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Development and validation of a co-debriefing script for basic life support simulation

Desenvolvimento e validação de um roteiro de co-debriefing para o suporte básico de vida simulado

Desarrollo y validación de una guia de co-debriefing para el soporte vital básico simulado

ABSTRACT

Objective: To develop and validate a script to plan and execute the code-debriefing in the clinical simulation of basic life support in adults. **Method:** Methodological study carried out in two stages: literature review in the sources National Library of Medicine National Institutes of Health (PubMed®); Scopus; Latin American and Caribbean Health Sciences Literature (LILACS) and Cumulative Index to Nursing and Allied Health Literature (CINAHL), using the Rayyan for selection, and validation by 16 experts, adopting the Validity Index of Contents. **Results:** 2694 studies were identified, and five composed the sample, describing: the definition and objective of the co-debriefing; target Audience; learning goals; material resources; procedure; observations and references. A script Validity Index of 0.97 was obtained. **Conclusion:** The script was considered valid to plan and execute the code-debriefing in the simulation of basic life support, contributing to nursing by supporting the code-debriefing and enhancing the development of clinical competence.
Descriptors: Simulation; Nursing; Validation Study; Cardiopulmonary resuscitation; Nursing Education.

RESUMO

Objetivo: Desenvolver e validar um roteiro para planejar e executar o *co-debriefing* na simulação clínica do suporte básico de vida no adulto. **Método:** Estudo metodológico realizado em duas etapas: revisão de literatura nas fontes *National Library of Medicine National Institutes of Health* (PubMed®); Scopus; Literatura Latino-Americana e do Caribe em Ciências da Saúde (LILACS) e *Cumulative Index to Nursing and Allied Health Literature* (CINAHL), utilizando-se o *Rayyan* para a seleção, e validação por 16 *experts*, adotando-se o Índice de Validade de Conteúdo. **Resultados:** Identificaram-se 2694 estudos, e cinco compuseram a amostra, descrevendo: a definição e objetivo do *co-debriefing*; público alvo; objetivos de aprendizagem; recursos materiais; procedimento; observações e referências. Obteve-se um Índice de Validade do roteiro de 0,97. **Conclusão:** Considerou-se o roteiro válido para planejar e executar o *co-debriefing* na simulação do suporte básico de vida, contribuindo para enfermagem por sustentar o *co-debriefing* e potencializar o desenvolvimento de competência clínica.
Descritores: Simulação; Enfermagem; Estudo de Validação; Reanimação Cardiopulmonar; Educação em Enfermagem.

RESUMEN

Objetivo: Desarrollar y validar un guión para planificar y ejecutar el debriefing de código en la simulación clínica de soporte vital básico en adultos. **Método:** Estudio metodológico realizado en dos etapas: revisión de literatura en fuentes National Library of Medicine National Institutes of Health (PubMed®); Scopus; Literatura Latinoamericana y del Caribe en Ciencias de la Salud (LILACS) e Índice Acumulativo de Literatura en Enfermería y Afines en Salud (CINAHL), utilizando el Rayyan para selección y validación por 16 expertos, adoptando el Índice de Validez de Contenidos. **Resultados:** Se identificaron 2694 estudios y cinco compusieron la muestra, describiendo: definición y objetivo del co-debriefing; Público-objetivo; metas; recursos materiales; procedimiento; observaciones y referencias. Se obtuvo un índice de validez de 0,97. **Conclusión:** El guión se consideró válido para planificar y ejecutar el code-debriefing en la simulación de soporte vital básico, contribuyendo a la enfermería apoyando el code-debriefing y potenciando la competencia clínica.
Descriptores: Simulación; Enfermería; Estudio de Validación; Reanimación Cardiopulmonar; Educación en Enfermería.

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INTRODUCTION

Clinical simulation inserted in undergraduate nursing curricula is an evidence-based teaching and learning strategy capable of imitating aspects of a clinical situation or environment and enhancing the development of clinical competence, that is, the improvement of knowledge, skills and attitudes[1].

This pedagogical tool has three stages of important conceptualization and understanding, given the need to plan and execute them effectively, namely: preparation, participation and debriefing[2]. The preparation stage is divided into pre-simulation and pre-briefing/briefing. The pre-simulation addresses the reading, study and training of skills, for participants of a clinical simulation, prior to the realization of the proposed simulation scenario, and the pre-briefing/briefing characterizes the clarification of the learning objectives, environment, equipment, roles played by participants, simulation scenario and time, the scene immediately[3].

Participation, an intermediate stage of clinical simulation, is characterized by the execution of the intended scenario and, finally, debriefing, considered the key point and the heart of the teaching and learning process in clinical simulation, addresses a process of discussion/reflection about the simulated experience, in order to develop the cognitive (knowledge), psychomotor (practical ability) and affective (attitudes) skills of the participants[3].

Waving for the construction of knowledge, in an active, affective and collaborative way, simulation has occupied a prominent place, since professional training and, throughout professional life in nursing, especially when it is necessary to establish the teaching and learning process complex issues, such as cardiopulmonary resuscitation and basic life support (BLS)[4]. The fundamental role of debriefing, in this context, was recently emphasized by the American Heart Association, which recommended, in its new guidelines for cardiopulmonary resuscitation, the adoption of debriefing for health professionals, emphasizing its aspect of emotional support and analysis of the performance of team, to improve education and quality of care[4-5].

Thus, debriefing has been recommended to enhance the teaching and learning process in cardiopulmonary resuscitation and BLS, with more than 30 methods and 10 debriefing techniques that can be used for this purpose[6].

Oral debriefing guided by a single instructor/facilitator is the technique commonly adopted for the BLS simulation; however it is believed that debriefing, performed by more than one instructor/facilitator, called co-debriefing, is recommended in this context by provide benefits, such as the complementation of facilitation styles during debriefing and coverage of different types of learning; the development of knowledge, skills and attitudes through the articulation of facilitators' expertise, effective monitoring of participants' expectations, reactions and difficulties, support among facilitators in conflict resolution; improvement of the teaching staff, among others[7].

Co-debriefing can enhance the teaching and learning process of complex topics such as BLS, as it associates the knowledge of more than one instructor/facilitator and ensures attention to the needs of the participants in a clinical simulation and the fulfillment of the objectives of learning for the BLS[6-7].

Even in view of its countless benefits, adopting co-debriefing in the BLS simulation can be hampered by the absence of an instrument or script, which helps its planning and execution, guides the instructor/facilitator during the application and works as a support, based reliable scientific evidence[7]. The lack of a methodologically well elaborated and validated script for the application of this debriefing technique confers greater variability in the way it is carried out, which weakens the process, and this therefore configures a scientific gap, which instigates the need to explore the theme[7], based on the following question: What are the necessary contents to develop a co-debriefing script capable of making the teaching and learning process viable through clinical simulation on adult basic life support? Given the importance of co-debriefing, its contribution to the teaching of the BLS and the lack of a standard to facilitate its execution, this study aimed to develop and validate a script to plan and execute co-debriefing in the clinical simulation of adult basic life support.

METHOD

Methodological study referring to the development and validation of a script to plan and execute co-debriefing in the adult BLS simulation, carried out at a public University in the countryside of the State of São Paulo, between June and November 2020.

The stages taken[8], to establish the process of development and validation of this construct and the main theoretical and methodological references that supported this development, were: (1) Stage of theoretical procedure[8] - compilation of the scientific evidence that supported the identification of the content needed to prepare the script, based on PRISMA[9], a checklist of 27 items and a four-stage flowchart, which support the quality of review studies, associated with the cardiopulmonary resuscitation guidelines updated in 2020[5], for base aspects of the BLS; (2) Empirical stage - content validation of the script by nursing experts and (3) Analytical stage - analysis of validation results, both supported mainly by relevant theoretical and methodological references[8,10].

Thus, a priori, for the fulfillment of the first stage - theoretical procedure, an integrative literature review was carried out in July 2020, following stages[11]: identification of the theme and guiding question; search and selection of studies in the literature; categorization; analysis of selected studies and presentation of the review. The main intention of this review was to identify the content needed to develop a script capable of supporting the planning and execution of co-debriefing in the BLS in adults.

For this purpose, the Patient-Intervention-Comparison-Outcomes (PICO) strategy was adopted, since the Evidence-Based Practice (EBP) proposes that the clinical problems that arise in care, teaching or research practice, be decomposed and organized, using it, which allows the construction of research questions of different natures, in an appropriate manner, maximizes the retrieval of evidence in the databases, focusing on the scope of the research and avoids unnecessary searches[12] .

Thus, the acronym P (population) was represented, in the present study, by students and nursing professionals, the acronym I (intervention) encompassed the synthesis of evidence on the contents necessary to develop a script for co-debriefing and the acronym O (outcome) was outlined by the development of the teaching and learning process through clinical simulation. It was not necessary to adopt the acronym C, determined by comparing a standard intervention and a new intervention. The research question was configured: What scientific evidence is available in the literature on the co-debriefing technique for the teaching and learning process of students and nursing professionals through clinical simulation?

The search was conducted in the following sources of information: PubMed®, Scopus, Cumulative Index to Nursing and Allied Health Literature (CINAHL) and Latin American and Caribbean Literature in Health Sciences (LILACS).

In PubMed® and Scopus, controlled descriptors were determined, in English, identified in Medical Subjects Headings (MeSH): “Students, Nursing”; Nurses; “Simulation Training”; Learning and keywords: Debriefing; "Co-debriefing" and "Co-facilitation". The following strategy was carried out: ((Students, Nursing ”[MeSH Terms]) AND (Nurses [MeSH Terms]) AND (“Simulation Training”[MeSH Terms]) AND (Debriefing OR Co-debriefing" [All Fields] OR Co-facilitation "[All Fields]) AND (Learning [MeSH Terms])).

At CINAHL, controlled descriptors were identified in Titles, in English, Spanish and Portuguese: “Students, Nursing”; Nurses; Simulations; Learning and keywords: Debriefing; "Co-debriefing" and "Co-facilitation". The strategy was followed: SU ((Students, Nursing” AND Nurses AND Simulations AND Debriefing OR Co-debriefing OR Co-facilitation AND Learning)).

At LILACS, the controlled descriptors were present in the Health Sciences Descriptors (Decs), in English, Portuguese and Spanish: “Students, Nursing”; Nurses; “Simulation Training” and Learning and keywords: Debriefing, Co-debriefing and Co-facilitation.

The following strategy was carried out in Portuguese: MH ((Estudantes de Enfermagem) AND (Enfermeira e Enfermeiro) AND (Treinamento por Simulação) AND (Debriefing OR Co-debriefing OR Co-facilitation) AND (Learning)). In Spanish: MH ((Estudiantes de Enfermería) AND (Enfermeras y Enfermeros) AND (Entrenamiento Simulado) AND (Debriefing OR Co-debriefing OR Co- facilitación) AND (Aprendizaje)). In English: MH ((“Students, Nursing”) AND (Nurses) AND (Simulation Training) AND (Debriefing OR Co-debriefing OR Co-facilitation) AND (Learning)). It is justified that the keywords Debriefing; Co-debriefing; Co-facilitation were adopted with the intention of aligning the search strategy specifically for the intended object of study – the co-debriefing.

Primary studies were included, which answered the guiding question, without delimitation of time frame and language, published in scientific journals and available electronically. Descriptive studies that addressed the opinion of

experts on the co-debriefing technique were also considered, due to the incipience of publications on the subject. Literature reviews, case studies, dissertations, theses, monographs and abstracts published in annals of events were excluded.

After conducting the search, articles were selected through three stages: the first one covered the evaluation of titles and abstracts of the studies identified, by two professionals, experienced in the scope of clinical simulation in cardiopulmonary resuscitation in adults, with the support of a free, single version web review software, called Rayyan Qatar Computing Research Institute (Rayyan QCRI)[13], found at the link: https://rayyan.qcri.org, which provides for the selection of studies in an organized and fast manner and allows to export articles from a database to the software, with the blindness of the auxiliary researcher, ensuring the reliability and methodological precision of the process[13].

In the second selection stage, 17 studies pointed out divergence among the researchers, handed over to a third party, responsible for making the inclusion or exclusion decision. In the third selection stage, the selected studies were read in full, defining the final sample. It is noteworthy that due to the scarcity of identified manuscripts on the theme, an analysis of the references of the included articles was carried out; however this procedure did not result in new additions to the final sample.

To extract the information from the studies, a validated instrument[14] was used, considering the following criteria for the present research: identification of the article with title, authors, level of evidence, country of origin, language, year of publication, objectives, methodological design and results. Finally, the level of evidence of the studies was classified[15] and their selection was demonstrated, as recommended by Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA)[9].

Then, a script was structured for the simulation of the BLS in adults and an empirical procedure stage[8] was carried out, in September 2020, for the validation of this construct. Initially, through the Lattes Platform, the strategy for the search of the judges was described - in the item search mode: search by subject, we selected: nursing simulation; in the item bases, the following were specified: doctors; in the item academic education/degree: PhD; in the professional performance item, the following were described: large area, Health Sciences and nursing as an area.

The following criteria[16] were considered for the selection of judges: 4 points for the title of PhD with a thesis in the area of interest of the study; 3 points for the title of PhD; 3 points for the Master's degree with a dissertation in the area of interest of the study; 2 points for the Master's degree; 2 points for the publication of an article in a reference journal in the area of interest of the study; 2 points for professional experience of at least 2 years in the area of interest. The minimum value of 5 points was determined for the selection of judges for the content validation of the script[16].

A total of 29 judges were identified, among which 20 obtained the highest score (10 points), selected for contact by the researcher, by e-mail, identified in their curricula, in institutions in which they worked and in published articles. In order to understand the validation proposal, a description of the research, the intended objectives and the Informed Consent Term (ICF) were sent to the selected judges. Of the 20 judges who obtained the highest curriculum score, meeting the established criteria[16], a total of 16 judges agreed to participate in the validation process, to which an instrument was sent in October 2020, based on a Likert scale and elaborated by means of a free electronic tool called Google Forms.

The instrument for the collection was composed of three parts: (A) characterization of the judges; (B) content of the script, (C) general content evaluation criteria[8], which addressed: behavioral criteria (the instrument is applicable, with clear and feasible instructions); objectivity (the recommendations allow the desired objective to be achieved); simplicity (the items express a single idea and allow for proper understanding); clarity (the content is made clear and unambiguous); relevance (the instrument is relevant and meets the proposed purpose); precision (each item of the instrument is distinct from the others; they are not confused); variety (the language is adequate and allows interactivity of the content); modality (the vocabulary is adequate, without generating ambiguities); typicality (the vocabulary is consistent with the theme, with appropriate concepts); credibility (the formulation of the instrument contributes to a favorable attitude of use and understanding of the content); breadth (the content is current and consistent, with sufficient depth to understand the

topic); balance (the proposed sequence is presented in a balanced and coherent way).

Options for the evaluation were: I strongly agree (4), I agree (3), I don't know (0), I disagree (2), and I strongly disagree (1), with an open space for "comments and suggestions". Judges had 30 days to return their assessments.

Finally, the stage of analytical procedures[8] was completed, in November 2020, first organizing the findings regarding the validation of the judges, in a spreadsheet in the Microsoft Excel 2010 software, with double typing by two researchers. The analysis regarding the characterization of the judges took place through descriptive statistics, frequency, percentage and average, carried out with the support of the Statistical PacKage for the Social Sciences (SPSS) software, version 22 for Windows.

For the evaluation of inter-assessors agreement, a Likert-type scale was considered, with a score from 1 to 4 to characterize the relevance/representativeness of the judges' responses, characterized by: 1- item not relevant or not representative, equivalent to I strongly disagree; 2- item needs major revision to be representative, equivalent to I disagree; 3- item needs a small review to be representative, equivalent to I agree and 4- relevant or representative item, equivalent to I strongly agree[17]. The answer "I don't know" was not scored, since the judge did not have a concrete and objective opinion on a certain criterion (he did not agree and did not disagree), and the items scored as 1 or 2 were reviewed.

The Content Validity Index (CVI) per item and the total Content Validity Index of the script[10] were used as a measure. To calculate the CVI per item, answers were added and evaluated by judges as a value of 3 or 4 and the following formula was used: CVI per item = number of answers 3 or 4/total number of answers/judges.

In order to obtain the total CVI of the script, we used the calculation[10]: Total CVI: sum of the CVIs/total number of items that make up the script, that is: the CVI value of the script item was added and the result was divided by the total number of items that composed it.

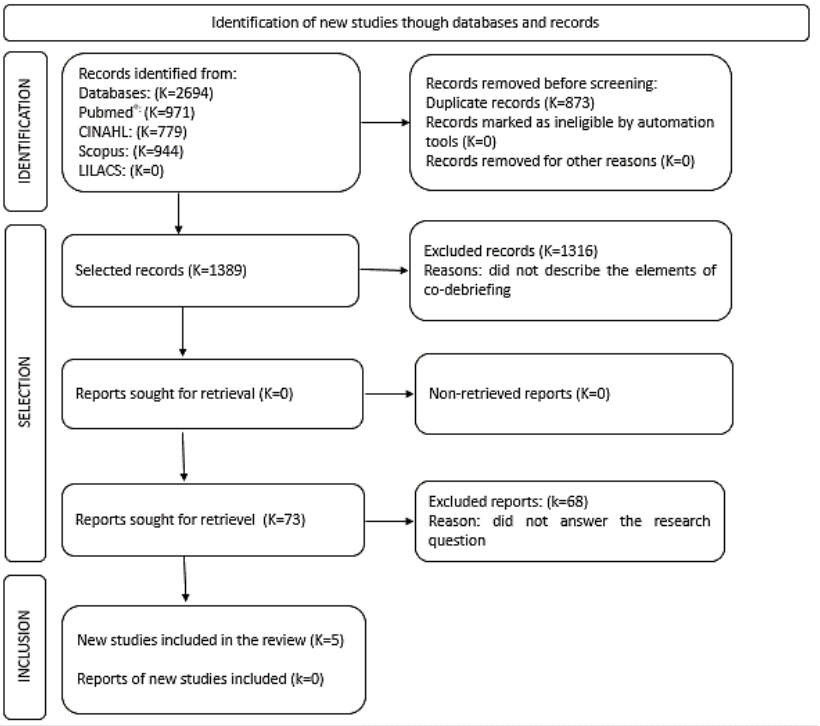
The total CVI value of the script was interpreted as follows[17]: result <0.00 - poor agreement; from 0.00 to 0.20 - slight agreement; from 0.21 to 0.40 - acceptable agreement; from 0.41 to 0.60 - moderate agreement; from 0.61 to 0.80 - considerable agreement and from 0.81 to 1.00 - almost perfect agreement. For the present study, a total CVI equal to or greater than 0.80 was defined to indicate the content of this valid construct[17].

Two rounds of the Delphi technique were performed, characterized by the analysis of an instrument by the respondent group and its agreement[18]. Although the first round obtained a total CVI of the script above the established one, to consider its content valid, the second round prioritized the necessary feedback from the suggestions made by the judges. The research was conducted, according to the ethical standards required by resolutions 466/2012, 510/2016 and 580/2018, of the Ministry of Health and presents the approval protocol number 3,826,306 of 6 February 2020.

RESULTS AND DISCUSSION

A priori, it was demonstrated the selection of scientific studies included in the sample of the present research, as shown in Figure 1, below.

Figure 1 - Flowchart of the process of identification, selection and inclusion of studies, elaborated based on the recommendation Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA)[9]. Ribeirão Preto (SP), Brazil, 2020



*CINAHL: Cumulative Index to Nursing and Allied Health Literature; LILACS: Latin American and Caribbean Literature in Health Sciences.
Source: research data (2020).

The synthesized scientific studies, through the integrative literature review, comprised a sample of five articles[7,19-22] that date, from 2015, the year of publication of the first studies that explored co-debriefing and its contents[7.22]; followed by the year 2016[20]; 2018[19] and 2019[2].

Most of the selected manuscripts presented evidence level 6[15], characterized by descriptive studies on co-debriefing, based on the expertise of specialists[7,20-22]. Only one quasi-experimental study[19] compared the effectiveness of co-debriefing with other types of debriefing techniques.

It was possible to identify five main contents relevant to the planning and execution of co-debriefing, as shown in Box 1.

Box 1 - Content identified, through an integrative literature review, necessary for the planning and execution of co-debriefing. Ribeirão Preto, 2020

Contents	Description of contents
Definition	Debriefing carried out by more than one facilitator from the same or different professional backgrounds or specialties, to review a real or simulated event, in which participants analyze their actions to improve or maintain performance in the future[7]
Definition	Debriefing carried out by more than one facilitator from the same or different professional backgrounds or specialties, to review a real or simulated event, in which participants analyze their actions to improve or maintain performance in the future[7]
Objectives	To provide facilitators to work together and collaboratively to manage the discussion fluidly[21] To promote more effective learning through the union of different professional perspectives[19,22] To maximize the quality of debriefing by integrating a specialist simulation educator with a content specialist[7,20-21]
Types of *co-debriefing*	"Follow the leader" approach: identifies a facilitator as the leader, who is responsible for guiding the discussion, prioritizing topics and managing time for each topic[7] The "associate" facilitator can help the lead facilitator to stay focused, control time, or fill in gaps[21] The "divide and conquer" approach: it describes a process in which facilitators decide, before simulation or debriefing, which topics they will address, the order in which the approach will take place and who will lead the discussion of each topic[7] The “ping-pong” approach: facilitator and co-facilitator share debriefing, carrying out questions and reflections, one after the other, regardless of their expertise[7]
Structure	(1) Pre-debriefing (before debriefing takes place); (2) debriefing; and (3) post-debriefing (after debriefing occurs)[7]

(Continuing)

Box 1 - Content identified, through an integrative literature review, necessary for the planning and execution of co-debriefing. Ribeirão Preto, 2020

Contents	Description of contents
Procedure	Pre-debriefing: before debriefing takes place, strategies can be used to avoid problems in co-debriefing: - Facilitators should meet to familiarize themselves with the learning objectives[7,19] - To establish the "rules of engagement", including clarifying the facilitators' roles and responsibilities, such as how to deal with interruptions and transitions, determine time limits for the scenario and debriefing and discuss which debriefing methods and techniques will be used[7.21] - Briefly reviewing areas of expertise and discuss how your expertise will be applied during the session[7] During debriefing: - To establish and maintain a participatory learning environment - To maintain "confidentiality" regarding the performance of participants during debriefing[7, 20-22] - To position themselves facing each other, during debriefing, to be able to collectively observe the body language and facial expressions of all students and make clear eye contact[7,19-22] - To promote transparent communication between facilitators[21] - "Pulse check" is the strategy used by a facilitator when he is concerned that the message sent by his co-facilitator is not clear[7,19-20] - To avoid changing goals and interrupting the other facilitator's current of thought or comment[7] - To avoid the "lecture" style or speak in a targeted way to participants in a specific profession[7, 19-20] - Verbally requesting permission to interrupt [7] - To ask and listen to the other instructor's point of view[21-22] - To avoid blaming participants for his actions or using a critical or accusatory tone of voice[7] After debriefing - Meeting briefly to discuss issues that arose during debriefing, to avoid future disagreement and to encompass the rules of engagement for co-debriefing[7,19-22]

Source: research data, 2020.

As for the content validation of the script, of the 16 (100%) nurse judges, the majority were female (68.8%), with an average age of 39 years and professional experience in nursing of, on average, 17 years. The majority (14-87.5%) was doctors and teachers in Higher Education, and a total of 15 judges (93.8%) had training in simulation, articles published on this theme and participation in events on simulation.

All the judges (16-100.0%) planned and developed clinical simulations as a teaching and learning strategy in nursing and dominated the theme of cardiopulmonary resuscitation with BLS. The inter-assessor agreement considered the content that made up the script and the 12 criteria for content validation[8], as shown in Table 1

Table 1 - Distribution of the judges' responses (16), Content Validity Index per item and Total Content Validity Index of the script on co-debriefing in the clinical simulation in basic life support. Ribeirão Preto, SP, 2020

Items for evaluation	Relevance of the answer (from 0 to 4)					Valid answers (3 e 4) N(%)	*CVI (%)
	0 N(%)	1 N(%)	2 N(%)	3 N(%)	4 N(%)		
Contents							
Title			1(6.2)	2(12.5)	13(81.2)	15(93.7)	0.93
Definition				2(12.5)	14(87.5)	16(100)	1.00
Objective			1(6.2)	3(18.75)	12(75)	15(93.7)	0.93
Co-debriefing method				4(25)	12(75)	16(100)	1.00
Material resources				5(31.2)	11(68.7)	16(100)	1.00
Procedure			1(6.2)	6(37.5)	9(56.2)	15(93.7)	0.93
Time	1(6.2)		1(6.2)	4(25)	10(62.5)	14(87.5)	0.87
References			1(6.2)	1(6.2)	14(87.5)	15(93.7)	0.93
Validation criteria							
The script is applicable, with clear instructions				4(25)	12(75)	16(100)	1.00
The script allows you to reach the goal				4(25)	12(75)	16(100)	1.00
The items express a single idea				4(25)	12(75)	16(100)	1.00

(Continuing)

Table 1 - Distribution of the judges' responses (16), Content Validity Index per item and Total Content Validity Index of the script on co-debriefing in the clinical simulation in basic life support. Ribeirão Preto, SP, 2020

Items for evaluation	Relevance of the answer (from 0 to 4)					Valid answers (3 e 4) N(%)	*CVI (%)
	0 N(%)	1 N(%)	2 N(%)	3 N(%)	4 N(%)		
The content is clearly spelled out				4(25)	12(75)	16(100)	1.00
The script is relevant and serves the purpose				3(18.75)	13(81.2)	16(100)	1.00
Each item in the script is distinct from the others	1(6.2)			4(25)	11(68.7)	15(93.7)	0.93
The language is appropriate	1(6.2)			4(25)	11(68.7)	15(93.7)	0.93
Vocabulary is appropriate			1(6.2)	4(25)	11(68.7)	15(93.7)	0.93
Vocabulary is consistent with the theme				5(31.2)	11(68.7)	16(100)	1.00
The formulation contributes to the understanding				3(18.75)	13(81.2)	16(100)	1.00
Content is current and consistent				5(31.2)	11(68.7)	16(100)	1.00
The sequence is balanced and coherent				4(25)	12(75)	16(100)	1.00
*** Total CVI**							0.97

*CVI: Content Validity Index
Source: research data (2020).

Most of the content that made up the script and evaluation criteria obtained a CVI per item equal to or greater than 0.90, considered an almost perfect agreement. Items assessed as disagree were reviewed.

The total CVI of the script showed a value of 0.97 - almost perfect agreement, considered, therefore, as a valid construct in its content, to support the planning and execution of co-debriefing, in the clinical simulation of the BLS in adults.

In general, suggestions and notes made by the judges were analyzed, aiming at improving the instrument, mainly regarding: the adequacy of the title, time and procedures. The final version of the validated script (Annex A) consisted of seven items, namely: (1) definition and objective: the co-debriefing and its objectives were defined in the script; (2) target audience: the target audience in which the script can be applied was defined; (3) learning objectives for the BLS: the learning objectives that are possible to be achieved through the application of co-debriefing were described; (4) necessary material resources/instruments: all the materials used to establish this technique were identified; (5) procedure: a well-defined stage-by-stage was defined, well established for the conduct of co-debriefing by instructors/facilitators; (6) observations: important points of reflection and organization were described to plan and execute co-debriefing; (7) references. The script was entitled: Script for co-debriefing in the clinical simulation of basic life support (ANNEX A).

For the teaching and learning process of basic life support to be carried out efficiently, it is necessary to adopt strategies that motivate students and professionals to be active subjects of their learning[1-4], a factor that stimulates the adoption of clinical simulation as a pedagogical strategy and debriefing, as mechanisms that enhance the development of clinical competence in this area[1].

The proposed script presents as a major potentiality and benefit the articulation of clinical simulation, as an innovative pedagogical strategy, for the teaching and learning process in nursing, with the theme of basic life support in adults and, still, it gives originality to science in nursing for establishing a standard based on reliable scientific evidence for conducting co-debriefing at the BLS, so that it can also be adapted for other topics and other health realities, which makes this instrument versatile, useful and easy to handle .

It was noted that most of the articles that comprised the selected sample had a low level of evidence, characterized by descriptive studies, which value the opinion of experts in the area, and this is possibly justified by the topicality of the topic, since the first studies took place in 2015[7,22] and proposed, first, the support of a theoretical framework pertinent to co-debriefing, for the structuring of a body of knowledge capable of

supporting future observational and experimental studies[7,22].

Even though the contents that composed the script were extracted, in the majority, from manuscripts of level of evidence 6, of the descriptive type, they were considered consistent and sufficient to develop this construct; however, it is emphasized, still, the importance of elaborating researches, methodologically well outlined on co-debriefing and its adoption in the teaching and learning process of the BLS, which support a better level of evidence of the findings on the theme.

The definition of the term co-debriefing stood out as a necessary content in the script, given the need to clarify and distinguish it from the peer-debriefing technique. Peer-debriefing is characterized by a discussion session held, after the simulated scenario, conducted between pairs of students or participants in a clinical simulation, without the instruction of a facilitator, and this technique is often referred to as co-debriefing, erroneously, which emphasizes the importance of the proposed script to make the co-debriefing proposal evident[7,19,22].

The objective of teaching and learning the BLS, through co-debriefing, is to obtain effective learning, through the joint work of two professionals, with different expertise, who align and complement each other, to foster the discussion and give quality to the debriefing performed[7].

Three types of co-debriefing were identified: following the leader; to divide and conquer and ping-pong[7]. The main difference between them is in the way in which the instructor/facilitator conducts the co-debriefing session. In co-debriefing type following the leader, there is a main facilitator, and the co-facilitator assists in the activities that were directed to him. In the divide and conquer approach, there is no leader facilitator and there is total division of activities, which provide reflection during co-debriefing, taking advantage of the expertise of each facilitator; and, in the ping-pong approach, facilitators conduct the reflection one after the other, regardless of their expertise on the subject, and thus more important than the type of co-debriefing that will be performed, is the alignment between the facilitators for the quality of the discussion and the correct follow-up of the technique[7].

Because co-debriefing addresses more than one facilitator, its structure and the procedure for carrying it out are considered phases in which other types of debriefing are not appropriate[7,21-22]. Co-debriefing emphasizes a pre-debriefing phase, not specified by any other type of debriefing technique, which aims to align and plan the debriefing that will be performed among the facilitators and, after its execution, post-debriefing is prioritized , for the reflection of the facilitators themselves on the strengths and weaknesses of what they promoted and future improvement[7].

The Content Validity Index by criterion and the total Content Validity Index of the script were used as measures for the analysis of its validity and, although the content validity is considered a subjective evaluation, made with the aim of determining whether the choice of the items that make up the instrument it is adequate, it is characterized as an important stage when it is proposed to develop a new instrument[8,10,23].

Validation studies on clinical simulation generally involve the development of pre- and post-test questionnaires[23] or simulation scenarios[24], and the guidelines for conducting debriefing are still poorly explored[7].

A validation study of a clinical simulation scenario for the management of postpartum hemorrhage, carried out in 2016, was similar to the validation results of the present research, reaching a total study CVI of 0.95, capable of considering valid in its content for the training of nursing students[24].

It also corroborates with this content validation mechanism, a research carried out in 2019 to validate a training evaluation checklist with clinical simulation of septic patient care, which presented a CVI greater than 0.80, indicating the valid checklist in its content and useful for the training of health professionals in the care of septic patients, through clinical simulation[25].

As for the teaching of BLS in adults, made possible through clinical simulation and debriefing, a study carried out in 2019 prepared and validated a questionnaire about BLS knowledge, obtaining a valid construct, composed of 20 multiple-choice questions, with “almost perfect” inter-evaluator agreement, which corroborates the content validation presented in the present research[23].

Reflecting on a BLS teaching experience, using a debriefing technique, may seem natural and expected, with regard to a pedagogical process based on clinical simulation, however the absence of a script that facilitates planning and conducting this discussion can result in a non-systematic or even inefficient form of learning, which directly

implies the need to produce valid and reliable constructs for this purpose[7,23-25].

CONCLUSION

Contents used to develop a script to plan and execute co-debriefing, in the clinical simulation of basic adult life support were: the definition and objective of co-debriefing; target Audience; learning objectives for the BLS; necessary material resources/instruments; procedure; comments; references.

The script was considered valid in its content because it presented a total Content Validity Index of 0.97, characterized as almost perfect agreement, which considers the appropriate and pertinent construct for the teaching and learning process of Basic Life Support in adults in clinical simulation.

This research had as main limitations, *a priori*, the identification of a small sample of studies that exposes the necessary contents, to plan and execute co-debriefing and, mainly, the need to develop intervention research to reach levels of evidence more consistent on this topic.

This instrument contributes to research, teaching and assistance, both in nursing and other professional areas in health, by establishing a reliable standard for conducting co-debriefing, which enhances the development of clinical competence and provides quality and safety to the teaching process and learning.

REFERENCES

1 - Garner SL, Samyappan J, Cyriac R, Vidhya P, Selva FE, Muggalla DS. Simulation evaluation: observation versus self-efficacy among nursing students in India. Clin Simul Nurs. 2020;39:55-61. DOI: 10.1016/j.ecns.2019.11.005

2 - Lubbers J, Rossman C. Satisfaction and self-confidence with nursing clinical simulation: novice learners, medium-fidelity, and community settings. Nurse Educ Today 2017;48:140-4. DOI: 10.1016/j.nedt.2016.10.010

3 - Tyerman J, Flude ML, Graham L, Coffey S, Lynch EO. A systematic review of health care presimulation preparation and briefing effectiveness. Clin Simul Nurs. 2019;27:12-25. DOI: 10.1016/j.ecns.2018.11.002

4 - Tobase L, Peres HH, Tomazini EA, Teodoro SV, Ramos MB, Polastri TF. Basic life support: evaluation of learning using simulation and immediate feedback devices. Rev Latino-Am Enfermagem 2017;25:e2942. DOI: 1518-8345.1957.2942

5 - American Heart Association (AHA). Destaques das diretrizes de RCP e ACE de 2020 da American Heart Association. Chicago: AHA; 2020 [citado em 10 out 2020]. Available in: https://international.heart.org/pt

6 - Kang K, Yu M. Comparison of student self-debriefing versus instructor debriefing in nursing simulation: a quasi-experimental study. Nurse Educ Today 2018;2:67-73. DOI: 10.1016/j.nedt.2018.02.030

7 - Cheng A, Palangas J, Eppich W, Rudolph J, Robinson T, Grant V. Co-debriefing for simulation-based education: a primer for facilitators. Simul Healthc. 2015;10(2):69-75. DOI: 10.1097/SIH.0000000000000077

8 - Pasquali L, organizador. Instrumentação psicológica: fundamentos e práticas. Porto Alegre: Artmed; 2010.

9 - Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. 2020;1-36. DOI: /10.31222/osf.io/v7gm2

10 - Polit DF, Beck CT. The Content Validity Index: are you sure you know what's being reported? Critique and recommendations. Res Nurs Health 2006;29(5):489-97. DOI: 10.1002/nur.20147

11 - Whittemore R, Knafl K. The integrative review: updated methodology. J Adv Nurs. 2005;52(5):546-53. DOI: /10.1111/j.1365-2648.2005.03621.x

12 - Santos CM, Pimenta CA, Nobre MR. The pico strategy for the research question construction and evidence search. Rev Latino-Am Enfermagem 2007;15(3):508-11. DOI: 10.1590/S0104-11692007000300023

13 - Ouzzani M, Hammady H, Fedorowicz Z, Elmagarmid A. Rayyan-a web and mobile app for systematic reviews. Syst Rev. 2016;5(1):210. DOI: 10.1186/s13643-016-0384-4

14 - Ursi ES, Galvão CM. Perioperative prevention of skin injury: an integrative literature review. Rev Latino-Am Enfermagem 2006;14(1):124-31. DOI: 10.1590/S0104-11692006000100017

15 - Melnyk BM, Fineout-Overholt E. Evidence-based practice in nursing & healthcare: a guide to best practice. Philadelphia: Wolters Kluwer Health; 2011.

16 - Fehring RJ. The Fehring model. In: Carrol-Johnson RM, Paquete M. Classification of nursing diagnoses: proceeding of the tenth conference. Philadelphia: Lippincott Company; 1994. p. 58-63.

17 - Landis JR, Koch GG. The measurement of observer agreement for categorical data. Int J Biom. 1977;33(1):159-74. DOI: 10.2307/2529310

18 - Balasubramanian R, Agarwal D. The Delphi technique: a review. J Int Soc Prev Community Dent. 2012;16(2):16-25. DOI: 10.12968/ijtr.2009.16.2.38892

19 - Brown DK, Wong AH, Ahmed RA. Evaluation of simulation debriefing methods with interprofessional learning. J Interprof Care 2018;32(6):779-81. DOI: 10.1080/13561820.2018.1500451

20 - Krogh K, Bearman M, Nestel D. "Thinking on you feet": a qualitative study of debriefing practice. Adv Simul. 2016;1(1):1-12. DOI: 10.1186/s41077-016-0011-4

21 - Maestre JM, Rojo E, Piedra L, Moral I, Simon R. El experto en contenidos como instructor colaborador en el debriefing. Simulación Clínica 2019 [citado em 1 nov 2020]; 1(1):37-44. Available in: https://www.medigraphic.com/pdfs/simulacion/rsc-2019/rsc191g.pdf

22 - Greiff JL, Bricker MG, Gamaghelyan P, Tadevosyan M, Deng S. Debriefing in peacemaking and conflict resolution practice: models of emergent learning and practitioner support. Reflective Practice 2015;16(2):254-68. DOI: 10.1080/14623943.2015.100558923

23 - Alves MG, Pereira VO, Batista DF, Cordeiro AL, Nascimento JS, Dalri MC. Construction and validation of a questionnaire for cardiopulmonary resuscitation knowledge assessment. Cogitare Enferm. 2019;24:e64560. DOI: 10.5380/ce.v24i0.64560

24 - Andrade PO, Oliveira SC, Morais SC, Guedes TG, Melo GP, Linhares FM. Validation of a clinical simulation setting in the management of post partum haemorrhage. Rev Bras Enferm. 2019;72(3):624-31. DOI: 10.1590/0034-7167-2018-0065

25 - Lino RL, Oliveira SA, Silva KP, Machado RC. Checklist validation for evaluation of training with clinical Simulation of septic patient care. Enferm Glob. 2019;18(56):185-97. DOI: 10.6018/eglobal.18.4.341171

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ANNEX A - Script for co-debriefing in the clinical simulation of Basic Life Support

ELEMENTS	DESCRIPTION	TIME
Definition and objective	Co-debriefing is a discussion/reflection technique carried out by more than one facilitator, which combines perspectives and knowledge of different professionals, ideally, an educator and a health professional working on the proposed theme. There are three types of co-debriefing: The "follow the leader" approach, in which there is a main facilitator, who guides the discussion and an associated facilitator, who maintains focus, controls time and fills in gaps. The "divide and conquer" approach, in which facilitators decide before the debriefing which topics they will address, the order and who will lead the discussion and the "ping-pong" approach, in which the facilitator and co-facilitator share the debriefing, asking the questions, alternately, regardless of their expertise. The objective is to develop clinical skills for Basic Life Support (BLS) in adults.	The co-debriefing must have a duration compatible with the achievement of the intended educational objectives.
Target audience	Professional nurses and undergraduate nursing students, preferably, who have already had contact with the hospital environment, during practices established by the university and with the class of technical bases.	
Learning objectives for BLS	To develop cognitive skills (knowledge) and psychomotor skills (practice): -To know and understand the chain of in-hospital survival; -To analyze the in-hospital survival chain articulating it with the experience carried out in the simulated scenario of the BLS; -To know, understand and summarize the importance of Surveillance and Prevention, as the first link in the chain of in-hospital survival; -To analyze and evaluate the importance of immediate recognition of cardiorespiratory arrest (CRA) and triggering the Emergency Medical Service; -Knowing, understanding, synthesizing, analyzing and evaluating characteristics of high quality Cardiopulmonary Resuscitation (CPR) with BLS: the ideal frequency of external chest compression (ECC); depth of ECC; allowing the return of the chest after compression; minimize interruptions between compressions; ideal hand positioning during compression; avoid excessive ventilation; compression-ventilation ratio without advanced airway, use of Automatic External Defibrillator (AED). To develop affective skills (attitudes): -Having willingness and attention to learn; - To participate actively and with satisfaction; -Establishing commitment to learning; -Giving value to each situation learned and contextualize it; -To transfer experiential learning to real practice.	
Necessary resources	Chairs; Sulphite sheet for notes; Pen; Clipboard.	
Procedure	This script adopts the G.A.S debriefing method (Structured and supported debriefing) to guide reflection and the "divide and conquer" co-debriefing technique, permeated by three distinct phases: pre-debriefing; debriefing and post-debriefing. The pre-debriefing occurs before the realization of the proposed scenario, the debriefing, after the scenario, and the post-debriefing stage, at the end of the reflection, as described below: **1st Pre-debriefing:** - Hold a meeting (co-facilitators) to become familiar with the learning objectives; - To develop a shared understanding of how debriefing will be shared according to the phases of G.A.S debriefing: Responsible for stage "G": _____ Responsible for stage "A": _____ Responsible for the stage: "S": _____ - Establishing rules of engagement (interruptions and transitions): Sign for stage transition: _____ Sign to interrupt the co-facilitator: _____ Determining time limits for the scenario and stages of codebriefing - Briefly reviewing areas of specialization and discuss how the expertise will be applied during the session; - To review how the simulation case scene will develop; - To review equipment, supplies, roles of actors during the scene; - To discuss how to manage disagreements; - To determine who will keep the time; "Continues to the next page" - Physical positioning (where and how will we sit?); - To define non-verbal communication and body language.	The co-debriefing must have a duration compatible with the achievement of the intended educational objectives.

ELEMENTS	DESCRIPTION	TIME
	2nd Scenario After performing the scene, participants must be taken to an environment intended for debriefing, arranged in chairs in a semicircle; **3rd Stage of G.A.S "G" - Gather-** Responsible: _____ (Stage of gathering information and feelings, also called "Reaction"); **Objective:** Listening to the participants and understand what they think and how they feel about the simulated session; **What should be done?** Use of non-verbal communication: facilitators must position themselves in front of each other, during debriefing, to be able to collectively observe the body language and facial expressions of all of the students and co-facilitators; To express the "basic principle" for the participants' tranquility: _ "We believe that all participants are capable and care to do their job well and want to improve". Request the team's narrative about the experience. **Questions asked:** How do you feel? Can you tell us what happened when? What can you add? Preview (it describes the verbalization deliberated by a facilitator of the intention of transitions from one topic to the next;) **4th Step: "A" – Analyze** Responsible_____ (Stage for information analysis and articulation with the theoretical framework that supported the scene, also called "Comprehension") **Objective:** To facilitate the reflection and analysis of the participants regarding their actions; **What should be done?** Request instruction from the team about the experience, verbal report of observations, correct actions that can be improved. To ask a series of questions to reveal participants' thinking processes and help them reflect on their performance; **Questions asked:** I realized... Tell me more about... How did you feel about... What were you thinking when... I understand, however, tell me about the "X" aspect of the scenario... **5th Stage: "S" – Summarize** **Responsible: _____** (Final stage, which mentally organizes reflection and articulates learning with real life); **Objective:** To facilitate the identification and review of lessons learned **What should be done?** Participants identify positive aspects regarding their behavior or the team that requires change. Short of comments or statements. **Questions asked:** To list two actions or events that you felt were effective or well done. Describing two areas that you/the team think you need to improve. What have you learned here, that you will take to practice? **6th Stage: Post-debriefing** After debriefing has taken place, facilitators should meet briefly to discuss issues that arose during debriefing. The open discussion will help to avoid any future disagreements that may have occurred during debriefing and help to encompass the rules of engagement for co-debriefing and to prevent challenges from arising in the future. - To question whether the main learning objectives are still the same. - To prioritize the discussion of learning objectives; - To check if there was a problem that requires specific attention or sensitivity; - To check if there was an adequate approach to all predefined learning objectives; - To check topics in need of improvement; - To question whether there was a good use of collective expertise; - to question whether the approach adopted was consistent; - To establish strengths and what needs to be improved; - To question whether: the debriefing method was effective, strengths, points to be improved, need for interruptions, how the transition between the topics of discussion occurred, disagreements occurred, how time was managed, whether the positioning of the facilitators was effective , whether non-verbal communication methods were effective;	
Observations	- To establish and maintain a participatory learning environment; - To maintain "confidentiality" in relation to the participants' performance during debriefing; "continued on next page" - Listening, observing and reflecting (by actively listening to the discussion and observing the students' body language, facilitators can better predict their co-facilitator's advance line of questioning and more effectively identify when and how to contribute to the conversation without interruption); - Open Negotiation (promoting transparent communication between facilitators); To avoid changing the learning objective, before finishing what is being discussed, interrupting the other instructor's stream of thought or comment several times in a row on a particular subject (with rare exceptions);	

ELEMENTS	DESCRIPTION	TIME
	- To avoid the conference style, dominate or assume the discussion, or speak directly or only to participants in a specific profession; - To avoid ignoring good or excellent performance, or ignoring the main learning points; - Verbally request permission to interrupt: - To provide a brief preview of the topic you want to talk about (for example, "I would like to talk about the topic of the conversation"); - Asking and listen to the other instructor's point of view: "I wonder what you think". - Using mistakes as mysteries to solve, not as crimes to be punished, avoiding blaming participants for their actions or using a critical or accusatory tone of voice.	
References	Cheng A, *et al*. Faculty Development for Simulation Programs Five Issues for the Future of Debriefing Training. Simul Healthc 2015 [citado em 01 nov 2020]; 10(4):217-222. DOI: 10.1097/SIH.0000000000000090 Cheng A, Eppich W, Grant V, Sherbino J, Zendejas B, Cook DA. Debriefing for technology enhanced simulation: a systematic review and meta-analysis. Med Educ. 2014 [citado em 01 nov 2020]; 48:657-666. DOI:10.1111/medu.12432 Cheng A, Rodgers DL, Jagt EVD, Eppich W, O'Donnell J. Evolution of the Pediatric Advanced Life Support course: enhanced learning with a new debriefing tool and Web-based module for Pediatric. Advanced Life Support instructors. Pediatr Crit Care Med 2012 [citado em 01 nov 2020]; 13(5):589-595. DOI: 10.1097/PCC.0b013e3182417709 Bowe SN, Johnson K, Puscas L. Facilitation and Debriefing in Simulation Education. Otolaryngol Clin North Am 2017 [citado em 01 nov 2020]; 50:989-1001. DOI: 10.1016/j.otc.2017.05.009	