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Original article

Assessment of a simulation in cardiopulmonary arrest during the debriefing among nursing students in the pandemic*

Avaliação da simulação em parada cardiorrespiratória durante o *debriefing* entre estudantes de enfermagem na pandemia

Evaluación de la simulación de paro cardiorrespiratorio durante el debriefing entre los estudiantes de enfermería en la pandemia

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Abstract

Objective: to evaluate the simulation in cardiopulmonary arrest during the debriefing among nursing students in the COVID-19 pandemic. **Method:** a descriptive study with a qualitative approach carried out among 22 nursing students in two stages: clinical simulation in cardiopulmonary arrest and debriefing associated with the simulation. The textual corpus resulting from the dialogues was submitted to lexicographical analysis, with the aid of the "IRAMUTEQ" software. **Results:** most students had never participated in clinical simulation scenarios during graduation. Through the debriefing, facilitating aspects such as the manikin's voice and the realism of the simulation were identified. As difficulties, the students attributed nervousness and lack of knowledge in cardiopulmonary arrest care. **Conclusion:** in the evaluation of the simulation during the debriefing, the importance of this practical teaching strategy for academic training was verified, positively impacting the teaching-learning process of the nursing student, especially in the COVID-19 pandemic.

Descriptors: Nursing Students; Teaching; Simulation; Cardiopulmonary Resuscitation; COVID-19

Resumo

Objetivo: avaliar a simulação em parada cardiorrespiratória durante o *debriefing* entre estudantes de enfermagem na pandemia da COVID-19. **Método:** estudo descritivo de abordagem qualitativa realizado entre 22 estudantes de enfermagem em duas etapas: simulação clínica em parada cardiorrespiratória e *debriefing* associado à simulação. O *corpus* textual decorrente dos diálogos foi submetido à análise lexicográfica, com auxílio do *software* "IRAMUTEQ". **Resultados:** a maioria dos estudantes nunca havia participado de cenários de simulação clínica no decorrer da graduação. Mediante o *debriefing*, identificaram-se aspectos facilitadores como a voz do manequim e o realismo da simulação. Como dificultadores, os estudantes atribuíram o nervosismo e a falta de conhecimento no atendimento em parada cardiorrespiratória. **Conclusão:** na avaliação da simulação durante o *debriefing* verificou-se a importância desta estratégia de ensino prático para formação acadêmica, impactando positivamente no processo de ensino-aprendizagem do estudante de enfermagem, sobretudo na pandemia da COVID-19.
Descritores: Estudantes de Enfermagem; Ensino; Simulação; Reanimação Cardiopulmonar; COVID-19

Resumen

Objetivo: evaluar la simulación en paro cardiorrespiratorio durante el debriefing entre los estudiantes de enfermería en la pandemia de COVID-19. **Método**: estudio descriptivo con enfoque cualitativo realizado entre 22 estudiantes de enfermería en dos etapas: simulación clínica en paro cardiorrespiratorio y debriefing asociado a la simulación. El corpus textual resultante de los diálogos fue sometido a un análisis lexicográfico, con la ayuda del programa "IRAMUTEQ". **Resultados**: la mayoría de los estudiantes nunca han participado en escenarios de simulación clínica en el transcurso del pregrado. Mediante el debriefing, se identificaron aspectos facilitadores como la voz del maniquí y el realismo de la simulación. Como dificultadores, los estudiantes atribuyeron el nerviosismo y la falta de conocimiento a la atención en paro cardiorrespiratorio. **Conclusión**: en la evaluación de la simulación durante el debriefing, se notó la importancia de esta estrategia de enseñanza práctica para la formación académica, impactando positivamente en el proceso de enseñanza-aprendizaje del estudiante de enfermería, sobre todo en la pandemia de COVID-19.
Descriptores: Estudiantes de Enfermería; Enseñanza; Simulación; Resucitación Cardiopulmonar; COVID-19

Introduction

The year 2020 was marked by profound global changes that emerged from a pandemic outbreak caused by the severe acute respiratory syndrome coronavirus 2 (Sars-CoV-2). The virus that causes the coronavirus disease 2019 (COVID-19) is transmitted from person to person through droplets (sneezing or coughing) or aerosols (speech), skin-to-skin contact, or by contaminated objects. It brings with it several clinical manifestations such as fever, cough, dyspnea, fatigue, myalgia, among others.[1]

Due to its high transmissibility, as of March 21, 2022, 469,212,705 cases of COVID-19 were confirmed among the world population. Statistics show 6,077,252 deaths in the

world and 657,102 deaths in Brazil in the same period.[2] This reality brought to light several measures to prevent the spread of the virus in the world, including, especially, the use of masks, hand hygiene and social distancing.[3]

In this sense, in Brazil, considering the pandemic scenario, Ordinance 343 of March 17, 2020, determined the replacement of in-person classes with synchronous classes on digital platforms. It should be noted that this situation occurred in elementary, high school, undergraduate and graduate education, both in the public and private sectors.[4] With the aforementioned issues, teaching units implemented the online and hybrid format. This modality, also called remote teaching, brings with it unique characteristics such as the physical distance between teachers and students.[5] In this sense, the application of strategies that facilitate the teaching-learning process is essential in the current pandemic context, for example, the clinical simulation.[6]

Simulation is a process that makes it possible to create a scene in which an authentic representation of the real world takes place, thus generating active students' participation and the possibility of repetition.[7] Simulation-based training is considered an improvement tool of teaching and teamwork.[8]

Care without harm and the development of skills necessary for professional practice are favored through realistic simulations, especially in nursing courses, providing future nurses with safer care for patients and their families,[9] both in hospital services, as well as in primary care and in the home context.

It is worth mentioning that emergency situations occur routinely and unexpectedly, requiring the patients to be assisted quickly and effectively by professionals from the multidisciplinary team, especially nurses. Among these situations, cardiopulmonary arrest (CPA) fits as an occurrence that requires attention, since patient survival is directly related to the quality of care provided.[10] Considered a public health problem of worldwide magnitude, the CPA is characterized by sudden cessation of cardiac mechanical activity, absence of pulse, unconsciousness, and absence of respiratory movements or agonizing breathing.[11]

Epidemiological information regarding the incidence of CPA in Brazil is still scarce, however, according to the Brazilian Society of Cardiology, it is estimated that approximately 200,000 occurrences of CPA occur per year in the country.[11] When a CPA

situation is identified, the first approach is performing cardiopulmonary resuscitation in order to ensure the survival of the affected individual in addition to reducing the chances of sequelae, adopting current guidelines and protocols.[12]

Thus, it is essential that the nurses are able and have knowledge, skills and attitudes to recognize the techniques necessary for CPA care, in order to guarantee the patients' survival and a lower possibility of sequelae.[13] In this context, aiming at safe care, the realization of realistic simulations and debriefing also emerge as important strategies for the learning process during the training of nursing students.[14]

The debriefing is a central point in simulated teaching, comprising the reflection and apprehension of knowledge from a lived simulation experience. Therefore, it allows evaluating decision-making and its competences about the simulation, in order to improve the practice without causing harm to the patients.[15] Thus, the debriefing is a reflective and structured dialogue of the experience lived in the simulation, being considered a crucial element and premeditated in the simulation.[16]

Thus, considering the current pandemic scenario and the need to adopt innovative technologies and teaching strategies to minimize the spread of COVID-19, the practice of nursing students through realistic simulations of assistance in CPA is of great value, above all for a performance with quality and agility of the future nurses.

In this context, this work is relevant because it gathers information about the facilitating and hindering aspects of CPA simulation through debriefing, and how effective students consider this important teaching strategy in the pandemic context. Thus, the objective of this study was to evaluate the simulation in cardiopulmonary arrest during the debriefing among nursing students in the COVID-19 pandemic.

Method

Study type and location

This is a descriptive study with a qualitative approach developed at the Nursing Teaching Laboratory of a federal institution of higher education, located in the coastal region of the state of Rio de Janeiro, Brazil. The recommendations of COREQ - Consolidated Criteria for Reporting Qualitative Research were followed.[17]

Study participants

Nursing students from the aforementioned educational institution who were active in remote/hybrid teaching during the data collection period participated in the research. The inclusion criteria were: enrolled and regularly active students, over 18 years old, and taking the course of Semiology and Technical Semiology in Nursing II. As exclusion criteria, the following were adopted: students enrolled in that subject but who did not adhere to the hybrid learning format during the study period.

Through the available list obtained from the coordination of the course, it was found that 23 students regularly enrolled in the period determined for data collection were eligible for the study. Due to the physical capacity of the laboratory and considering the protocols in force in the pandemic scenario, the nursing students were divided into groups of a maximum of six. It is worth mentioning that the simulations of each group took place on four different days.

Invitations to participate were sent by the main researcher through Whatsapp, containing the guidelines, the main objectives and the relevance of the research. There were no refusals.

Study stages

Data collection was carried out in June 2021 after the practical class of the Semiology and Technical Semiology in Nursing II course. The same was divided into two moments, Stage I – Carrying out the clinical simulation in CPA; Stage II – Conducting the debriefing associated with the simulation.

At first, a clinical simulation was carried out with the theme “Cardiopulmonary arrest care in a hospital environment”. The scenario featured a basic life support manikin, vital signs monitor simulator, personal protective equipment, and airway devices. The scene was based on a previously established clinical case, in which two nursing students from each group were invited to actively participate in the simulation, while the others were observers during the performance of the scenes.

Four team members participated in the scene, three teachers and one student. Considering that the available manikin was of low fidelity, a role-play was created with a researcher from the study who simulated the patient’s voice. For the shift handover, a

“simulated nurse” was interpreted by the student who was part of the study team. She acted in the transmission of information inherent to the case to the participants. One teacher acted as a facilitator and the other just observed the scene.

The scene started with the patient already hospitalized in a hospital unit, presenting some altered vital parameters. Soon after, the most relevant changes began, such as cardiac dysrhythmia, change in respiratory rate, and increase in blood pressure and decrease in oxygen saturation. Also, during the scene, there were complaints from the patient regarding respiratory distress, followed by speech interruption and changes in vital signs indicating CPA. Then, the students started the care measures they believed should be performed for such a circumstance. Another researcher acted on the patient’s voice using the microphone device in a reserved environment, and the others acted as mediators of the simulation. Nursing students who actively participated in the scenes interacted with the patient, evaluated the medical record and checked the drug prescription. The scenarios were finalized when a researcher who acted as a facilitator noticed the gradual increase in participants’ stress through subjective assessment. The scenes lasted a mean of 15 minutes.

In the second moment, the debriefing took place in the same place where the scenario was held, which took place through a dialogue between the facilitator and the participants, with the purpose of evaluating the students' learning and experience about the simulation. At the same time, two guiding questions were presented: What were the facilitating aspects of clinical simulation? What were the difficult aspects of clinical simulation? The questions presented to the students were guided by a study researcher and the answers were recorded by a smartphone application. The debriefing lasted approximately 15 minutes for each group. To characterize the participants, a form containing the following variables was used: sex, age, course semesters, and experience with clinical simulation scenarios.

Data analysis

The participants' speeches were fully transcribed and the textual corpus resulting from the dialogues was submitted to lexicographical analysis, with the aid of the

software Interface de R pour Analyses Multidimensionnelles de Textes et de Questionnaires (IRAMUTEQ). This free software, used for processing qualitative data, provides different types of analysis of textual data, organizing the vocabulary arrangement in an understandable and visually clear way.[18]

The analysis of textual data took place in three stages: 1. Preparation and coding of the textual corpus. 2. Processing in the software. 3. Interpretation by researchers. Word Cloud, Similitude Analysis and Descending Hierarchical Classification (DHC) methods were used. In DHC, words that presented X^2 equal to or greater than 3.84 ($p<0.05$) were used, with emphasis on those with $p<0.0001$, which indicates a strong association of the word in the class. Thus, data processing gave rise to predefined classes by the software that emerged from the organization of the most relevant words in each of the classes. Subsequently, the classes were named based on their most significant words and on the interpretation of the textual segments associated with them based on the conceptual frameworks of the study.

Ethical aspects

The research project was submitted by the Research Ethics Committee and approved on May 27, 2021 by Opinion 1,568,900 (CAAE: 45489821.1.0000.5243), complying with Resolution number 466/2012 of the National Health Council. The students were informed about their anonymity, voluntary work and the adoption of pseudonyms as a form of identification. Before carrying out the simulations, the Informed Consent Term in two copies was given to all participants, as well as guidelines on the stages of the study. Each participant was identified as student 1, student 2, student 3, and so on. The acronym St.1, St.2, St.3, respectively, was used, thus maintaining anonymity.

Results

Twenty-two (100.0%) nursing students participated in the study, 19 (86.4%) were female and three (13.6%) were male, with a mean age of 26 years (SD=7.2) being a minimum of 21 and a maximum of 49 years. According to the response to the form, most 17 (77.3%) reported that they had never participated in clinical simulation

scenarios during their graduation and 19 (86.6%) of the students believe that simulation was important for teaching, during the pandemic.

In text processing, IRAMUTEQ recognized 22 texts, 135 text segments and 4,543 records of word occurrences, 884 of which were distinct and 451 with a single occurrence (hapax). Then, in the lexical analysis, using the Word Cloud (Figure 1), it was possible to identify the keywords of the textual corpus from the statements of nursing students about the facilitating and hindering aspects of clinical simulation in CPA. Based on the graphic organization of words according to their frequency, the most prevalent terms were found. Thus, the most cited words were: no (n=116), to find (n=84), people (n=74), to know (n=72), to be (n=71), a lot (n=65), because (n=54) and stand (n=41).

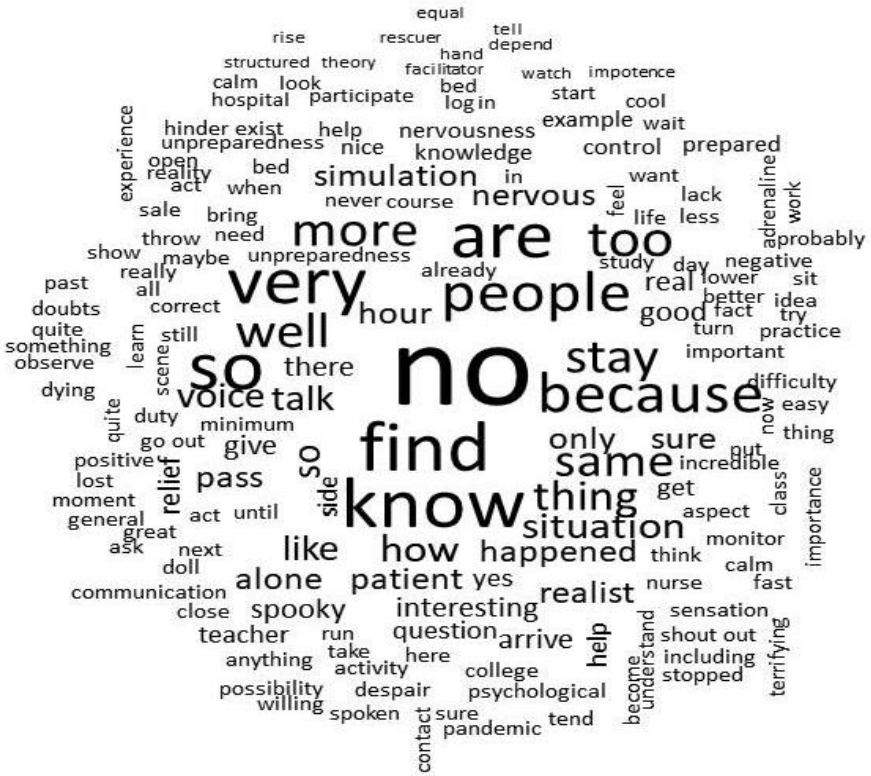

Figure 1 – Word cloud from the statements of nursing students about the facilitating and hindering aspects of clinical simulation in cardiopulmonary arrest. Rio das Ostras, RJ, Brazil, 2021.

In the interpretive analysis using this method, it was possible to understand the meanings of the words in the statements. Thus, it was verified that the word "NO" assumed a central position in the Word Cloud, since the students reported not knowing what to do, not being able to help, not having experienced it before, among other issues.

> *It was very different, because I had not participated in a simulation before.* (ST. 13)

> *And I've also never had contact with any of this before, I didn't know, I wouldn't know, I would stand still, not knowing what to do.* (ST.5)
> *I wasn't prepared for this moment.* (ST.15)

Another relevant aspect is that the students reported “stand” without “knowing” how to act with the patient in the simulation and in a real future experience of a CPA situation in the hospital environment. On the other hand, with the previous performance in a simulation on that theme, they learn and, thus, believe that they will be prepared to act in real nursing care based on scientific knowledge.

> *I was very nervous, anxious, not knowing what to do, at the time I thought like I need to know what I have to do; I want to know what to do.* (ST.5)
> *Terrifying. Even though I knew it was a simulation, I was nervous. The fact that you don't know what to do, that we are unprepared for a situation like this, it is chaotic.* (ST.8)
> *I would stand still, not knowing what to do, as much as we've seen it in a movie, soap opera, we don't know how it’s going to be there, right there.* (ST.5)

From the students' perspective, simulation contributes to the teaching of nursing. It is possible to identify in the speeches of the participants the importance of simulated teaching in the training of nurses, emphasized in the words “to find”, “a lot” and “people”.

> *I think that the simulation contributes a lot to our teaching.* (ST.7)
> *I think it was really cool because in general in the classroom we do that, but we don't really understand what it's like at the time.* (ST.14)
> *I think it's a facilitating aspect; first we're not going through the real situation, so there's no danger of someone actually dying* (ST.21)

From the Similitude Analysis (Figure 2), it was possible to identify the connectedness of the words related to the facilitating and hindering aspects of the simulation in CPA. In view of this, it was found that the word "NO" is again in a central position and that the meanings attributed to not having knowledge, not finding, not knowing, not being, were closely related to the possibility of learning about the subject in a simulation in CPA.

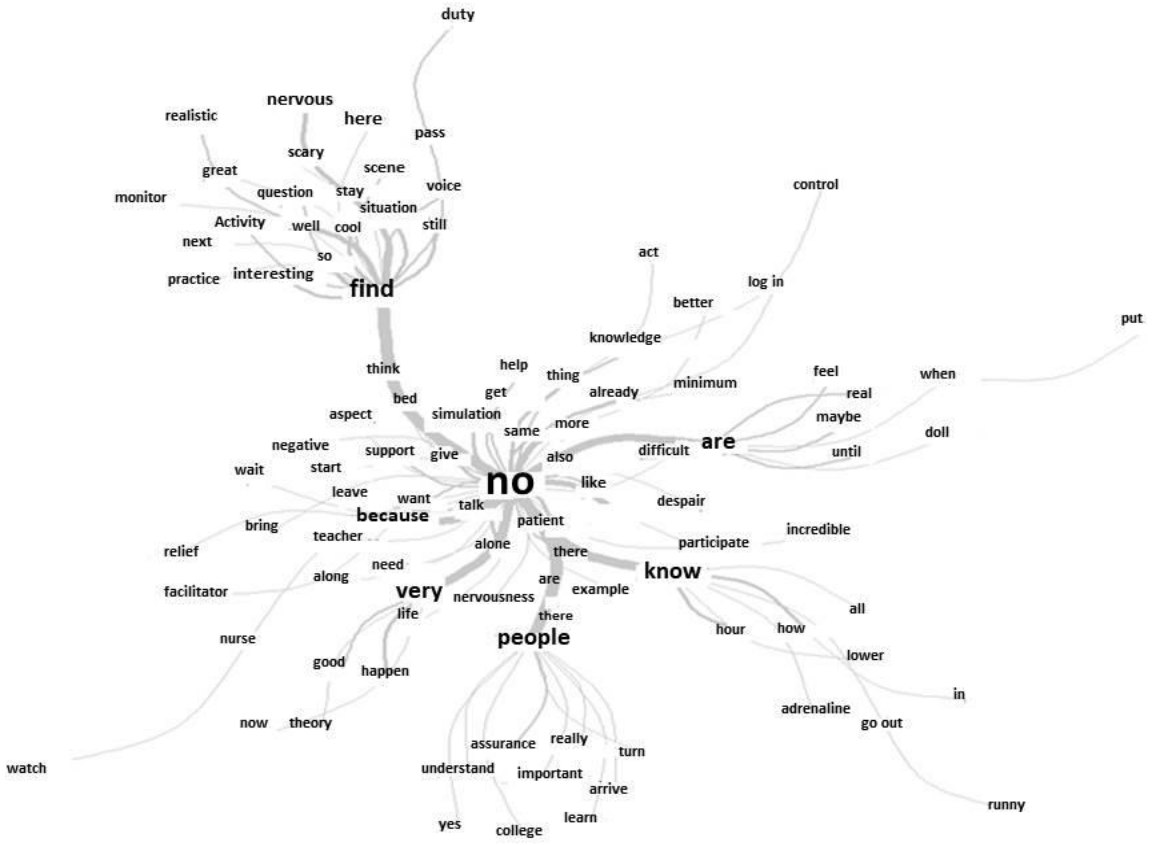

Figure 2 - Analysis of Similitude and the indications of connectivity between the words related to the facilitating and hindering aspects of clinical simulation in cardiopulmonary arrest. Rio das Ostras, RJ, Brazil, 2021.

In this way, from the verification of the connectedness of the words and the analysis of the text fragments in which they appeared, it was possible to verify, from the central nucleus represented by the word “no”, some difficulties. Among these, the lack of knowledge stands out, linked to nervousness, intensified by the interaction of the “fictitious” patient with the students. In addition, other relevant lexical elements were identified from the word “to find”, such as: scene, situation, scary, monitor, realistic, great, voice, nervous, cool, interesting, well and to stay.

> *I think that's the worst thing, you don't know what to do, even though nervousness will make it even more difficult, and you don't know what to do, even worse, I think that's it.* (ST.5)
>
> *I thought it was very structured, very cool, the part of the patient's communication there, we didn't even expect him to say something, I think this may have made it a little more real and a little more, it made me more nervous because he started talking.* (ST.6)

Regarding the facilitating aspects, the central lexical elements were: interesting, great, realistic, simulation, important, incredible and voice. These elements, when interpreting the transcribed texts, saw the importance of simulation in terms of a CPA, reinforced by the current moment of pandemic.

> *Very cool, very well thought out, incredible sound design.* (ST.8).
> *I Liked it. It was cool, interesting.* (ST. 2)
> *I think that simulation contributes a lot to our teaching, I thought it was great.* (ST.7)
> *The voice issue makes the process much more realistic than it is in practice.* (ST.17)
> *Very realistic. Very realistic indeed.* (ST. 8)

In the Descending Hierarchical Classification (DHC) the textual corpus had a usefulness of 74.1%. The dendrogram obtained by the Reinert method represented in Figure 3 presents all the divisions performed in the treatment of the *corpus* content for the grouping into final classes. In this case, the words were grouped into four stable classes, that is, composed of text segments with similar vocabularies.

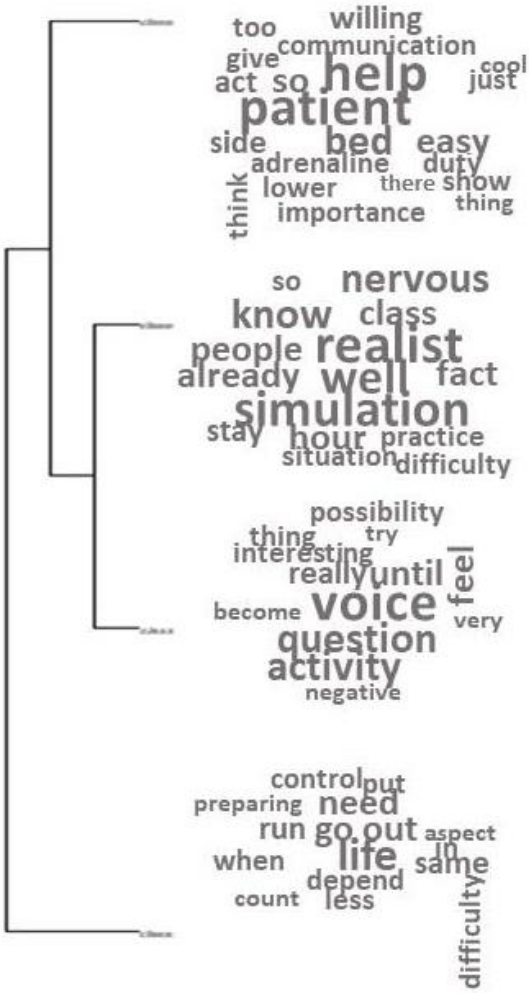

Figure 3 - Dendrogram in the Descending Hierarchical Classification of text segments related to facilitating and hindering aspects of clinical simulation in cardiopulmonary arrest. Rio das Ostras, RJ, Brazil, 2021.

The dendrogram identified the lexical content of the classes and, in addition, organized the most frequent words within each class, in the form of word clouds. At first, the corpus was divided into two sub-corpus. In one of these, class 4 was obtained, which corresponded to 33.0% of the total text segments, in which forms related to the importance of patient care ("patient", "to help", "to like") were associated. In this same sub-corpus, there was a second subdivision that encompassed class 3 with 29.0%, in which the terms most related to nervousness ("well", "simulation" and "realistic") are found, and class 2 with 17.0% of the text segments, related to the terms referring to the reality of the scene ("voice", "question" and "to feel"). In the other sub-corpus, only class 1, with 21.0%, terms related to "knowledge", "life" and "go out" were grouped.

Thus, the four classes provided by the IRAMUTEQ software were exhaustively analyzed to understand and name each one of them, culminating in: Class 1 - Knowledge as an indispensable factor for nursing care in CPA; Class 2 - The voice as the main facilitating and hindering element in the simulation; Class 3 - The realism of the scene as a facilitating factor in the simulation; Class 4 - The importance of simulation for safe patient care.

In class 1, knowledge was verified as an indispensable factor for nursing care in CPA. The participants pointed out that in the absence of knowledge, it is crucial to seek to learn about the subject through simulation, since the patient's life depends on the attitude of the professional himself.

> *So you seek knowledge is the most important and most positive aspect that you can say that life depends on you and you need technical knowledge for that, for you to support and save the person.* (ST.9)
> *This serves as an alert, that you have to train yourself every day, it is good for you to bring this knowledge to life.* (ST.8)

In addition, knowledge was related both as a facilitating and hindering aspect.

> *The facilitating aspect was exactly that because precisely what causes all this panic, even knowing that it is a simulation, is precisely not knowing what to do.* (ST.9)
> *The most difficult aspect was the lack of knowledge. Not knowing what to do [...] I think that was the only difficulty.* (ST.21)
> *Unpreparedness, lack of knowledge. The unpreparedness of the professional, our lack of knowledge.* (ST. 8)

It is worth mentioning that the lack of knowledge was recurrently listed as a complicating aspect, given that some nursing students reported not knowing what to do in the CPA simulation. However, the lack of knowledge, identified in the simulated practice, was cited as a stimulus for the search for knowledge, in order to provide the necessary readiness to assist the patient based on technical knowledge.

> *This feeling of seeing that you have a life depending on your readiness of your knowledge [...] you need technical knowledge for that, for you to provide support.* (ST.13)

Class 2 encompasses the voice as the main facilitating and hindering aspect in CPA simulation. The voice was mentioned as a factor that helped during the simulation, bringing reality to the scene, thus, a facilitating aspect.

> *The voice issue makes the process much more realistic than it is in practice.* (ST.17).
> *The voice without a doubt, because the voice guided, just as they were trying to relieve him, the difficulty of breathing. Undoubtedly, his collaboration, in saying what he was feeling, was very important.* (ST.18)

On the other hand, the voice was mentioned by the same students as an issue that generates feelings of nervousness during the simulation in CPA, being, at times, seen as a hindering aspect.

> *The voice scared me, I thought someone was talking back there, but it was a sound, I got nervous even seeing them.* (ST.4)
> *The voice that made it difficult, but that's what will happen to us in the hospital, there's no way.* (ST.16)

Class 3 discusses the simulation and realism of the scene. In this directive, it is emphasized that the simulation was realistic, being favorable, above all, in the future experience in patient care. It was also seen as a facilitating aspect in the teaching and learning process in the pandemic, enabling experience to face situations that demand urgency and CPA care.

> *I found it very realistic and I thought it really brought a greater awareness of what we will need to face in the practical environment.* (ST.13)
> *And the simulation I thought was very well done, this is a facilitator, it was closer to reality.* (ST.4)
> *It was very good, very realistic, it makes us stay, having to take a quick action because you don't want that to happen, I liked the simulation, it was very good [...] I think it was a facilitating aspect, first we are not going through the real situation, so there's no danger of someone actually dying, but there's that thing where we have to act fast, you know? And we are being guided, supervised; I think that's very good.* (ST. 21)

In class 4, the aspects elucidated were the care related to the patient; communication, willingness to help and nervousness, shown in the participants' statements.

With this, the facilitating aspect was seen in two moments, both by those who effectively participate in the scene, and by those who were watching the simulation take place.

The testimonies of the participants included the importance of communication, both to guide the patient in the moment before the CPA in the simulated scene, and the communication between the team members as fundamental for the assistance provided. In addition, they highlighted the nervousness experienced by the students due to the desire to help.

> *It made me nervous seeing them, but also that it could really happen in real, in everyday life.* (ST.3)
> *The part of the communication with the patient, we didn't even expect that he would say anything, I think this may have made it a little more real.* (ST.6)
> *We also see the importance of communicating with the team, of the shift handover, of knowing what happened during the night, the details about the patient, the importance of communicating with colleagues.* (ST.3)

Still, in this class it was possible to observe in the students who were watching the simulation the desire to help the colleagues who were actively participating in the scene.

> *I wanted to go there to help, I got up and felt desperate, the bed is there.* (ST.3)
> *I also wanted to go there to help, although I wouldn't know how to do anything.* (ST.4)

In short, there were different aspects that facilitated and hindered the simulation among the students, based on the debriefing, with emphasis on the essentiality of knowledge for nursing care in CPA and the voice of the "patient" manikin as a central element for realism of the scene. Also, the importance of simulation for safe patient care was highlighted.

Discussion

This study evaluated the CPA simulation during the debriefing among nursing students in the pandemic, identifying facilitating and hindering aspects. Among them, the voice of the manikin and the realism of the simulation stood out as facilitators. As hindering aspects, the students mentioned nervousness and lack of knowledge in CPA care.

Knowledge was emphasized in the speeches of the participants as a facilitator and indispensable in the simulation of CPA care, as well as its lack was a hindering factor. The fact that the students are active in all the proposed 'simulation' have an impact on their professional performance, as the simulated scene provides direction in clinical judgments, attenuation of errors in practice, the students' safety and independence, and also the understanding of their own emotions. In 'real' care, it is no different, since patient care demands, in addition to scientific knowledge, the skill of techniques that can bring quality to the care provided.[19]

In this sense, an investigation carried out among nursing students at a public university in the Federal District using realistic simulation, pointed to a significant improvement in their knowledge after the simulated strategy, demonstrating that this teaching method subsidizes significant learning in the training of nurses.[20] Likewise, the present study reinforced the need to offer updates to students, through simulation, being reflected by the speeches of the importance of knowledge for know-how in CPA care.

The voice of the manikin used for simulation was mentioned among the students as a facilitating factor, but also a hindering factor. According to the students' reports, this staged aspect brought such reality to the scene that at times it was difficult to reflect that it was a simulation. On the other hand, they showed nervousness with what they experienced, a fact that was due to the interaction with the manikin used during the simulation.

There is a close relationship in terms of the scenario with the level of realism, insofar as the closer the scenario is to real situations, the better the use of skills necessary for solving the problem in question. Thus, high-fidelity mannequins offer more realism to the scenario, as they have sound physiological responses, including the voice.[21] They provide a more real environment, since they allow the students to interact with the scenario, in addition to improving knowledge, skills and the attitudes of the students.[22] Although the manikin used for this study was of low fidelity, the staging of the voice reinforces the importance of this resource as a determining factor for the simulated scenarios, making it even more realistic and of great value in the construction of knowledge by part of the professional nurses.

For the nursing students in this study, the realism of the simulated scene was essential, even knowing that it is a simulation. The experience in certain scenarios, such as CPA, is not constant during undergraduate training or in the professional performance environment. However, it is necessary for the nurses to be able to act quickly and effectively in the face of this situation.[23] The simulated scenarios must be prepared with a high degree of reality, favoring the satisfaction of students at the scene and enabling approximation with clinical practice in a controlled environment.[24]

Students expressed apprehension during the simulation and had the feeling that they did not have the necessary knowledge to work in the field, due to little practice.[25] The clinical simulation, despite taking place in a controlled environment, brought the realism of clinical practice, imitating a real patient, for the students, providing reflection on their practical and communicative skills, in addition to the perception of the limitation of knowledge for action.

As health is not an exact science, simulation becomes an excellent prerogative, as it is possible to modify parameters and stimulate the environment to become even more real.[6] From the simulated scene of CPA care, experienced among the nursing students, the importance and duty of knowing the theory of care emerged in order to put into practice everything that was studied and planned at an opportune moment, in this way, the patient's life will be put in the hands of experts capable of providing assistance in an effective way.

For the participants, the fact that the patient's life was at risk during the simulation of care in CPA caused nervousness, since they felt the urge to help, to provide assistance to the patient, even without knowing what to do. Research carried out among undergraduate Nursing students at a public university in the countryside of the state of São Paulo pointed out that the experience in realistic scenes makes them more prepared for the practice of real care. In addition, the simulated strategy favors not only learning, but the assistance provided through reflection on the skills employed at the time of the simulation.[26]

In addition, the simulation of CPA care favors the minimization of errors in care. The use of clinical simulations as a teaching methodology promotes safe patient care,

since the student performing the procedure in advance and correcting errors will arrive more prepared in the real environment.[27]

In this way, the simulation of CPA care is extremely important in the training of nurses, since it provides decision-making in cases that demand urgency and in situations that can cause harm to life. A study carried out among nursing students in high-fidelity simulated emergency scenes at a public university in the south of the country showed that this strategy favored an increase in student self-confidence to carry out the assessment and nursing care, in addition to providing positive aspects in learning through this teaching strategy.[28]

Considering the pandemic scenario, the lack of resources associated with changes in practice scenarios in institutions has been important obstacles in the teaching process, especially due to the difficulty of continuing classes in laboratories and in practice fields.[29] However, this study, carried out in the context of the COVID-19 pandemic, in which students were away from practical activities, demonstrated the importance of clinical simulation as an important theoretical-practical teaching tool, which reinforces the need to use this strategy for training of nursing students.

Thus, it is clear that the development of skills and abilities of the professional nurse in patient care becomes evident when, previously, an experience in a clinical simulation has been lived, especially in CPA care.

Study limitations

The current pandemic scenario stands out as a limitation of the study, since gathering more students for the simulation has become unfeasible.

Contributions to practice

This study corroborates the importance of clinical simulation associated with the moment of debriefing for the teaching and learning process of nursing students. It is recommended that this scenario of realistic simulation in CPA associated with debriefing be implemented more frequently in the Semiology and Technical Semiology course of

the undergraduate nursing course in order to provide undergraduate students with the opportunity to obtain experiences for assistance in CPA.

Conclusion

This study made it possible to understand that technical-scientific knowledge and patient interaction through voice can be both facilitating and hindering agents in clinical simulations. The realism of the scene puts the students in situations that can occur during their professional practice, reinforcing the importance of this type of method in theoretical-practical teaching in nursing in the pandemic context, especially with regard to assistance in CPA. The simulation was shown to be a crucial point in view of the distance from the practice caused to the pandemic, a fact that was observed at the debriefing.

As for the hindering aspects of the simulation, nervousness, both of the students who actively participated in the scene and those who were watching, was the main aspect mentioned. This fact was reported together with the lack of knowledge in the simulation of CPA care, in addition to the stressful circumstance per se, because the participants were not prepared to act. The manikin's voice and knowledge were seen concomitantly with a facilitating and hindering dimension. Once, it generated restlessness and nervousness, and, on the other hand, brought reality to practical learning in the simulated scenario. The realism of the scene brought an innovative experience in the practical knowledge of the students, which contributed positively to their training, requiring their clinical reasoning.

In this sense, the evaluation of the CPA simulation in the debriefing in the COVID-19 pandemic affirmed the importance of this practical teaching strategy aimed directly at the clinic, positively influencing the teaching-learning process of the nursing student, bringing important implications for the training of nurses.

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