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Self-confidence in the care of critically ill patients: before and after a simulated intervention

Autoconfiança no cuidado ao paciente crítico: pré e pós-intervenção simulada

Autoconfianza en el cuidado del paciente crítico: antes y después de intervención simulada

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ABSTRACT

Objective: To evaluate the self-confidence of nurses in the care of critically ill patients, before and after a simulated intervention. **Method:** A quasi-experimental study was carried out with 103 nurses who participated in a workshop on the care of critically ill patients in the first semester of 2016. A clinical simulation pedagogical instrument was used throughout the event, and self-confidence was assessed by the Portuguese version of the Self-confidence Scale (SCSvp). **Results:** Most participants reported not being prepared to provide first care to critically ill patients, which was carried out during care practice. The participants presented a significant increase in self-confidence after the simulated intervention (p<0.001) in the cardiac, neurological, and respiratory dimensions. **Conclusion:** Simulation has proved to be an effective strategy for the development of individuals' self-confidence, which contributes to the improvement of skills required for professional practice.

Descriptors: Emergency Nursing; Nursing Care; Behavior; Confidence; Simulation.

RESUMO

Objetivo: Verificar a autoconfiança do enfermeiro no atendimento ao paciente crítico pré e pós-intervenção simulada. **Método:** Estudo quase experimental realizado com 103 enfermeiros que participaram de um *workshop* de atendimento ao paciente crítico no primeiro semestre de 2016. Foi utilizada a ferramenta pedagógica de simulação clínica em todo o evento, e a autoconfiança foi verificada pela *Self-Confidence Scale*, versão portuguesa (SCSvp). **Resultados:** A maior parte dos sujeitos julgou não estar preparada para prestar o primeiro atendimento ao paciente crítico, afirmando tê-lo realizado durante a prática assistencial. Os participantes apresentaram aumento significativo de autoconfiança após a intervenção simulada (p <0,001) nas dimensões cardíacas, neurológica e respiratória. **Conclusão:** A simulação tem-se mostrado uma estratégia eficaz para o desenvolvimento da autoconfiança do indivíduo, o que contribui para o acréscimo das competências exigidas para o exercício profissional.

Descritores: Enfermagem em Emergência; Cuidados de Enfermagem; Comportamento; Confiança; Simulação.

RESUMEN

Objetivo: Verificar la autoconfianza del enfermero en la atención del paciente crítico antes y después de una intervención simulada. **Método:** Estudio cuasi-experimental, realizado con 103 enfermeros que participaron de un workshop de atención al paciente crítico en el primer semestre de 2016. Fue utilizada la herramienta pedagógica de simulación clínica durante todo el evento, y la autoconfianza fue verificada mediante *Self-Confident Scale*, versión portuguesa (SCSvp). **Resultados:** La mayoría de los sujetos consideró no estar preparado para brindar la primera atención al paciente crítico, afirmando haberlo realizado durante la práctica asistencial. Los participantes expresaron aumento significativo de autoconfianza luego de la intervención simulada (p<0,001) en las dimensiones cardíaca, neurológica y respiratoria. **Conclusión:** La simulación ha demostrado ser una estrategia eficaz para desarrollar la autoconfianza del individuo, factor que contribuye al crecimiento de las competencias exigidas para el ejercicio profesional.

Descriptores: Enfermería de Urgencia; Atención de Enfermería; Conducta; Confianza; Simulación.

INTRODUCTION

The theme of nursing professionals' development of skills for qualified professional practice has been extensively discussed. The term competence comprises the combination of skills and capabilities resulting from theoretical aspects and individuals' previous experiences[1]. In this perspective, self-confidence has been understood as a construct that contributes to individuals' development of skills. Confidence is considered an important variable in nursing training; individuals with higher levels of confidence are likely to undertake safer and successful interventions[2].

Self-confidence is the acknowledgement that individuals have of their own abilities and emotions[3]. It may also be understood as the belief of being successful and the capacity to believe in themselves and their abilities in a particular situation to undertake a specific task[4].

In the international context, self-confidence may be associated with the self-efficacy theory, whose conception is in the judgment that individuals make of their own capacity to organize and undertake a specific activity, considering their performance and behavior. It is associated with the degree of assurance in successfully undertaking a task and achieving its result. In specific situations, it may work as a decisive factor in behavior and actions performed[5-6].

In the care practice, showing confidence involves several variables, which range from expectations of patients, families, and the nursing team up to management and other professionals. Self-confidence has become an important component for health care practice[7], whose essence is care, especially for critically ill patients, who require more complex care.

Critically ill patients are those in severe conditions, at imminent risk to lose a specific function of an organ or body system, or even their lives. Those who present a critical clinical condition that requires immediate clinical, surgical, gynecological-obstetric, or mental health care are also considered critically ill patients[8]. Then impact of self-confidence on patient care directly affects health care, thus positively or negatively compromising care provision[3], especially concerning critically ill patients. Nurses must be confident and calm when undertaking their activities, and show a self-confidence level able to provide comfort for patients and the healthcare team[4].

As a teaching strategy to improve self-confidence, nursing and health care schools have sought to include clinical simulation in their syllabus in order to develop the necessary competences for professional practice. Simulation can be divided into low-, medium-, and high-fidelity, according to the type of simulator and interaction level with students[9-10].

Low-fidelity simulation is carried out with simple simulators (or anatomical components), usually for skill training (venipuncture, urinary catheterization, and others). However, medium-fidelity simulators allow interaction with students for the development of specific skills or simple scenarios. High-fidelity simulators allow a higher interaction level with students, presenting human and physiological responses, which allow more realism in students' evaluation[11]. Simulation's fidelity depends significantly on the realism perceived by students regarding the learning context, in contrast to any specific element, such as the technology used[12].

Among the several types of simulation, the use of simulated or standardized patients (actors) and role-playing among the different healthcare areas, even in the multidisciplinary context, have provided benefits with the use of the strategy, such as: satisfaction, self-confidence, knowledge, empathy, realism, reduction in anxiety levels, comfort, communication, motivation, capacity for reflection and critical thinking, as well teamwork[13]. Nurses' self-confidence development for the care of critically ill patients through simulation is a promising and necessary resource for nursing care training.

OBJECTIVE

To evaluate the self-confidence of nurses in the care of critically ill patients, before and after a simulated intervention.

METHOD

Ethical aspects

The present study met standards of the institution and ethical aspects of resolution 466/12 of the Brazilian National Health Council, and was approved by the Research Ethics Committee of the Ribeirão Preto College of Nursing at the University of São Paulo. In compliance with the ethical aspects, the participants signed an informed consent form in two copies.

Study design, setting, and period

This was a quasi-experimental study with an exploratory and analytical approach carried out before and after a simulated intervention. It was carried out in a nursing school located in a noncapital city in the state of São Paulo, Brazil, in the first semester of 2016. The Portuguese version of the Self-confidence Scale (SCSvp) was used to evaluate nurses' self-confidence in the care of critically ill patients[14]. This instrument is made up of 12 items divided into the following three factors: Factor 1 – Neurological, Factor 2 – Respiratory, and Factor 3 – Cardiovascular, with a 5-point Likert scale response pattern (not at all confident, somewhat not confident, somewhat confident, moderately confident, and very confident). The instrument identifies individuals' capacity to recognize signs and symptoms of alterations in the abovementioned areas, accurately evaluate patients, appropriately intervene with procedures, and evaluate the effectiveness of the interventions implemented. The original scale was developed in the United States and published in 2009[2], and was culturally adapted and validated for Portuguese of Portugal with students[14]. In Brazil, considering the different cultural context of the Portuguese population, the instrument was submitted to an expert committee for semantic validation. Specialist nurses from the nursing fundamental area were invited to participate in this committee. According to the experts' analysis, no changes in the instrument were required for its understanding, which could be used in both Portuguese and Brazilian students and nursing professionals.

Study population, sample, and inclusion and exclusion criteria

The population of this study was made up of 103 nurses who attended the workshop and agreed to participate in the study. They were professionals from several noncapital regions of the state of São Paulo, who worked in several nursing practice areas, as well as care, management, and education areas. Nurses who agreed to participate in the study were included. The exclusion criterion adopted was instruments that were not completely filled in; however, there was none.

Data collection

Data collection occurred during the Brazil – Portugal workshop: *Care for critically ill patients*, promoted by a Brazilian higher education institution, with co-participation of a higher education institution of Portugal, which was a free event publicized in print and electronically. Data were collected during one day (morning and afternoon) of activities, with the choice of three days of event. There were no inclusion and exclusion criteria regarding education level and chosen day. Sixty places were made available per day, totaling 180 during the entire event, and the same theoretical and practical content was delivered during the three days of event, ensuring the same opportunity for all participants.

The 103 nurses who were present on the three days of the event were invited to participate in the study. The participants agreed to participate in the study by signing an informed consent form, and there was no refusal. An instrument with the following variables was prepared for participants' characteristics: gender, age group, education level, employment relationship, practice area, and information regarding their experience with clinical simulation, first care provided to critically ill patients, and if they were prepared to provide care. After this first collection, the participants answered the SCSvp.

Each workshop's activity day promoted a theoretical content regarding care for critically ill patients and use of clinical simulation as a pedagogical educational instrument. The entire content was delivered by Brazilian and Portuguese professors who were experts in simulation and care for critically ill patients. Low-, medium-, and high-fidelity simulation were used as a teaching-learning strategy, in addition to simulated patients. After a discussion on the content, the participants were divided into three groups, each one experiencing three skill-training workshops (cardiovascular, neurological, and respiratory). In the afternoon, each group participated in three different simulated workshops, where each simulated scenario involved care of critically ill patients in different situations (respiratory distress, mental disorders, and precordialgia). After experiencing all these phases of the event, the participants were gathered in an auditorium to fill in the SCSvp.

Analysis of results and statistics

Data were codified into Excel spreadsheets, paired, and analyzed through the Statistical Package for the Social Sciences 22 (SPSS) for Windows. Descriptive analysis and t-test for paired samples with a 5% significance level were used for data analysis.

RESULTS

Characteristics of the participants are presented in Table 1.

An analysis of the SCSvp according to its factors and in general, before and after the simulated intervention is described in Table 2.

The participants presented better self-confidence to evaluate the respiratory dimension, both before and after the simulated intervention. The cardiovascular dimension presented the lowest self-confidence; however, it presented greater self-confidence after the activity.

Table 3 presents the results of the t-test t for paired samples by factors and for the SCSvp's general scale.

It is worth mentioning that in all dimensions and in the general scale, the participants presented a self-attributed mean above the mean point, and the improvement in scores after the simulated activity was significant.

The scale's internal consistency was verified through Cronbach's alpha, before and after the simulated intervention. The following values were presented pre-intervention: factor 1 (0.82), factor 2 (0.88), factor 3 (0.89), and general scale (0.93). The following values were presented post-intervention: factor 1 (0.92), factor 2 (0.96), factor 3 (0.93), and scale general (0.93).

Table 1 – Characteristics of the participants according to gender, age group, education level, employment bond, practice area, experience with clinical simulation, and feeling prepared to provide care (N=103), Ribeirão Preto, São Paulo, Brazil, 2016

	f	%
Gender		
Male	13	12.6
Female	90	87.4
Age group		
≤30 years	48	46.6
31 to 40 years	44	42.1
41 to 50 years	9	8.7
>50 years	2	1.9
Education level*		
No specialization	20	19.4
Lato Sensu specialization	64	62.1
Master's degree**	47	45.7
Doctorate degree**	20	19.4
Employment bond		
Yes	77	74.8
No	26	25.2
Practice area (considering employment bond)		
Nursing care	48	46.6
Nursing management	6	5.8
Teaching activity	23	22.3
Experience with clinical simulation		
Yes	51	49.5
No	52	50.5
First care for clinically ill patients		
Care practice	83	80.6
Laboratory practice	20	19.4
Preparedness to provide care		
Yes	17	16.5
No	86	83.5

*Note: *More than one answer can be given by participants; **Either completed or in course.*

Table 2 – Described analysis of factors and general scale, before and after the intervention (N=103), Ribeirão Preto, São Paulo, Brazil, 2016

		Factor 1 PR*	Factor 1 PO**	Factor 2 PR	Factor 2 PO	Factor 3 PR	Factor 3 PO	General scale PR	General scale PO
Mean		2.75	3.57	3.02	3.84	2.68	3.53	2.82	3.65
Mode		3.00	3.00	3.00	4.00	3.00	3.00	3.00	3.00
Standard deviation		0.63	0.76	0.64	0.78	0.69	0.74	0.58	0.71
Minimal		1.50	1.75	1.25	1.75	1.00	1.75	1.50	1.75
Maximal		5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Percentage	25	2.25	3.00	2.75	3.00	2.25	3.00	2.50	3.00
	50	2.75	3.50	3.00	4.00	2.50	3.50	2.75	3.66
	75	3.00	4.00	3.25	4.25	3.00	4.00	3.00	4.00

*Note: *PR=Pre-intervention **PO=Post-intervention.*

Table 3 – T-test for paired samples by factors and general scale (N=103), Ribeirão Preto, São Paulo, Brazil, 2016

	Mean difference	Standard deviation	Standard error of the mean	T-test	Degrees of freedom (df)	*p* value
Factor 1 (Neurological)	-0.82	1.03	0.10	-8.06	103	**<0.001**
Factor 2 (Respiratory)	-0.81	1.03	0.10	-7.98	103	**<0.001**
Factor 3 (Cardiovascular)	-0.84	1.03	0.10	-8.32	103	**<0.001**
General scale	-0.82	0.94	0.09	-8.88	103	**<0.001**

DISCUSSION

In line with records of the Brazilian Federal Nursing Council[15], it is noteworthy that most of the nurses who participated in the study were women, aged 30 years or younger, and with an employment bond associated with the care area.

Regarding education level, most participants have sought technical and scientific improvement, both through *lato sensu* and *stricto sensu* graduate degrees. Most of the participants in this study sought a *stricto sensu* specialization, which may be explained by the fact that the event was carried out in a higher education institution with a significant number of students enrolled in this graduate modality. The use of clinical simulation as a teaching strategy, which is growing, also contributed to the interest of the participants. Complexities and demands of the healthcare area also require the construction of relevant and innovative knowledge to working professionals, which makes a graduate degree an important tool for professional training and qualification[16].

Most participants reported being familiar with the clinical simulation strategy as a teaching practice. This finding occurs due to great national and international encouragement toward the development of this strategy. However, in Brazil, qualified professionals to use this pedagogical tool are still required[17].

Nowadays, the use of creativity, for either undergraduate and graduate education or continuing education in services, has been a strong resource to promote learning, thus making it significant and paramount. In nursing education, clinical simulation has been considered as one of the best strategies for nursing training, especially in urgency situations, which involve the need for quick thinking and decision making, thus contributing to these professionals' proactive behavior[18].

When questioned about first care for critically ill patients, few participants reported having undertaken it in the teaching laboratory, and most undertook it in care practice. The teaching laboratory must be a place where students are able to associate the knowledge acquired in the classroom with clinical practice, promoting a reduction in their anxiety levels and preventing future errors that could happen during clinical practice. A simulated situation allows a better understanding of reality and demands actions from individuals when facing it[19]; provides professionals with greater satisfaction and self-confidence, in addition to preventing unnecessary exposure to iatrogenic errors[20] and provides pedagogical strategies able to promote learning in a safer realistic environment for professors and students, thus preparing them for care practice in the clinical context[21].

Literature points out that loss or lack of self-confidence related to clinical knowledge result in stressful experiences, especially to new graduates facing the responsibility toward critically ill patients[22-23].

When questioned about preparedness to provide first care to critically ill patients, most participants reported not being prepared. When dealing with critically ill patients, professionals come across severe situations that require skills. It is a fight for survival in a short time, in which the lack of skills represents a rupture in care quality standards and may potentially compromise care quality, undermine safety, and increase risks, in addition to exposing professionals to moral, ethical, and legal violations[24].

Regarding self-confidence to provide care to critically ill patients evaluated in this study, the values found through descriptive analysis of the data indicated that the participants showed greater self-confidence in the respiratory dimension and lesser self-confidence in the cardiovascular, both before and after the intervention. The highest self-confidence score in the respiratory dimension is similar to the results found in the validation study[14]; this fact may be explained because the parameters of respiratory evaluation are more visible than the others, thus making individuals feel safer to evaluate this dimension. However, the cardiovascular dimension presented the greatest increase in self-confidence among the participants.

The participants presented a self-attributed mean above the mean point in all dimensions and in the general scale, in addition to a noticeable and extremely significant improvement in scores after undertaking the simulated activity through the t-test, which showed the effectiveness of the strategy in nursing education, especially for the learning of practice evaluation skills such as cardiac, neurological, and respiratory.

The scale used in this study was translated into Portuguese in 2014, and no other studies made use of it. Therefore, self-confidence in the care of critically ill patients is a study object of utmost importance for further research, because it enables discussion on several factors that characterize the nursing profession, either directly related to patients in urgency and emergency care in a fast and effective way, or to professionals, since self-confidence establishes a direct relationship between individuals' technical skills and critical thinking[14], which ensures greater safety for the performance of work activities. Consequently, all these actions and attitudes are purged by ethical issues that guide the actions of healthcare professionals.

The nursing professionals who participated in this study presented good results for self-confidence attributed for evaluation of critically ill patients. It is worth mentioning that most of them were already engaged in professional practice; however, when completing the undergraduate course, they did not feel prepared to provide care. The fact that these professionals did not feel prepared for professional practice after completing their undergraduate studies leads to a reflection on the responsibility of higher education schools regarding the quality and responsibility of professional training.

Higher education institutions have the social commitment of providing the job market with nurses prepared for professional practice in line with the profession's principles, able to practice nursing, valuing individuals' dignity and rights since their conception up to death, preserving their physical, mental, spiritual, and emotional integrity. In this respect, clinical simulation has proved to be an effective strategy for the development of individuals' self-confidence, and its use throughout their work practice promotes the inclusion of skills necessary for this profession.

Study limitations

In order to assess knowledge retention, time must be considered as an important variable, even though the teaching strategy has been an active education methodology. However, data collection occurred during a workshop, where individuals came from different cities, and, in thess circumstances, evaluating knowledge retention considering time is a limitation of this study.

Contributions to the nursing and healthcare area

The findings of this study allow a reflection on nurses' teaching-learning process. National curriculum guidelines suggest the use of active teaching methodologies, and clinical simulation has proved to be an important tool for this process, because it values students' previous knowledge, theorizes knowledge, enables the training of skills, and demands attitude from future professionals, regardless of the scenario. Therefore, nursing undergraduate courses, when reforming their curriculum pedagogical project, are expected to value the use of active methodologies and multidisciplinary education, thus transforming health practices and strengthening integration and cooperation among professionals. The present study also shows nurses' need for improving and updating knowledge, which is an alert for education and service institutions, as well as associations and regulatory bodies of the profession, which must provide continuing update opportunities.

CONCLUSION

Self-confidence is an essential component for nursing practice, especially in the care of critically ill patients. Clinical simulation has proved to be an effective strategy for its development, contributing to the improvement of skills required by the profession. After undertaking a simulated intervention, the participants presented a higher self-confidence level in the care of cardiac, neurological, and respiratory aspects, proving to be an effective strategy for nursing education. However, further studies approaching knowledge storage must assess individuals after some time, in order to evaluate information retention.

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