



CLINICAL SIMULATION: DEVELOPMENT OF RELATIONAL COMPETENCE AND PRACTICAL SKILLS IN NURSING FUNDAMENTALS

SIMULAÇÃO CLÍNICA: DESENVOLVIMENTO DE COMPETÊNCIA RELACIONAL E HABILIDADE PRÁTICA EM FUNDAMENTOS DE ENFERMAGEM

SIMULACIÓN CLÍNICA: DESARROLLO DE COMPETENCIA RELACIONAL Y HABILIDAD PRÁCTICA EN FUNCIONAMIENTO DE ENFERMERÍA

Luciara Fabiane Sebold¹, Julia Estela Willrich Böell², Juliana Balbinot Reis Girondi³, José Luís Guedes dos Santos⁴

ABSTRACT

Objective: to describe how clinical simulation contributes to the development of relational competence and practical skills of nursing undergraduates. **Method:** qualitative, documentary study based on critical pedagogy, developed with 32 undergraduate Nursing students enrolled in the course Fundamentals for Professional Care of a university in the South of Brazil. Data were collected from the participants' portfolios and the Technique of Content Analysis in the Categorical Analysis modality was used. **Results:** the clinical simulation contributed to improve the relational competence and the practical skills. Relational competence was developed by the realization of the relevance of teamwork and the established relationships. The development of practical skills was linked to the mastery to perform the nursing procedures. **Conclusion:** simulation is a facilitating strategy in the teaching-learning process of Nursing, highlighted in this study from the development of the ability of work as a team and from the improvement of practical skills. **Descriptors:** Teaching; Nursing Care; Nursing Education.

RESUMO

Objetivo: descrever como a simulação clínica contribui para o desenvolvimento da competência relacional e habilidades práticas de graduandos de enfermagem. **Método:** estudo qualitativo, documental, alicerçado na pedagogia crítica, desenvolvido com 32 alunos de graduação em Enfermagem matriculados na disciplina Fundamentos para o Cuidado Profissional de uma universidade do Sul do Brasil. Os dados foram coletados nos portfólios dos participantes sendo empregada a Técnica de Análise de Conteúdo na modalidade Análise Categorical. **Resultados:** a simulação clínica contribuiu para aprimorar a competência relacional e a habilidade prática. A competência relacional foi desenvolvida mediante constatação da relevância do trabalho em equipe e as relações estabelecidas. O desenvolvimento da habilidade prática foi relatado a partir da destreza para realização dos procedimentos de enfermagem. **Conclusão:** a simulação é uma estratégia facilitadora no processo de ensino-aprendizagem da Enfermagem, elencada neste estudo a partir do desenvolvimento da capacidade de trabalho em equipe e do aperfeiçoamento das habilidades práticas. **Descritores:** Ensino; Cuidados de Enfermagem; Educação em Enfermagem.

RESUMEN

Objetivo: describir cómo la simulación clínica contribuye para el desarrollo de la competencia relacional y habilidades prácticas de estudiantes de enfermería. **Método:** estudio cualitativo, documental, fundado en la pedagogía crítica, desarrollado con 32 alumnos de graduación en Enfermería matriculados en la disciplina Fundamentos para el Cuidado Profesional de una universidad del Sur de Brasil. Los datos fueron recogidos en los portfólios de los participantes siendo empleada la Técnica de Análisis de Contenido en la modalidad Análisis Categorical. **Resultados:** la simulación clínica contribuyó para mejorar la competencia relacional y la habilidad práctica. La competencia relacional fue desarrollada mediante constatación de la relevancia del trabajo en equipo y las relaciones establecidas. El desarrollo de la habilidad práctica fue relatado a partir de la destreza para realización de los procedimientos de enfermería. **Conclusión:** la simulación es una estrategia facilitadora en el proceso de enseñanza-aprendizaje de la Enfermería, mostrada en este estudio a partir del desarrollo de la capacidad de trabajo en equipo y del mejoramiento de las habilidades prácticas. **Descritores:** Enseñanza; Atención de Enfermería; Educación en Enfermería.

¹Nurse, PhD Professor, Federal University of Santa Catarina, Florianópolis (SC), Brazil. E-mail: fabisebold@gmail.com; ² Physical Educator, Nurse, PhD student at the Graduate Program in Nursing, Federal University of Santa Catarina, Florianópolis (SC), Brazil. E-mail: juliaestela_8@hotmail.com; ³Nurse, PhD Professor, Federal University of Santa Catarina, Florianópolis (SC), Brazil. E-mail: juliana.balbinot@ufsc.br; ⁴ Nurse, PhD Professor, Federal University of Santa Catarina, Florianópolis (SC), Brazil. E-mail: jose.santos@ufsc.br

INTRODUCTION

Nursing has discussed innovations in teaching to enable students to carry out professional practices in a safe way. Nursing competencies can be developed from the use of active methodologies, with simulated environments. Accordingly, simulation is an active teaching methodology employed in health and nursing courses. It represents a differential option among teaching methodologies, because it allows experiential and student-centered learning in a safe environment, supported by reflection and mediated by a facilitator.¹⁻²

In this context, clinical simulation is defined as a technique that employs a situation or environment created to allow people to experience a representation of real environments with the specific purpose of learning, improving skills, performing assessments, testing or acquiring knowledge on human systems or actions.³

Spaces and simulators are essential to the development of specific skills and the availability of sound and imaging technology and high fidelity simulators at a reasonable cost have allowed them to be used more consistently in several nursing schools around the world, making it easier to integrate true simulated clinical experiences in Nursing curricula.⁴

The use of simulations in education is internationally known.⁵⁻⁶ In England, the first use of simulators for teaching in the field of nursing occurred in the 1960s⁷. In Brazil, the use of simulations, especially high-fidelity simulators, in which the simulator/manikin responds to the actions executed by students, can be considered recent. Studies on this approach have recently began to be developed in order to demonstrate the relevance of this practice for undergraduate nursing teaching.

The use of simulations leads to the development of psychomotor, attitudinal and cognitive competences.^{1,3,5} Therefore, this process favors the acquisition of critical thinking, skills and knowledge. Besides, it has been also considered that simulations permeates improved confidence in students.⁸

In this context, with a focus on the interpersonal relations experienced by students and on the acquisition of skills, this study aimed to describe how clinical simulation contributes to the development of relational competence and practical skills of nursing undergraduates.

METHOD

Qualitative, descriptive-exploratory, and documentary study based on problematizing critical pedagogy, which that is supported on the development of students' and teachers' ability to critically and consciously understand their relationship with the world.⁹

The research was carried out with 32 undergraduate nursing students from a Federal University in the south of Brazil enrolled in the course Fundamentals for Professional Nursing Care, from March to July 2015. The teaching methodology used in this course is based on the assumptions of problematizing critical pedagogy. Among the didactic strategies of the course, the use of simulated practices stands out. The simulations are developed throughout the academic semester by the teachers from guides for each clinical case according to the programmatic content, and are executed by randomly selected students to compose groups with three to five people. The simulations happen according to the following steps:

1. Presentation of the clinical case by the teachers to the team with specific information, such as: profile of the patient studied, type of illness or health problem, survey of nursing problems;
2. Constitution and a teacher. Each group interacts with its clinical case, having as tasks: to work in team, to list the priority care measures for the situation, to list the necessary materials for the interventions and to carry out the nursing notes;
3. Selection of materials and implementation of nursing procedures specific to the clinical case.

After the simulation is completed, students are encouraged to evaluate their experience together with their colleagues, participating in the process identified as *debriefing*. This moment is mediated by the teacher who accompanied the simulation, and the students are encouraged to reflect on their skills, recognizing weaknesses and also being stimulated by their correct choices.

The portfolios of 32 students were used for data collection in the period from May to June 2015. The portfolio is a document prepared by the students with their reflections about didactic activities during the semester, specifically making a report on the simulated practice entitled "Workshop of integral care".

The data were analyzed through content analysis, which consists of the analysis of the speeches through systematic and objective procedures to describe the content of the

Sebold LF, Böell JEW, Girondi JBR et al.

messages and obtain indicators, quantitative or not, that may provide the inference of knowledge on the conditions of production/reception of these messages, resulting in the construction of categories.¹⁰

Regarding the ethical aspects, this study is part of a larger project entitled "Active teaching methodologies in nursing professional training: rethinking the strategies for teaching - learning in undergraduate courses", approved by the ethics committee of research with human beings of the Federal University of Santa Catarina, under protocol 193/09-FR 272286. Subjects were identified by alphanumeric symbols.

RESULTS

Clinical simulation contributed to the development of relational competence and practical skills among students. Relational competence involves teamwork and established relationships, respect for the dialogue and for the autonomy of other colleagues, and the practical ability for performance of nursing procedures. Thus, we sought to respond to the objective of the study by aggregating similar information into two empirical categories: (1) Development of interpersonal competence and (2) Improvement of practical skills for nursing procedures.

• Development of interpersonal competence

Simulation can be a strategy to develop interpersonal competence with regard to teamwork. Respect for each other's opinion and partnership in decision-making demonstrate that interaction among students is important in care settings.

We received a clinical case to evaluate, decide on the procedures and on the order in which they should be carried out. It is a complex situation that requires a lot of attention and conversation between the team, so that the patient's priorities are established and care is effective. As seen during the semester, teamwork is essential, and in this case, teamwork helped us, the knowledge that each member has, and that he remembers with the course of the activity, where one helps the other so that all are able to perform their tasks in the best possible way. (S27)

It was a very productive activity, we were able to organize ourselves and carry out the procedures. It made me reflect on the importance of teamwork, of concentration on what is being done and said, of the union and empathy to carry out an efficient teamwork. (S4)

Clinical simulation: development of relational...

Merging groups in simulation activities assists the development of relational competence when they need to respect each other, listen to diverse opinions and reach a consensus.

It was interesting to work with the other tutoring, this interaction is nice, that we do during the work, all gave opinions and we were able to list the care measures together. (S3)

An activity that encompassed a little of what we saw during the semester, each member of the group was responsible for carrying out an intervention, offering an opportunity for everyone to participate. (S11)

We received a case study and we discussed the study in groups, making several considerations, always taking into account the different points of view. Each student had a chance to speak what he thought, and how best to contribute to the case. (S12)

Dialogue between students encourages team-based decision-making by strengthening relationships, as well as respect for the others' point of view. These dialogues are based on discussions that take place throughout the semester.

• Improvement of practical skills for nursing procedures

When practicing the simulation, students have the opportunity to perform the nursing procedures in order to gain more confidence for clinical practice in the hospital environment. This can be observed in the following reports:

It was great to clear up the doubts and remember the procedures. This moment makes us feel more confident and sure about the hospital practices that begin tomorrow. (S6)

I found this workshop great, because it brought us very close to reality, where we have to get all material organized and read the chart before doing anything with the patient. It also reminded us of everything we have to use and organize for each of procedure. (S10)

I enjoyed this technique very much, because I reviewed all the procedures that I learned during this semester and also could clear up my doubts that I still had in relation to this third unit of knowledge. (S19)

It made me a little more confident for the internship, although the hospital is a different environment from the laboratory, but with the simulation I had more autonomy, team organization and dexterity with the materials. (S13)

In spite of all the activities developed during the semester that sought to back up students to make them develop their

Sebold LF, Böell JEW, Girondi JBR et al.

Clinical simulation: development of relational...

activities with more mastery and competence to provide care, it was observed that some still said to feel insecure for the practice of care.

The idea of the workshop is to bring to mind and clear up the last doubts; in the procedures that my group carried out, I was very satisfied, but as another colleague who inserted the nasogastric tube, I feel a little afraid of going to the hospital tomorrow and not having practiced it for the last time in the nursing lab. (S2)

It was a good training method, but I still do not feel ready to manage nasoenteral and nasogastric tubes. Not by the procedure itself, but by the insecurity about whether the probe is in the correct place, or the possibility of making a mistake in the process. (S7)

Today we had the last lesson in the Laboratory, our last workshop, and I confess that I felt a bit nervous in thinking that all this is ending, no more theoretical classes, no more practice in the laboratory. I had the feeling that from now on I am alone in this huge unknown world that are the procedures. (S8)

These speeches reveal that some students understand that the activities can potentiate their confidence, while others still feel insecure to practice care in the hospital.

Other aspects observed in the speeches that contributed to the improvement of the students' practical skills were time management, the organization to carry out the care and recognition of strong and weak points in the *debriefing* with the responsible teacher.

It was a useful day when we learned to work a little more in teams and manage the time that was made available to us; at the end, we had a conversation with the facilitator who gave us a general idea on what we could improve. (S1)

Communication was missing, we forgot some materials and even had the diaper upside down. In my opinion it is good to err there and not at the internship, and also that means that somethings can and we will improve. (S2)

At the end, we were not able to finish changing the bedding, because we had a stipulated time, but the important thing was that we remembered to take all the materials, we followed the techniques and thanks to the debriefing, we were able to see what needed to be improved and what was correct. (S16)

DISCUSSION

Based on the results presented, it was noticed that the students approved the simulation activity and that they were able to

extrapolate the accomplishment of the procedures, emphasizing the importance of teamwork. The students realized the importance of teamwork, which guides actions, establishes priorities, and, in this sense, the relational competence emphasized relationships of leadership and co-participation in decisions. In this sense, the potential of the simulation to increase the awareness of the real abilities and the perception of the positive and negative points is reaffirmed, contributing avoid a passive attitude of students towards their learning process.¹¹⁻²

Furthermore, the possibility of developing the relational competence assumes the perspective of innovation that expands the need for an interdisciplinary practice, teamwork and participatory management, contributing to the accomplishment of an internal relationship in which the issues of work are discussed, in the sense of looking at each person in its individuality and specificity.¹³ North American research also emphasized the importance of simulation for the development of communicative and interactive abilities of nursing students.¹⁴

In this same perspective of relational competence, it is necessary to foster discussions about the training of nurses in the academic sphere and prepare them to face the challenges when they take on the coordination of a team. Part of the conflict experienced at present comes from a training that may still fall short of necessity, especially in the issue of leadership, which takes place in a continuous process and is consolidated in the professional activity.¹⁵

Simulated teaching enables people to experience real-world environments with a specific learning target, to improve skills, perform assessments, practice, acquire knowledge of human systems or actions, and develop skills related to performing procedures.¹⁶ Other advantage of simulated teaching is the possibility of producing an environment that provides two types of learning: the relational, in which the student acquires certain skills, and the creative, in which the student creates associations with new mental schemes, enabling the interaction between people and technologies, and sharing common goals, what means a participatory learning.¹⁷ =

The use of simulated practices has ensured a safe environment for nursing interventions, helped to strengthen the students' self-confidence, and is important because it allows students to practice their skills, make mistakes, be corrected by learning with the

Sebold LF, Böell JEW, Girondi JBR et al.

mistakes, without causing harm to the patient.¹⁸

Simulated practices have the advantage of providing real-world situations, allowing more security to perform procedures while following care protocols, minimizing patients' risk when receiving care from students with few skills, besides the more playful and attractive nature of the learning, involving the student, and stimulating decision-making and clinical thinking.³ This form of teaching enables a global increase in student self-efficacy and competence, as well as improved confidence and communication¹⁹ as shown in the speeches presented. The same was presented in another study, in which students who experience the teaching-learning process with the use of simulation demonstrated greater confidence to perform nursing care.²⁰ Similarly, a study developed in the United States also showed an increase in the self-confidence of nursing students through clinical simulation activities.²¹

The use of simulation as a teaching strategy needs to be structured according to some directives to help in the success of the activity. Thus, when a case and scenario are being constructed, one should have clear in mind what are the learning objectives, the strategies that will be used and the conceptual frameworks adopted.²²

The use of the simulation enhances the capacity of clinical reasoning and critical thinking, allows a safe practice, minimizes the risks and improves the performance of students with patients. The realistic simulation was effective in the opinion of nursing students to acquire and improve knowledge and safety, as well as to develop critical reasoning regarding the clinical situations common to the nurses' daily practice of care.²³

CONCLUSION

The benefits derived from the use of the simulation to nursing students in the development of interpersonal competences and the improvements of practical skills for professional practice were evident. The possibility of using teaching strategies in which students can be protagonists of their learning and develop confidence to provide care is imperative in nursing education.

The use of simulation in undergraduate nursing education permeates the development of competencies that favor the students when they face the reality in the field of internship, before starting their professional life, contributing to the acquisition of skills and

Clinical simulation: development of relational...

competences related to their field of action, making them more visible in critical situations, better resolute attitudes and team performance, as well as better dexterity in the procedure to be performed.

Simulation is an applicable tool and a facilitating strategy for nursing education, which is highlighted in this study, based on the development of the capacity for teamwork and improvement of practical skills.

The contribution of this study is the possibility of incetivating pedagogical strategies that strengthen not only the training, but also that may train professionals to become more confident in the provision of care. The limitation of this study is the presentation of the reality of a single institution of higher education. There is a need for other studies to strengthen simulation as a pedagogical practice in nursing.

REFERENCES

1. Oliveira SN, Prado ML, Kempfer SS. Utilização da simulação no ensino da enfermagem: revisão integrativa. *REME rev min enferm* [Internet]. 2014 Apr/June [cited 2017 Mar 21]; 18(2): 487-495. Available from: <http://www.reme.org.br/artigo/detalhes/941>
2. Santos MC, Leite MCL. A avaliação das aprendizagens na prática da simulação em enfermagem como feedback de ensino. *Rev gaúcha enferm* [Internet]. 2010 Sept [cited 2017 Mar 21] set;31(3):552-6. Available from: http://www.scielo.br/scielo.php?script=sci_arttext&pid=S1983-14472010000300020
3. Society for simulation in Healthcare. About Simulation [Internet]. Estados Unidos. [cited 2016 Dec 10]. Available from: <http://www.ssih.org/About-Simulation>.
4. Martins JCA, Mazzo A, Baptista RCN, Coutinho VRD, Godoy S, Mendes IAC, Trevizan MA. A experiência clínica simulada no ensino de enfermagem: retrospectiva histórica. *Acta paul enferm* [Internet]. 2012 [cited 2017 Mar 21];25(4):619-25. Available from: http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0103-21002012000400022
5. Aebersold M, Tschannen D, Bathish M. Innovative simulation strategies in education. *Nurs Res Prac* [Internet]. 2012 [cited 2017 mar 21] (765212):1-7. Available from: <https://www.hindawi.com/journals/nrp/2012/765212/>
6. Lapkin S, Jone TL, Bellchambers H, Fernandez R. Effectiveness of patient simulation manikins in teaching clinical reasoning skills to undergraduate nursing students: a systematic review. *Clinical*

Sebold LF, Böell JEW, Girondi JBR et al.

Clinical simulation: development of relational...

- Simulation in Nursing [Internet]. 2010 Nov/Dec [cited 2017 Mar 21];6(6): e207-e222. Available from: [http://www.nursingsimulation.org/article/S1876-1399\(10\)00132-5/abstract](http://www.nursingsimulation.org/article/S1876-1399(10)00132-5/abstract)
7. Wilford A, Doyle TJ. Integrating simulation training into the nursing curriculum. *Br J Nurs* [Internet]. 2006 Sept/Oct [cited 2017 Mar 21];15(17):926-30. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/17077785>
8. López JG, Spirko LV. Simulación, herramienta para la educación médica. *Salud Uninort* [Internet]. 2007 [cited 2016 Oct 10];23(1):79-95. Available from: <http://www.scielo.org.co/pdf/sun/v23n1/v23n1a09.pdf>.
9. Freire P. *Pedagogia do oprimido*. São Paulo: Paz e Terra, 1996.
10. Bardin L. *Análise de conteúdo*. São Paulo: Edições 70. 2011.
11. Baptista RCN, Martins JCA, Pereira MFCR, Mazzo A. Simulação de Alta-Fidelidade no Curso de Enfermagem: ganhos percebidos pelos estudantes. *Referência* [Internet]. 2014 Feb/Mar [cited 2017 Mar 21];serIV(1):135-144. Available from: http://www.scielo.mec.pt/scielo.php?script=sci_arttext&pid=S0874-02832014000100015&lng=pt.
12. Garbuio DC, Oliveira ARS, Kameo SY, Melo ES, Dalri MCB, Carvalho EC. Simulação clínica em enfermagem: relato de experiência sobre a construção de um cenário. *Rev enferm UFPE on line* [Internet]. 2016 Aug [cited 2017 Mar 21];10(8):3149-55. Available from: <http://www.revista.ufpe.br/revistaenfermagem/index.php/revista/article/view/7886>
13. Salum NC, Prado ML. A educação permanente no desenvolvimento de competências dos profissionais de enfermagem. *Texto contexto enferm* [Internet]. 2014 Apr/June [cited 2017 Mar 21];23(2): 301-8. Available from: http://www.scielo.br/pdf/tce/v23n2/pt_0104-0707-tce-23-02-00301.pdf.
14. Jacobs R, Beyer E, Carter K. Interprofessional simulation education designed to teach occupational therapy and nursing students complex patient transfers. *J Interprof Educ Pract* [Internet]. 2017 Mar [cited 2017 Mar 21];6:67-70. Available from: <http://www.sciencedirect.com/science/article/pii/S2405452616300532>
15. Spagnuolo RS, Juliani CMC, Spiri WC, Bocchi SCM, Martins STF. O enfermeiro e a estratégia saúde da família: desafios em coordenar a equipe multiprofissional. *Cienc uid saúde* [Internet]. 2012 Apr/June [cited

- 2017 Mar 21];11(2):226-234. Available from: <http://www.periodicos.uem.br/ojs/index.php/CiencCuidSaude/article/view/10445>
16. Ospina PD, Pinzón CV, Yepes A, Martínez CE, Duque W, Betancourt, CL, Castro MMB. *Simulación Clínica: herramientas innovadoras para la educación en salud. Manual de buenas prácticas en simulación clínica para simulación basada en la evidencia*. Bogotá: Fundación Universitaria del Area Andina: Seccional Pereira; 2013.
17. Dal Sasso GTM, Souza ML. A simulação assistida por computador: a convergência no processo de educar-cuidar da enfermagem. *Texto contexto enferm* [Internet]. 2006 Apr/June [cited 2017 Mar 21]; 15(2): 231-239. Available from: http://www.scielo.br/scielo.php?script=sci_arttext&pid=S010407072006000200006&lng=pt.
18. Teixeira CRS, Kusumota L, Braga FTMM, Gaioso VP, Santos CB, Silva VLS et al. O uso de simulador no ensino de avaliação clínica em enfermagem. *Texto context-enferm* [Internet]. 2011 [cited 2016 Dez 15];20(Sppl):187-193. Available from: http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0104-07072011000500024&lng=en.
19. Bambini D, Washburn J, Perkins R. Outcomes of clinical simulation for novice nursing students: communication, confidence, clinical judgment. *Nurs Educ Perspect* [Internet]. 2009 Mar/Apr [cited 2017 Mar 21];30(2):79-82. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/19476069>
20. Alfes CM. Evaluating the use of simulation with beginning nursing students. *J Nurs Educ* [Internet]. 2011 Feb [cited 2017 Mar 21];50(2):89-93. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/21210610>
21. McCabe DE, Gilmartin M, Goldsamt LA. Student self-confidence with clinical nursing competencies in a high-dose simulation clinical teaching model. *J Nurs Educ Pract* [Internet]. 2016 [cited 2017 Mar 21];6(8):52-58. Available from: <http://www.sciedu.ca/journal/index.php/jnep/article/viewFile/8453/5602>
22. Kanashiro RE; Iberico GM. Simulación clínica: seguridad y calidad para el paciente. *Revista Interciência* [Internet]. 2013 [cited 2017 Mar 21];4(1):41-48. Available from: http://www.clinicainternacional.com.pe/pdf/revista-interciencia/9/articulo_revision.pdf
23. Medina VAF, Silva MMC. Opinião dos estudantes de enfermagem sobre a simulação realística e o estágio curricular em cenário

Sebold LF, Böell JEW, Girondi JBR et al.

Clinical simulation: development of relational...

hospitalar. Acta paul enferm [Internet]. 2014 Mar/Apr [cited 2017 Mar 21];27(2): 138-143. Available from: http://www.scielo.br/scielo.php?script=sci_arttext&pid=S0103-21002014000200009&lng=pt.

Submission: 2017/03/22

Accepted: 2017/09/29

Publishing: 2017/10/15

Corresponding Address

Julia Estela Willrich Böell
Av. Desembargador Vitor Lima, 410 Bloco A4,
Ap. 103
Bairro Trindade
CEP: 88040-400 – Florianópolis (SC), Brazil