CARDIOPULMONARY RESUSCITATION IN PREGNANT WOMEN: CREATION AND VALIDATION OF A CHECKLIST TO EVALUATE THE NURSING PRACTICE

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ABSTRACT

Objective: to create and validate a checklist to evaluate the Nursing practice in cardiopulmonary resuscitation in pregnant women.

Method: a methodological study developed from May to August 2019, conducted from creation of the instrument and content validation in charge of 11 nurses specialized in Urgencies and Emergencies and 12 obstetric nurses. A *Likert*-type scale was used to assess language, clarity, objectivity, content, relevance and pertinence of the instrument. The validation criterion was agreement above 80%, analyzed by means of the Content Validation Index and the Binomial Test.

Results: the final version of the instrument consisted of 54 questions that contemplated the sequence of actions to be adopted by the health professionals in the face of obstetric cardiopulmonary arrests. The minimum agreement level obtained was 91% and the mean Content Validity Index was 0.99.

Conclusion: the validated instrument can be used by professors involved in the teaching of obstetric cardiopulmonary arrest and contribute to the assessment of skills in the Nursing practice, to be carried out in research studies that test the effectiveness of educational interventions and training sessions.

DESCRIPTORS: Teaching. Educational evaluation. Education in nursing. Cardiopulmonary resuscitation. Pregnant women.

RESSUSCITAÇÃO CARDIOPULMONAR EM GESTANTES: CONSTRUÇÃO E VALIDAÇÃO DE CHECKLIST PARA AVALIAR PRÁTICA DA ENFERMAGEM

RESUMO

Objetivo: construir e validar *checklist* para avaliar a prática da enfermagem na ressuscitação cardiopulmonar em gestantes.
Método: estudo metodológico, desenvolvido de maio a Agosto de 2019, realizado a partir da construção do instrumento e validação de conteúdo por 11 enfermeiros especialistas em urgência e emergência e 12 em obstetrícia. Foi utilizada escala do tipo *Likert,* acerca da linguagem, clareza, objetividade, conteúdo, relevância e pertinência instrumento. O critério de validação foi concordância superior a 80%, analisada mediante o Índice de Validação de Conteúdo e do Teste Binomial.
Resultados: a versão final do instrumento foi composta por 54 questões que contemplaram a sequência de condutas a serem adotadas pelo profissional de saúde, diante de uma parada cardiorrespiratória obstétrica. A concordância mínima obtida foi de 91% e a média do Índice de Validação de Conteúdo foi de 0,99.
Conclusão: o instrumento validado pode ser utilizado por docentes envolvidos no ensino da parada cardiorrespiratória obstétrica e contribuir com a avaliação da habilidade na prática da enfermagem, a ser realizada em pesquisas que testem a efetividade de intervenções educativas e treinamentos.

DESCRITORES: Ensino. Avaliação educacional. Educação em enfermagem. Reanimação cardiopulmonar. Gestantes.

REANIMACIÓN CARDIOPULMONAR EN MUJERES EMBARAZADAS: ELABORACIÓN Y VALIDACIÓN DE UNA *CHECKLIST* PARA EVALUAR LA PRÁCTICA DE ENFERMERÍA

RESUMEN

Objetivo: elaborar y validar una *checklist* para evaluar la práctica de Enfermería en reanimación cardiopulmonar en mujeres embarazadas.
Método: estudio metodológico, desarrollado de mayo a agosto de 2019, realizado a partir de la elaboración del instrumento y la validación de su contenido a cargo de 11 enfermeros especializados en Urgencias y Emergencias y de otros 12 especializados en Obstetricia. Se utilizó una escala de tipo *Likert* para evaluar el lenguaje, la claridad, la objetividad, el contenido, la relevancia y la pertinencia del instrumento. El criterio de validación correspondió a concordancia superior al 80%, analizada por medio del Índice de Validez de Contenido y de la Prueba Binomial.
Resultados: la versión final del instrumento estuvo conformada por 54 preguntas que contemplaron la secuencia de acciones que deben realizar los profesionales de la salud ante una parada cardiorrespiratoria obstétrica. La concordancia mínima obtenida fue del 91% y el valor medio del Índice de Validez de Contenido fue 0,99.
Conclusión: el instrumento validado puede ser utilizado por docentes que se dedican a enseñar el tema de Parada cardiorrespiratoria obstétrica y contribuir con la evaluación de las habilidades en la práctica de Enfermería, a ser realizada en trabajos de investigación que ponga a prueba la efectividad de intervenciones educativas y programas de capacitación.

DESCRIPTORES: Enseñanza. Evaluación educativa. Educación en enfermería. Reanimación cardiopulmonar. Mujeres embarazadas.

INTRODUCTION

Cardiopulmonary arrest (CPA) consists in functional impairment of the heart, which derives in absence of blood pumping. Once affected by this condition, the victim will present irresponsiveness; absence of palpable pulse in the carotid or femoral artery; and respiratory impairment, characterized by apnea or gasping breathing[1].

To revert the clinical condition, it is recommended to carry out a sequence of interventions aiming at survival and at reducing sequelae, actions that are called Basic Life Support (BLS). These interventions are as follows: activation through help and request of an Automatic External Defibrillator (AED); performance of Cardiopulmonary Resuscitation (CPR), consisting of high-quality chest compressions and ventilations; and AED use, as soon as it becomes available[2]. After establishing these interventions, Advanced Life Support (ALS) is implemented, which consists of obtaining an advanced airway and using invasive procedures/administration of intravenous medications[3]. It is noted that the BLS performed in the first minutes is decisive for obtaining Return of Spontaneous Circulation (ROSC) and for preserving the victim's neurological integrity. Thus, no matter the quality level in the use of advanced support, if the basic support interventions are not performed correctly, the chance of survival becomes very low[4].

CPA in pregnant women imposes risk to two lives, the mother-child binomial, and is estimated to affect 2.78 per 100,000 pregnant women, with 58% chance of survival[5]. In case of an obstetric CPA, the professional' ability is relevant to the quality of the interventions applied and is related to their ability to correctly perform the necessary procedures and techniques[2]. Thus, the relevance is pointed out in terms of research studies that investigate the effectiveness of training sessions and teaching strategies, which improve that skill.

In this context, in order to assess the professionals' skills, it is necessary to use valid instruments that, in addition to the empirical construction, have been submitted to validation scientific rigor; therefore, research studies that contemplate the creation and validation of these instruments gain relevance.

Nursing is the professional category that spends the most time in patient care, is part of the team that provides care, teaching and research about care for pregnant women and cases of CPA, and works in the sectors where there is a higher probability of occurrence of obstetric CPA: the Emergency and Obstetrics areas. Given this fact, it is pointed out that Nursing care is benefited from using a valid instrument that supports evaluation of the practice in obstetric CPR.

Given the above, the objective of this study was to create and validate a checklist to evaluate the Nursing practice in cardiopulmonary resuscitation in pregnant women.

METHOD

This is a methodological study, developed from May to August 2019 and consisting of two stages, the first to create the checklist and the second to validate its content.

Creation of the instrument took place in the Nursing laboratory of the Pernambuco Federal Institute of Education, Science and Technology of (IFPE), Pesqueira Campus, and the validation process was carried out by virtual/electronic means.

The study population to evaluate the checklist consisted of nurses with expertise in Obstetrics or in Urgencies and Emergencies, belonging to the IFPE faculty and care professionals from the hospital network affiliated to the Nursing course of the aforementioned institute, from the municipalities of Pesqueira, Arcoverde, Caruaru and Garanhuns, in the state of Pernambuco, Brazil.

The inclusion criterion adopted was having professional and/or teaching experience in the area(s) of Obstetrics and/or Urgencies and Emergencies. The exclusion criterion corresponded to not fully filling out the data collection instrument.

The sample number of this stage was determined from the formula used for calculating a finite population sample $[n=Za^2.P(1-P)/e^2]$[6]. Here, Za corresponded to the confidence level, in which a value of 95% was adopted; P, to the proportion of experts' agreement on the same item, set at 85%; and "e" was the accepted difference, which was 15% in this study. Consequently, a total of 22 participants was obtained to comprise the sample. When considering the relevance of the instrument being evaluated by professionals with expertise in the constructs of Obstetrics and Urgencies and Emergencies, the sample of this stage consisted of 11 professionals with expertise in Obstetrics and another 11 with experience in Urgencies and Emergencies.

The data collection instrument, adapted from a previous study[7], had a *Likert*-type scale with 14 items that referred to language, clarity, objectivity, content, relevance and pertinence of the instrument.

The checklist was created with all the information referring to the stages that comprise performance of high-quality CPR practice in pregnant women, recommended by the American Heart Association guidelines. Four answer options were assigned to each question/item to be answered, namely: "Performed it totally correct;" "Performed it partially correct," "Performed it incorrectly" and "Did not perform it". The content of the items corresponded to the sequence of the stages for Obstetric CPR, according to Chart 1.

Chart 1 - Content of the items from the checklist to evaluate the obstetric cardiopulmonary resuscitation practice. Pesqueira, Pernambuco, Brazil, 2020.

Topics of the items	Action evaluated
Correct evaluation of cardiac arrest in the pregnant woman	Verification of the level of consciousness, breathing and central pulse; Recognition of Cardiopulmonary Arrest severity.
Right moment to call for help	Team activation.
Correct way to perform Cardiopulmonary Resuscitation in the pregnant woman	Positioning of the rescuer(s); Positioning of the pregnant woman; Initiate the compressions; Place and depth of the compressions; Compression/Ventilation ratio; Uterine manual traction for left inferior vena cava decompression; Relay among team members in performing compression; Need for perimortem cesarean section; When to stop Cardiopulmonary Resuscitation.

To recruit the judges, a survey was carried out among professors with an eligible profile from the Nursing courses at the Pernambuco Federal Institute of Education, Science and Technology, on the Pesqueira and Belo Jardim campuses. Through electronic contacts via email with 12 professors, snowball sampling was performed based on the request for indication of other professionals with an eligible profile to comprise the study sample. Consequently, the invitation to participate was sent to 56 professionals, of which 30 had experience in Obstetrics and 26 in Urgencies and Emergencies. Responses were obtained by 23 professionals, who made up the sample.

Data collection took place by means of electronic contacts (via email), where the following was sent via *Google Forms*: I- Invitation letter; II- Free and Informed Consent Form; III- Instrument to be validated; and IV- Data collection instrument, to record the experts' agreement.

For data analysis, the Content Validation Index (CVI) was used to verify the evaluators' agreement regarding the instrument items. This index was calculated for each item based on the sum of the agreement answers, divided by the total number of answers. In addition to that, the global CVI was also calculated, based on the mean of the CVI values obtained in each item. The binomial test was applied, with 5% significance level, to verify if agreement was statistically equal to or greater than 0.8, which is the value of the agreement proportion defined for an item to be considered valid in terms of content[8].

The study followed the standards proposed by Resolution No. 466/12 and was approved by the institution's Ethics Committee.

RESULTS

Of the 23 professionals, three (13,4%) were PhDs, 11 (47.8%) were MScs and nine (39.1%) had some specialization. Regarding their professional experience, 10 (83.3%) had previous experience in urgency and emergency care and 13 (90.9%) in obstetric care; as for their teaching experience, 17 (73.9%) worked in higher education and specialization courses.

The final version of the instrument consisted of 54 items, subdivided into 12 blocks, with the following subtopics: Use of Personal Protective Equipment (PPE), CPA Identification, Calling for help, Positioning of the pregnant woman, Positioning of the rescuer, CPR First minute, Ventilations, Automated External Defibrillator (AED) use, CPR Second minute, Re-evaluation of the victim, Rescuer relay, and Need for *perimortem* cesarean section.

In the content validation process, the CVI for each item resulted in values from 0.91 to 1. In relation to content, relevance and pertinence, there was unanimity of agreement in six (50.0%) of the 12 blocks of information evaluated, whereas there was disagreement by only one judge in four blocks (33.3%). The evaluators' agreement, by item evaluated and regarding content, relevance and pertinence, is detailed in Table 1.

Among the 12 blocks of information evaluated, eight (66.6%) reached unanimous agreement regarding language, clarity and objectivity, and only one judge was in disagreement with the others. The agreement in relation to language, clarity and objectivity of the instrument is presented in Table 2 below.

The mean of the CVI values was 0.99. Despite the high agreement level, the evaluators presented slight suggestions for text adaptations. They referred to the use of Personal Protective Equipment (PPE) and to the stages of Calling for help; Positioning of the pregnant woman; Positioning of the rescuer; Ventilations; AED use; Rescuer relay; and Need for *perimortem* cesarean section.

In the PPE use stage, it was suggested that the full name of the PPE acronym be written, as well as presenting the equipment in the plural since, in health care, a given professional uses more than one PPE item simultaneously. Another point suggested also in relation to the PPE was about the answer options to be marked in the instrument, which went from "Performed it totally correct," "Performed it partially correct," "Performed it totally incorrectly" and "Did not perform it" to "Used it correctly", "Used it incorrectly" and "Did not use it", for relating to PPE use and not to performing any technique/procedure.

Table 1 - Evaluators' agreement in relation to content, relevance and pertinence of the items from the checklist to evaluate the Nursing practice in cardiopulmonary resuscitation in pregnant women. Pesqueira, Pernambuco, Brazil, 2022. (n=23).

Block of items	Content		Relevance		Pertinence	
	CVI*	p†	CVI*	p†	CVI*	p†
Use of protective equipment	1,00	1	1,00	1	1,00	1
Cardiac arrest identification	0,95	0,976	1,00	1	1,00	1
Calling for help	0,95	0,976	1,00	1	1,00	1
Positioning of the pregnant woman	0,95	0,976	1,00	1	1,00	1
Positioning of the rescuer	0,95	0,976	1,00	1	1,00	1
First minute of the compressions	1,00	1	1,00	1	1,00	1
Ventilations	1,00	1	1,00	1	1,00	1
Defibrillator use	1,00	1	1,00	1	1,00	1
Second minute of the compressions	1,00	1	1,00	1	1,00	1
Re-evaluation of the victim	0,91	0,879	1,00	1	1,00	1
Rescuer relay	1,00	1	1,00	1	1,00	1
Perimortem cesarean section	0,91	0,879	0,95	0,976	0,91	0,879

*Content Validation Index; †Binomial test.

Table 2 - Evaluators' agreement in relation to language, clarity and objectivity of the items from the checklist to evaluate the Nursing practice in cardiopulmonary resuscitation in pregnant women. Pesqueira, Pernambuco, Brazil, 2022. (n=23).

Block of items	Language		Clarity		Objectivity	
	CVI*	p†	CVI*	p†	CVI*	p†
Use of protective equipment	0.95	0.976	0.95	0.976	0.95	0.976
Cardiac arrest identification	1.00	1	1.00	1	1.00	1
Calling for help	1.00	1	1.00	1	1.00	1
Positioning of the pregnant woman	1.00	1	0.95	0.976	1.00	1
Positioning of the rescuer	1.00	1	1.00	1	1.00	1
First minute of the compressions	0.95	0.976	1.00	1	1.00	1
Ventilations	1.00	1	1.00	1	1.00	1
Defibrillator use	1.00	1	1.00	1	1.00	1
Second minute of the compressions	1.00	1	1.00	1	1.00	1
Re-evaluation of the victim	0.95	0.976	0.95	0.976	0.95	0.976
Rescuer relay	1.00	1	1.00	1	1.00	1
Perimortem cesarean section	1.00	1	1.00	1	1.00	1

*Content Validation Index; †Binomial test.

In the "Calling for help" stage, it was suggested to replace the verb "requested" by "asked." In the "Positioning of the pregnant woman" stage, the suggestion was to replace the "Uterine Fundal Height (UFH) above the umbilical scar (US)" excerpt by "Uterine Fundal Height (UFH) equal to or above the Umbilical Scar (US)." In the "Positioning of the rescuer" stage, addition of the word "heel" was requested, so that the text was changed from "Placed the hypothenar region of the hand over the middle third of the victim's sternum" to "Placed the hypothenar region (heel) of the hand over the middle third of the victim's sternum."

In the "AED use" stage, it was requested to add the item "If no shock was indicated, checked for central pulse (carotid or femoral) for a period of 5-10 seconds." In the "Rescuer relay" stage, it was recommended to replace the "requested rescuer relay" excerpt by "changed rescuer." The following was requested in the "Need for *perimortem* cesarean section" stage: replacement of the "about time completed" excerpt by "about time elapsed;" as well as of the term "*perimortem* or *post-mortem* cesarean section" by "*perimortem* cesarean section". It is noted that the suggestions for adaptations were accepted. After the adjustments, the final version of the instrument consisted of 54 items, which can be consulted in the supplementary material.

DISCUSSION

During Cardiopulmonary Resuscitation in pregnant women, the correct sequence and stages to be followed by the Nursing team are relevant, so that there is a greater chance of success in maternal and fetal survival. Thus, the stages are relevant to integrate the content of the instrument to be used to assess the practice in obstetric CPR.

The first item of the instrument referred to the stage of PPE use. A systematic review carried out by researchers from the United Kingdom and Australia pointed out that there is evidence of aerosol generation resulting from chest compression and airway management during CPR[9]. The aforementioned study also pointed out that, although the PPE gowning takes time, which results in a delay in initiating CPR, each piece of equipment should be carefully put on since, during the compressions, there may be a reduction in protective effectiveness due to the body mechanics adopted by the professional, which can lead to slipping of items such as the mask[9]. Thus, the relevance of a checklist to contemplate the PPE items and to allow filling in/recording correct placement is pointed out.

Obstetric cardiopulmonary arrest is a sudden and complex situation, which requires skill from the professional who will provide care, as the survival chances of the pregnant woman and the fetus, according to the American Heart Association, are closely related to the correct intervention, which can only occur in the face of rapid identification of the problem[3]. A study carried out in Spain showed that an instrument created and validated for the evaluation CPR also had items referring to the identification of circulatory collapse[10]. Therefore, it is important that the checklist presents a specific item about the correct identification of CPA in pregnant women, to direct the identification of any gap in carrying out this stage, with the consequent possibility of using a pedagogical strategy to correct it.

After verifying that the pregnant woman is in CPA, the professional must immediately call for help and ask for an Automated External Defibrillator[4]. A Brazilian study, which created and validated a questionnaire to assess knowledge about CPA, also considered the request for help as an item to be evaluated[11]. This stage is relevant, as it aims at recruiting the multiprofessional team to perform effective care and anticipate the offer of electrical therapy to shockable rhythms, Ventricular Fibrillation (VF) and Pulseless Ventricular Tachycardia (PVT).

With regard to the stage about Positioning of the pregnant woman, for those with gestational ages equal to or greater than 20 weeks or Uterine Fundal Heights (UFHs) equal to or greater than the umbilical scar, manual displacement of the uterus to the left is recommended, to provide decompression of the inferior vena cava and facilitate venous return to the heart during the compressions[3]. As for manual traction of the uterus, this can be performed using both techniques, if the rescuer is on the pregnant woman's right side, he/she can move the uterus with the dominant hand to the maternal left side; if the rescuer is on the pregnant woman's left side, he/she will use both hands to pull the victim's uterus to the left side[12]. When considering that this information is a specificity of CPR in pregnant women, it is relevant that it has been included in the instrument, so that the skill about it is verified and this can contribute to the professionals' readiness to perform this action.

The stages related to Positioning of the rescuer and the correct compressions gain relevance, as it is in the presence of these stages that there is supply of blood perfusion to noble organs, such as the brain and the heart. It is recommended that, in high-quality CPR, the rescuer should compress the chest at a speed of 100 to 120 compressions per minute and to a depth of 2 inches (5 cm), in addition to allowing full chest return after each compression and avoiding interruptions[3]. These parameters are more likely to be achieved when the professional who performs CPR adopts the correct stance of being close to the victim's shoulder, with overlapping hands and, during the application of force, moves the trunk to generate the necessary weight, without flexing the elbows[13]. The importance of these parameters is confirmed by a study carried out in the United States with more than 8,500 participants, whose results pointed out an association between survival and performing compressions with the correct speed and depth[14].

A particularity is highlighted about the position of contact between the professional's hand and the chest of the pregnant woman in CPA since, when GA is less than 20 weeks or UFH is below the umbilical scar, the rescuer's hand must be positioned as with CPR in non-pregnant adults, on the lower half of the pregnant woman's sternum. In cases of GA equal to or greater than 20 weeks or when UFH is at or above the umbilical scar, the professional's hand contact site should be in the middle third of the pregnant woman's sternum[15]. These particularities result from the anatomical adjustment caused by the increase in the pregnant abdomen volume, with consequent diaphragmatic elevation that results in a change in the position of the heart. The specificities referring to positioning of the hands on the pregnant woman's chest for CPR are important to be included in the checklist, so that they are the target of attention in evaluations and training on obstetric CPR.

Regarding the ventilation stage, two variations can be adopted: in the 30:2 protocol, performed in cases of victims who do not have an advanced airway, 30 compressions and two ventilations are performed, repeated in five cycles; in turn, in the protocol of uninterrupted compressions, which occurs in victims with or without an advanced airway, performance of the compressions will not be interrupted, with a frequency of 100 to 120 per minute, and ventilation will be offered every six seconds[3]. In a study carried out in Goiânia, there was agreement on the presence of these contents, as 58.5% of the professionals correctly indicated the 30:2 protocol for victims in CPA without advanced airway and 42.86% pointed out the recommendation of one ventilation every six seconds in situations with a victim with an advanced airway16. This finding corroborates the importance of the obstetric CPR checklist including items that evaluate aspects referring to ventilation.

As for the stage on AED use, a study carried out in Nigeria, which aimed at identifying the presence of the necessary equipment for CPR in hospitals, evidenced that there was an AED only in 6.7% of the outpatient services and radiology centers[17]. Another study, carried out in Pernambuco, sought to describe the knowledge and performance of the Urgency hospital Nursing team in relation to CPA, and found that 8.91% of the professionals did not consider the AED as an essential item or belonging to Basic Life Support[18]. The sum of the findings of the aforementioned studies point to the possibility that the AED is not available in all sectors and is not considered relevant by the team that will need to perform CPR. Thus, the items that deal with the AED use become relevant to be highlighted in training and teaching of obstetric CPR and, therefore, need to be included in the checklist.

Regarding the stage about relay of the professionals who perform the compressions, it is recommended that this occurs at the end of the five 30:2 cycles or at every two minutes of the protocol of uninterrupted compressions. This relay is pertinent, as physical effort can lead professionals to perform ineffective compressions over time due to physical exhaustion and reduced concentration.

Another relevant stage included in the checklist refers to the need for *perimortem* cesarean section. When performing CPR maneuvers in pregnant women, without Return of Spontaneous Circulation (ROSC), the team must quickly question the feasibility of performing a *perimortem* cesarean section, which should be considered up to five minutes after the start of maternal CPA[3]. In this context, *perimortem* cesarean sections should be highlighted in Nursing education, as this category is responsible for the provision of material and for helping the medical professional during the surgical procedure of an emergency cesarean section. The relevance of this teaching for Nursing is corroborated by a study developed in Cuba, which reinforced the complexity of obstetric CPA and the need for agility in the rescuers, so that better preparation of the team enhances the care provided and reduces the chances of errors[19]. It is pointed out that emergency *perimortem* cesarean section goes beyond the need to save the infant, but actually integrates obstetric CPR, as it can result in the pregnant woman's survival, through aortocaval decompression.

The checklist was validated by finding agreement values greater than 80%. Approval regarding language, clarity and objectivity is similar to that found in a survey carried out in Portugal, which validated educational resources for workers' safety[20]. In this context, the relevance of technologies aimed at education, with checklists among them, is highlighted, as they have understandable, objective and clear language, so that there is a greater probability of adherence by the target audience and more chances of the technology being effective in the face of the purpose for which it was created.

The validation obtained about the content, relevance and pertinence of the checklist converge to the one found in a study carried out in Denmark, which validated a tool to evaluate educational interventions on BLS and was approved by the evaluators about its content, relevance and pertinence[21]. These constructs assessed deserve to be highlighted in view of the importance of health technologies requiring correct, updated, relevant and pertinent content, so that they are not verbose and/or consist of unnecessary or incorrect items.

As a limitation, we should point to the fact that the study took place based on snowball sampling, initiated by contact with Nursing course professors, so that it may differ from the research findings occurring when recruiting judges from the indication of professors from other health courses.

Creation and validation of a checklist to evaluate the Nursing practice in cardiopulmonary resuscitation in pregnant women contributes to scientific progress, as it results in the availability of a valid pedagogical tool in terms of content and face, with correct content and understandable language, which is viable for use in the teaching-research-extension tripod, about obstetric CPA. The instrument can contribute to the practical evaluation of students and professionals, in cross-sectional studies, to verify existing gaps, which can guide training sessions and qualifications. In addition to that, it can be used in pre- and post-test verifications, in intervention studies, which compare varied didactic options for teaching CPR in pregnant women.

As a teaching and care category, operative in the Emergency and Obstetrics sectors, Nursing expands and professionalizes care by using an instrument based on scientific evidence, which makes it possible to have an interest in the topic raised. It is noted that availability of the checklist can collaborate with the quality of Nursing training and to the professionals' readiness, as recommended in the National Curriculum Guidelines that deal with proper performance compatible with the real demands existing in the job market. In addition to that, through qualified Nursing training, it corroborates the National Urgency Care Policy and the Comprehensive Care Policy for Women's Health.

CONCLUSION

A checklist-type instrument was created to assess Nursing professionals' and students' skills on Obstetric Cardiopulmonary Arrest. The final version had 54 questions, subdivided into 12 stages: Use of Personal Protective Equipment (PPE), CPA Identification, Calling for help, Positioning of the pregnant woman, Positioning of the rescuer, CPR First minute, Ventilations, Automated External Defibrillator (AED) use, CPR Second minute, Re-evaluation of the victim, Rescuer relay, and Need for *perimortem* cesarean section. The aforementioned stages correspond to the sequence of actions that Nursing students and professionals must perform to provide care to pregnant women affected by CPA.

Content validation had an agreement of over 80% on all items and the global CVI was 0.99 regarding language, clarity, objectivity, content, relevance and pertinence.

It is recommended that future studies also aim at creating and validating educational technologies on the theme for Nursing and other professional categories that comprise the multidisciplinary health team, which can contribute to the teaching and learning process, training, continuing and permanent education. In addition to that, there is a need for research studies that include training on CPR in pregnant women, as it has specificities whose pedagogical aspects referring to the teaching-learning process and to knowledge translation should be the target of scientific investigation.

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NOTES

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APPROVAL OF ETHICS COMMITTEE IN RESEARCH

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CONFLICT OF INTEREST

There is no conflict of interest.

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SUPPLEMENTARY MATERIAL

The following online material is available for this article:
Checklist para avaliar prática da enfermagem na ressuscitação cardiopulmonar em gestante.