KNOWLEDGE OF NURSING ACADEMICS ON BASIC LIFE SUPPORT
CONHECIMENTO DOS ACADÊMICOS DE ENFERMAGEM SOBRE SUPORTE BÁSICO DE VIDA
CONOCIMIENTO DE LOS ACADÉMICOS DE ENFERMERÍA SOBRE SOPORTE BÁSICO DE VIDA

Raphaella Teixeira Resende¹, Amanda Conrado Silva Barbosa², Franciane Silva Luiz³, Kelli Borges dos Santos⁴, Danielle Braga Pena Frank⁵, Daniela de Souza Motta⁶, Anna Carolina Carraro Tony⁷, Fábio da Costa Carbogim⁸

ABSTRACT

Objective: to evaluate the knowledge about basic life support with emphasis on cardiorespiratory arrest of Nursing undergraduates before and after the Adult Health in Nursing discipline. **Method:** This is a quantitative, descriptive and exploratory study carried out with nursing students. An instrument for data collection was used, with reference to the AHA guidelines. The descriptive analysis of variables was used to analyze the results of objective questions and sociodemographic research, and the results were presented in the form of tables. **Results:** it is revealed that, of the 77 academics evaluated, 66% were female and the mean age was 18.37 years; in relation to the period, the highest number was of the sixth, with 24.7%, and the lowest of the eighth, with 2.6%, and only 32.46% of the students reached a grade equal to or greater than 70% of the questionnaire. **Conclusion:** it was identified that students who had passed through the discipline Adult Health, when the subject is approached, obtained a higher average grade than the students who did not attend said discipline, however, in a global way, the students present insufficient knowledge to act, in a resolute way, in a victim care in cardiorespiratory arrest. **Descriptors:** Nursing; Basic Support of Life; Nursing Education; College Education; Cardiopulmonary Resuscitation; Cardiac Arrest.

RESUMO

Objetivo: avaliar o conhecimento sobre suporte básico de vida com ênfase em parada cardiorrespiratória de graduandos de Enfermagem, antes e após a disciplina Saúde do Adulto em Enfermagem. **Método:** trata-se de um estudo quantitativo, descritivo e exploratório, realizado com acadêmicos de Enfermagem. Utilizou-se um instrumento para a coleta de dados, tendo como referência as diretrizes da AHA. Empregou-se, para a análise dos resultados das questões objetivas e da pesquisa sociodemográfica, a análise descritiva das variáveis, e, apresentaram-se os resultados em forma de tabelas. **Resultados:** revela-se que, dos 77 acadêmicos avaliados, 66% eram do gênero feminino e a média de idades foi de 18,37 anos; em relação ao período, o maior número foi do sexto, com 24,7%, e o menor do oitavo, com 2,6%, sendo que apenas 32,46% dos acadêmicos atingiram uma nota igual ou superior a 70% do questionário. **Conclusão:** identificou-se que os estudantes que já haviam passado pela disciplina Saúde do Adulto, momento em que a temática é abordada, obtiveram nota média maior do que os estudantes que não haviam cursado a referida disciplina, contudo, de maneira global, os estudantes apresentam conhecimentos insuficientes para atuar, de forma resolutiva, em um atendimento de vítima em parada cardiorrespiratória. **Descritores:** Enfermagem; Suporte Básico de Vida; Educação em Enfermagem; Educação Superior; Reanimação Cardiopulmonar; Parada Cardíaca.

RESUMEN

Objetivo: evaluar el conocimiento sobre soporte básico de vida con énfasis en parada cardiorrespiratoria de graduandos de Enfermería, antes y después de la asignatura Salud del Adulto en Enfermería. **Método:** se trata de un estudio cuantitativo, descriptivo y exploratorio, realizado con académicos de Enfermería. Se utilizó un instrumento para la recolección de datos, teniendo como referencia las directrices de la AHA. Se utilizó, para el análisis de los resultados de las cuestiones objetivas y de la investigación sociodemográfica, el análisis descriptivo de las variables, y, se presentaron los resultados en forma de tablas. **Resultados:** se revela que, de los 77 académicos evaluados, el 66% eran del género femenino y el promedio de edades fue de 18,37 años; en relación al período, el mayor número fue del sexto, con el 24,7%, y el menor del octavo, con el 2,6%, siendo que sólo el 32,46% de los académicos alcanzaron una calificación igual o superior al 70% del cuestionario. **Conclusión:** se identificó que los estudiantes que ya habían pasado por la asignatura Salud del Adulto, momento en que la temática es abordada, obtuvieron una nota promedio mayor que los estudiantes que no habían cursado la referida asignatura, sin embargo, de manera global, los estudiantes se presentan conocimientos insuficientes para actuar, de forma resolutiva, en una atención de víctima en parada cardiorrespiratoria. **Descritores:** Enfermería; Reanimación Cardiopulmonar Básica; Educación en Enfermería; Educación Superior; Reanimación Cardiopulmonar; Paro Cardíaco.

¹Nurse, Federal University of Juiz de Fora / UFJF. Juiz de Fora (MG), Brazil. Email: raphaelakta@hotmail.com ORCID iD: <https://orcid.org/0000-0002-1763-6115>; ²Master, Federal University of Juiz de Fora / UFJF. Juiz de Fora (MG), Brazil. Email: amandaconradosb@hotmail.com ORCID iD: <https://orcid.org/0000-0003-2092-2099>; ^{3,5,7}Masters students, Federal University of Juiz de Fora / UFJF. Juiz de Fora (MG), Brazil. Email: franciane.silva.192@gmail.com ORCID iD: <https://orcid.org/0000-0002-5509-6703>; Email: daniibpena@gmail.com ORCID iD: <https://orcid.org/0000-0003-2473-0481>; Email: danielamotta10@yahoo.com.br ORCID iD: <https://orcid.org/0000-0002-0685-7561>; ⁴PhD, Federal University of Juiz de Fora / UFJF. Juiz de Fora (MG), Brazil. Email: kelli.bsantos@gmail.com ORCID iD: <https://orcid.org/0000-0001-8423-9147>; ⁶PhD, University of São Paulo / USP. Juiz de Fora (MG), Brazil. Email: fabio.carbogim@ufjf.edu.br ORCID iD: <https://orcid.org/0000-0003-2065-5998>; ⁸Nursing student, Federal University of Juiz de Fora / UFJF. Juiz de Fora (MG), Brazil. Email: annacarolina_tony@hotmail.com ORCID iD: <https://orcid.org/0000-0003-0937-8360>

INTRODUCTION

Cardiorespiratory arrest (CRA) is characterized by sudden interruption of heart rate and respiration, triggering loss of consciousness, absence of pulse or signs of circulation, which may lead to irreversible brain lesions.¹ CRA is the leading cause of sudden death in the world, including Brazil, where more than 200,000 people per year are victims of cardiac arrhythmias and acute myocardial infarction.²⁻³

From this point of view, given the fact that 50% of cases of CRA occur on public roads, the need to extend basic life support training (BLS) to the lay public, making possible the early recognition and efficient performance of cardiac maneuvers.¹⁻² It is also worth noting that the rapid recognition of clinical signs and the performance of cardiopulmonary resuscitation (CPR) maneuvers, with effective chest compressions, can increase the survival rate of victims in extra-hospital settings by two to three times.³⁻⁴

Therefore, it is essential to know how to identify a CRA and to proceed in a standardized and systematized way to provide a safe and minimal damage to the patient. Such conduits are referred to BLS of CRA and advanced life support (ALS). BLS is understood to establish actions to maintain or restore respiratory and circulatory functions, which can be performed by trained laypersons.³ It is added that, in the in-hospital environment, nurses, because they spend more time performing direct care to the patient, are usually the first professionals to identify a victim in CRA.⁴⁻⁵

However, in the present study, there is an unsatisfactory theoretical-practical knowledge on the part of the professionals⁶⁻⁷ and of the students of the health area with regard to CPR/CRA.³ It is pointed out that, in the study, 84.4% of the participants feel prepared to act in a CRA situation, only 21.9% of the participants do not consider the training in CRA and CPR important.³

Thus, the need to rethink the training processes to provide professionals capable of promoting safe and harmless care due to malpractice, negligence and recklessness.³ It is also believed that the training of these professionals, both upper-level and mid-level professionals, is of paramount importance, since, when performed incorrectly, CPR is associated with a survival rate of only 4%, compared to 26% when performed with correct technique, which contributes to the patients' chances of survival.^{4,6} In an integrative review¹, it is proved that the

periodic training of the Nursing corps in CPR represents an indicator of quality, considering that these professionals must be able to provide assistance according to the most up-to-date guidelines and protocols.

OBJECTIVE

- To evaluate knowledge about basic life support with an emphasis on cardiorespiratory arrest of nursing undergraduates, before and after the discipline Adult Health in Nursing.

METHOD

It is a quantitative, descriptive and exploratory study, with 77 nursing students from a public educational institution. It is reported that students from the initial periods (first to fifth periods - before attending the Adult Health discipline) and Nursing students from the advanced periods (sixth to ninth periods - after attending the Adult Health discipline) participated. It should be emphasized that the Adult Health discipline covers the contents under analysis - cardiopulmonary resuscitation and basic life support, which are offered in the 6th period of the curriculum of the Nursing course.

The following inclusion criteria were established for the study: to be regularly enrolled in the course and to be a Nursing academic from the first to the ninth period. The exclusion criteria were listed: Nursing students from other higher education institutions and those who did not agree to participate in the research.

The data was collected between March and May 2018, at the time intervals of the study participants' classes. Before the collection, the objective of the research and the contribution of the results to the study and to the academic formation were explained.

The instrument used to collect the three-part data was composed: sociodemographic characterization; three questions about the academic opinion about CRA and participation in the Academic League of Trauma and Emergency (ALTE) and seven multiple choice questions about basic life support (BLS), and students should indicate the option considered correct.

The instrument was developed by the researchers, based on the recommendations of the American Heart Association (AHA) 2015 guidelines for cardiopulmonary resuscitation (CPR) and emergency cardiovascular care (ECC).⁸

The descriptive analysis of variables, with absolute, relative and mean frequencies, was used to analyze the results of objective

questions and sociodemographic research. The t-test for independent samples was used to evaluate the significance between the means of the initial and advanced student groups, and all analyzes were done in the statistical software SPSS, version 24.0.

The precepts of Resolution No. 466, of December 12, 2012, of the National Health Council (NHC) were followed by the research, approved by the Ethics Committee on Human Beings Research of the Federal University of Juiz de Fora opinion of number 1,874,182.

RESULTS

It is reported that 77 students participated in the study, of which 38 studied between the first and fifth semesters and 39, from the sixth to the ninth semesters of the course.

The data presented in table 1 was verified, according to the sociodemographic characteristics.

Table 1. Distribution of study participants according to sociodemographic characteristics. Juiz de Fora (MG), Brazil, 2018.

Characteristic	n	f %
Gender		
Male	11	14.3
Female	66	85.7
Age group		
17 to 20 years	32	41.6
21 to 24	33	42.9
25 to 29	09	11.7
30 to 50	03	3.9
Skin Color		
White	45	58.4
Brown	20	26
Yellow	01	1.3
Black	10	13
Indigenous	01	1.3
Participate or have already participated in ALTE		
Yes	08	10.4
No	69	89.6
Period		
1st	17	22.1
2nd	0	0
3rd	05	6.5
4th	12	15.6
5th	05	6.5
6th	19	24.7
7th	05	6.5
8th	02	2.6
9th	12	15.6

Table 2 presents the results of the opinion of the academics on three questions, in which they should choose one of the following

options: "agree", "partially agree" and "disagree".

Table 2. Questions about the opinion of academics about CRA and participation in LATE. Juiz de Fora (MG), Brazil, 2018.

Question	Agree		Partially agree		Disagree	
	n	%	n	%	n	%
1 - Being able to perform care for a victim in a CRA situation.	14	18,2	29	22,2	34	37,7
2- The Nursing College provides theoretical and practical knowledge for the CRA.	11	14,3	26	33,8	40	51,9
3 - Participating in ALTE is determinant for learning about BLS.	36	46,8	28	36,4	13	16,9

Table 3 lists the frequencies of correct questions. answers and errors about multiple choice

Table 3 - Multiple choice questions about CRA and BLS knowledge. Juiz de Fora (MG), Brazil, 2018.

Question	Right		Wrong	
	n	%	'n	%
4 - Cardiac rhythms that can progress to CRA, and the defibrillator can be used.	21	27,3	56	72,7
5 - About updating the AHA Guideline 2015 about the frequency of heart compressions.	51	66,2	26	33,8
6 - Survival chain sequence of CRA in outpatient environment (CRAOE).	24	31,2	53	68,8
7 - Question of T or F about hemorrhage, Heimlich maneuver, trauma and update of Guideline.	58	75,3	19	24,7
8 - Correct sequence to perform CPR.	44	57,1	33	42,9
9 - Depth of heart compressions in adults.	52	67,5	25	32,5
10 - Correct position in which the rescuer must be to perform the care of the victim in a CRA situation.	49	63,6	28	36,4

Table 4 shows the cross between the number of correct answers according to the periods before and after the Adult Health discipline.

Table 4 - Comparison of the hits before and after the Adult Health discipline. Juiz de Fora (MG), Brazil, 2018.

Periods	n	Media	Standard deviation	P
1st to 5th	39	3.38	1.310	
6th to 9th	38	4.39	1.152	0.001

DISCUSSION

In the data referring to the sociodemographic characteristics, when comparing the genders, the variable female sex was presented, totaling 66%. For this reason, other studies confirm that Nursing, since graduation, is predominantly composed of female subjects.^{1,4}

In a similar study, 3 the opinion of nursing undergraduates about being prepared and safe to perform the care of a victim in a situation of CRA was evaluated, and of these, 84.4% answered affirmatively, and this result is higher to that found in this investigation, in which the minority of respondents considered themselves apt (18.2%).

It is demonstrated that, with regard to the understanding of the Nursing college evaluated, the theoretical and practical knowledge for the initial attendance of a cardiorespiratory arrest, 51.9% of the interviewees disagreed with the assertion, and the findings corroborate the study¹⁰, when evaluating the teaching-learning process in CRA at a public university in Bahia, confirmed that Nursing undergraduates classified their classes on CRA/CPR as unsatisfactory for the correct care of the victims. It should be pointed out that the students are finishing their undergraduate course with insufficient preparation to act, in a resolute way, in a victim care in cardiorespiratory arrest, a fact

of real significance, since it compromises the assistance provided, contributing to the emergence of sequels and / or death.

It is inferred, on the cardiac rhythms that enable the application of the defibrillator, that only 27.3% were correct. It was identified, in an integrative review, that health professionals, in their practices, have failed to identify shockable rhythms and defibrillation in a minimum time considered appropriate.¹¹

It was also demonstrated by the results of this research that 66.2% of the participating students correctly identified the frequency of chest compressions and, according to the American Heart Association, ⁸ correctly performed chest compressions are essential to guarantee adequate oxygenation of vital organs during the CRA episode, reducing possible sequelae and death.

Despite the depth of cardiac compression, it is revealed that most (67.5%) of the academics identified the correct question, since the current recommendation on the depth of chest compressions for cardiac massage is at least five but not exceeding six centimeters.⁸

It was demonstrated, regarding the question that analyzed about the correct position in which the professional should be in relation to the victim in situation of CRA, to perform the service with quality and effectiveness, by this study, that 63.6% of the

students chose the correct option; however, this result was inferior to the study¹⁰ in which 93.8% of the students identified the correct positioning of the rescuer when performing a CRA.

In the comparative analyzes of the number of hits according to the periods before and after the Adult Health discipline, the results showed that there was a statistically significant difference, with $p = 0.001$. Thus, the students of the sixth to ninth periods obtained a higher score than the first-to-fifth-period students, showing that, despite some results being unsatisfactory, when comparing correct answers before and after the discipline of Adult Health, it has been shown that this discipline provides a theoretical and practical foundation for the students. It is necessary, however, to review the methodology of the teaching and learning process and to establish frequent evaluations, since the final result with the 77 academics was not equal to or greater than 70% of the questionnaire.

The effectiveness and effectiveness of the OSCE and PBL as effective methodologies for teaching and learning BLS skills and abilities have been demonstrated in studies¹²⁻⁴ in view of the potential to stimulate critical thinking and decision-making.

CONCLUSION

Through the study, it was allowed to evaluate the knowledge of Nursing undergraduates about basic life support with emphasis on cardiorespiratory arrest.

It was evidenced that the students who had already undergraduate the Nursing in the Health of the Adult, offered in the sixth semester of graduation, obtained a higher average grade than the students who had not studied the mentioned discipline. However, in relation to the evaluation of the skills defined in protocols, it is added that students present insufficient knowledge to act, in a resolute way, in a victim care in cardiorespiratory arrest.

It is pertinent to point out that one of the limitations of the study was to evaluate only the theoretical knowledge of nursing students, and other studies are recommended to evaluate practical skills in the face of a CRA situation. It is also a research carried out in only one institution/course, and comparative evaluations between institutions/courses are recommended.

It is believed that the results of this research are relevant to the training in Health and Nursing, since, together with national and

international research, it ratifies the need to strengthen students' theoretical and practical foundation on basic life support with an emphasis on cardiorespiratory arrest during graduation.

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Corresponding Address

Fábio da Costa Carbogim
Rua José Lourenço Kelmer, s/n - Campus
Universitário
Bairro São Pedro
CEP: 36036-900 – Juiz de Fora (MG), Brazil