Barriers in completing the checklist for safe deliveries: integrative review

Barreiras no preenchimento da lista de verificação para partos seguros: revisão integrativa

Barreras para completar la lista de verificación de la seguridad del parto: revisión integradora

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Abstract

Objective: To identify, in the scientific literature, the barriers that make it difficult to apply the Safe Childbirth Checklist of the World Health Organization.

Methods: An integrative review was conducted from November 2020 to May 2022, using the following data sources: Scopus, MEDLINE®/PubMed®, Web of Science, and CINAHL. This study was conducted according to the recommendations of the *Preferred Reporting Items for Systematic Reviews and Meta-Analyses* protocol.

Results: The sample consisted of 14 studies published mainly in 2021, when South America predominated as a publishing continent. The English language, methodological studies, and quantitative approaches prevailed. Level IV evidence prevailed in the sample. In the identified studies, there was a strong description of cultural factors, followed by structural factors and factors related to the work process.

Conclusion: Cultural (interpersonal relationships, hierarchy of professional classes, and poor communication) and structural (design and fonts used in the checklist) factors, and those related to the work process (such as the checklist implemented in the health service, the manager's attitude regarding presenting it, and need for educational/training intervention for health professionals) are the main barriers that make it difficult to apply the Safe Childbirth Checklist.

Resumo

Objetivo: Identificar na literatura científica as barreiras que dificultam a aplicação da Lista de Verificação para Partos Seguros da Organização Mundial da Saúde.

Métodos: Revisão integrativa, realizada entre os meses de novembro de 2020 e maio de 2022, por meio das seguintes fontes de dados: Scopus, Medline®/PubMed®, *Web of Science* e Cinahl. O estudo foi realizado conforme as recomendações do protocolo *Preferred Reporting Items for Systematic Reviews and Meta-Analyses*.

Resultados: A amostra foi composta por 14 estudos, publicados principalmente no ano de 2021, predominando a América do Sul como continente de publicação. O idioma inglês foi o mais prevalente, assim como os estudos metodológicos e a abordagem quantitativa. O nível de evidência IV prevaleceu na amostra. Observa-se que os fatores culturais foram fortemente descritos nos estudos identificados, seguidos dos fatores estruturais e fatores relacionados ao processo de trabalho.

Conclusão: As principais barreiras que dificultam a aplicação da Lista de Verificação para Partos Seguros foram os fatores culturais (relações interpessoais, hierarquização das classes profissionais e má comunicação); estruturais (desenho e fonte utilizada no *checklist*) e relacionados ao processo de trabalho (como a lista de verificação foi implantada no serviço de saúde, postura do gerente quanto à apresentação dela e necessidade de intervenção educativa/formação para os profissionais de saúde).

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Resumen

Objetivo: Identificar en la literatura científica las barreras que dificultan la aplicación de la Lista de verificación de la seguridad del parto de la Organización Mundial de la Salud.

Métodos: Revisión integradora, realizada entre los meses de noviembre de 2020 y mayo de 2022, a través de las siguientes fuentes de datos: Scopus, Medline®/PubMed®, *Web of Science* y Cinahl. El estudio fue realizado según las recomendaciones del protocolo *Preferred Reporting Items for Systematic Reviews and Meta-Analyses*.

Resultados: La muestra estuvo compuesta por 14 estudios, publicados principalmente en el año 2021, en los que predominó América del Sur como continente de publicación. El inglés fue el idioma predominante, así como los estudios metodológicos y el enfoque cuantitativo. El nivel de evidencia IV fue predominante en la muestra. Se observa que los factores culturales se describen con frecuencia en los estudios identificados, seguidos de los factores estructurales y los factores relacionados con el proceso de trabajo.

Conclusión: Las principales barreras que dificultan la aplicación de la Lista de verificación de la seguridad del parto fueron los factores culturales (relaciones interpersonales, jerarquización de las clases profesionales y mala comunicación); los factores estructurales (diseño y tipografía utilizada en la lista) y los factores relacionados con el proceso de trabajo (cómo se implementó la lista de verificación en el servicio de salud, postura del gerente con relación a la presentación de la lista y necesidad de intervención educativa/formación para los profesionales de la salud).

Introduction

Advances in obstetrics have contributed to the improvement in maternal and perinatal morbidity and mortality indicators worldwide. Even so, women remain exposed to a high prevalence of interventions that should be carefully used in situations of need, such as the use of oxytocin, episiotomy, cesarean section, etc.[1]

Maternal mortality has high occurrence rates, with approximately 8,000 pregnant women dying annually during pregnancy, childbirth, and puerperium. The Covid-19 pandemic has generated direct and indirect impacts on the incidence of preventable maternal deaths; in 2021, 113 deaths per 100,000 live births were recorded, evidencing an alarming trend compared to pre-pandemic years. In Brazil, 1,252 maternal deaths and 2,471,519 live births were recorded in 2022, which corresponds to a mortality ratio of 50.5 deaths per 100,000 live births.[2,3]

In recent decades, important advances have been made in the care of pregnant women, mothers, and newborns, but challenges related to the quality of childbirth care persist. Cesarean section rates, which increased from 15.0% (1970) to 55.4% (2015), are challenges that must be addressed, and an increase to 58.1% occurred in 2022. Thus, the Ministry of Health launched the Maternal and Child Care Network (MCCN) in 2022; it aims to ensure both the right to family planning to women and assistance in the prenatal, childbirth, and puerperium periods to newborns and children; this initiative expands the actions of the Stork Network.[4, 5]

In September 2015, the General Assembly of the United Nations reconfigured the Millennium Development Goals, which concentrated on maternal and child health, aiming to reduce adverse events of pregnancy and birth (such as fetal death, abortion, low birth weight, preterm delivery, and neonatal death). However, these events remain persistent and worrying.[6]

Errors associated with healthcare result in 44-98 thousand complications per year in hospitals. In 2004, the World Health Organization (WHO) created the World Alliance for Patient Safety to improve assistance in areas of greater risk owing to the frequency and severity of harm resulting from harmful events to patients. Thus, patient safety aims to reduce to an acceptable minimum the healthcare-associated unnecessary harm.[7]

In 2008, the WHO used the Safe Childbirth Checklist (SCBC) to institute a safe delivery program aimed at determining whether a low-cost and simple-to-use tool could be used in health services and would bring positive results. A checklist that addresses the main causes of maternal death, such as hemorrhage, infection, obstructed labor, and hypertension problems, was developed.[8]

SCBC is a useful tool so that no procedural step is forgotten; furthermore, it enables tasks to occur in an established order, controls compliance with work environment requirements, or systematically collects data for analysis, which is considered sim-

ple and effective in reducing possible adverse events. However, it does not prevent errors due to a lack of preparation or specific knowledge. Thus, several factors can influence the success or failure during the implementation of forms.[9]

Therefore, the present study aimed to identify, in the scientific literature, the barriers that make WHO SCBC difficult to apply.

Methods

This is an integrative literature review, characterized by a specific method that evaluates studies and synthesizes results, providing a more holistic understanding of a given phenomenon, as well as the need for future research.[10,11]

The study was structured according to the following steps: formulation of the research question; electronic search in the literature through a protocol with the inclusion and exclusion criteria; data collection; critical analysis of studies; and presentation of results.[11]

To prepare the guiding question of this study, the PVO mnemonic strategy (an adaptation of the PICO technique used in investigations in the health area) was used, in which P is the research population/problem, V is the study variable, and O is the result obtained. Thus, health professionals are the research population, barriers that make difficult application of SCBC are the variable and application of LVSP are the results obtained.[12] The question was defined as follows: What barriers do health professionals encounter that make the SCBC difficult to apply?

Data were collected from November 2020 to May 2022 by searching the following sources: Scopus, *Medical Literature Analysis and Retrieval System Online* (Medline®/PubMed®), *Web of Science*, and *Cumulative Index to Nursing and Allied Health Literature* (CINAHL).

An advanced search was conducted in the databases using the following (*Medical Subject Headings; MeSH*) indexed descriptors: "*Patient Safety*"; "*Checklist*"; "*Maternal-Child Health Services*" and "*Parturition*". To direct the search, the keyword "Safe childbirth checklist" was used. Boolean operators "*AND*" and "*OR*" were used in the crossings. Two crossings were then defined to search the databases: "*Safe childbirth checklist*" *AND* "*Patient Safety*" and "*Patient Safety*" *AND* "*Checklist*" *AND* "*Maternal-Child Health Services*" *OR* "*Parturition*". The search strategies used in the databases are shown in chart 1.

The following inclusion criteria were used in selecting studies for the application of SCBC: articles approaching the barriers found by health professionals; complete and fully available articles; and period (2008-2022) considering that the SCBC was implemented in 2008. Editorials, letters to the editor, abstracts, expert opinions, correspondence, reviews, book chapters, theses, and dissertations were excluded. No restriction was placed on the publication language. Initial screening was performed by independent peer review, reading of titles and abstracts, and thorough reading of the selected studies. Differences between the reviewers were determined by consensus. Repeat studies were counted only once, and those that did not meet the eligibility criteria were excluded.

An instrument was built for data extraction and categorization with the following items: publication identification (article title, indexed data

Chart 1. Search strategies used in the databases

Databases	Search strategy
Scopus	Crossing 1: *ALL*("*Safe childbirth checklist*" *AND* "*Patient Safety*")
	Crossing 2: *ALL*("*Patient Safety*" *AND* "*Checklist*" *AND* "*Maternal-Child Health Services*" *OR* "*Parturition*")
Medline®/PubMed® (*all fields*)	Crossing 1: ("*Safe childbirth checklist*" *AND* "*Patient Safety*")
	Crossing 2: ("*Patient Safety*" *AND* "*Checklist*" *AND* "*Maternal-Child Health Services*" *OR* "*Parturition*")
Web of Science	Crossing 1: *ALL*=("*Safe childbirth checklist*" *AND* "*Patient Safety*")
	Crossing 2: *ALL*=("*Patient Safety*" *AND* "*Checklist*" *AND* "*Maternal-Child Health Services*" *OR* "*Parturition*")
CINAHL	Crossing 1: ("*Safe childbirth checklist*" *AND* "*Patient Safety*")
	Crossing 2: ("*Patient Safety*" *AND* "*Checklist*" *AND* "*Maternal-Child Health Services*" *OR* "*Parturition*")

CINAHL: *Cumulative Index to Nursing and Allied Health Literature*

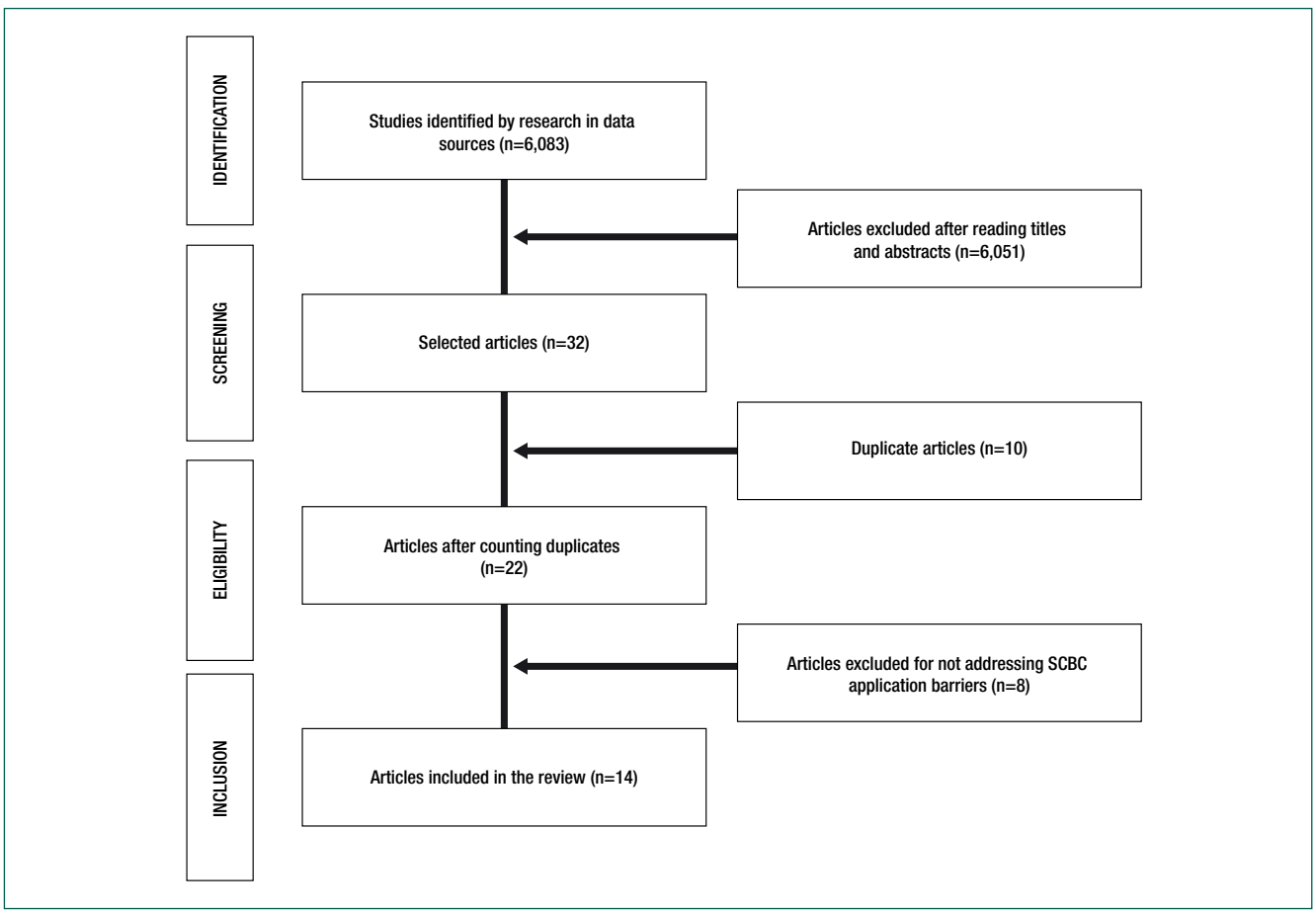
source, country, authors, language, and year of publication), methodological aspects of the study (type of approach, method employed, and level of evidence), and barriers to the application of SCBC.

The Joanna Briggs Institute classification was used for the level of evidence. The studies were evaluated using the evidence obtained from systematic reviews of randomized controlled clinical trials (Level I); randomized controlled clinical trials (Level II); non-randomized well-designed controlled clinical trials (Level III.1); well-designed cohort studies or case-control (Level III.2); and multiple time series, with or without intervention and dramatic results in uncontrolled experiments (Level III.3); and opinions of respected authorities based on clinical criteria and experience, descriptive studies or expert committee reports (Level IV).[13]

Our study was conducted in accordance with the protocol recommendations of the *Preferred Reporting Items for Systematic Reviews and Meta-Analyses* (PRISMA). The results were presented in a figure and charts.[14]

Results

A search in data sources identified 6,083 studies. Of these, 6,051 were excluded after reading their titles and abstracts, as they did not meet the eligibility criteria. Ten studies were included only once, although they were duplicated, and eight studies were excluded because they did not address the barriers that make it difficult to apply SCBC. The final sample comprised of 14 studies (Figure 1).



SCBC: Safe Childbirth Checklist

Figure 1. Flowchart of study selection

Chart 2. Summary of articles included in the review

Authors	Levels of evidence	Barriers that make it difficult to apply the SCBC
Concha-Torre *et al.*[9]	IV	Team attitudes, poor design, and skills, inadequate duplication with other worklists, cultural barriers, or the way managers present the tool
Albolino *et al.*[15]	III.3	Low adherence of health professionals (especially gynecologists) in adopting the checklist
Praxedes *et al.*[16]	IV	The main problems include cultural and structural factors, lack of understanding of the procedure for applying the list, and difficulty in recognizing the benefit perceived by the professionals involved. Inconstancy also occurs in the institutional sections
Amaya-Arias *et al*[17])	IV	Management should establish non-punitive monitoring, control, and evaluation systems to facilitate behavior changes and thus increase adherence to this type of clinical practice. Health professionals state that they know and use or would use checklists, but an intermediate degree of acceptance exists
Albolino *et al.*[18]	III.3	Poor communication between team members; hierarchy prevents interaction between physicians and nurses; and latent gender hierarchy still acts seriously limiting the safety and quality of care
Carvalho *et al.*[19]	IV	Need to assess local context and adaptations and conduct educational interventions to correctly implement the checklist
Senanayak *et al.*[20]	III.2	When this tool is introduced in any new environment, there is a demand for training through adequate awareness campaigns; in addition, the checklist should be included in official health facility documents to reduce duplication of work and make its use a regulatory requirement
Kourouma *et al.*[21]	III.3	Increased workload due to high patient demand and tool design issues
Custódio *et al.*[22]	IV	A deficit in human resources, high demand for work, lack of motivation, necessary awareness for the routine use of the checklist, and lack of team involvement in the process of its implementation. Demotivation reports were also registered as employees are not released from work to participate in training
Molina *et al.*[23]	IV	Skepticism about the importance or value of SCBC {?} among employees; the checklist is perceived as burdensome; lack of conducive environment; lack of leadership support for the checklist and lack of staff
Kaplan *et al.*[24]	II	Need for training and coaching to induce long-term behavioral changes and thus generate effectiveness
Dohbit *et al.*[25]	III.2	Importance of regular training or supervision to improve adherence to essential birthing practices
Thomas *et al.*[26]	III.3	Additional training, simplified language, a reminder for essential practices, and adaptation of the tool to the work environment
Sousa *et al.*[27]	III.3	Need for the training of professionals to adapt and implement the checklist and learning sessions to use and follow its implementation

SCBC: Safe Childbirth Checklist

Most of the studies were dated to 2021 (35.8%). South America was the continent with the most publications on the subject (35.8%), and English was the most prevalent language (64.3%). Methodological studies predominated (28.6%) using a quantitative approach (71.5%). Level of Evidence IV was predominant (42.8 %). The characterization of studies about authors, level of evidence, and barriers in the application of SCBC are shown in Figure 2.

Discussion

After analyzing the studies that comprise this integrative review, we realized that publications that clearly show professionals' conception of SCBC implementation and the barriers to its adequate completion are scarce. Moreover, most publications have occurred in the last five years pointing to the recent production on this topic.

This checklist has the potential to produce beneficial effects for both patient safety and healthcare. Studies indicate that this tool strengthens evidence-based clinical practice by favoring a reduction in the incidence of adverse events, morbidity, and mortality. The checklist also enhances the joint use of the partogram, which is an important tool to prevent risks in labor.[18,28]

When this list is implemented according to the needs of the health service and is previously introduced to professionals, its viability has acceptable values in terms of its completion in the work context. Professionals report that the instrument is easy to apply and the checklists can be applied through a previously studied context.[19] However, this result appeared at a low frequency in the studies, indicating that implementing lists is difficult.

Current barriers can also prevent adequate service provision, overlapping with the challenges experienced by professionals in the routine execution of usual care. In addition, prioritizing the checklist indicators is necessary. Another study showed that the lack of proper training for the health team on the correct completing practices is a serious impediment to the checklist's effectiveness.[29,30]

The lack of both managers' support and monitoring in the use of the checklist, including the disbelief of team members in its benefits, are difficulties that prevent its effective completion. A study on the implantation of a checklist for safe surgery indicated that the introduction of this tool in the health service resulted in sudden and hasty changes in the work process, being seen more as an initiative

imposed by managers than something new and attractive to appreciate.[9]

Other multifactorial barriers, such as cultural, structural, and work-related factors, were also found. Cultural factors must be built with encouragement from managers and participation of all health professionals, allowing joint construction. At the organizational level, implementation without planning causes resistance, especially among experienced professionals. In addition, the multidisciplinary team needs training programs to apply the checklist, intending to reduce the number of professionals who do not wish to complete it.[31]

In the active management of safety changes, a horizontal participatory model must be chosen to strengthen both the relationship with the team and the culture of patient safety. Communication between healthcare professionals is critical. Data indicate that 71.0% of adverse events result from communication failure.[32] Communication permeates all patient care activities and is a crucial aspect of developing group culture. Additionally, it creates a common sense of teamwork, allowing collaborative work to be more effective. On the other hand, poor communication is a condition that makes the use of checklists difficult, being known as an indicator of interference in care quality.[32,33]

Inadequate organizational structure also influences the proper completion of checklists. Eases must exist for the checklist to be accessed. E.g., a sufficient white space in the layout is preferable to improve readability and font size so that the text has a logical flow of items and information. Completing the list may be seen by staff as an interruption that causes delay, increases workload, or is redundant with other safety checks.[9,34]

The evaluation of the items in the checklist is another point that must be considered. The SCBC is composed of 27 items, which are completed at four different breakpoints: admission, before fetal delivery (or before cesarean section), after delivery, and before hospital discharge. Professionals refer to difficulties regarding the number of items and moments of application, as complete filling is often impossible due to other service demands. Professional experience with SCBC is also an important factor; some professionals report not having enough experience with the checklist items.[20,22]

Some studies report that the nursing team tends to complete more checklists. As sector coordinators, nurses can use this tool to evaluate the care provided. Thus, the team needs to be engaged and seek to understand the importance and need to use checklists to assign corrective actions with safe indicators.[17,20,35]

Thus, barriers that hinder the effective application of SCBC are also found in other checklists. The actions to implement its use in the health service aim to improve the care patterns through safe interprofessional communication, reduce physical and psychological damage to the patient, and decrease avoidable adverse events that are still highly prevalent in health services.[35]

The limitations of this study may be related to the data sources used; they may have caused some bias in the selection and sample size and limited the generalization of findings to SCBC and other checklists for patient safety.

Then, we recommend that further studies on this topic be conducted with other designs. Despite all advances in obstetrics, there is still a high prevalence of adverse events related to procedures and measures linked to childbirth, and WHO SCBC is a tool to decrease preventable harm to health.

As implications for nursing practice, we reinforce that developing studies on this topic is necessary, including stronger levels of evidence, indicating periodic training of the team for the correct completion of the SCBC based on the best evidence. Another recommendation found in the analyzed studies was that assistance in completing the SCBC in all deliveries, as well as the need to connect it to other instruments, such as the partogram, is equally important to enhance the prevention of risks in labor.

Offering an excellent alternative to reduce adverse events related to childbirth through these low-cost and effective tools is a highlighted implication. We strongly recommend that institutional managers implement this tool systematically.

We believe that the data found in the present study can contribute to advances in the proper implementation of checklists for safe delivery in

health services. As the use of this checklist enables evidence-based practice, overcoming the barriers that make its development difficult will allow the achievement of lower rates related to adverse events.

Conclusion

The main barriers that make it difficult to apply the *Checklist for Safe Births* are as follows: cultural factors, such as interpersonal relationships, the hierarchy of professional classes, and poor communication; structural factors, such as the design and font used in the checklist; and factors related to the work process. The factors related to the work process indicate how the checklist was implemented in the health service, the manager's posture regarding its presentation, and the need for educational intervention and/or training of health professionals.

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