

ORIGINAL ARTICLE

CONSTRUCTION AND VALIDATION OF A QUESTIONNAIRE FOR CARDIOPULMONARY RESUSCITATION KNOWLEDGE ASSESSMENT*

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ABSTRACT

Objective: To construct and validate a questionnaire related to adult cardiopulmonary resuscitation in Basic Life Support, using the Automatic External Defibrillator, in the hospital environment.

Methodology: applied study, conducted at the University of São Paulo at Ribeirão Preto College of Nursing, from January 2017 to March 2018. Participants were 16 Urgency and Emergency experts, with Fehring's criteria used to select them. The rules of the National Council of Medical Examiners manual and guidelines of the American Heart Association were applied. Descriptive statistics and inter-rater agreement analysis through Gwet's AC1 were used. The questionnaire was validated in relation to organization, objectivity and clarity.

Results: a validated questionnaire with 20 multiple choice questions with "almost perfect" inter-rater agreement was produced.

Conclusion: the questionnaire was shown to be valid for use as an assessment instrument on the subject addressed.

DESCRIPTORS: Surveys and Questionnaires; Teaching; Learning; Educational Assessment; Cardiopulmonary resuscitation.


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CONSTRUÇÃO E VALIDAÇÃO DE QUESTIONÁRIO PARA AVALIAÇÃO DE CONHECIMENTO SOBRE RESSUSCITAÇÃO CARDIOPULMONAR

RESUMO

Objetivo: construir e validar um questionário sobre Ressuscitação Cardiopulmonar no adulto em Suporte Básico de Vida, com o uso do Desfibrilador Externo Automático, no ambiente hospitalar.

Metodologia: pesquisa aplicada, realizada na Escola de Enfermagem de Ribeirão Preto da Universidade de São Paulo, no período de janeiro de 2017 a março de 2018. Composta por 16 experts em Urgência e Emergência, para selecioná-los foi adotado os critérios de Fehring. Foram aplicadas as regras do manual do Conselho Nacional de Examinadores Médicos e diretrizes da American Heart Association. Utilizou-se estatística descritiva e análise de concordância inter-avaliadores por AC1 de Gwet. Validado em relação à organização, objetividade e clareza.

Resultados: questionário validado com 20 questões de Múltipla Escolha com concordância inter-avaliadores "quase perfeita".

Conclusão: o questionário mostrou-se válido para utilização como instrumento de avaliação sobre o assunto abordado.

DESCRITORES: Inquéritos e Questionários; Ensino; Aprendizagem; Avaliação Educacional; Reanimação Cardiopulmonar.

CONSTRUCCIÓN Y VALIDACIÓN DE CUESTIONARIO PARA AVALIACIÓN DE CONOCIMIENTO SOBRE REANIMACIÓN CARDIOPULMONAR

RESUMEN:

Objetivo: construir y validar un cuestionario sobre Reanimación de adulto, en Soporte Básico de Vida, con el uso de Desfibrilador Externo Automático, en ambiente hospitalario.

Metodología: investigación aplicada, realizada en la Escuela de Enfermería de Ribeirão Preto de la Universidad de Sao Paulo, en el período de enero de 2017 a marzo de 2018. Estuvo compuesta por 16 especialistas en Urgencia y Emergencia; para seleccionarlos fueron adoptados los criterios de Fehring. Se aplicaron las reglas del manual del Consejo Nacional de Examinadores Médicos y las directrices de la American Heart Association. Se utilizó la estadística descriptiva y el análisis de concordancia entre evaluadores AC1 de Gwet. El cuestionario fue validado en relación a la organización, objetividad y clareza.

Resultados: el cuestionario fue validado con 20 preguntas de Múltiple Elección con concordancia entre evaluadores "casi perfecta".

Conclusión: el cuestionario se mostró válido para utilización como instrumento de evaluación sobre el asunto abordado.

DESCRIPTORES: Encuestas y Cuestionarios; Enseñanza; Aprendizaje; Evaluación educativa; Reanimación cardiopulmonar.

INTRODUCTION

Health Science education requires accurate, efficient and diversified assessment systems capable of identifying the knowledge acquired in the teaching process, with a high level of competence and security⁽¹⁻²⁾. It is indispensable to evaluate learning through valid and reliable instruments⁽³⁾ and it should be emphasized that it is necessary to create instruments that contribute to qualified actions and interventions in the health area⁽⁴⁾.

The effects on the teaching-learning process arise when the evaluation itself requires learning, needing the evaluations to be implemented with the aim of adding pedagogical value⁽⁵⁾, and not only being of the formative and/or summative character. Assessment methods should inspire the need for learning⁽¹⁾ and reflect on the acquisition of knowledge and skills, allowing students to realize that there is a learning effect and not just an evaluative effect or method of punishment⁽⁶⁾.

The results achieved from appropriately designed, structured questionnaires with Multiple Choice Questions (MCQs) correlate significantly with skills and critical thinking, confirming that they can assess higher levels of cognitive skills⁽⁷⁾ and not just investigate knowledge⁽⁸⁾. When answering structured questionnaires with MCQs, it is expected that the student reaffirm the extent of the learning⁽⁹⁾.

The MSQ is generally accepted as an efficient, objective and reliable way to assess skills and cognitive proficiency⁽¹⁰⁾. They give rise to cognitive processes for clinical reasoning⁽¹¹⁾, as long as they are designed without traps and with adequate distractors, since failures in the quality of the MSQs threaten the validity of the evaluation⁽¹²⁾.

In Cardiopulmonary Resuscitation (CPR), the use of properly designed MCQs shows benefits in the teaching-learning process, due to acceptable reliability and approximately equal difficulty in all questions⁽¹³⁾.

Despite advances in science regarding CPR, Basic Life Support (BLS) remains a critical factor in determining outcomes in Cardiac Arrest (CA), with it being necessary to incorporate the recently published scientific evidence for teaching and learning CPR in BLS⁽¹⁴⁾.

There are healthcare providers that present high levels of anxiety and fear of being involved in CPR scenarios due to lack of knowledge, directly affecting rates of survival and post-resuscitation quality⁽¹²⁾, thus, it is necessary to develop interventions capable of promoting opportunities for improvements in CPR care, with an emphasis on updated international recommendations⁽¹¹⁾.

From this perspective, there is a need to develop and validate a questionnaire for assessing knowledge related to adult CPR in BLS using the Automatic External Defibrillator (AED) in the hospital environment, for the evaluation of students and healthcare providers. With the implementation of evaluative methods through questionnaires that are properly structured following adequate methodological criteria, it is possible to affirm that such instruments corroborate for the evaluation practice and foster desirable learning, covering knowledge projection and clinical reasoning.

The use of refined and balanced MCQ questionnaires with appropriate difficulty and adequate number of items allows better identification of the effectiveness of the evaluation⁽¹⁵⁾. High-quality MCQs require experience and knowledge about the appropriate elaboration methodology^(1,16), since the aim is to prepare questions without distractors to obtain results that accurately reflect the level of knowledge⁽¹⁷⁾.

The adequately constructed MSQ consists of a statement/question, which may be a clinical case, followed by four choice options, one correct and three incorrect⁽¹⁸⁾. The use of four alternatives with high quality questions is recommended⁽¹⁶⁾. In this questionnaire MCQs with four response options were adopted due to the current and permanent credibility in

applying assessments with four response options.

The availability of reliable questionnaires is of great value to the academic community, as this enables their application in the assessment processes in a clear, objective and organized manner. This is essential to meet the demands of contemporary times and will certainly enable the improvement of the teaching-learning process, with this fact possibly impacting on the quality and outcome of the care provided to patients undergoing CPR.

Therefore, this study aimed to develop and validate a questionnaire prepared with MCQs, for the theoretical assessment of adult CPR in BLS using AED in the hospital environment.

METHOD

This was an applied study⁽¹⁸⁾ that involved the development and validation of a 20-MCQ questionnaire based on the American Heart Association (AHA) guidelines⁽¹⁹⁾ and the National Board of Medical Examiners (NBME) directions⁽²⁰⁾, addressing knowledge about adult CPR in BLS with the use of AED in the hospital environment.

It was performed in two stages: construction of the questionnaire and content validation with experts, from January 2017 to March 2018, in a public university in Southeast Brazil.

The validation was performed with 16 intentionally selected Urgency and Emergency (UE) experts⁽¹⁸⁾. For their selection, Fehring's criteria⁽²¹⁾ were used to guide a score calculation, considering: four points for a Master's degree in Nursing; one point for a Master's degree in Nursing with the dissertation in the area of interest of the study; two points for a doctoral thesis in the study area; one point for clinical practice of at least one year in the area of interest; two points for a certificate of clinical practice (specialization) in the area of interest; two points for the publication of research relevant to the area of interest and two points for the publication of an article on the topic in a reference journal.

To select them, a survey was conducted in research groups related to the UE areas, searching for authors of studies related to CA/CPR and professors of the UE area in Higher Education Institutions (HEIs) from different regions. The inclusion criteria adopted were: minimum score of five points and performance/training/teaching in the UE area.

An invitation was sent via e-mail to 26 experts, 18 responded, agreeing to participate and 16 completed the validation process. Those that accepted were sent, via e-mail or printed, according to the expert's preference, the following items: A consent form, general guidance related to the validation process and questionnaire validation guide, containing the MCQs, explanatory script and validation instrument.

It was requested that the evaluation was carried out within 30 days and that, after the evaluation, the consent form and the evaluation instruments were returned to the researcher, duly signed and completed. The explanatory guide for the validation was structured to optimize the validation process by the experts. It presented the aspects to be considered in the validation process.

The instrument developed by Bellan⁽²²⁾ was adapted for the validation, assessing aspects related to organization, clarity, objectivity, with dichotomous response options (Yes/No) in each item evaluated. The experts were asked to consider the items highlighted by the NBME⁽²⁰⁾ and the AHA guidelines⁽¹⁹⁾.

The validation instrument was structured in a table, presenting, sequentially, in each column: statement, question alternatives and items to be evaluated (organization, objectivity and clarity). The experts were asked to identify the absence of necessary information and/or the inclusion of unnecessary information and, in the case of disagreements, to record

suggestions and comments in the specific area of the instrument.

For organization of the data, spreadsheets were made using the double data entry method with the Microsoft Excel 2010® program, with subsequent validation to obtain reliable data. The R Program version 3.4.1 software was used for the agreement analysis. In all analyses, a significance level of 5% ($p > 0.05$) was adopted.

Data analysis regarding the characterization of the experts was performed using descriptive statistics, frequency, percentage and mean. To assess inter-rater agreement among the 16 judges, the AC1 statistic developed by Gwet⁽²³⁾ was used.

For the categorization of the inter-rater agreement, using the AC1 statistic, the values defined by Landis and Kock⁽²⁴⁾ were considered, being < 0.00 : Poor agreement; $0.00 - 0.20$: Slight agreement; $0.21 - 0.40$: Acceptable agreement; $0.41 - 0.60$: Moderate agreement; $0.61 - 0.80$: Considerable agreement; $0.81 - 1.00$: Almost perfect agreement. Agreement was considered satisfactory for indices with values higher than 0.60, as this provides a useful benchmark for the discussion of the results⁽²⁴⁾.

The study was approved by the Research Ethics Committee, under authorization number 2.002.839 according to the current legislation. Bellan⁽²²⁾ granted authorization for the use and adaptation of the instrument.

RESULTS

In the validation of the questionnaire, the experts were 16 (100%) nurses; 13 (81.25%) being female; with ages ranging from 29 to 55 years (± 7.33); time since qualification between 4 and 32 years (± 7.51); 15 (93.75%) had a Master's degree, 10 (62.50%) doctorate and 3 (18.75%) postdoctoral degrees; 8 (50%) worked in higher education teaching; 15 (93.75%) had at least one year of adult UE clinical practice; 13 (81.25%) had attended UE-related events in the last two years; they presented comprehensive geographic distribution (Southeast, Central-west and Northeast of Brazil), and worked in HEIs and public and private health institutions. Regarding Fehring's criteria classification⁽²¹⁾, the majority of the experts (62.5%) had a score greater than or equal to 10 and 4 (25%) a maximum score of 14 points.

Table 1 presents the experts' answers related to the validation of the MCQs.

Table 1 - Evaluation of the experts, related to the validation of the questionnaire regarding organization, objectivity and clarity. Ribeirão Preto, SP, Brazil, 2018 (continues)

Question	Organization				Objectivity				Clarity			
	Yes		No		Yes		No		Yes		No	
	n	%	n	%	n	%	n	%	n	%	n	%
1	15	93.75	1	6.25	13	81.25	3	18.75	11	68.75	5	31.25
2	14	87.50	2	12.50	11	68.75	5	31.25	10	62.50	6	37.50
3	16	100			15	93.25	1	6.25	15	93.25	1	6.25
4	15	93.75	1	6.25	16	100			14	87.50	2	12.50
5	16	100			15	93.25	1	6.25	13	81.25	3	18.75
6	15	93.75	1	6.25	14	87.50	2	12.50	14	87.50	2	12.50
7	16	100			16	100			15	93.75	1	6.25

8	16	100			16	100			16	100		
9	16	100			15	93.75	1	6.25	14	87.50	2	12.50
10	15	93.75	1	6.25	15	93.75	1	6.25	14	87.50	2	12.50
11	16	100			15	93.75	1	6.25	15	93.25	1	6.25
12	15	93.75	1	6.25	15	93.75	1	6.25	15	93.75	1	6.25
13	15	93.25	1	6.25	15	93.75	1	6.25	14	87.50	2	12.50
14	15	93.25	1	6.25	13	81.25	3	18.75	14	87.50	2	12.50
15	15	93.75	1	6.25	14	87.50	2	12.50	14	87.50	2	12.50
16	16	100			12	75.00	4	25.00	14	87.50	2	12.50
17	16	100			16	100			15	93.75	1	6.25
18	16	100			15	93.75	1	6.25	15	93.75	1	6.25
19	16	100			15	93.75	1	6.25	16	100		
20	16	100			15	93.75	1	6.25	16	100		
Total	310	96.89	10	3.11	291	90.94	29	9.06	284	88.75	36	11.25

When considering the evaluation of organization, objectivity and clarity, the MCQs were evaluated positively, with organization = 310/320 (96.89%), objectivity = 291/320 (90.94%) and clarity = 284/320 (88.75%) with positive responses (yes).

When verifying the inter-rater agreement regarding the MCQs, "almost perfect agreement" was evidenced in the items related to the organization and objectivity, with AC1 = 0.93 and AC1 = 0.81 ($p < 0.0001$), respectively. Regarding the items related to clarity, "considerable agreement" was achieved among the evaluators, with AC1 = 0.76 ($p < 0.0001$), as presented in Table 2.

Table 2 - Inter-rater agreement, related to the validation of the MCQs in relation to organization, objectivity and clarity. Ribeirão Preto, SP, Brazil, 2018

Variable	AC1	EP _ AC1	P-value*
Organization	0.93	0.0187	<0.0001
Objectivity	0.81	0.0422	<0.0001
Clarity	0.76	0.0469	<0.0001

*5% significance level ($p < 0.05$)

The suggestions, comments and notes made by the experts were evaluated and those in line with the AHA guidelines⁽¹⁹⁾ were applied. It should be highlighted that the majority of the recommendations were related to changes of terms/words, reorganization of the text (alternative and statement) and inclusion of information in the alternatives and/or statement.

The questionnaire (ANNEX A) elaborated in this study was constructed with 20 MCQs with four alternatives each (A - B - C - D), three being incorrect and one correct (ANNEX B),

named "Knowledge about adult CPR in BLS, with use of AED in the hospital environment", directed toward students and healthcare providers.

DISCUSSION

The development and validation of this questionnaire was structured to fulfill the current need for application of contemporary assessment strategies, disseminating a new possibility for the evaluation of adult CPR in BLS, using AED in the hospital environment.

Several studies show the need for expert validation of assessment instruments, ensuring the necessary quality for their application and making them appropriate tools in the teaching-learning process^(2,7-9,77,17,25). The questionnaire elaborated in this study was validated in relation to its organization, objectivity and clarity, and evaluated positively by the experts.

It is consistently recommended that experts have experience in the area of the object being evaluated⁽²⁶⁾. The profile of the experts was identified as having doctorate degrees, teaching experience and clinical practice in UE, distributed in the North, Southeast and Central-west regions of Brazil, which ensured credibility in the validation process.

Clear explanations are needed regarding how to evaluate the instrument items and their relevance⁽²⁶⁾. To ensure clear explanations for the validation, an explanatory guide was designed detailing the aspects, criteria and references used.

The evaluation of inter-rater reliability is necessary for studies in which data are collected through classifications provided by trained and untrained professionals, quantifying the degree of agreement between the raters^(23,27). Inter-rater agreement quantifies the proximity of scores assigned by a rater group, the closer the score, the higher the reliability of data collection⁽²³⁾, with a good level of agreement being important, as it determines the confidence in the items evaluated⁽²⁸⁾.

It was decided to determine the inter-rater agreement in this study using Gwet's AC1 statistic, since there is strong evidence showing that this test is superior for inter-rater reliability analysis when compared to another statistical tests⁽²⁸⁾. The AC1 has better statistical properties because of its supposed ability to correct the agreement of percentages determined by random evaluations, developed so that the propensity for random evaluation is proportional to the portion of the ratings that may lead to a non-random evaluation⁽²³⁾.

In the evaluation of inter-rater agreement, Gwet's AC1 was evidenced in most items (organization and objectivity), classified according to Landis and Kock⁽²⁴⁾ as "almost perfect" inter-rater agreement and with statistically significant difference ($p < 0.0001$).

It is essential that the assessment takes place in a contemporary, attractive, relevant and convenient manner, promoting changes in behavior through up-to-date scientific evidence. In this questionnaire, the evidence published by the AHA in 2015 was incorporated. The publication of the latest AHA update on BLS took place in January 2018, and provided relevant information regarding the level of evidence for CPR actions in BLS, however, no change was made in the technical guidelines and/or operational behavior⁽²⁹⁻³⁰⁾, which ensures that the content produced in this study is based on up-to-date scientific evidence and international repertoire.

In the process of construction and validation of the questionnaire, there was an important limitation regarding the publication of studies related to the elaboration and validation of MCQs. In addition, it was not possible to perform the revalidation (test-retest) with the experts after the alterations made from the accepted suggestions, and at the end of the study a lack of cover of the prevention of iatrogenic lesions caused during CPR was identified.

CONCLUSION

The questionnaire produced in this study is valid and can be considered an important instrument for the evaluation process in students and healthcare providers related to the teaching of adult CPR in BLS with the use of AED in the hospital environment, due to its elaboration with methodological rigor.

In the validation, satisfactory inter-rater agreement was achieved ("almost perfect" agreement in the majority of the items), which ensures that the instrument is suitable for application in the evaluation process regarding the theme investigated. Therefore, the instrument can securely used to conduct assessment strategies in teaching, research and extension activities in a contemporary, reliable and up-to-date manner.

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ANEXO A

MULTIPLE CHOICE QUESTIONS

Following are 20 questions with four alternatives each (A - B - C - D), with only one answering the question correctly.

To answer them consider the context of "Cardiopulmonary Arrest and Adult Cardiopulmonary Resuscitation in Basic Life Support using the Automatic External Defibrillator in the Hospital Environment" and the guidelines published in 2015 by the American Heart Association.

QUESTIONS:

- As condutas relacionadas à etapa de "Vigilância e Prevenção" que compõe a Cadeia da Sobrevivência, para atendimento da Parada Cardiorrespiratória (PCR) no ambiente hospitalar são:
 - Identificação da Parada Cardiorrespiratória; Definição de intervenções efetivas; Detalhamento da queixa.
 - Identificação da Parada Cardiorrespiratória; Implementação de avaliação clínica detalhada; Definição de intervenções efetivas.
 - Implementação de avaliação clínica com detalhamento da queixa e Definição de intervenções efetivas.
 - Implementação de avaliação clínica detalhada e da Ressuscitação Cardiopulmonar; Definição de intervenções efetiva.
- Na etapa de "Reconhecimento precoce e pedido de ajuda" deve ser solicitada ajuda imediatamente após identificada a irresponsividade da vítima. Esta etapa consiste em providenciar:
 - Suporte Médico, Carrinho de emergência com desfibrilador e sistema de ventilação.
 - Suporte Médico e sistema de ventilação.
 - Carrinho de emergência com desfibrilador e sistema de ventilação.
 - Suporte Médico, Carrinho de emergência com desfibrilador.
- A sequência de ações que leva o profissional a reconhecer irresponsividade em uma vítima suspeita de Parada Cardiorrespiratória (PCR) é:
 - Toque superficial ao nível dos ombros da vítima com estímulo auditivo intenso, se possível, chamando a vítima pelo nome.

- B. Toque superficial ao nível dos ombros e estímulo auditivo, se possível, chamando a vítima pelo nome.
- C. Toque intenso ao nível dos ombros da vítima com estímulo auditivo, obrigatoriamente, chamando a vítima pelo nome.
- D. Toque intenso ao nível dos ombros da vítima com estímulo auditivo também intenso, se possível, chamando a vítima pelo nome.
4. Na avaliação do pulso e respiração no reconhecimento da Parada Cardiorrespiratória (PCR) o profissional deve:
- A. Verificar pulso carotídeo e, na sequência, respiração, em menos de dez segundos.
- B. Verificar pulso carotídeo e, simultaneamente, respiração em menos de dez segundos.
- C. Verificar pulso carotídeo e respiração simultaneamente em menos de cinco segundos.
- D. Verificar pulso carotídeo e, na sequência, respiração, em menos de cinco segundos.
5. Considerando as ações imediatas mediante o reconhecimento da Parada Cardiorrespiratória (PCR), análise o cenário: "X e Y são enfermeiros e estão na Sala de Emergência de um hospital, onde é admitido um paciente em Parada Cardiorrespiratória (PCR)". A conduta recomendada a ser realizada de maneira simultânea por X e Y é:
- A. Y inicia as Compressões Torácica Externa e X implementa a etapa de "Pedido de ajuda".
- B. Y inicia as Compressões Torácica Externa e X permeabiliza as Vias Aéreas.
- C. Y implementa a etapa de "Pedido de Ajuda" e X permeabiliza as Vias Aéreas.
- D. Y implementa a etapa de "Pedido de Ajuda" e X realiza ventilação com Bolsa-valva-máscara.
6. A troca de profissional durante a realização da Compressão Torácica Externa (CTE) é ser a cada:
- A. 90 segundos.
- B. 120 segundos.
- C. 180 segundos.
- D. 60 segundos.
7. O local indicado, no tórax da vítima, para posicionamento das mãos do profissional na execução da Compressão Torácica Externa (CTE) é:
- A. Terço médio do esterno.
- B. Metade superior do esterno.
- C. Terço inferior do esterno.
- D. Metade inferior do esterno
8. A profundidade indicada nas Compressões Torácica Externa (CTE) de uma vítima adulta é:
- A. Pelo menos 4cm, mas não deve ser superior a 5cm.
- B. Pelo menos 6cm, mas não deve ser superior a 8cm.
- C. Pelo menos 5cm, mas não deve ser superior a 6cm.
- D. Pelo menos 4cm, mas não deve ser superior a 6cm.
9. A frequência, por minuto, indicada nas Compressões Torácica Externa (CTE) é:
- A. 100 a 120 por minuto.
- B. 60 a 90 por minuto.
- C. Superior a 120 e inferior a 140.
- D. Superior a 60 e inferior a 100.
10. Em relação ao retorno da parede torácica pela descompressão na Compressão Torácica Externa (CTE), o profissional deve:
- A. Garantir leve afastamento do tórax pelas mãos do profissional.
- B. Permitir o retorno total do tórax.
- C. Manter leve compressão no tórax.
- D. Realizar o movimento de "galope" (afastar região hipotênar do tórax da vítima) pelas mãos do profissional.
11. Para a permeabilização das Vias Aéreas (VVAA), na Ressuscitação Cardiopulmonar (RCP), quando não há suspeita de lesão cervical, é indicado:
- A. Elevação da cabeça pela flexão do pescoço.
- B. Lateralização da cabeça pela hiperextensão do pescoço.
- C. Elevação da cabeça pela hiperextensão do pescoço.

- D. Lateralização da cabeça pela flexão do pescoço.
12. Para realizar o manejo adequado da bolsa durante a ventilação com Bolsa-valva-máscara deve:
- Pressionar lentamente todo o centro da bolsa, em cada ventilação.
 - Pressionar rapidamente, em seis segundos, as extremidades da bolsa, em cada ventilação.
 - Pressionar lentamente as extremidades da bolsa, em cada ventilação.
 - Pressionar rapidamente, em um segundo, todo o centro da bolsa, em cada ventilação.
13. Em uma vítima adulta, quando a Compressão Torácica Externa (CTE) é realizada sincronizadas com a ventilação por Bolsa-valva-máscara é recomendado:
- Realizar ciclos de 30 Compressões Torácica Externa acompanhadas por duas Ventilações de resgate com Bolsa-valva-máscara.
 - Realizar ciclos de 15 Compressões Torácica Externa acompanhadas por uma Ventilação de resgate com Bolsa-valva-máscara.
 - Realizar ciclos de 20 Compressões Torácica Externa acompanhadas por duas Ventilações de resgate por Bolsa-valva-máscara.
 - Realizar ciclos de 50 Compressões Torácica Externa acompanhadas por uma Ventilação de resgate por Bolsa-valva-máscara.
14. Na chegada do Desfibrilador Externo Automático (DEA) no local da Parada Cardiorrespiratória (PCR), a conduta imediata é:
- Aderir as pás no tórax da vítima.
 - Finalizar o ciclo das Compressões Torácica Externa.
 - Abrir e ligar o equipamento.
 - Interromper as Compressões Torácica Externa para implementar o Desfibrilador Externo Automático (DEA).
15. Na vítima em Parada Cardiorrespiratória (PCR), os ritmos cardíacos que não são indicados o choque pelo Desfibrilador Externo Automático (DEA) são:
- Atividade Elétrica sem Pulso e Taquicardia Ventricular sem pulso.
 - Fibrilação Ventricular e Assistolia.
 - Fibrilação Ventricular e Taquicardia Ventricular sem pulso.
 - Assistolia e Atividade Elétrica sem Pulso.
16. Considerando os ritmos cardíacos em que acontece a indicação do choque pelo Desfibrilador Externo Automático (DEA), avalie o cenário: "X e Y estão em atendimento de uma Parada Cardiorrespiratória (PCR) com o uso do Desfibrilação Externa Automática (DEA), o equipamento avalia o ritmo e o choque é recomendado". Os possíveis ritmos cardíacos da vítima são:
- Assistolia e Atividade Elétrica sem Pulso.
 - Fibrilação Ventricular e Taquicardia Ventricular sem pulso.
 - Atividade Elétrica sem Pulso e Taquicardia Ventricular sem pulso.
 - Fibrilação Ventricular e Assistolia.
17. A conduta recomendada ao profissional em um cenário que o Desfibrilador Externo Automático (DEA) avalia o ritmo cardíaco e não indica o choque é:
- Reiniciar a Ressuscitação Cardiopulmonar.
 - Interromper a Ressuscitação Cardiopulmonar.
 - Avaliação do pulso e respiração da vítima.
 - Reavaliar o ritmo cardíaco.
18. Com o retorno da circulação espontânea após uso do Desfibrilador Externo Automático (DEA), é recomendado:
- Desligar o equipamento e retirar as pás do tórax da vítima.
 - Não desligar o equipamento e retirar as pás do tórax da vítima.
 - Desligar o equipamento e manter as pás aderidas ao tórax da vítima.
 - Não desligar o equipamento e manter as pás aderidas ao tórax da vítima.
19. Compõe a quinta e última etapa na Cadeia da Sobrevivência ("Suporte Avançado de Vida - SAV e cuidados pós Parada Cardiorrespiratória - PCR"), para atendimento da Parada Cardiorrespiratória (PCR) no ambiente intra-hospitalar:
- Investigação para identificação e tratamento da causa da Parada Cardiorrespiratória.

- B. Aplicação da desfibrilação.
- C. Assistência exclusiva pelo profissional médico.
- D. Assistência exclusiva pelo profissional enfermeiro.

20. Em relação da divisão dos itens para registro das informações no instrumento In-hospital Utstein Style é correto afirmar:

- A. Dividido em três blocos de informações, relacionado ao paciente, ao momento da Parada Cardiorrespiratória e resultados da Ressuscitação Cardiopulmonar.
- B. Dividido em dois blocos de informações, relacionado ao paciente e ao momento/resultados da Ressuscitação Cardiopulmonar.
- C. Um único bloco de itens para registro dos resultados da Ressuscitação Cardiopulmonar.
- D. Dividido em dois blocos de informações, relacionado ao momento da Parada Cardiorrespiratória e resultados da Ressuscitação Cardiopulmonar.

ANEXO B

ANSWERS TO THE MULTIPLE CHOICE QUESTIONS

QUESTÃO ENUNCIADO ALTERNATIVA CORRETA

- 1 As condutas relacionadas à etapa de "Vigilância e Prevenção" que compõe a Cadeia da Sobrevivência, para atendimento da Parada Cardiorrespiratória no ambiente hospitalar são: C
- 2 Na etapa de "Reconhecimento precoce e pedido de ajuda" deve ser solicitada ajuda imediatamente após identificada a irresponsividade da vítima. Esta etapa consiste em providenciar: A
- 3 A sequência de ações que leva o profissional a reconhecer irresponsividade em uma vítima suspeita de Parada Cardiorrespiratória é: D
- 4 Na avaliação do pulso e respiração no reconhecimento da Parada Cardiorrespiratória o profissional deve: B
- 5 Considerando as ações imediatas mediante o reconhecimento da Parada Cardiorrespiratória (PCR), analise o cenário: "X e Y são enfermeiros e estão na Sala de Emergência em um hospital, onde é admitido um paciente em Parada Cardiorrespiratória (PCR)". A conduta recomendada a ser realizada de maneira simultânea por ∞ e μ é: A
- 6 A troca do profissional durante a realização da Compressão Torácica Externa (CTE) é a cada: B
- 7 O local indicado, no tórax da vítima, para posicionamento das mãos do profissional na execução da Compressão Torácica Externa é: D
- 8 A profundidade indicada nas Compressões Torácica Externa de uma vítima adulta é: C
- 9 A frequência, por minuto, indicada nas Compressões Torácica Externa é: A
- 10 Em relação ao retorno da parede torácica pela descompressão na Compressão Torácica Externa, o profissional deve: B
- 11 Para a permeabilização das Vias Aéreas, na Ressuscitação Cardiopulmonar, quando não há suspeita de lesão cervical, é indicado: C
- 12 Para realizar o manejo adequado da bolsa durante a ventilação com Bolsa-valva-máscara é: D
- 13 Em uma vítima adulta, quando a Compressão Torácica Externa é realizada simultaneamente com a ventilação por Bolsa-valva-máscara é recomendado: A
- 14 Na chegada do Desfibrilador Externo Automático (DEA), no local da Parada Cardiorrespiratória, a conduta imediata é: C
- 15 Na vítima em Parada Cardiorrespiratória (PCR), os ritmos cardíacos que não são indicados o choque pelo Desfibrilador Externo Automático (DEA) são: D
- 16 Considerando os ritmos cardíacos em que acontece a indicação do choque pelo Desfibrilador Externo Automático (DEA), avalie o cenário: "X e Y estão em atendimento de uma Parada Cardiorrespiratória (PCR) com o uso do Desfibrilação Externa Automática (DEA), o equipamento avalia o ritmo e o choque é recomendado". Os possíveis ritmos cardíacos da vítima são: B
- 17 A conduta recomendada ao profissional em um cenário que o Desfibrilador Externo Automático (DEA) avalia o ritmo cardíaco e não indica o choque é: C
- 18 Com o retorno da circulação espontânea após uso do Desfibrilador Externo Automático (DEA), é recomendado: D
- 19 Compõe a quinta e última etapa na Cadeia da Sobrevivência ("Suporte Avançado de Vida - SAV e cuidados pós Parada Cardiorrespiratória - PCR"), para atendimento da Parada Cardiorrespiratória no ambiente intra-hospitalar: A

20 Em relação da divisão dos itens para registro das informações no instrumento Utstein Style é correto afirmar: B

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