LEARNING TO COMMUNICATE WITH SIMULATION: SATISFACTION, CONFIDENCE, AND SELF-PERCEPTION OF STUDENTS IN HIGH-SCHOOL LEVEL VOCATIONAL EDUCATION IN NURSING[1]

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Abstract

This study aims to verify whether clinical simulation contributes to the educational background of nursing technicians regarding their skills in communicating with patients and their families. Students were divided into two groups and assessed by instruments on communication skills and satisfaction with learning. Then, they were interviewed while performing their first clinical internships. Although they seemed satisfied, data from the scale and interview showed little preparation to communicate. Thus, in conclusion, simulation as an isolated activity has only indirect effects on communication learning.

Keywords: Nursing Education. Learning. Health Communication. Simulation.

1. Introduction

Human relations represent an important base for student development in the context of vocational education in Nursing. The nurse technician's initial education becomes relevant as these workers represent 80% of the nursing workforce in Brazil (FUNDAÇÃO OSWALDO CRUZ, 2015). In this country, the main characteristic of nurse technicians' professional practice includes life and health preservation of the person, family, and community, based on human and ethical principles,

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having the interpersonal relationship as a basis (BRASIL, 1986) — which can also be understood as the ability to communicate, which must be taught and developed during initial education (KARLSEN; ØLNES; HEYN, 2018). Communication is the interaction between human beings, expressed in speech and writing, or in a non-verbal way — which is the case of behavioral communication —, with gestures, touch, among others (CORIOLANO-MARINUS *et al*., 2014). It is also interpreted as the action of listening to the other or just being present (AZEVEDO *et al*., 2018) and showing affection with interest (AZEVEDO *et al*., 2018).

The process of training the nursing team, however, has shown insufficiency on the communication ability. Students have experienced emotional distress and a feeling of inadequacy to communicate (HEISE, GILPIN, 2016; KENNY *et al*., 2016, LI *et al*., 2019). In many cases, they are afraid to ask questions (GROPELLI, SHANTY, 2018). This situation has been reflected at work, in which these professionals' communication is restricted to performing tasks, with low analysis of the expanded context of care, and the use of technical terms incomprehensible by patients and family members (PENA, MELLEIRO, 2018).

Clinical simulation has been used as a pedagogical strategy based on the active method for teaching communication

Changes in clinical learning and diversification of learning scenarios become increasingly necessary (SOUSA *et al*., 2018), with curriculum encouraging students to reflect, to propose changes and interventions. For an effective teaching-learning process, active teaching methods allow ethical, critical, reflective, and transformative pedagogical practice, which goes beyond the limits of the training itself (SOUSA *et al*., 2018). Studies have shown that using active methodology favors communication learning. Problem-based learning or PBL (LI *et al*., 2019), clinical simulation (OLIVEIRA *et al*., 2018; EXPÓSITO *et al*., 2018), interprofessional simulations (SMITH *et al*., 2018), and the role-playing (LARTI, ASHOURI, AARABI, 2019) were mentioned.

Clinical simulation has been used as a pedagogical strategy based on the active method for teaching communication, as it favors the consolidation and expansion of various competences and skills of the learner with simulated real contexts (OLIVEIRA *et al*., 2018). A literature review of national and international studies published in the last five years (2015-2019) shows significant gains in communication skills with the use of clinical simulation by nursing students in several areas of care (CHAPELAIN, MORINEAU, GAUTIER, 2015; KENNY *et al*., 2016; EXPÓSITO *et al*., 2018; LARTI, ASHOURI, AARABI, 2018; SMITH *et al*., 2018; GUIMOND, FOREMAN, WERB, 2019). Some studies also used simulation for teachers to improve their ability to communicate during debriefing (MULVOGUE, RYAN, CESARE, 2019).

Noteworthy, to develop this study, a bibliographic search was carried out using two databases — National Library of Medicine (PubMed) and Latin American Literature & Caribbean Health Sciences (Lilacs) — on communication studies in the teaching or performance of technical professionals, resulting in a total of zero articles in the last five years (2014-2019), which shows that the results of this research are

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innovative and unprecedented. In view of the possibility of learning mediated by clinical simulation and the importance for students of technical education to learn how to communicate properly with patients and families, this article defends that a simulated activity, before the students' internship, helps them to develop communication skills. Thus, this study aims to verify whether clinical simulation helps training nurse technicians on their abilities to communicate with patients and their families.

2. Methods

Study[2] mixed, embedded, randomized[3], in which quantitative and qualitative data were collected concomitantly; developed in a Technical Education Institution and in a hospital, both private institutions in an inland city of the state of São Paulo, between August and December 2018. The research was developed in three stages; the study sample was composed of a group from Module I, with 40 students, over 18 years old, regularly enrolled in the educational institution, who had not yet had practical activities in health institutions. Students who did not attend all stages were excluded. A convenience sample was chosen in order to meet research objectives, thus characterizing it as a non-probabilistic sample.

Students received a clinical case about a communication error that compromised the patient's health

Stage 1 consisted in a theoretical activity, in which all students in the control and intervention groups were invited to participate in a class with audiovisual resources. The expository class lasted two hours, using slides, images, illustrative videos, and, at the end, a debate using the mock jury technique. For the jury, the group was divided between defense and prosecution and one student acted as a judge; students received a clinical case about a communication error that compromised the patient's health, as well as complementary reading material to scientifically support the situation.

Then, in stage 2, only students from the intervention group participated. All stages of the simulation were performed (pre-briefing, a scenario in action, and debriefing). The scenario was composed in a way for the student to experience the situation focused on communication skills with the patient and the family. For the simulation, the clinical skills laboratory of the technical school was prepared, and two actors played a patient and a family member. While students participated in the simulation in pairs, two previously trained research assistants applied the research tool Health Communication Assessment Tool (HCAT), according to Campbell *et al*. (2013), to assess the health communication capacity in the clinical simulation situation. At the end of the simulation, participants responded to the Student Satisfaction and Self-Confidence in Learning Scale (JEFFRIES, RIZZOLO, 2006), adapted and validated for Brazil (ALMEIDA *et al*., 2015).

In the last stage, participants in the control and intervention groups were invited to an interview, which was carried out during the first practical activity in the

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hospital field, immediately after a situation of communication between student and patient or student and family. The interview consisted of a dialog in which students were asked about their facilities and difficulties in establishing communication. A sociodemographic questionnaire was also made available, analyzed using descriptive statistics to support the participants' description and the analysis of the findings. HCAT data and the Learning Satisfaction and Self-Confidence Scale were analyzed using IBM® SPSS® Statistics 25.0 software (Statistical Package for the Social Science). The interviews were examined in accordance with the analysis of thematic category content, of Bardin (2011) and, to present the participants' speeches, the codes A (Student), GI (Intervention Group), GC (Control Group), and the interviewee's corresponding number were used. Finally, the findings of the research instruments were compared with the analysis of the participants' speeches in the interview to corroborate or contest the results of HCAT and the Satisfaction and Self-Confidence Scale with Learning.

3. Results[4]

Among the 40 students of the course, 37 participated in the first stage; 16 were randomized to the GI in the second stage; 10 agreed to participate in the interview (control and intervention groups). Most participants are women (87.5%), have completed high school (81.3%), aged between 15 to 20 years (56.4%), single (62.5%), mixed race (62.5%), live in the research municipality (50%), never participated in a clinical simulation (81.3%), and have no self-perception on difficulties in communicating with patients and family members (56.3%). Table 1 shows the assessment of communication skills according to HCAT. Table 2 shows data on student satisfaction and self-confidence in learning.

Table 1 - Communication skills in accordance with HCAT among participants in the Intervention Group, 2019

HCAT Statement	1*	2*	3*	4*	5*	Mean	Median
The student introduced herself/himself to the patient and/or family.	03	03	02	04	04	3.19	3.50
The student shook hands with the patient and/or family or greeted appropriately.	03	02	04	02	05	3.25	3.00
The student explained the reason for her/his visit appropriately.	04	08	03	_	01	2.13	2.00
The student used positive communication, including a smile to encourage interactions.	02	08	05	01	_	2.31	2.00

(continuation)

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(continuing)

The student kept eye contact while talking to the patient.	07	07	01	01	_	1.75	2.00
The student communicated what she/he was about to do BEFORE doing it.	07	06	02	01	_	1.81	2.00
The student asked the patient or the family member permission to touch the patient BEFORE a procedure or exam.	02	02	02	02	08	3.75	4.50
The student touched the patient appropriately.	04	07	03	01	01	2.25	2.00
The student spent most of the time close to the patient.	10	06	_	_	_	1.38	1.00
The student sat down to guide or talk to the patient.	_	_	_	06	10	4.63	5.00
The student heard more than spoke.	03	05	04	04	_	2.56	2.50
The student leaned over to the person who was speaking to show interest.	02	06	03	02	03	2.88	2.50
The student effectively guided the patient and/or family about the procedure, illness, and/or treatment.	02	02	06	06	_	3.00	3.00
The student asked questions to encourage feedback and increase clarity.	01	03	04	05	03	3.38	3.50
The student recognized and responded appropriately to verbal and non-verbal behaviors (frowning, tears, hysteria, silence, etc.) from the patient and/or family.	03	08	04	01	_	2.19	2.00
The student used a tone of voice and volume appropriate to the situation.	09	06	_	01	_	1.56	1.00
The student avoided judging patient/family behaviors.	09	07	_	_	_	1.44	1.00
The student spent equal or greater time addressing psychosocial aspects in patient/family care than addressing clinical (biological) aspects.	01	01	08	05	01	3.25	3.00
The student asked about the patient/family's feelings in the situation, expressing concern.	_	04	03	08	01	3.38	4.00
The student acknowledged the conflict, tried to get information and tried to find opportunities to minimize or manage it.	03	11	02	_	_	1.94	2.00
The student developed, maintained or improved interpersonal relationships with the patient and/or family (with communication and professionalism).	03	08	03	02	_	2.25	2.00
The student avoided technical medical terms.	01	07	03	03	02	2.88	2.50

*1 = Strongly disagree; 2 = Disagree; 3 = Undecided; 4 = Agree; 5 = Strongly agree.

Source: Own depiction.

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Table 2 - Students' satisfaction and self-confidence in learning among participants in the Intervention Group, 2019

	1*	2*	3*	4*	5*	Mean	Median
1. The teaching methods used in this simulation were useful and effective.	_	_	_	05	11	4.69	5.00
2. The simulation provided me with a variety of teaching materials and activities to promote my learning of the medical-surgical curriculum.	_	_	01	06	09	4.50	5.00
3. I liked how my teacher taught using simulation.	_	_	_	03	13	4.81	5.00
4. The teaching materials used in this simulation were motivating and helped me to learn.	_	_	01	03	12	4.69	5.00
5. The way my teacher taught using simulation was appropriate for the way I learn.	_	_	_	02	14	4.88	5.00
6. I am confident that I have mastered the content of the simulation activity to which my teacher introduced me.	_	02	03	07	04	3.81	4.00
7. I am confident that this simulation included the necessary content for mastering the medical-surgical curriculum.	01	_	01	07	07	4.19	4.00
8. I am confident that, with this simulation, I am developing skills and acquiring the essential knowledge to perform the necessary procedures in a clinical setting.	_	_	01	04	11	4.63	5.00
9. My teacher used useful resources to teach simulation.	_	_	_	04	12	4.75	5.00
10. It is my responsibility as a student to learn what I need to know with the simulation activity.	_	_	02	05	09	4.44	5.00
11. I know how to get help when I do not understand the concepts covered in the simulation.	_	01	03	07	05	4.00	4.00
12. I know how to use simulation activities to learn skills.	_	_	03	03	10	4.44	5.00
13. It is the teacher's responsibility to tell me what I need to learn on the theme developed in the simulation during the class.	01	_	02	05	08	4.19	4.50

*1 = Strongly disagree with the statement; 2 = Disagree with the statement; 3 = Undecided, neither agree nor disagree with the statement; 4 = Agree with the statement; 5 = Strongly agree with the statement.

Source: Own depiction.

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The analysis of the interview content enabled us to identify that students from both groups found it easier to communicate with patients or family members during strictly technical care and with conscious and communicative patients. The study's findings also suggest that communication has been used as a tool for performing procedural care, however, only and exclusively to inform the patient of the procedures, in a technical and repetitive way.

> [...] The easiest thing for me when communicating with the patient was the moment to reach him and see his vital signs, ask how he was, what was done, why he was hospitalized [...] (A4-GI).

Participants also highlighted frustrations when trying to communicate with unguided patients, physically or mentally dependent, with companions, and when performing procedures considered technically complex. They also felt frustrated when dealing with patients who are resistant to only informative communication.

> [...] That patient who is not yet talking, we sometimes go to bathe and do not know if the patient is in pain. [...] (A7-GC).

> [...] The most difficult thing is that not everyone agrees (companion) [...] (A10-GC).

The interviews corroborated the results pointed out by the HCAT, in which the students were assessed with scores below 2.5 in 11 of the 21 possible items, although they felt highly confident and satisfied with their learning, as exposed in Table 2. Thus, the analysis refuted the hypothesis that the students' participation in a scenic clinic simulation activity could improve their knowledge of health communication. However, students felt satisfied and confident with their learning. Furthermore, members of the GI did not show higher confidence and performance than members of the GC during the practical learning activities, considering the interviews conducted.

4. Discussion

It was possible to assess simulation in the learning process and the teaching of communication as a transversal axis in the education of health professionals, in an attempt to contribute to the practice based on scientific evidence. Results showed that technical education is still traditional, disciplinary, limited to the content, and out of work reality (CARDOSO *et al*., 2017). Therefore, the pedagogical model must be reformulated to align it with the regional determinants of health-disease care within health systems (MAKUCH, ZAGONEL, 2017).

When planning to teach, the teacher must associate teaching strategies that make learning easier to enhance active students, considering age (OLIVEIRA *et al*., 2018; SANTOS *et al*., 2019) and course term (SANTOS *et al*., 2019). In this perspective, this research showed that the theoretical-practical activities on the theme of communication favored spaces for students to reframe their learning based on previous scientific and non-scientific knowledge, in light of significant

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The lack of communication by health care professionals increases the risk of medication errors

learning (BIANCHESSI; MENDES, 2019). For health communication skills to improve, teachers must provide experiences in which communication can be practiced and improved before direct contact with the patient and family (O'SHEA *et al*., 2013). However, developing this skill is still a challenge, even in simulation training (EXPÓSITO *et al*., 2018). Some students reported to find it difficult to use tact to communicate with patients (AZEVEDO *et al*., 2018), or even that they have prejudice, which is a barrier to effective communication (AZEVEDO *et al*., 2018).

Although communication is recognized as a high priority action for patient safety (ROBSON, 2014), empirical studies provide evidence that nursing professionals see themselves as unprepared to communicate with patients' families (KARLSEN *et al*., 2018; PENA, 2018; SLADE, MURRAY, EGGINS, 2018). Nevertheless, humanizing care and training the team can improve health communication (KARLSEN *et al*., 2018; SLADE, MURRAY, EGGINS 2018).

The lack of communication by health care professionals increases the risk of medication errors, non-adherence to treatment, misunderstandings, decreased patient satisfaction (O'SHEA *et al*., 2013) and, generally, threatens the maintenance of dignity (MOEN, NÅDEN, 2015) — situations, found in this research, that can be avoided with the critical training of health professionals, based on the best pedagogical practice.

Regarding education to enhance communication in nursing, clinical simulation allows students to experience situations that require decision making by nurses in health and nursing care scenarios, whose approach, with theoretical classes or traditional teaching methods, would not be as effective (ANDERSON, NELSON, 2015; EXPÓSITO *et al*., 2018). It also gives learning opportunities to the student, considering the evidence-based practice (SCALABRINI NETO; FONSECA; BRANDÃO, 2017); encourages the use of theoretical concepts in the practical experience of simulation (NATIONAL LEAGUE FOR NURSING, 2008); critical thinking (HAYDEN *et al*., 2014); communication (HAYDEN *et al*., 2014; CAMPBELL *et al*., 2013); and the individual's active participation (COGO *et al*., 2019).

However, in this research, although the self-assessment of student satisfaction showed high averages, the result of the communication skill showed that they are not prepared to communicate. The interviews reinforced the results evidenced by HCAT, as students applied communication in the context of technical, repetitive, and informational-only care. Correspondingly, the results of the scales and the interview showed that, although the students were satisfied with learning by simulation, some statements show that they do not have confidence in their own learning. Such deficiencies imply professionals at a technical level unprepared to deal with the population, lacking consistent attitudinal and technical skills, with a restricted view of the world and society (CORRÊA, SORDI, 2018).

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5. Final considerations

It became evident that the clinical simulation, when applied in isolation in the curricular structure, did not directly reflect on the student's satisfaction and self-confidence in learning. An intentional convenience sample may not represent the general student population, but it limits the possibility of generalizing to other nursing courses.

Although studies have shown that high-fidelity clinical simulation using actors contributes to nursing education, this research shows that isolated activities do not have the same effect on learning and the application of knowledge in the communication of students in high-school level vocational education in Nursing. Investment in new strategies that attract the student and rescue the previous awareness is an urgent necessity, associating new accomplishments, that guarantees significant learning, aiming at educating competent and ethical nurse technicians equipped with communicative skills.

Notes

[1] This paper had the support of the Coordination for the Improvement of Higher Education Personnel (Capes).

[2] The Research Ethics Committee approved this study (protocol no. 2.739.671).

[3] Mixed methods incorporate techniques from quantitative and qualitative research. An embedded mixed method is the research in which data, whether quantitative or qualitative, work as support for primary data to legitimate the interpretations of the results. This research embedded qualitative data from the interview into the analysis of the instruments collected.

[4] This study represents the results of the master's thesis *Clinical simulation on communication in nursing education: A randomized study on student satisfaction, confidence, and self-perception*, presented to the Postgraduate Program in Fundamental Nursing (EERP/USP).

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