8
All the factors	8
Debriefing	6
Total	100
Negative factors	Frequency
None	34
Nervousness	28
Lack of previous knowledge	20
Time	18
Total	100
Note	Frequency
10	62
9	22
8	13
7	3
Total	100

Table 2 shows the descriptive values of satisfaction and self-confidence with the simulated activity according to the previous experience with diaper change measured by ESECS⁸ and by ESAA.¹⁶

The analysis of the Kolmogorov-Smirnov test showed normal distribution (>0.05) of the sample. Thus, to compare the self-attributed values by the students who had previous experience with diaper change (48, 48.0%) with those who had no previous experience (52, 52.0%), the t test was used. Table 3 shows the results obtained in this comparison.

Regarding ESECS⁸, the t-test analysis also found that there was no significance in the practical (0.724), cognitive (0.935), and general (0.889) factors. The significant values of the scale were shown in the realism dimension (p value of 0.024).

In ESAA¹⁶ there was significance when comparing the two groups (with previous experience X without previous experience) for the self-confidence dimension (p value of 0.000) and the general dimension (0.003), and there was no significance when comparing the two groups for the satisfaction dimension (p value of 0.452)

According to Pearson's correlation coefficient, a moderate and positive correlation (0.612) was found between ESECS⁸ and ESAA.¹⁶

Table 2 - Satisfaction with the simulated activity according to the previous experience with diaper change measured by ESECS. *Ribeirão Preto, 2016*

Satisfaction (ESECS)	N	Mean	Standard Deviation	Minimum	Maximum
With Experience					
General	48	9.35	0.666	6.41	10
Practice	48	9.18	0.745	6.00	10
Realism	48	9.60	0.681	7.00	10
Cognitive	48	9.43	0.798	6.67	10
Without Experience					
General	52	9.36	0.460	8.24	10
Practice	52	9.60	0.627	7.67	10
Realism	52	9.73	0.375	8.40	10
Cognitive	52	9.44	0.632	7.67	10
Satisfaction (ESAA)	N	Mean	Standard Deviation	Minimum	Maximum
With Experience					
Self-confidence	48	4.39	0.388	3.75	5
Satisfaction	48	4.66	0.4	3.6	5
Without Experience					
Self-confidence	52	4.04	0.507	3.13	5
Satisfaction	52	4.59	0.52	2.6	5

Table 3 - Significance level of the comparison between satisfaction with the simulation among the students who had already undergone a diaper change and those who had never had this experience. *Ribeirão Preto, 2016*

SATISFACTION with previous experience/ without previous experience	T test	Significance
ESECS		
Practice	0.354	0.724
Realism	-1.236	0.024
Cognitive	-0.082	0.935
General ESECS	-0.140	0.889
ESAA		
Satisfaction	0.755	0.452
Self-confidence	3.905	0.000
General ESAA	0.755	0.003

DISCUSSION

Simulation can be defined as a dynamic process, as an authentic representation of reality, offering opportunities to students to train skills, verbal and non-verbal communication and skills necessary for the real clinical practice, which facilitates student engagement, in addition to integrating the

complexities of clinical practices and theoretical learning with the opportunity for repetition and feedback of the teacher. It is a learning strategy that contributes to resolving the tensions between theory and practice in a safe way, since mistakes do not put the patient or the student at risk.^{13,18}

During their training process, Nursing students must acquire an adequate level of confidence and precision before undertaking the clinical practice in real patients. Students who have never performed care related to the patient's personal hygiene, diaper change, among others, demonstrate more insecurity and less self-confidence in performing practices in the real patient, when compared to those who have already had such opportunities in the learning field.^{13,18}

Diaper changes and patient hygiene and comfort care are essential aspects in the field of Nursing and can be trained in simulated clinical activities to better prepare and adapt future professionals. As shown in Table 1, in this study the students declared that performing a diaper change in a simulated clinical setting, interacting with colleagues and acquiring learning, among others, were positive factors in carrying out the activity. They also indicated that nervousness and lack of prior knowledge on the subject had a negative impact on the activity performed. The subjects' cognitive understanding is a major part of professional development. Simulation is a strategy that increases knowledge, self-confidence and learner satisfaction and aims to improve the students' ability to reflect critically, synthesize content and integrate theoretical knowledge and practical skills.¹⁸⁻²⁰ In this sense, it can be an excellent strategy for training apprentices.

Caring for the patient's hygiene and comfort is part of the nurse's clinical routine and should be imbued in the training process from the beginning. In a safe environment, such as simulation, it is possible to enhance students' self-confidence and, in an integrated way, systematize, improve and develop cognitive processes, favoring motivation and satisfaction.¹⁴

The simulation scenario should be structured according to the students' previous experiences and take into account that learners, at individual levels of training, may require more time to evaluate and make decisions. For the success of the activity, it is important that the facilitator plans, elaborates, systematizes and conducts the activities based on a script that helps in the preparation and development of the teaching-learning scenario.²⁰ When students recognize that they have knowledge and understand the scientific basis to be used for safe care, their self-confidence and satisfaction increase with the simulated practice.^{13,6} In general, in this study the students highlighted positive aspects of the simulated clinical scenario and attributed high scores to the activity (Table 1).

When analyzing and comparing the levels of satisfaction and self-confidence of the students who had previous

experiences in diaper changes in the clinical field with that of the students without previous experience in changing diapers, high mean values attributed to satisfaction were observed for those who had no previous experience (Table 3). There was also a significant increase in satisfaction in the realism item measured by ESECS⁸ by these students (0.024) and in the general self-confidence of the scale, measured by ESAA¹⁶ (0.000), by students with previous clinical experience. According to the literature, the students with previous experience believe they have mastered the content presented, which can reduce the perception of the simulated exercise and minimize the benefits and importance of the activity for the development of skills and knowledge relevant to real clinical practice.¹³

The simulation increases the level of self-confidence of the students with and without clinical experience, being more significant, in this study, in those with previous clinical experience. With regard to realism, the use of food scraps for making the scenery, used in large quantities in the diaper, produced a visual effect and odor very close to the real one, which was positive for those without previous clinical experience.

Students who already had clinical practice tend to perceive the simulation's similarity or divergence with the practical reality more clearly, since they have already experienced it. The association of these items with the way the facilitator conducts the simulation, the way he treats the interaction between the learner and the scenario and the positive way of adequately structuring the scenario make up realism.¹⁹ These items provoke a sensation of reality in the students, raising levels of adrenaline and stress, which can also occur in the clinical practice, and creates an environment that can provide, depending on the learners, a climate with high rates of realism, which was also reported by the students of this research.^{7,13,20}

Self-confidence to perform procedures, communicate and make decisions leads to the successful execution of tasks. The lack of self-confidence creates stress and difficulty for students to carry out their activities.^{20,21} Realism, on the other hand, belongs to the perception of each individual and their willingness to learn. The previous experience of each participant and the way they perceive the simulation will make it more realistic or not. This is because realism is made up of three main elements; *physical fidelity*, which includes sensory items, which are tactile, olfactory, visual and auditory, similar to those of clinical reality; *component fidelity*, which consists of the level of physiological and pharmacological response of the simulator, fidelity restricted to high-fidelity simulators; and *emotional and experimental fidelity*, which refers to the level of realism that the simulation awakens in the participant, being particular to each student and related to their previous experiences.²¹

The feeling of self-confidence in the skills learned is an aspect highlighted by the literature as positive in the use of

simulation. Students who undertake training in simulated scenarios have a high level of self-confidence when compared to traditional classes. This means that the simulation experience increases the confidence and preparation of the students who participate in it, if the situation experienced in the scenario occurs in a real context. The safe environment of the simulation allows students to train several times until they feel confident to perform the care, unlike the reality in the clinical practice, in which students do not always have opportunities for feeling insecure and for fear of making mistakes and causing harm to the patient. Students who have already performed care in a real clinical field tend to feel more self-confident in carrying out the professional activities.^{11,13,14}

These results reveal that the simulated clinical practice is relevant and increases the levels of satisfaction and self-confidence of Nursing students with or without previous experience, but does not dispense with the clinical practice with a real patient.

As a limiting factor of this study we can considered the fact that, although the results measured by the two instruments used were positive, the correlation between them was moderate in the satisfaction item, which raises the need for further investigations.

CONCLUSIONS

The hygiene and comfort care provided to the patients can be considered as the simplest expression of what Nursing care represents. When the students are included in simulated teaching-learning activities, they are adequately and safely prepared to care for them, in situations where the other is at a high degree of vulnerability.

In this study, high rates were observed in assessing the levels of satisfaction and self-confidence of students with previous clinical experience and without experience. Higher scores were attributed to the self-confidence item by students who had clinical experience, and higher scores were attributed to students without clinical experience in satisfying the realism item, demonstrating that clinical simulation is advantageous for all the students (with or without previous clinical experience), and should not be used in isolation from the real clinical practice. Educational institutions must invest in both teaching strategies to maximize the levels of satisfaction and self-confidence of undergraduate Nursing students.

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