



## EVALUATION OF NURSING KNOWLEDGE ABOUT THE EMERGENCY CAR

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### ABSTRACT

The objective was to evaluate nurses knowledge about the correct use of the emergency car. It is a descriptive, exploratory and quantitative study. The target audience of the research were nurses working in the emergency unit of a hospital in the municipality of Fortaleza-Ceará. For the data collection, a structured form was used, containing variables that indicated several factors that tested nurses' knowledge. Twenty nurses participated in the study, of which 95% were female and only 5% were male. 60% of the nurses reported never having attended courses, classes or lectures on the emergency car, but 100% reported feeling the need to deepen their knowledge about the subject. The relevance of this study consisted in the fact that the emergency car is a crucial and indispensable element for the reversal of cardiorespiratory arrest, but there are still many shortcomings about its organization, availability of its items and ease of access. The main deficiencies were identified in order to sensitize health professionals, managers and educational institutions to the importance of updating the nurses on the use of the emergency car.

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### INTRODUCTION

The cardiorespiratory arrest is a situation that requires immediate action, since the chance of survival after the event varies from 2% to 49%, depending on the initial heart rhythm and the early initiation of resuscitation (Araújo et al., 2012). The standard emergency procedure for the care of a patient

with cardiorespiratory, called cardiopulmonary resuscitation, involves a series of measures taken to promote the circulation of oxygenated blood to the heart, brain and other vital organs. In order to perform the necessary procedures for the care of cardiorespiratory victims, nurses must be trained, have varied knowledge and use the necessary equipment (Almeida et al., 2011).

**Table 1. Nurses' responses on the location of materials and medications in the emergency car, Fortaleza / CE, 2017**

Variable	N° de Errors	N° de Sounds	% de Errors	% de Sounds
Epinephrine	1	19	5	95
Metroclopramide	1	19	5	95
Dobutamine	5	15	25	75
Aminophylline	11	9	55	45
Dopamine	4	16	20	80
Deslanoside	8	12	40	60
Amiodarone	4	16	20	80
Dexmedetomidine	1	19	5	95
Buprenorphine	2	18	10	90
Atropine	4	16	20	80
Codeine	2	18	10	90
Sodium bicarbonate	5	15	25	75
Epinephrine ampoules	3	17	15	85
Syringes from 10ml	12	8	60	40
Guedel cannulas	5	15	25	75
Electrodes	9	11	45	55
Laryngoscopes	15	5	75	25
Intracaths	5	15	25	70
Probes	18	2	90	10
Bag valve mask	11	9	55	45
Heparina/liquemine 500UI	7	13	35	65
Sodium bicarbonate	14	6	70	30
Isordyl	7	13	35	65
Hydrocortisone / Solu-cortef 500	1	19	5	95
TOTAL	20		100	

Source: Prepared by the author.

**Table 2. Nurses' responses on the subjects that should be in the emergency car, Fortaleza / CE, 2017**

Variable	N° de Errors	N° de Sounds	% de Errors	% de Sounds
Oximetry	6	14	30	70
Pacemaker generator	7	13	35	65
Venous puncture material	0	20	0	100
Vasoactive drugs	3	17	15	85
Orotracheal intubation materials	2	18	10	90
TOTAL	100		20	

Source: Prepared by the author.

In order to avoid loss of time for the team or damage to the patient, the instruments needed for emergency care must be organized, with a routine of replacement of the materials and drugs used, as well as tests of the equipment at each service performed, considering that emergencies occur unpredictably and often simultaneously (Dalri *et al.*, 2014). According to the Brazilian Society of Cardiology, the drugs and equipment used for the reversal of cardiorespiratory are located in the emergency cart, which acts as a closet and whose standardization is proposed by the Brazilian Society of Cardiology based on the norms of the American Heart Association. The standardization of this car aims to homogenize the content and quantity of materials and medications, removing the unnecessary and adding the indispensable, so as to expedite emergency care (Rocha *et al.*, 2012). The nurse is responsible for checking, replacing and organizing the emergency car. However, it is essential that the health team, know the content and disposition of materials and medicines and are trained to attend to emergencies. It is recommended that the list with the materials and medicines be in a visible and accessible place (Silva; Machado, 2013). In this way, the need arises to know if the nurses really know the emergency car, as well as its operation and its importance. The relevance of this study was the fact that emergency cart is a crucial and indispensable element for the reversal of cardiorespiratory, but there are still many shortcomings about its organization, availability of its items and ease of access. Through the study, the main deficiencies were identified in order to sensitize health professionals, managers and educational institutions to the importance of updating nurses on the use of emergency cart.

The present study aims to evaluate the nurses' knowledge about the correct use of the emergency car.

## MATERIALS AND METHODS

It is a descriptive, exploratory and quantitative study. The research was carried out in a hospital in the city of Fortaleza-Ceará. It was developed after approval of the Ethics Committee, from July to October 2017. The subjects of the research were 20 nurses who worked in the unit, regardless of the time of action and the employment relationship. All nurses were approached, except those who were on vacation or away. The data collection instrument is composed of questions about sociodemographic and professional data, questions that put the theoretical and practical knowledge of the nurses on the emergency car to the test. The data collected were tabulated and analyzed in Excel software. Based on the formulation of graphs and tables, the results found were discussed with the relevant literature. The research followed Resolution N° 466/12 of the National Health Council (CNS), where it was preserving respect for the research participant, as well as their dignity and autonomy.

## RESULTS

Twenty nurses participated in the study, of which 95% (19) were female and only 5% (one) were male. Regarding the age group, 60% (12) were 18 to 30 years old, 30% (six) of the professionals were 30 to 50 years old and 10% (two) were over 50 years old. Fifty per cent (11) of the emergency rooms were

in the emergency room, 10% (two) in the surgical center and 15% (three) in the intensive care unit. Regarding the professional experience in the institution, 45% (nine) nurses were working in the institution up to one year, 20% (four) were between 01 and 05 years, 20% (four) 10% (two) were 15 to 20 years old and 5% (one) were 25 to 30 years old. The time of emergence of nurses in general ranged from 55% (11) professionals who worked up to one year, 30% (six) who worked from 1 to 5 years, only 5% (one) who acted from 05 to 10 years and 10% (two) who worked from 15 to 20 years. As for the work shift, 20% (four) nurses worked in the morning, 15% (three) in the afternoon, 25% (five) at night and 40% (eight) worked full time. Regarding the location of medications and materials in the emergency cart, nurses responded incorrectly to the following medications: 5% epinephrine (one), 5% metoclopramide (one), 25% dobutamine (five), 55% aminophylline (11), 20% dopamine (four), 40% deslanoside (eight), amiodarone 20% (four), dexmedetomidine 5% (one), buprenorphine 10% (two), atropine 20% (four), codeine 10% (two), Sodium bicarbonate 25% (five), Epinephrine ampoules 15% (three), syringes from 10ml to 60% (12), Guedel cannulas 25% (five), 45% (nine) electrodes, 70% laryngoscopes (14), 25% (five) intracaths, 90% probes (18), 55% Bag valve mask (11) heparin / Liquemine 500UI (seven), 5% sodium bicarbonate 70% (14), isordyl 35% (seven), hydrocortisone / Solu-cortef 500 5% (one). Regarding the conduct on duty reception with the emergency car unlaced and with the checklist sheet checked and signed, only 5% (one) professional responded incorrectly, stating that in this case the shift should be passed to the nurse of the night, who will surrender her, and tell her to keep the car off because at night the cardiorespiratory index is higher because of the anti-depressants administered, sealing the car the next morning. Regarding the location of the stop car, all responded correctly claiming that it is close to the wards, and easy to access. It must not contain obstacles that make difficult its removal and displacement. Regarding the materials that needed to be in the stop car, the nurses responded incorrectly to the following materials: oximetry 30% (six), pacemaker generator 35% (seven), venous puncture material 0%, pacemaker defibrillator 15% (three), vasoactive drugs 15% (three), orotracheal intubation materials 10% (two). About the statement: "Adrenaline raises coronary perfusion pressure through selective peripheral vasoconstriction and can be administered with alkaline solutions" 15% (three) people incorrectly responded on the grounds that the statement is true. On the emergency car's more and less urgent drug and material levels only 5% (one) professional incorrectly answered, stating that level 1 consisted of recommended but optional items, level two essential items, which should be available immediately and Level three highly recommended items, which should be available within a maximum of 15 minutes. When asked who would be responsible for the organization of the emergency car in the unit, 25% (five) of the participants stated that it was the pharmacy and 75% (15) said that it was the nurse on call. Most professionals, 60% (12) reported never having attended courses, classes or lecture about the emergency car, but 100% (20) felt the need to perform some training. The 40% (eight) who had been granted such an appeal did not exactly remember the year in which they participated.

## DISCUSSION

It is up to the nurse to systematically check the emergency car, observing the presence and validity of the materials and

medications listed and the operation of the cardioverter. This car should be checked on a pre-fixed date and after each use and recorded on the printout the sealing number and the date of the conference (Rocha *et al.*, 2012). The nurses at the institution knew of these responsibilities, but most delegated to other professionals. When it came to the location of the emergency car all the professionals knew that it should be close to the wards, and easy to access and that they should not contain obstacles that would hinder their removal and displacement, according to their standardization. Regarding the responsibility of checking and organizing the emergency car, many professionals answered that it was the responsibility of the pharmacy, in other words, they delegate responsibility to another sector. It is observed that there is a difficulty in the organization and conference of the emergency car in the fact that only some nurses take responsibility and others leave to the pharmacy. This fact jeopardizes the care given to the patient in a situation that requires immediate procedures (Tallo *et al.*, 2012). The literature recommends that the nurse be responsible for checking, replacing and organizing the emergency car. However, it is imperative that the health team, especially physicians and nursing technicians, know the content and disposition of the materials and medicines and are trained to attend to emergencies. It is recommended that the list with the materials and medications be in a visible and accessible place (Luzia and Lucena, 2009). The technical responsibility for assembling, conferring and replacing emergency car materials is with the nurse. It should be emphasized that the training of the nursing team to act in the emergency and emergency situations and the knowledge of the contents of the emergency car is fundamental to guarantee the quality of care provided in these situations (Bellan *et al.*, 2010).

**Final thoughts:** The nurse is of paramount importance in a cardiorespiratory arrest, since it is one of those responsible for reversing this situation. Cardiorespiratory arrest is easier to reverse in the first few moments, so acting quickly and wisely is imperative at this time. The importance of knowing how to handle the emergency car was observed, so that it does not waste time in saving the life of the patient. The updating of these professionals is an effective way to reduce the risk of death in a cardiorespiratory arrest, regardless of the professional's time of performance.

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