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NOTE PREVIEW ARTICLE

NURSES' KNOWLEDGE, ATTITUDE, AND PRACTICE WHEN FACING CARDIAC ARREST AND CARDIOPULMONARY RESUSCITATION

CONHECIMENTO, ATITUDE E PRÁTICA DOS ENFERMEIROS FRENTE À PARADA E REANIMAÇÃO CARDIOPULMONAR

CONOCIMIENTO, ACTITUD Y PRÁCTICA DE LAS ENFERMERAS FRENTE AL PARO CARDIACO Y RESUCITACIÓN CARDIOPULMONAR

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ABSTRACT

Objective: to assess the knowledge, attitude, and practice of nurses when facing cardiac arrest and cardiopulmonary resuscitation in a hospital school in Pernambuco. **Method:** this is a descriptive and exploratory study of the interrogatory type CAP (knowledge, attitude, and practice). Data collection will be from February to May of 2012 by the application of a semi-structured questionnaire developed by the authors, to be used *in situ* toward 56 nurses who assist surgical patients at a hospital school in the city of Recife-PE; those on sick leave or vacations will be excluded. The project was approved by the Committee of Ethics in Research from the Integral Medicine Institute Professor Fernando Figueira - IMIP by the CAAE: 0245.0.099.000-11. **Expected results:** to know how cardiopulmonary resuscitation is performed, and verify if the actions taken are different from the knowledge and practice adopted by the nurses in practicing their professional activities. Subsequently, to plan educational interventions associated with the practice if necessary. **Descriptors:** cardiac arrest; cardiopulmonary resuscitation; knowledge; nursing.

RESUMO

Objetivo: avaliar o conhecimento, atitude e prática dos enfermeiros frente à parada e reanimação cardiopulmonar em um hospital escola de Pernambuco. **Método:** estudo descritivo, de caráter exploratório do tipo inquérito CAP (conhecimento, atitude e prática). A coleta de dados dar-se-á nos meses de fevereiro à maio de 2012 por meio de questionário semi-estruturado, elaborado pelas autoras, aplicado *in loco* aos 56 enfermeiros relacionados à assistência direta aos pacientes cirúrgicos de um hospital escola da cidade do Recife, excluindo-se aqueles em licença médica e férias. O projeto foi aprovado pelo Comitê de Ética em pesquisa do Instituto de Medicina Integral Prof. Fernando Figueira - IMIP, mediante CAAE: 0245.0.099.000-11. **Resultados esperados:** conhecer a forma como é conduzida a reanimação cardiopulmonar, e verificar se as atitudes tomadas são diferentes em relação aos conhecimentos e à prática que os enfermeiros adotam no exercício da sua profissão. Posteriormente, planejar intervenções educativas associadas à prática, caso seja necessário. **Descritores:** parada cardíaca; ressuscitação cardiopulmonar; conhecimento; enfermagem.

RESUMEN

Objetivo: evaluar el conocimiento, la actitud y la práctica de las enfermeras frente a un paro cardíaco y la resucitación cardiopulmonar en un hospital escuela de Pernambuco. **Método:** estudio descriptivo, de carácter exploratorio de tipo investigativo CAP (conocimientos, actitud y práctica). La recolección de datos se llevará en los meses de febrero a mayo del 2012 por medio de un cuestionario semi-estructurado, preparado por los autores, aplicado en el mismo sitio donde los 56 enfermeros son responsables de ayudar a los pacientes quirúrgicos de un hospital escuela de la ciudad de Recife-PE, excluyendo aquellos en licencia médica y vacaciones. El proyecto fue aprobado por el Comité de Ética en Investigación del Instituto de Medicina Integral Prof. Fernando Figueira - IMIP, mediante CAAE: 0245.0.099.000-11. **Resultados esperados:** Conocer la forma como es conducida la resucitación cardiopulmonar, y verificar si las actitudes tomadas son diferentes en relación con el conocimiento y la práctica que las enfermeras adoptan en la práctica de su profesión. Posteriormente, planificar intervenciones educativas asociadas con la práctica, si es necesario. **Descriptores:** Descriptores: paro cardíaco; resucitación cardiopulmonar; conocimiento; enfermería.

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INTRODUCTION

According to the Brazilian Society of Cardiology (SBC), around 17.1 million people die every year in the world due to heart disease or stroke (AVC). Less than 80% of the deaths could have been avoided through prevention by controlling risk factors that are changeable: blood pressure (40-60% of patients with cardiac arrest (PCR) and acute myocardial infarction present hypertension as the cause), healthy diet (e.g. reduced salt intake, increased amount of fruits and vegetables intake, avoidance of saturated fat and processed foods), regular physical activity (at least 30 minutes of activity per day), tobacco restriction, limitation of alcohol intake, and periodic examinations.¹

The cardiac arrest (PCR) is a dramatic event, responsible for elevated morbidity and mortality, even in situations with ideal assistance;² it is an often-unexpected intercurrent that constitutes a grave threat to the life of the patient. Thus, the assistance provided by the healthcare team requires speed, efficiency, scientific knowledge, and technical skills to perform the needed procedures. In addition, it requires adequate infrastructure and harmonic and synchronized work among professionals; the team performance is necessary in order to achieve the patient's recovery.^{3,4}

The PCR is defined as the sudden cessation of ventricular myocardial activity coupled with the absence of breathing.⁵ Heart failure can be caused by an electric cardiac event and can mainly happen when the heart rate is extremely rapid (mainly ventricular tachycardia without pulse and ventricular fibrillation), too slow (as bradycardia or ventricular atrium blockage), or when there is no heart rate (asystole).⁶ Due to the gravity of the subject, it is recommended that the nursing personnel be recycled in the execution of maneuvers of basic life support (artificial ventilation and chest compression) and have the scientific-technical knowledge, control and knowledge over the contents within the emergency car, and in handling the equipment.⁷

During the past 50 years, with the introduction of cardiopulmonary resuscitation (RCP), there have been many advances in cardiovascular emergency care and advanced life support in cardiology. These interventions have contributed to restore circulation and improve the survival rate of victims of cardiac arrest.^{4,8} It is known that there is no therapy that guarantees a neurological recovery after five minutes of PCR.^{9,10} The loss of

consciousness occurs around fifteen seconds; the brainstem function ceases after sixty seconds.^{9,11}

The decision to use RCP is taken when the victim becomes unresponsive and is not breathing properly.¹² According to the guidelines of the American Heart Association, the recommended sequence of procedures for a first responder acting alone was modified. The previously established procedures for SBV which before were A-B-C (airway, breathing, and compression) are now C-A-B (compression, airway, and breathing) in adults because the compressions are delayed.¹³ The compression-ventilation is 30:2 when assisting victims of all ages (except newborns), with either one or two first responders until an artificial way (for example, endotracheal intubation) is installed.^{4,7,8}

Effective chest compressions re-establish the blood flow during the RCP and the guidelines emphasize the following aspects: for the purposes of effective chest compressions, all workers must perform "strong, fast, and non-stopping compressions"; compress the chest in frequencies of at least 100 compressions per minute for all victims (except newborns); allow the chest to fully refill (return to normal position) after each compression, and use about the same time for compression and relaxation. The guidelines also minimize the importance of checking the pulse by the trained healthcare professional because the detection can be difficult, especially if the blood pressure is too low, and it should not take more than ten seconds to be checked.¹³

The changes are aimed at simplifying and emphasizing the maneuvers for the basic life support as key strategies to improve survival after a cardiac arrest. All first responders should perform a high quality RCP: these responders must apply chest compressions reaching appropriate depth and number, allow the chest to fill after each compression, and minimize interruptions between compressions.¹³

The PCR diagnostics should be performed as soon as possible and involves the assessment of responsiveness, breathing, and pulse. The pharmacological treatment together with the RCP maneuvers re-establishes the spontaneous circulation and contributes to the recovery of a regular heart rate.¹¹

It is necessary that the nursing staff understand that by being the ones that generally stay next to the patient, most of the time they are the professionals responsible for

identifying a cardiac arrest and initiating resuscitation maneuvers.¹⁴

The intensive care of the patient in PCR, during and after the RCP, ongoing assessment, surveillance, completion of procedures and techniques that complement the medical therapy based on guidelines for nursing assistance, assurance in the continuity of an integrated work, and acting in the orientation and embracement of family members are also responsibilities of the nursing staff.⁸

Considering this topic, it is relevant to answer to the following research question: What is the importance of knowledge, attitude, and practice of nurses who work in the direct assistance to adult surgical patients on Cardiopulmonary Arrest and Resuscitation?

It is necessary that the nurse hold control and technical-scientific skills to get a satisfactory result from the assistance. Therefore, this research will investigate through a CAP questionnaire (Knowledge, Attitude, and Practice) the way in which PCR is conducted, since this method seeks to emphasize in addition to knowledge, the routinely correct decision and ideal practice. This study will propose systematic interventions upon the results.

OBJECTIVES

- To evaluate the knowledge of nurses on how to intervene appropriately at the moment of cardiac arrest.
- To assess the attitude of these professionals in the face of a patient on cardiac arrest.
- To evaluate the practice of professionals before a patient on cardiac arrest.
- To draw the profile of nurses working in these sectors.

METHODOLOGY

This will be a cross-sectional and descriptive study with a quantitative approach using the CAP semi-structured questionnaire prepared by the authors and submitted to 56 nurses related to the direct assistance to surgical patients at the Professor Fernando Figueira-IMIP Institute for Integral Medicine. The surveys on knowledge, attitudes, and practices were justified by the fact that individuals (nurses) are different as for their acquired knowledge about health, non-uniform attitudes, and practice of their profession. The resulting information will be useful for planning and conducting programs and activities.¹⁵ The data collection will be

performed in the months from February to May of 2012.

• Location

The study will be performed at the Professor Fernando Figueira-IMIP Institute for Integral Medicine, located in the city of Recife, State of Pernambuco, Brazil. The research will be carried out in the sectors where patients are admitted during the pre-operative, trans-operative, and post-operative period at the hospital complex. Since the peri-operative period is a critical phase in the lives of individuals who will undergo an invasive procedure, it is imperative that the assistance is appropriate to each level of complexity.

• Inclusion criterion

Nurses exercising their activities in direct assistance to adult surgical patient at the Professor Fernando Figueira-IMIP Institute of Integral Medicine.

• Exclusion criteria

Nurses who have been away from work due to vacation or health or maternity leave;

Nurses who provide assistance in the Obstetrics and Pediatrics ward in the IMIP hospital complex.

• Definition and operationalization of variables

Nurse: Professional with undergraduate level training in nursing and hired by the institution in the intensive care unit.

Cardiac arrest (PCR): "The interruption of effective circulatory and respiratory activities."

Cardiopulmonary Resuscitation (RCP): "set of procedures used in patient with PCR, in an attempt to reestablish the respiratory function and blood circulation, being divided into basic RCP (external cardiac massage, artificial ventilation) and advanced RCP (advanced procedures to control the airways, endotracheal intubation, defibrillation, and intravenous medication)".

Sex: Nominal dichotomic variable (male/female).

Age: Numeric continuous variable expressed in years.

Time since nursing school graduation: numeric continuous variable measured in years from the year of nursing degree to the year in which the subject was included in the sample. : Length of professional experience: numeric continuous variable measured in years from the 1st year working as a nurse to the year in which the subject was included in the sample.

● Procedure for data collection

A pilot test for the evaluation of the instrument will be executed and changes might be applied to the questionnaire after the evaluation. The data will be collected by the researchers in the workplace, at the most convenient time and date for the participants. The professionals will be informed about the aims of the research. Those who agree to participate will be asked to sign the Term of Informed Consent (TCLE). The questionnaire can be answered at the time when information is being provided or at a later scheduled time, if more convenient to the professional. The CAP questionnaire should only be answered after a brief explanation by the researcher about the instrument.

● Analysis of the data

The data will be quantitatively evaluated, depicted in graphs and/or tables using the EPI-INFO version 3.4.3, 2007 software, and subsequently discussed. The discursive questions will be analyzed individually and characterized as appropriate and inappropriate according to the information collected and documented in scientific papers on the topic in question. The statistical analysis will include the use of frequency distributions for the variables, the Chi-square Pearson's test, and the application of the logistic regression model for the analysis of the socioeconomic characteristics and the CAP questionnaire. A 95% confidence interval and $p < 0.05$ of statistical significance will be considered.

● Ethical aspects

This study will follow the rules defined by resolution No. 196, from October 10, 1996, from the National Health Council. This study was approved by the Ethics in Research Committee from the Professor Fernando Figueira - IMIP Institute for Integral Medicine under CAAE: 0245.0.099.000-11.

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