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Cardiopulmonary Re-Immonation (CPR): how long should a Person Insist on Performing the Maneuvers?

ORIGINAL

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Abstract

Objetive: The study had the aim to describe the exact moment of interrupting CPR maneuvers in patients in CRP situations.

Method: This is an exploratory and descriptive research, with quantitative character and approach. It was performed with 67 (seventy-seven) nurses from a Regional Hospital, who were informed about the objectives of the same. There were included those who act in direct patient care; of effective position and contracted in the service; And with more than one (1) year of training. The instrument used for data collection was a questionnaire, previously elaborated, containing objective, subjective and non-inductive questions, which allowed the informant to answer the data pertinent to the study. It was found that the majority of the interviewees were women, aged between 31 and 35 years, specialists, with more than 4 years of training and 3 years of service, medical/surgical clinic attendees, and without reports of training.

Results: They demonstrated they know the exact timing of CPR maneuvers but reported that they would not apply CPR in situations in which the patient had cadaveric stiffness, decomposition, crushing of the skull and thorax, or a CPA report of more than 20 minutes. Faced

with conditions in which the team could decide not to perform CPR, they reported not applying CPR in the vegetative state, in terminal or chronic patients.

Conclusion: Therefore, they conclude that the said moment of interrupting the protocol is determined in a personal and ethical way, that is, by the individuality of each situation.

Keywords
Nurses; Cardiovascular Stop; Cardiopulmonary Resuscitation.

Introduction

The Cardiopulmonary Arrest (CPA) constitutes a worldwide public health problem. In order to reduce the occurrence of deaths and sequelae resulting from this event, it is essential to have a thorough knowledge of the framework for rapid diagnosis (definition of CPA status) and, especially, for the prompt institution of cardiopulmonary resuscitation (CPR) maneuvers for an adequate period of time, since in Brazil, approximately 200,000 CPA occur annually [1].

CPA is the state in which the individual is absent from cardiac output, absence of respiration, but still maintains brain activity. It is a dramatic situation, responsible for high morbidity and mortality, even in situations of ideal care [2].

It develops in patients who present mostly disorganized heart rhythm, having as main cause Ventricular Fibrillation. This condition affects more men than women, due to genetic factors, associated to the habits of life and physical conditions. The incidence of CPA is directly related to age, sex and the presence of underlying diseases. The majority (70% of cases) occur in males, reaching 8 victims per 1,000 inhabitants per year in the population of men between 60 and 69 years of age with known heart diseases [3].

It characterizes the greatest emergency among all the situations attended in the pre and hospital services. During CPR care, time is an important variable, and it is estimated that for every minute that the patient is left without CPR, about 10% of their chance of survival is decreased, which is why most of the victims die outside the hospital without intervention of the health team. The actions that increase the chances of survival of the victims at risk of sudden death are called "Survival Current", composed by Basic Support (SBV) and Advanced Life Support (SAV) [4]. The purpose of the CPR maneuvers is to offer the possibility of recovering the lives of certain people in a situation called Cardiorespiratory Arrest, but the time to stop the resuscitation is as important as starting, because there are times when the resuscitation maneuvers merely prolong the suffering and the death process or can only lead the patient to a tragic end: the vegetative state.

The CPR techniques used during CPA are used to restore spontaneous systemic blood flow and preserve all the physiological functions of the patient. It is known that it is a delicate situation, however, some individuals in these circumstances can reverse the CPA, survive, and even return to a normal life. Therefore, deciding when to interrupt CPR maneuvers in patients before CPA becomes a challenge.

Although it is a consensus among health professionals that it is important to comply with the established time of CPR established by the protocols, it is perceived that in some patients the use of this time completely is totally unnecessary, material resources could be wasted, exhaustion of the

team, and approximate the victim of the practice of dysthanasia. Thus, the following question was raised: how long should a person insist on performing CPR maneuvers in patients with CPA? With all the advances in research and studies, with standardization, changes in protocols and algorithms, it is known that the conducts before the CPA/CPR is still an embarrassing issue for the health professional, especially when it comes to deciding the appropriate time to stop CPR. It is in this context that the present study is justified, since it will allow a deepening in the subject addressed, where it can serve as a source of information for academics, professionals and researchers, as a way to seek to improve the behaviors and interventions in face of this health problem, the CPA.

The aim of this study was to describe the exact moment of interrupting CPR maneuvers in patients in situations of cardiorespiratory arrest (CPA), as well as to evaluate nurses' knowledge regarding the "Survival Chain"; and highlight the criteria used by professionals to decide the ideal time to start and stop CPR maneuvers.

Method

The research was descriptive of the exploratory type, with a quantitative approach, since numerical measures were used to test the hypotheses and also examine the deeper and objective aspects of the subject under study. The work was carried out with nurses from the Deputy Janduhy Carneiro Regional Hospital, located at Horácio Nóbrega Street, No Number, in Belo Horizonte neighborhood, in the municipality of Patos - PB, located 324 km from the capital João Pessoa, with population estimated at approximately 107,000 inhabitants, which is a reference to 50 other municipalities in Backwoods and High Backwoods of Paraíba - PB, dispensing service to more than 180,000 inhabitants, including some of the states of Rio Grande do Norte, Pernambuco and Ceará, Brazil.

The research population consisted of 80 nurses from the different sectors of the hospital mentioned above, while the sample was comprised of 67 professionals (83.75% of the universe). In the study, the participants were informed about the objectives of the study, and the confidentiality of the information provided at the time of the interview was compromised.

There were included in the survey nurses who work in the direct care of the patient at the above-mentioned hospital; Those of effective position and contracted of the service; And those with more than 1 (one) year of training. There were not included in the study nurses who performed only administrative actions at the hospital; And those who are not tied to the service due to medical leave or maternity leave.

The instrument for data collection was a questionnaire, containing objective, subjective and non-inductive questions, composed of two parts: the first one presented the data related to the socio-demographic characterization of the participants and the second the information about nursing care before the Cardiopulmonary Resuscitation (CPR), which allowed the informant to answer the relevant data for the study.

The information was obtained after approval of the project by the Ethics Committee of Patos Integrated College, where the data collection only happened through the acceptance of the interviewees to participate in the research, which were interviewed in an estimated time of approximately 20 minutes, at a quiet place, in the workplace, where there was an explanation about the research, ensuring the necessary clarifications for the appropriate consent and possible questions regarding the language/nomenclature used in the questionnaire. The data were collected during the period of August and September of 2016.

The quantitative data were analyzed through descriptive statistics and the nurses' speech through the analysis of the reported content, being discus-

sed based on the literature on the subject. They were submitted to simple statistical analysis and made available through tables and/or charts, with the help of Excel Office 2010 program, where they were statistically analyzed in the period described above.

The research project was forwarded and approved by the Ethics and Research Committee of Patos Integrated College through the CAAE: 56551516.9.0000.5181 and Protocol no. 1.699.389, in which it obtained the legal consent to carry out the research in the light of ethical principles. The research was carried out with authorization from the Deputy Janduhy Carneiro Regional Hospital, in Patos - PB, strictly following the Directives and Norms Regulating Research Involving Human Beings of the National Health Council [5].

Results

The results, follows the characterizations of the categorized research data in tables and graphics.

Table 1. Socio-demographic data of the sample (N = 67).

Variables	F	%
Genre		
Male	10	15
Female	57	85
Age group		
26 - 30 years	18	26.9
31 - 35 years	26	38.8
36 - 40 years	14	20.9
Over 40 years	9	13.4
Professional qualification		
Master	5	7.4
Specialist	41	61.2
Graduate	21	31.4
Formation time		
Less than 1 year	1	1.5
Between 1 - 3 years	14	20.9
Between 4 - 7 years	26	38.8
More than 7 years	26	38.8
Time spent in the hospital service		
Less than 1 year	3	4.5
Between 1 - 3 years	27	40.3
Between 4 - 7 years	17	25.4
More than 7 years	20	29.8
Sector of activity		
Emergency unit	20	29.8
Intensive therapy	7	10.5
Medical / surgical clinic	36	53.7
Transportation and Removal Service	4	6
Frequency with which they receive training		
Not receive training	34	50.7
1 per year	21	31.4
2 per year	4	6
More than 3 per year	8	11.9
Total	67	100

Source: Research data, 2016.

Table 2. Data referring to the conducts before the Intra-hospital Cardiorespiratory Stop - PCRIH (N = 67).

Variables	F	%
What is the first "Chain of Survival" link before the PCRIH?		
Recognition and activation of EMS	30	45
Surveillance and prevention	7	10
High quality immediate CPR	29	43
Rapid Defibrillation	0	0
SAV and post-CPA care	1	2
What is the ideal time to start CPR in PCRIH?		
After medical evaluation	1	2
5 minutes after the diagnosis of CPA	1	2
1 minute after the diagnosis of CPA	1	1
Immediately	55	82
At the onset of all CPA signals	9	13
Total	67	100

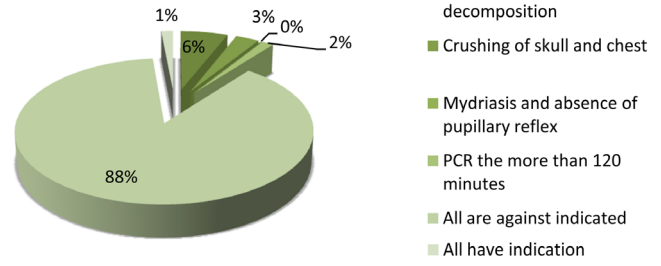
Source: Research data, 2016.

Table 3. Data referring to nurses' knowledge regarding Cardiopulmonary Resuscitation - CPR (N = 67).

Variables	F	%
What is the relationship between compression/ventilation without definitive airway with two or more first responders?		
15 compressions for 1 ventilation	1	2
30 compressions for 1 ventilation	3	4
15 compressions for 2 ventilations	4	6
30 compressions for 2 ventilations	59	88
30 compressions for 3 ventilations	0	0
What is the amount of chest compressions applied after orotracheal intubation?		
80-100 compressions per minute	20	30
90-110 compressions per minute	1	2
100-120 compressions per minute	41	61
80-120 compressions per minute	2	3
100-150 compressions per minute	3	4
Total	67	100

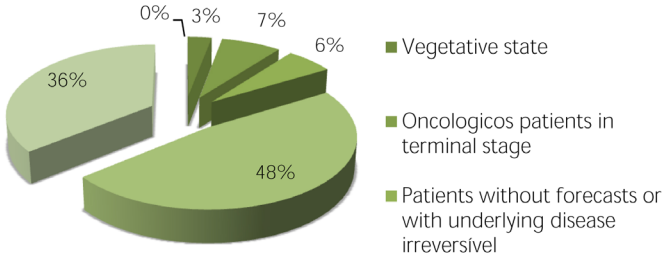
Source: Research data, 2016.

Figure 1: Data referring to the conditions in which the team can decide not to perform CPR (N = 67).



Source: Research data, 2016.

Figure 2: Data referring to the time of PCR in bioethical conditions (N = 67).



Source: Research data, 2016.

Discussions

According to **Table 1**, which expresses the sociodemographic data of the sample, it is observed that the majority of the nurses are female with 85% (57), and only 15% (10) belong to the male gender. The majority of nursing professionals are female, and these values are evident in the academic context, where most of the nursing classes are composed of women, thus reflecting within health services where the class predominates [3].

Regarding the age group, 26.9% (18) of the nurses were aged between 26 and 30 years, 38.8% (26) with ages ranging from 31 to 35 years, 20.9% (14) between 36 and 40 years, and 13.4% (9) over 40 years of age. Regarding professional qualification, it was observed that 7.4% (5) are masters, 61.2% (41) are specialists and 31.4% (21) only have undergraduate courses.

According to the formation time, it is noted that 1.5% (1) of the study participants are less than 1 year of formation, 20.9% (14) between 1 and 3 years, and 38.8% (26) individually , has between 4 and 7 years, and more than 7 years respectively. It was also questioned about the time of acting of these professionals, where 4.5% (3) reported they are in care less than 1 year, 40.3% (27) between 1 and 3 years, 25.4% (17) between 4 and 7, and 29.8% (20) more than 7 years of experience in hospital care. The prevalence of the age group of nursing workers among young adults converges in different studies, as in the study where the mean age was 26.9 years, ranging from 23 to 33 years, the average time that they had finished the graduation and also that they practiced the profession was 5 years [6].

According to the area of operation in the hospital, it was observed that 29.8% (20) of the nurses work in the emergency unit, 10.5% (7) work in the intensive care unit, 53.7% (36) provide assistance in the medical and surgical clinic, and only 6% (4) work together with the transport and removal services of patients.

These professionals were still asked how often they receive training/updates. It was observed that 50.7% (34) answered that they did not receive any training during the year, 31.4% (21) reported receiving 1 training per year, 6% (4) 2 per year, and 11.9% (8) reported improving more than 3 times per year. The data indicate a great lack of training and continuing education programs for nurses. It is worth noting that the institution develops educational strategies that provide a better professional update in the unit. Identified that there is a need for professional development with technical-scientific updating through training, specializations and post-graduation for nurses [7].

According to the data presented in **Table 2**, it was noted that 45% (30) of the respondents stated that the first link in the survival chain against PCRIH consists of the recognition and activation of the emergency service, 10% (7) reported to be the Surveillance and prevention of CPA, 43% (29) directed to do Cardiopulmonary Resuscitation (CPR) immediately, and only 2% (1) reported initiating the protocol with SAV (Advanced Life Support) conduits.

Analyzing the data, it was observed that the majority of the professionals interviewed would adopt as the first conduct against CPA the activation of the emergency service. This conduct is applied as the first action in the Extra-hospital Cardiopulmonary Arrest (PCREH), not in the PCRIH as investigated. According to the new Guidelines for Emergency Cardiovascular Care (ACE), the first link in the survival chain in PCRIH refers to surveillance and prevention, implemented with the aim of avoiding the hospitalized patient suffer a CPA. According to the answers obtained in the study, a percentage of 10% (7) of the nurses was updated according to the American Heart Association (AHA) survival current, while the majority would adopt the conduct indicated in the PCREH, thus showing that they are not knowledgeable about protocols.

The "Chain of Survival" has two chains, one for outpatient care (PCREH) and the other for inpatient care (PCRIH). Patients who have an HBPEC rely on an adequate surveillance system (eg, rapid response or immediate alert system) to avoid CPA. When a CPA occurs, patients depend on the harmonious interaction of the various departments and services of the institution and a multidisciplinary team of professionals that includes doctors, nurses, among others [8].

In 1991, the American Society of Cardiology introduced the "Chain of Survival", metaphor to represent the sequence of events that should ideally occur to improve CPR success rates in cardiac arrest. Chain links include recognition of the problem, early resuscitation, defibrillation in patients in need, and early access to the Advanced Cardiology Life Support (SAVC) system. In the 2010 guidelines, post-resuscitation care was incorporated, involving a series of measures aimed at the clinical stabilization of the patient, reduction of early post-CPR mortality and preservation of neurological function [9].

The "Survival Current" represents the ideal sequence of events that should be instituted immediately after recognition of sudden cardiac disease. It consists of five key steps that are interrelated. Following them, the chance of survival of the victim of a heart attack increases considerably [10].

In the hospital surveillance system, the nurse plays an important role through their professional assignments. This professional can directly affect the final result regarding the patient's condition, being sure to affirm that his performance is determinant for the success of patient care [11].

According 2% (1) of the professionals would apply CPR only after medical evaluation, 2% (1) 5 minutes after the diagnosis of CPA, 1% (1) 1 minute after CPA, 82% (55) would apply immediately (9) and 13% only after the appearance of all possible CPA signals. It is observed that nurses demonstrated to take the correct attitude towards PCRIH, applying CPR immediately if necessary, not needing to wait for medical evaluation or any interval of time.

According to the AHA [8] recognition of the CPA is part of the triad: abrupt loss of consciousness, absence of respiration and absence of the central pulse. It represents an extreme emergency, the results of which will be irreversible brain damage and death, if proper measures to restore blood flow and breathing are not performed.

Before a patient in CPA, health professionals should initiate the AHA [8] resuscitation maneuvers immediately. Early CPR is very important for the minimization of sequelae and preservation of life [12].

CPR can be considered the set of maneuvers performed soon after a CPA, with the objective of artificially maintaining the arterial flow to the brain and other vital organs, until the return of the spontaneous circulation occurs. The accomplishment of these maneuvers depends on a good training of the team of professionals, besides the importance of a constant updating [13].

The immediate accomplishment of CPR in a victim of CPA contributes significantly to the increase of the survival rates of the victims of cardiac arrest. A successful CPR depends on a sequence of procedures that can be systematized in the concept of "Survival Chain". This chain is composed of links that reflect important actions to be carried out, whose impacts on the survival of a CPA victim are large and can not be considered in isolation, since none of these attitudes alone can revert to most CPAs [1].

Table 3 shows that 2% (1) of the professionals answered that the ratio between compression/ventilation is 15 compressions for 1 ventilation, 4% (3) said to be 30 compressions for 1 ventilation, 6% (4) 15 Compressions for 2 ventilations, and 88% (59) reported using the ratio of 30 compressions for every 2 ventilations. In this aspect, the majority of the nurses showed to be knowledgeable about the relation between compressions/ventilations before the victim in CPA, using as reference the AHA conduits that since 2005 recommended the proportion of 30 compressions for 2 ventilations.

Even with a high percentage of professionals who are knowledgeable about the conduct, it is worrying that there are a considerable number of nurses who have been out of date on the subject since the current recommendation has been in force since 2005. A similar study has shown that the compression/ventilation ratio of 30: 2 in CPR is known for only 37% of nurses; for most, the ratio is 15: 2 [14].

The need to train all health professionals, since the survival of the victim of CPA depends on the competence and immediate institution of cardiopulmonary resuscitation maneuvers [15].

When nursing care for the victim of CPA does not occur with quality and precision, iatrogenic events may occur, which are understood as events that generate some type of harm to the patient's health, and may or may not be motivated by human error, being affirmed that the performance of the trained professional, aware of the updates in the resuscitation algorithms is determinant for the success of the patient care and recovery [11].

It was observed that 30% (20) of the professionals apply between 80 and 100 compressions per minute, 2% (1) responded from 90 to 110, 61% (41) from 100 to 120, 3% (2) answered that the frequency is from 80 to 120 compressions, and 4% (3) is from 100 to 150 compressions per minute.

The number of inadequate compressions has a negative influence on the patient's prognosis. According to the data described, it was observed that most of the professionals reported to perform the adequate amount of compressions in the victim after the installation of a definitive airway. In adult CPA victims, the correct is the rescuers apply chest compressions at a rate of 100 to 120 massages per minute [16].

In agreement it is evident the need for training and updating courses for nurses, mainly in relation to Basic and Advanced Life Support, so that these professionals have a better theoretical knowledge and, consequently, a better performance of their

activities, besides contributing to the greater survival of the victims of CPA [3].

According to some contraindications for the application of CPR. According to the data, it was noted that 6% (4) of the nurses did not indicate CPR in patients with cadaveric stiffness/decomposition, 3% (2) would not initiate the procedure in cases of crushing of the skull and thorax, 2% (1) scored the PCR option for more than 120 minutes, 88% (59) responded contraindicating CPR in all the cases cited, and 1% (1) answered that they would apply CPR in any situation.

Most of the interviewees contraindicated CPR in the cases mentioned above, however some professionals showed interest in resuscitating specific cases. Thus, a delicate issue is addressed here, since it involves common sense and many ethical dilemmas, since applying CPR in patients with obvious clinical death, without previous care, or without prospects of cure may be useless and Cruel, and can prolong the suffering of this individual, since the heart tolerates pictures of hypoxia longer than the brain.

Figure 1 presents the opinion of the interviewees regarding bioethical issues in which a CPR contraindication may be necessary. Observing the data, it was observed that 3% (2) of the professionals stated that if needed, they would perform the CPR maneuvers in patients with a vegetative state, 7% (5) in cancer patients or in a terminal condition, 6% in patients without prognosis or with irreversible underlying disease, 48% (32) would not apply CPR in any previous condition, and 36% (24) would follow the CPR protocol in any condition.

The above information suggests that most nurses tend to apply CPR indiscriminately without worrying about the ethical issue that each situation requires, following the general recommendation of emergency organs that are pro-life independent of circumstances, however, it is believed that As important as applying CPR is knowing when not to perform such procedure, so it is well known that nurses need to discern according to their technical and bioethical knowledge when to apply CPR maneuvers or not.

Are cases in which nurses evaluate the situation and, in the light of their scientific knowledge, must, without any shadow of a doubt, invest and try by all means within their reach to reverse CPA, in other cases that we know that the CPR maneuvers will be absolutely unsuccessful, and in no way can we achieve the goal of recovering the person for life [17].

In this context, it can be said that the ideal time to stop CPR simply does not exist. As each patient is unique with its characteristics and particularities, the moment to interrupt the procedure in question also needs to be established in an individualized way, considering the ethical aspects present in each situation.

The decisions regarding resuscitation and duration of resuscitation efforts are commonly encountered in emergency medicine, and often involve a number of crucial ethical issues. The positive and negative consequences must be carefully considered when making such decisions [18].

It is imperative for nurses to reflect on their care practice, seeking to commit themselves ethically to the one to whom care is directed, and must always be based on ethical principles, and also on their own principles, so that there is a commitment to human dignity [19].

According to the results of **Figure 2**, it was observed that 24% (16) of the interviewees reported employing CPR maneuvers in the victim for an indeterminate period, until the team exhaustion, 42% (28) reported not applying CPR in bioethical conditions, 7% (5) would apply CPR for up to 40 minutes, 13% (9) would apply for 30 minutes, 5% (4) for 20 minutes, and 9% (5) apply CPR for only 10 minutes.

More professionals responded that they would not apply CPR in bioethical situations. It is observed that this decision involves ethical dilemmas, which can generate divergences of opinion that are accentuated by the absence of a specific legislation

or protocol for the case, it is believed that in these circumstances there should not be a standard response to resuscitate or not and for how long for all cases, since each patient has its particularity and it is up to the health professional, especially the nurse, to be sensitive to the ethical aspects involved in this circumstance.

In Brazil the "Order of Not Resuscitating" still does not have legal support, since the standardization of the conducts in the process to be carried out depends on the moral reasoning and the ethical sensibility involving the identification of the ethical aspects of each situation. There are no protocols to this decision making, leaving the professionals forsaken by the legislation [20].

Caring for patients in palliative care goes beyond technical-scientific knowledge, it is necessary to understand their individuality, based on an interpersonal relationship of appreciation of the human person, working with the process of humanization of care [21].

Conclusions

Because CPA is an event that frequently involves hospitalized patients, it is necessary for health professionals, especially nurses, to be up-to-date and ready to make decisions regarding the particularities of each patient, including knowing when to start and mainly interrupt CPR maneuvers.

It could be noticed that a large number of nurses are unaware of the first link in the inhospital survival chain suggested by the AHA, something of extreme importance and necessity within the hospital service, perceiving a lack of preparation of the team that urges for training courses and update.

They showed to know the exact moment of initiating CPR maneuvers, stating that they would apply them immediately, as well as expressing knowledge of the relation between compression/ventilation when referring to 30 compressions for 2 ventilations. They also described the correct conduct regarding the amount of compression applied to the victims of CPA after the installation of a definitive airway, expressing the number of compressions between 100 and 120 per minute in patients with orotracheal tube.

It was observed that nurses would not apply CPR in situations in which the patient presented cadaveric stiffness, decomposition, crushing of the skull and thorax, or CPA report to more than 20 minutes. Faced with conditions in which the team can express their opinion about not performing CPR, nurses have made it clear that they do not worry about analyzing the ethical situation that each patient is in, reporting not applying CPR in the vegetative state, in terminal or chronic patients, converging with the AHA updates and guidelines, which are always pro-life, and do not guide a right or ideal time to stop CPR, just guides you to finalize the protocol in the presence of Asystole.

The said moment of interrupting the protocol is determined in a personal and ethical way, that is, by the individuality of each situation. Thus, it is expected that the present study contributes to the training of nurse assistants and that it serves as a research for academics and health professionals, and it is imperative that other studies in this same perspective be made, with the intention of improving the care for people in CPA.

References

1. Gonzalez MM, et al. Diretriz de Ressuscitação Cardiopulmonar e Cuidados Cardiovasculares de Emergência da Sociedade Brasileira de Cardiologia: resumo executivo. *Arquivos Brasileiros de Cardiologia.* v.100, n.2, p.105-113. Rio de Janeiro: 2013.
2. Pazin Filho A, et al. *Parada Cardiorrespiratória.* Urgências e emergências cardiológicas. v.36, n.2, p.163-178, 2013.
3. Pereira DS, Vieira, AI, Ferreira, AM, Bezerra AMF, Bezerra, WKT. Atuação do enfermeiro frente à Parada Cardiorrespiratória (PCR). *Revista Brasileira de Educação e Saúde.* v.5, n.3, p.08-17, Jul/Set 2015.
4. Canova JCM, et al. Parada Cardiorrespiratória e Ressuscitação Cardiopulmonar: vivências da equipe de enfermagem sob o olhar da técnica do incidente crítico. *Revista de Enfermagem da UFPE [on line].* Recife: 2015.

5. Brasil, Ministério da Saúde. *Resolução nº 466/12.* Conselho Nacional de Saúde. Regulamenta a pesquisa envolvendo seres humanos. Ministério da Saúde. Brasília: 2012.
6. Santos MV, et al. Satisfação de enfermeiros com curso de formação para operacionalização de protocolo sobre úlcera por pressão. *Revista Rene.* v.16, n.4, p.496-503, 2015. Disponível em: http://www.periodicos.ufc.br/index.php/rene/article/view/2741/2124. Acesso em 20 de Outubro de 2016.
7. Santos FC, Camelo SH. O enfermeiro que atua em Unidades de Terapia Intensiva: perfil e capacitação profissional. *Revista Cultura de los Cuidados*. v.43, 2015. Disponível em: http://rua.ua.es/dspace/handle/10045/52599. Acesso em 20 de Outubro de 2016.
8. AHA, American Heart Association. *Destaques das Diretrizes da American Heart Association 2015 para RCP e ACE.* AHA, 2015.
9. Tallo FS, et al. Atualização em Reanimação Cardiopulmonar: uma revisão para o clínico. *Revista Brasileira de Clínica Médica.* São Paulo: 2012.
10. Aehlert B, ACLS. Advanced Cardiac Life Support. *Emergências em cardiologia:* Suporte Avançado de Vida em Cardiologia. 4.ed. Elsevier. Rio de Janeiro: 2012.
11. Reis RR, Silva FJ. *A assistência de enfermagem em situação de urgência a vítima de Parada Cardiorrespiratória.* Rio de Janeiro: 2012.
12. Moraes CLK, Paula MA, Silva JR, Rodrigues MCL. Desafios enfrentados pela equipe de enfermagem na reanimação cardiorrespiratória em uma unidade de emergência hospitalar. *Revista Eletrônica Estácio Saúde.* v.5, n.1, p.90-99, 2016.
13. Guimarães MR, et al. Revisão de literatura: Reanimação Cardiopulmonar. *Revista de Iniciação Científica da Universidade Vale do Rio Verde.* v.5, n.1, p.3-12. Três Corações: 2015.
14. Almeida AO, et al. Conhecimento teórico dos enfermeiros sobre parada e ressuscitação cardiopulmonar, em unidades não hospitalares de atendimento à urgência e emergência. Rev. Latino-Am. Enfermagem, Ribeirão Preto, v. 19, n. 2, abr. 2011.
15. Bellan MC, Araújo IIM, Araújo S. Capacitação teórica do enfermeiro para atendimento da parada cardiorespiratória. Rev Bras Enferm, Brasília Bras Enferm, Brasília 2010 nov-dez; nov-dez; 63(6): 1019-27.
16. BLS, Basic Life Support. *Novas diretrizes para o Atendimento Cardiovascular de Emergência (ACE) e para a Parada Cardiorrespiratória (PCR).* American Heart Association. 2015.
17. Oliveira A, Figueiredo, A. *Implicações éticas da aplicação do protocolo de Parada Cardiorrespiratória em Suporte Imediato de Vida.* In: Silva, E. B.; Peres, J. A.; Gomes, J. L.; Martins, R. M. L.; André, S. S. Livro de Resumos/Atas do 6º Seminário de Bioética "Conduta Ética: Integridade Acadêmica e Profissional". Viseu: Escola Superior de Saúde de Viseu. p.19-26, 2016.
18. Rubulotta F, Rubulotta G. Ressuscitação cardiopulmonar e ética. *Revista Brasileira de Terapia Intensiva.* v.25, n.4, p.265-269, 2013. Disponível em: http://www.scielo.br/pdf/rbti/v25n4/0103-507x-rbti-25-04-0265.pdf. Acesso em 20 de Outubro de 2016.
19. Nascimento MG, Costa TRS, Costa MJB, Lima KAS, Rocha TMP, Santos CS. Dimensões éticas envolvidas no cuidado de enfermagem: uma revisão de literatura. *Veredas.* v.8, n.2, 2015. Disponível em: http://veredas.favip.edu.br/ojs/index.php/veredas1/article/view/177/330. Acesso em 20 de Outubro de 2016.
20. Nogueira EC, Santos TV, Monteiro TG. Aspectos éticos e legais da ordem de não ressuscitar: percepção do enfermeiro. *Interfaces Científicas.* Saúde e Ambiente. v.1, n.3, p.39-48. Aracaju: 2015. Disponível em: https://periodicos.set.edu.br/index.php/saude/article/download/1540/pdf_2. Acesso em 20 de Outubro de 2016.
21. Florentino AMRA, et al. *Parada Cardiorrespiratória e os cuidados do enfermeiro.* IN: ferreira, A. M. et al. Urgência e emergência: do APH aos cuidados intensivos. JB Editora. 290fls. ISBN: 978-85-68196-05-2. Patos: 2016.