Revista REVOLUA

Review

Nurse's protocol in hospital care in patients with cardiorespiratory arrest

Protocolo do enfermeiro no atendimento hospitalar em paciente com parada cardiorrespiratória

Protocolo de enfermería en la atención hospitalaria a pacientes con parada cardiorrespiratoria

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RESUMO

Objetivo: enfatizar a importância da disciplina e do treinamento em primeiros socorros para professores e alunos da educação básica, com foco nos acidentes mais comuns. **Método:** Trata-se de um estudo bibliográfico baseado em artigos científicos contidos na base de dados LILACS e na biblioteca virtual SCIELO, envolvendo primeiros socorros e educação em saúde para professores e alunos. **Resultados:** Foram consultados artigos publicados entre 2006 e 2021 e pesquisas realizadas em outubro de 2021. Após a busca e aplicação dos critérios de elegibilidade, foram selecionados 9 artigos. **Conclusão**: Muitos profissionais não estão preparados para atuar em situações de emergência, pois o assunto raramente é abordado na formação de educadores e no ambiente escolar. Portanto, quaisquer não profissionais precisam ser treinados para prestar suficiente Atendimento de Emergência**.**
Descritores: Capacitação de professores; PCR; Emergência; Primeiros socorros.

ABSTRACT

Objective: to emphasize the importance of discipline and first aid training for teachers and students of basic education, focusing on the most common accidents. **Method:** This is a bibliographic study based on scientific articles contained in lilacs database and scielo virtual library, involving first aid and health education for teachers and students. **Results:** Articles published between 2006 and 2021 were consulted and research conducted in October 2021. After the search and application of the eligibility criteria, 9 articles were selected. **Conclusion:** Many professionals are not prepared to act in emergency situations, because the subject is rarely addressed in the education of educators and in the school environment. Therefore, any non-professionals need to be trained to provide sufficient Emergency Care.
Descriptors: Teacher training; PCR; Emergency; First aid.

RESUMEN

Objetivo: enfatizar la importancia de la disciplina y la formación en primeros auxilios para profesores y estudiantes de educación básica, centrándose en los accidentes más comunes. **Método:** Se trata de un estudio bibliográfico basado en artículos científicos contenidos en la base de datos lilacs y la biblioteca virtual Scielo, que involucra primeros auxilios y educación en salud para maestros y estudiantes. **Resultados:** Se consultaron artículos publicados entre 2006 y 2021 y se realizaron investigaciones en octubre de 2021. Después de la búsqueda y aplicación de los criterios de elegibilidad, se seleccionaron 9 artículos. **Conclusión:** Muchos profesionales no están preparados para actuar en situaciones de emergencia, porque el tema rara vez es abordado en la educación de los educadores y en el ambiente escolar. Por lo tanto, cualquier persona no profesional debe estar capacitada para proporcionar suficiente atención de emergencia.
Descriptores: Formación del profesorado; PCR; Emergencia; Primeros auxilios.

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Introduction

Cardiorespiratory arrest (CRP) has been a cause for public health alert, since this event affects countless people, triggering a concern on the part of health professionals. Most cases of CRP occur due to heart and respiratory problems. Early care prevents health problems and decreases the death rates of these individuals.[1]

CRP is characterized by abrupt loss of cardiac and pulmonary function in individuals affected or not by cardiac diseases, this dysfunction is common to be triggered by cardiac arrhythmias developed in the stopping process. Arrhythmias are associated with any change in the natural conduction of electrical stimuli in the myocardium, which may lead to tachycardia, bradycardia or ceasing, causing the ineffectiveness of blood pumping to the lungs, brain and other organs.[2]

The adoption of international protocols should be instituted in order to increase the chance of patient survival, among these, the guidelines proposed by the American Heart Association stand out, in which periodic updates are based on an international process of evidence validation, involving several reviewers of the health area from different countries. Such a protocol exists so that professionals have more security and support throughout the struggle for life and, thus, can ensure more qualified assistance.[3]

The American Heart Association (AHA) highlights recommend updates to the guidelines for cardiopulmonary resuscitation and emergency cardiovascular care (ACE), which bring evidence-based discussion every 5 years.[3]

PCR is performed in several stages, from the recognition of the stop signals to the most advanced maneuvers, which requires the team to concentrate on the critics 30 minutes before and after resuscitation. The speed of interventions adopted in cases of CRP and the success in cardiopulmonary resuscitation (CPR) depend on the agility and efficacy with which the so-called survival chain is active, consisting of the recognition of this situation, and the triggering of the emergency system available in the application of basic life support (BVS), early defibrillation and Advanced Life Support in Cardiology (SAVC).[4]

PCR evaluation should take no more than 10 seconds, every minute the patient goes unattended, the chance of survival decreases by 10%, and if there is no resuscitation in approximately 5 minutes, irreversible changes of neurons in the cerebral cortex may occur, but the heart may re-beat, but there is a risk of brain death.[5]

For the American Heart Association[3], initial care of the patient in CRP should consist of a systematic approach established in the five links of the survival chain: early identification of an individual in CRP (check for breathing and pulse at the same time), immediately request specialized help, initiate Cardiopulmonary Resuscitation (CPR) through effective chest compressions, open airway and offer oxygen and in the presence of Pulseless Ventricular Tachycardia rhythms (TVSP) and Ventricular Fibrillation (VF), perform early defibrillation, in addition to providing effective advanced life support and integrated post-PCR

care.

Thus, the nursing team plays important actions in the care of CRP together with the medical team, considering the survival that depends directly on the success of this performance and the execution of agile and appropriate actions. This situation requires a set of specific interventions of the professionals involved, in which a challenge is installed: saving lives.[8]

Throughout the hospital experience, nurses face ethical and legal dilemmas related to their professional responsibilities. In this context, it is entrusted with providing care to critically ill patients who are submitted to complex procedures and who require a high level of technical-scientific knowledge, in which there should be speed and dexterity in carrying out them.[13]

Considering that most of the time the nurse is the member of the team that first comes up with the situation of CRP, the patient needs to have knowledge about emergency care, with quick decision-making, evaluation of priorities and establishment of immediate actions.[4]

The knowledge of the nursing professional is essential, since competence is a relevant factor in determining the success of care and the basis of the action performed, contributing to the initial survival of a patient in sudden cardiorespiratory arrest.[7]

It is up to the nurse to provide direct care to critically and life-threatening patients, who require scientific-based knowledge and the ability to make immediate decisions, acting in the recovery and rehabilitation of health. In addition, it is the nurse's fundamental role to coordinate the actions of the nursing team in the face of CRP.[8]

CRP occurs more frequently in the Intensive Care Unit (ICU), since these units assist critically ill patients. Nursing professionals should be able to recognize when a patient is on CRP or about to develop one. Patient evaluation should not take more than 10 seconds.[15]

In this context, the general objective is to analyze the role of nurses in hospital care in cardiorespiratory arrest, and to provide part of the knowledge necessary to better guide these professionals in the execution of the maneuvers and in the leadership of the team, during the stop.

Method

This is a literature review conducted for the survey and analysis of studies involving first aid and health education for teachers and students

The search took place between August and September 2022 from the following database: Scientifique Electronic Library Online (SciELO) and Latin American and Caribbean Literature on Health Sciences (LILACS). The keywords were defined using the Health Descriptors (DeSC).

Thus, for the identification of the articles in the database, the following combination of descriptors was used: cardiorespiratory arrest, nursing, cardiopulmonary resuscitation, CPR.

We included all complete articles, which are in the language in Portuguese between the years 2006 and 2021 that answer the question that guide the study. Review articles and publications that do not contemplate the object of study of this review were excluded.

Results and Discussion

Authors	Objectives	Method	Conclusion
ROCHA et al., 2012	Cardiorespiratory arrest (CRP) is an unexpected complication at various times, constituting a serious threat to people's lives, usually those individuals who are hospitalized in more severe states and those who suffer a decrease in nervous excitability, a sudden prostration	Systematic Review	Given the context elucidated, it is observed that CRP is a serious situation, in which the patient needs fast and quality care. As nursing has the responsibility of daily care of the hospitalized individual, it is up to these professionals to be attentive and, when they perceive the signs of a possible PCR, take the appropriate measures.
LUGON et al., 2014	Considered as a global public health problem, estimates indicate the occurrence of 200,000 cases per year in Brazil. This emergence requires agility and competence on the part of the team, since the absence of effective Basic Life Support (BVS) reduces the chances of survival by about 10% per minute after the first minute of unassisted CRP (GONZALEZ et al, 2013).	Systematic Review	Specifically to the professional, the following are related to: low adhering to training and/or specialization in emergency areas, neglect of nurses in relation to their role as leader or ineffective leadership, disregard for the problems faced by the team and absence of the Nurse in the activities developed (AU)
SILVA *et al.,* 2013	Cardiovascular diseases due to external causes have increased in recent years, being responsible for the allocation of public resources in hospitalizations and prolonged hospital stay(1-2) . Defined by sudden cessation of efficient ventricular activity and breathing, cardiorespiratory arrest (CRP) is divided into four modalities: asystole, ventricular fibrillation, pulseless ventricular tachycardia, and pulseless electrical activity	Systematic Review	The limitations of the theoretical knowledge of most participants were related to the time interval to evaluate the heart rhythm during CPR, the conducts for the recovery of the victim in the rhythm of asystole, the pre-established time intervals for the use of drugs and mainly were unaware of the appropriate place for performing chest compressions., oxygen therapy, thermal control and evaluation/surveillance for a possible new PCR are all nursing care. safety. Nursing technicians become the most directly linked providers to care, acting objectively and synchronized with the patient.
AHA, 2020	In 2015, approximately 350,000 adults in the United States had extra-hospital non-traumatic CRP (PCREH) attended by emergency medical service (EMS) personnel.	Clinical practice guide	Effective education is a key variable in improving survival outcomes after PCR. Without effective education, lay first responders and

	Despite recent gains, less than 40% of adults receive Layman-initiated CPR and less than 12% have an automatic external desfi brilador (DEA) applied before the arrival of the SME. After significant improvements, survival after PCREH has been at the same level since 2012		health professionals would struggle to consistently apply the science that supports evidence-based PCR treatment.
SIMÕES; URBANETTO; FIGUEIREDO, 2013	Patient care is complex and dynamic. Nowadays, several professions are interconnected to provide comprehensive health care, which is based on the understanding that health is not only the absence of the disease, it is the "resulting from the conditions of food, housing, education, income, environment, work, employment, leisure, freedom, access and possession of land and access to health services. The term "interdisciplinary" is widely used to cover the high demand for specialties and services that work together for patient care, although the terminology is not fully understood by the majority of those who use it.	Prevalence Study	Simulation and training studies seek to discover and identify obstacles and difficulties encountered in training, although they do not establish improvement actions for care in the study sector. Only one evaluated work builds and applies an alarm system with the performance of a multidisciplinary team, but by them called "interdisciplinary"'
GUILHERME et al. (2013)	Cardiorespiratory arrest (CRP) is responsible for high morbidity and mortality, even in situations or places that can guarantee optimal care to the individual who is a victim of CRP. Emergency care, in the pre- and intra-hospital environments, requires immediate and effective action from health professionals to achieve success in this care. It is understood that a rapid, cohesive and multidisciplinary care can guarantee a greater survival to the individual (PAZIN FILHO et al, 2003; REIS & SILVA, 2012).	Prevalence Study	Cardiorespiratory arrest is a dramatic event, responsible for high morbidity and mortality, even in situations where it has good conditions for effective care, since time is an important variable in this case, evidencing the importance of rapid and efficient action. After analyzing the studies, it was possible to identify that it is extremely important for nurses, as well as the entire nursing team to keep up to date and be prepared to provide assistance to possible emergencies and to promote theoretical and practical training with other team members.
Schneider *et al.,* 2020	It was identified that nurses lack knowledge and skills to produce and use scientific studies. Clinical experience is the main driver of actions, while patient preference in decision-making has proved to be the least considered element among the pillars of evidence-based practice.	Prognostico Study	It is still a challenge to develop evidence-based practice, intending reflections on the process of professional training and the emphasis that research has on undergraduate and health services

Carvalho, Ana margarida Paiva Antunes, 2019	Framework Overcrowding in hospital emergency services is a problem that exists in Portuguese hospitals. The SU are one of the main pillars of hospitals, endowed with a great burden of complexity, with the major objective of providing immediate, urgent and emerging care to all types of individuals. Nurses deal with this reality on a daily basis, requiring strategies to reduce overcrowding to improve the care provided.	Prognostico Study	The strategies perceited can contribute to the reduction of overcrowding, with the purpose of improving the quality of care, patient safety, being tools available for implementation in portuguese emergency services.
Campos *et al.*, 2019	Cardiorespiratory arrest (CRP) is a more severe emergency condition that can affect a human being. It is defined as the interruption of effective respiratory and circulatory activities. The intervention to reverse the situation has as fundamental principles the application of a set of procedures to restore circulation and oxygenation (SILVA et al., 2013).	Prevalence Study	It is perceived that the work of the nursing team in the front line is arduous and challenging, because the nurse, in most cases, is the member of the team who first comes across the emergency situation, especially cardiorespiratory arrest. This should be prepared to act with quick and effective decision-making, since the survival of the patient depends on the competence and immediate institution of cardiopulmonary resuscitation maneuvers.

For many years, humanity interpreted death as an inexorably irreversible event and all attempts at resuscitation were considered blasphemy; this dramatic picture lasted until the mid-eighteenth century, when humanity finally began to believe in the possibility of performing effective maneuvers for resuscitation.[22]

At the end of the Roman Empire in 476 BC, the oldest methods of resuscitation ranged from applying heat to the inert body by hot objects on the abdomen (fumigation), to flogging whipping with nettle (a plant whose leaves are irritating containing formic acid). In 1530 the scientist Paracelsus, already using reasoning and scientific research methodology evaluated the use of mantel bellows for introduction of air into the lungs of apparently dead individuals, characterizing the first and rustic attempts at artificial ventilation.[21]

The end of the 18th century to the mid-20th century was characterized by a period supposedly more grounded in scientism when several manual methods of artificial ventilation emerged. Around 1812, the Europeans and the Chinese began to position the victim's body on trotting horses, believing that this movement would activate his lungs and return to breathing. German physiologist Moritz Schiff described that direct compression of dogs' hearts in an experimental model generated carotid pulse, and was considered by many to be the father of modern resuscitation.[21]

In the early 20th century, George Washington Crile wrote an extraordinary experimental method report on animal resuscitation

characterized by the combination of chest compressions, artificial respiration, and parenteral infusion of epinephrine. In this report, it describes open and closed cardiac massage, anticipating the "thoracic pump theory", through the following statement: "Isolated pressure on the chest is capable of producing artificial circulation; this does not result from an isolated action on the heart, but from its action on the vessels (arteries, veins and capillaries) together."[25]

In the 1950s, it was recognized that for effectiveness in resuscitation and life support, action in the pre-hospital arena was the key element. Subsequently, CPR training strategies were developed. The modern era of CPR began when Kouwenhoven et al., in 1961, succeeded using a combination of cardiac massage (compression on the lower third of the sternum, done properly, provided sufficient artificial circulation to maintain life in animals and humans with cardiac arrest), defibrillation, rescue breaths and cardiotonic drugs.[19]

CRP is defined as the sudden ceasing of useful ventricular myocardial activity, associated with the absence of breathing. In another study, CRP is conceptualized as the absence of spontaneous ventilation and pulse in large arteries, which occur concomitantly in the same individual.[19]

It is important to highlight that CRP can occur in the presence of three different heart rhythms, the first is Ventricular Fibrillation or Ventricular Tachycardia without Pulse, and the CRP rhythm is more frequent outside the hospital. It is responsible for about 80% of the episodes, characterized by a fast, irregular and ineffective heart rhythm, the second heart rhythm is asystole, defined by the absence of heart rhythm, in this rhythm, there is interruption of the electrical activity of the heart muscle, finally, the third rhythm of CRP is the electrical activity without pulse, in which there is the presence of electrical activity in the heart muscle, but the beats are not effective and there is no blood circulation.[27]

There are some situations at higher risk of progressing to CRP, such as heart diseases, among them, coronary atheloretic disease is the most important. Cases of hypertension, diabetes and family history of sudden death are also at risk for CRP. Anoxia, drowning, hypertensive pneumothorax, shock, airway obstruction, bronchospasm and anaphylactic reaction still make up this group.[28]

Regarding signs and symptoms, the main ones that precede a CRP are: chest pain, sweating, precordial palpitations, dizziness, visual darkening, loss of consciousness, neurological changes, signs of low cardiac output and previous bleeding stop. However, the clinical signs seen in a CRP are unconsciousness, absence of respiratory movements, absence of pulses in large arteries (femoral and carotid arteries) or absence of signs of circulation.[15]

From the perspective of the nursing professional, these concepts are also fundamental for the identification of a patient in CRP, as well as the possibilities of intervention. However, some studies show that nurses, together with the nursing team, have a significant ignorance regarding the concepts, the identification of a patient in CRP, the

current sequence for basic life support and even the main drugs to be administered.[8]

This ignorance can trigger some situations that will interfere with the performance of the entire team at the time of PCR. It is known that the nurse is the mediator in this context, he is assigned the responsibility for the provision of the stop cart, the necessary materials, the drugs to be prepared, as well as the necessary care during this event.[29]

A nurse who is not aware, in part, of this process can promote the error of the team, which can be harmful to the patient in care. Another relevant aspect is the fact that the ignorance of a nurse can contribute to the disorganization of the work process that involves the care of the individual in CRP.[30]

Regardless of their area of activity, nurses are subject to a CRP situation, since it is an emergency that can occur in any environment, whether in-hospital or extra-hospital. As the nursing team is with the patient full-time, it becomes the team ahead of others in the health area to act in the care of CRP, a circumstance in which decision-making must be fast and accurate. However, for care to be effective, it is necessary that nurses are trained to perform recurrent procedures to this type of emergency situation.[31]

The importance of the technical-scientific competence of professionals and the need for care protocols aimed at the organization and synchronization of actions in these situations are emphasized. Not only does the nurse need to be able to care for a patient in CRP, but the nursing team, as a whole, needs to be trained to verify a CRP and know the basic life support maneuvers.[32]

Nursing technicians and auxiliaries will be able to assist nurses in this initial care and be at their disposal for all tasks involving cardiopulmonary resuscitation (CPR) needs. There is an aspect of great relevance and that needs to be discussed; is the fact that the nursing team, in this context, needs to assume its role as a synchronized team and assert its knowledge.[32]

The relationship between nurse and team of technicians/auxiliaries is, at least, bureaucratic, in which the leader (nurse) legitimized by an established norm seeks to exercise his leadership, but mostly from mandatory and persuasive techniques, this can undoubtedly influence the entire process of involvement of the nursing team at the time of CRP care.[33]

There is a need for leadership to be previously exercised in daily work in order to motivate all components of this team for a harmonious relationship, respect, professionalism, in which the patient is the focus of the work process. For this leadership to be exercised, it is necessary, however, that everyone knows their attributions and their importance in the context of care and management in the face of PCR. In view of this statement, in this reflection, we also chose to describe the conducts of the nurse and team.[34]

In general, the nurse in the hospital context, the maneuvers of advanced life support and coordination of the actions of the nursing team in the face of PCR are appropriate. You can also install the heart

monitor and, in case there is no possibility or need to perform defibrillation, it will assist the doctor in cpr maneuvers, assuming ventilation or chest compression. The professional nurse who assumes this function should know the sequence of care, organize artificial ventilation and circulation maneuvers, gather necessary material and equipment, have knowledge and mastery of the contents of the CPR car.[35]

The nurse, after recognition of a PCR, should follow the following procedures: request help, keep the defibrillator prepared and close to the bed, monitor the patient, place the victim in horizontal supine position on a flat and hard surface, keep the head and chest in the same plane and initiate basic life support (Circulation, Opening and airway clearance, Breathing and ventilation, Early Defibrillation - Primary CABD).[3]

Conclusion

It is notorious that cardiorespiratory arrest happens in places that do not have the ideal support, there is a need to teach about first aid to lay people in the subject, to perform the first care, until the arrival of the rescuer.

The project revealed that the lack of technical-scientific knowledge and lack of confidence in its procedures lead to errors, that is, inadequate attitudes of care to cardiac arrest lead to the development of sequelae, which may even lead to death.

The nursing process goes beyond the nursing part, as it also involves theoretical and practical educational activities, which can greatly favor the development of hospital courses and lectures, expose and train teaching and even institutional professionals to deal with emergencies and emergencies and emphasize this. The importance of the subject, which usually seems simple to the unsuspecting, but as you can notice, the procedure is not easy and should be performed correctly to avoid further complications in the clinical picture.

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References

1. Pereira KC, Paulino JR, Saltarelli RMF, Carvalho AM de P, dos Santos RB, Silveira TVL, Teixeira B de SM. A construção de conhecimentos sobre prevenção de acidentes e primeiros socorros junto ao público leigo. R. Enferm. Cent. O. Min. [Internet]. 15º de julho de 2015 [citado 25º de outubro de 2022];. Disponível em: http://www.seer.ufsj.edu.br/recom/article/view/456

2. Santos APC, Marques PB. Atuação do enfermeiro frente à parada cardiorrespiratória em ambiente extra-hospitalar. Rev. Eletrôn. Atualiza Saúde | Salvador. 2021; 9(9): 07-15.

3. Barbosa JSL, Moraes-Filho IM, Pereira BA, Soares SR, Silva W, Santos OP. O conhecimento do profissional de enfermagem frente à parada cardiorrespiratória segundo as novas diretrizes e suas atualizações. REVISA. 2018; 7(2): 117-26.

4. Freitas JR, Péllenz DC. Parada cardiorrespiratória e atuação do profissional enfermeiro, Rev. Saberes UNIJIPA. 2018; 8(1): 74-84.

5. Canova JCM, Cyrillo RMZ, Hayashida M et al. Parada cardiorrespiratória e ressuscitação cardiopulmonar: vivências da equipe de enfermagem sob o olhar da técnica do incidente crítico. Rev. enferm. UFPE on line. 2015; 9(3): 7095-103.

6. Myerbur RJ, Castellanos, LIMA, Amanda de Souza. Causas e desfecho de parada cardiorrespiratória em uma unidade de emergência de um hospital da rede pública do Distrito Federal. 2015. 55 f., il. Monografia (Bacharelado em Enfermagem) —Universidade de Brasília, Ceilândia-DF, 2015.

7. Barros FRB, Luiz Neto M. Parada e reanimação cardiorrespiratória: conhecimento do enfermeiro baseado nas diretrizes da American Heart Association. Enferm. foco (Brasília). 2018; 9(3): 13-18.

8. Silva AB, Machado RC. Elaboração de guia teórico de atendimento em parada cardiorrespiratória para enfermeiros. Rev Rene, 2013; 14(5): 1014-21.

9. SIMÕES; URBANETTO; FIGUEIREDO, Ação interdisciplinar em serviços de urgência e emergência: uma revisão integrativa. Revista Ciência & Saúde. 2013; 6(2):127-34. Doi: https://doi.org/10.15448/1983-652X.2013.2.13321

10. Santos LP, Rodrigues NAM, Bezerra ALD, Sousa MNA, Feitosa ANA, Assis EV. Parada cardiorrespiratória: principais desafios vivenciados pela enfermagem no serviço de urgência e emergência. Revista Interdisciplinar em Saúde. 2016; 3 (1): 35-53.

11. Rodrigues LCRA, Almeida MC. Parada cardiorrespiratória: qualidade da assistência de enfermagem em suporte básico de vida. REvista científica eletrônica de ciências aplicadas da FAIT. n. 1. maio, 2017.

12. Pazin-Filho A, Santos JC, Castro RB, Bueno CD, Schmidt A. PARADA CARDIORRESPIRATÓRIA (PCR). Medicina (Ribeirao Preto. Online) [Internet]. 30 dez 2003 [citado 25 out 2022];36(2/4):163. Disponível em: https://doi.org/10.11606/issn.2176-7262.v36i2/4p163-178

13. Rocha, F. A. S., Oliveira, M. da C. L., Cavalcante, R. B., Silva, P. C., & Rates, H. F. (2012). Atuação da equipe de enfermagem frente a parada cardiorrespiratória intra-hospitalar. Revista De Enfermagem Do Centro-Oeste Mineiro. Doi: https://doi.org/10.19175/recom.v0i0.100

14. Bonfim CV, Gonçalves FR, Almeida AC, Furtado BM. Assistência de enfermagem ao paciente de emergência/urgência. Revista de Enfermagem UFPE on line [Internet]. 2 dez 2018 [citado 25 out 2022];12(12):3506. Disponível em: https://doi.org/10.5205/1981-8963-v12i12a237472p3506-3512-2018

15. Freitas JR, Péllenz DC. Parada cardiorrespiratória e atuação do profissional enfermeiro, Rev. Saberes UNIJIPA. 2018; 8(1): 74-84.

16. Brasil. Regulação Médica das Urgências. Brasília: Ministério da Saúde; 2006.

17. Dallari SG, Pittelli SD, Pirotta WR, Oliveira ML. Atendimento médico de urgência na grande São Paulo. Saúde e Sociedade [Internet]. Dez 2001 [citado 25 out 2022];10(2):75-99. Disponível em: https://doi.org/10.1590/s0104-12902001000200006

18. Dane FC, Russell-Lindgren KS, Parish DC, Durham MD, Brown TD. In-hospital resuscitation: association between ACLS training and survival to discharge. Resuscitation [Internet]. Set 2000 [citado 25 out 2022];47(1):83-7. Doi: https://doi.org/10.1016/s0300-9572(00)00210-0

19. Garcia-Barbero M; Such-Caturla J. What are we doing in cardiopulmonary resuscitation training in Europe? An analysis of a survey. Resuscitation. 1999 Aug;41(3):225-36.

20. Gordon A. História da Reanimação. In: LANE J.C. Reanimação. Rio de Janeiro: Editora Guanabara Koogan, 1981, pag. 226-246.

21. Guimarães HP. et al. Uma breve história da ressuscitação cardiopulmonar. Revista Brasileira de Cliníca Medica. 2009; 7: 177-87.

22. Kaye W, Mancini ME. Teaching adult resuscitation in the United States – time for a rethink. Resuscitation. 1998; 37: 177-87. Doi: https://doi.org/10.1016/S0300-9572(98)00052-5

23. Ko PC, Chen WJ, Lin CH, Ma MH, Lin FY. Evaluating the quality of prehospital cardiopulmonary resuscitation by reviewing automated external defibrillator records and survival for out-of-hospital witnessed arrests. Resuscitation [Internet]. Fev 2005 [citado 25 out 2022];64(2):163-9. Disponível em: https://doi.org/10.1016/j.resuscitation.2004.08.013

24. Moukabary NLT. History of cardiopulmonary resuscitation. Cardiol J. 2009;16(5):487-8.

25. Paraskos JA. History of CPR and the role of the National Conference. Annals of Emergency Medicine [Internet]. Fev 1993 [citado 25 out 2022];22(2):275-80. Disponível em: https://doi.org/10.1016/s0196-0644(05)80456-1

26. Bueno M, Lima A, Bossolani P. A sistematização dos cuidados de enfermagem em paradas cardiorrespiratórias no âmbito pré-hospitalar: revisão de literatura. Revista Científica SMG. 2021; 9(2): 10.

27. SN Garcia, F Serighelli, VAS Quadros - Prática Hospitalar, 2009 Capacitação dos profissionais de enfermagem para o atendimento ao paciente em parada cardiorrespiratória. Disponível em: http://abennacional.org.br/2SITEn/Arquivos/N.052.pdf Acesso em: 22 out 2022

28. Hospital Sírio Libanês. Protocolo de atendimento PCR. São Paulo: Hospital Sírio libanês; 2009.

29. Almeida AO, Araújo IE, Dalri MC, Araujo S. Theoretical knowledge of nurses working in non-hospital urgent and emergency care units concerning cardiopulmonary arrest and resuscitation. Revista Latino-Americana de Enfermagem [Internet]. Abr 2011 [citado 25 out 2022];19(2):261-8. Disponível em: https://doi.org/10.1590/s0104-11692011000200006

30. Bertoglio VM, Azzolin K, Souza EN, Rabelo ER. Tempo decorrido do treinamento em parada cardiorrespiratória e o impacto no conhecimento teórico de enfermeiros. Rev Gaúcha Enferm., Porto Alegre (RS) 2008 set;29(3):454-60

31. Velloso IS, Ceci C, Alves M. Reflexões sobre relações de poder na prática de enfermagem. Revista Gaúcha de Enfermagem [Internet]. Jun 2010 [citado 25 out 2022];31(2):388-91. Doi: https://doi.org/10.1590/s1983-14472010000200026

32. O'Brien AM, Pedicino MJ. Simulation and debriefing: Helping the pediatric nurse thrive. Journal of Pediatric Nursing. 2011; 26: 93–4.

33. Santoro DC, Oliveira CM. Conduta dos enfermeiros em situação de parada cardiorrespiratória frente às recomendações atuais. Nursing (São Paulo).2007; 10(110): 329-33.

34. Lima SG, Macedo LA, Vidal MD, Sá MP. Educação Permanente em SBV e SAVC: impacto no conhecimento dos profissionais de enfermagem. Arquivos Brasileiros de Cardiologia [Internet]. Dez 2009 [citado 25 out 2022];93(6):630-6. Disponível em: https://doi.org/10.1590/s0066-782x2009001200012

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