



# Challenges for applying the safe surgery checklist: integrative review

*Desafios para aplicação do checklist de cirurgia segura: revisão integrativa*

*Desafíos para aplicar la lista de verificación de cirugía segura: revisión integradora*

## ABSTRACT

**Objectives:** To analyze the challenges and benefits experienced by surgical teams when applying the safe surgery checklist. **Method:** This is an integrative review, in which searches were conducted between September and November 2023. Original studies published between 2008 and 2023, in any language, that address the challenges and potential of using the checklist were selected. Annals, literature reviews, dissertations, experience reports, and theoretical guides were excluded. **Results:** Eighteen studies were selected to compose a review. Lack of time, lack of supervision, and lack of training were considered impediments to the use of the tool in care. Applying the checklist makes it possible to improve patient safety. Assessing the risk of allergies, estimating blood loss, and blood component reserves make it possible to reduce morbidity and mortality, contribute to humanized care, increase patient satisfaction, and improve teamwork. **Final remarks:** Applying the surgery checklist improved interaction and communication within the multidisciplinary team. The main factor is the lack of time and lack of training for the correct application of the tool.

**Descriptors:** Surgical center nursing; Checklist; Patient safety; Patient care team.

## RESUMO

**Objetivo:** Analisar quais os desafios e benefícios vivenciados pelas equipes de cirurgia para a aplicação do checklist de cirurgia segura. **Método:** Trata-se de uma revisão integrativa, cujas buscas foram realizadas entre setembro e novembro de 2023. Foram selecionados estudos originais publicados entre 2008 e 2023, em qualquer idioma, que tratassem dos desafios e potencialidades do uso do checklist. Excluíram-se anais, revisões da literatura, dissertações, relatos de experiência e guias teóricos. **Resultados:** Dezoito estudos foram selecionados para compor a revisão. A falta de tempo, a ausência de fiscalização e a carência de treinamento foram considerados impeditivos no uso da ferramenta na assistência. A aplicação do checklist possibilita a melhoria da segurança do paciente. A avaliação do risco de alergias, estimativa de perda sanguínea e reserva de hemocomponentes possibilitam a redução da morbimortalidade, contribui para um atendimento humanizado, aumenta a satisfação do paciente e melhora o trabalho em equipe. **Considerações finais:** A aplicação do checklist de cirurgia melhora a interação e comunicação da equipe multiprofissional. O principal fator impeditivo é a falta de tempo e a carência de treinamento para a aplicação correta da ferramenta.

**Descritores:** Enfermagem de centro cirúrgico; Lista de checagem; Segurança do paciente; Equipe de assistência ao paciente.

## RESUMEN

**Objetivo:** Analizar los desafíos y beneficios que experimentan los equipos quirúrgicos al aplicar la lista de verificación de cirugía segura. **Método:** Revisión integradora, en la que las búsquedas se realizaron entre septiembre y noviembre de 2023. Se seleccionaron estudios originales publicados entre 2008 y 2023, en cualquier idioma, que abordaran los desafíos y el potencial del uso de la lista de verificación. Se excluyeron anales, revisiones de literatura, disertaciones, relatos de experiencias y guías teóricas. **Resultados:** Se seleccionaron 18 estudios para componer una revisión. La falta de tiempo, la falta de supervisión y la falta de capacitación se consideraron impedimentos para el uso de la herramienta en la asistencia. La aplicación de la lista de verificación permite mejorar la seguridad del paciente. Evaluar el riesgo de alergias, estimar la pérdida de sangre y las reservas de componentes sanguíneos permite reducir la morbilidad y la mortalidad, contribuye a la atención humanizada, aumenta la satisfacción del paciente y mejora el trabajo en equipo. **Consideraciones finales:** La aplicación de la lista de verificación quirúrgica mejoró la interacción y comunicación del equipo multidisciplinario. Los principales impedimentos son la falta de tiempo y falta de formación para la correcta aplicación de la herramienta.

**Descriptores:** Enfermería de quirófano; Lista de verificación; Seguridad del paciente; Equipo de atención al paciente.

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## INTRODUCTION

In Brazil, approximately 2.4 million elective surgical procedures are performed annually<sup>(1)</sup>. The surgical center is a complex and error-prone environment, where adverse events related to surgical technique failures, site infection, and suture dehiscence occur<sup>(2)</sup>. Evidence shows a high number of incidents with damage related to deficits in procedure execution, planning, problem-solving, and violation of safety principles<sup>(3)</sup>.

One way to mitigate risks related to care is through the implementation of patient safety protocols. Faced with the increasing number of adverse events related to surgery, the World Health Organization (WHO) launched the global challenge "Safe Surgery Saves Lives" in 2008. This protocol introduced the Surgical Safety Checklist (SSC), which covers the three stages of the perioperative period: before anesthesia induction, before surgical incision, and before the patient leaves the operating room<sup>(4,5)</sup>.

The SSC development process considered the prevention of surgical site infection, safe anesthesiology, efficient teams, measurement of surgical care, and culminated in ten essential objectives for safe surgical care that highlight the importance of the team working together, considering the right patient, avoiding adverse reactions, using known methods, and recognizing risks<sup>(6)</sup>.

A 2020 study to determine the contemporary prevalence and predictors of SSC use worldwide showed that countries with lower HDIs were those that used the surgical safety assessment tool the least, directly impacting the quality of its implementation. These countries perform more surgeries than those with higher HDIs, in-

creasing the likelihood of patient safety errors<sup>(7)</sup>.

According to a literature review published in 2019, the introduction of the World Health Organization's Surgical Safety Checklist reduced complications and mortality rates in a global setting of eight hospitals, one in each country. Concomitantly, it reduced patient length of stay and indirectly reduced hospital costs, enabling greater profits<sup>(8)</sup>.

Even with evidence on the importance of applying SSC, its use is still inconsistent in health institutions, with failure to comply with all its stages<sup>(9)</sup>. Therefore, it is important to identify the challenges that lead healthcare professionals to not comply with the SSC in their daily lives and the benefits they identify in applying it. Understanding these challenges may provide pathways for developing interventions that mitigate the barriers to their implementation. It is essential to continually assess the profile of these barriers to understand which challenges have not yet been overcome, even 16 years after the publication of the WHO global challenge, and thus reinforce the benefits of its use with professionals. In this sense, the integrative review is beneficial, as it allows the synthesis of available scientific knowledge on a predefined theme, enables a deeper understanding of the subject, the identification of gaps, and favors the direction of new studies.

Therefore, this integrative literature review aims to analyze the challenges and benefits experienced by surgical teams when applying the safe surgery checklist.

## METHODS

**Type of study:** This is an integrative review carried out in six stages: identifica-

tion of the theme and selection of the research question, establishment of criteria for inclusion and exclusion of studies, definition of the information to be extracted from the selected studies, assessment of the included studies, interpretation of the results, and synthesis of knowledge<sup>(10)</sup>.

**Setting:** Data were collected from the Biblioteca Virtual em Saúde (Virtual Health Library), Medline via PubMed, Embase, and Web Of Science databases, which were chosen for their relevance to health, as they cover national and international literature on the study topic and provide access to up-to-date studies. Only articles were included, as they are peer-reviewed sources, which increases the reliability of the data. However, it is recognized that the inclusion of gray literature could broaden the discussion on knowledge gaps in this area.

**Period:** The searches were carried out between September and December 2023. A new review to include studies published in 2024 was carried out in June 2025.

**Inclusion:** The review included original studies that addressed the challenges and potentialities listed by the surgical team for applying the safe surgery che-

cklist, in any language, produced between 2008 and 2024, due to the launch of the second global challenge for patient safety: Safe Surgery Saves Lives.

Studies such as annals, literature reviews, dissertations, experience reports, and theoretical guides were excluded.

**Data collection:** The first stage involved identifying keywords and descriptors that addressed the topic in question through searches in indexed databases. Subsequently, a consultation with a librarian was held to define the search strategies and databases that would comprise the review.

The research question was outlined based on the population, intervention, comparison, and outcome (Pico) strategy, where P = Surgical team participants, nursing team, I = Challenges and potentialities in applying the safe surgery checklist, C = Effects of adherence or not to the SSC, and O = Quality of care, teamwork, patient safety. Thus, the following guiding question was developed: What are the challenges and potentialities that surgical teams experience in applying the SSC? Chart 1 presents the search strategies in the databases.

Chart 1. Database search expressions (Brasil, 2023)

Database	Search strategy
BVS	((("Lista de Checagem" OR checklist OR "Lista de Verificación" OR "Liste de controle" OR checklist OR "Lista de Conferência" OR "Lista de Verificação" OR "cirurgia segura" OR "safe surgery")) AND (("Enfermagem Perioperatória" OR "Perioperative Nursing" OR "Enfermería Perioperatoria" OR "Soins infirmiers périopératoires" OR "Enfermagem Cirúrgica" OR "Enfermagem Pré-Operatória" OR "Enfermagem de centro cirúrgico" OR "Operating Room Nursing" OR "Enfermería de Quirófano" OR "Soins infirmiers au bloc opératoire" OR "Enfermagem Médico-Cirúrgica" OR "Medical-Surgical Nursing" OR "Enfermería Médico-Quirúrgica" OR "Soins infirmiers médico-chirurgicaux" OR enfermagem OR nursing OR enfermería OR soins)) AND (("Segurança do Paciente" OR "Patient Safety" OR "Seguridad del Paciente" OR "Sécurité des patients")) AND (db:(("LILACS" OR "BDENF" OR "IBICS" OR "WPRIM" OR "CUMED" OR "WHOLIS" OR "coleccionaSUS")))

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Database	Search strategy
PubMed, Web of Science, and Embase	(Checklist OR "safe surgery") AND ("Perioperative Nursing" OR "Operating Room Nursing" OR Nursing OR "Medical Surgical Nursing") AND ("Patient Safety")

Source: Prepared by the authors.

Tata processing and analysis: Rayyan software from the Qatar Computing Research Institute was used to manage references and select studies. The results were analyzed using descriptive statistics and presented in tables.

Data selection, extraction, and review were performed independently by two researchers, in conjunction with a third reviewer who answered questions and assisted in defining the sample. A pilot test was conducted with eight articles to assess the need for adjustments to the data collection instrument, with one item being added.

The data extraction instrument was developed by the authors, and the following information was extracted: author, year of publication, study type, challenges, and objectives. Article selection was performed through the following steps: exporting all articles, detecting duplicates, reading the title and abstract, reading the full text, extracting the data, and summarizing the results. To define the number of studies, the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) checklist was used, as can be seen in Figure 1.

The Pattern, Advances, Gaps, Evidence for practice, Research recommendation (PAGER) strategy was used to categorize the results according to progress, gaps in the literature, evidence for practice, and research recommendations.

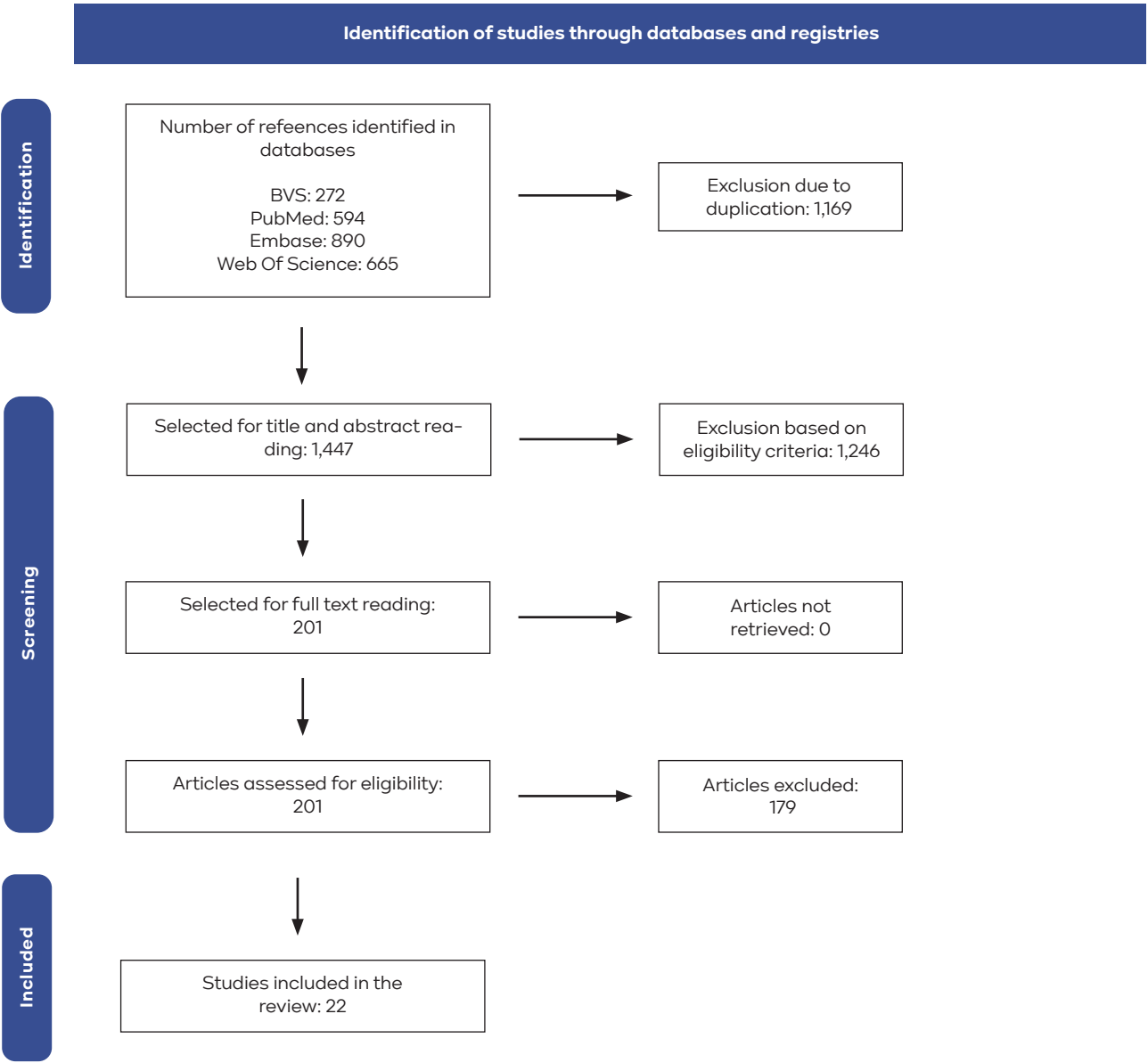
The proposed PAGER strategy can be used as a tool for synthesizing and discussing the results of a review, making it possible to analyze the following items: Patterns – identify and describe recurring themes in the findings of the included studies; Advances – point out recent significant contributions from the literature to the area investigated; Gaps – highlight underexplored aspects, inconsistencies, or contradictions between studies; Evidence for Practice – highlight how findings can support changes or improvements in practical contexts; Research Recommendations – suggest directions for future research, based on the identified gaps.

In this way, the use of the PAGER strategy can improve the quality of the presentation of results, making them more understandable and relevant to practice and science.

## RESULTS

A total of 2,401 studies were found in the assessed databases. After review and duplicate detection, 1,447 manuscripts were selected for title and abstract assessment. A total of 201 articles were read in full, and 22 were selected for analysis, as shown in Figure 1 – Prisma Flow. The main reasons for exclusion were: not addressing the theme of challenges in applying the safe surgery checklist, master's dissertations, review articles, editorials, and theoretical guides.

**Figure 1.** Preferred Reporting Items for Systematic Reviews and Meta-Analyses \_(PRISMA) flowchart of the study selection and inclusion process



Source: Prepared by the authors.

The countries with the highest number of publications were Brazil(11-19) (9; 40%), Canada(20,21) (2; 9.09%), South Africa(22,23) (2; 9.09%), Spain(24) (1; 4.5%), Cyprus(25) (1; 4.5%), China(26) (1; 4.5%), Thailand(27) (1; 4.5%), Not informed(28) (1; 4.5%), Switzerland(29) (1; 4.5%), Denmark(30) (1; 4.5%), Somalia(31) (1; 4.5%) and Singapore(32) (1; 4.5%). Regarding the time of publication, it is in 2021 (4; 22.2%),

followed by 2019 with (3; 16.6%). Regarding the type of study, those with a qualitative approach predominated (11; 50%), followed by quantitative methods (3; 13.6%), observational (3; 13.6%), cross-sectional (3; 13.6%), quantitative-qualitative (1; 4.5%), and case-control (1; 4.5%).

The synthesis of the studies was organized according to the authors' names, year of publication, and type of study and

objective, as can be seen in Chart 2.

**Chart 2.** Summary of selected studies – n = 18 (Brasil, 2023)

Author	Year of publication	Type of study	Objective
Garcia DR, et al. <sup>(28)</sup>	2012	Descriptive, prospective	To determine the level of adherence and the factors that influence the application of the SSC.
Gagliardi AR, et al. <sup>(20)</sup>	2014	Descriptive	To explore factors that influenced SSC uptake to suggest how its impact could be optimized.
Souza RM, et al. <sup>(12)</sup>	2016	Descriptive	To identify the applicability of the safe surgery checklist in hospital surgical centers.
Gomes CDP, et al. <sup>(14)</sup>	2016	Exploratory	To understand the perception of nursing professionals working in surgical centers regarding the use of the checklist.
Oliveira J, et al. <sup>(15)</sup>	2017	Exploratory-descriptive	To analyze the application of the safe surgery checklist, seeking to describe the main factors that may affect its filling out and follow-up, according to the perception of nursing technicians.
Georgiou E, et al. <sup>(25)</sup>	2018	Descriptive	To explore the factors that serve as barriers and facilitators to the implementation of SSC.
Verwey S, et al. <sup>(23)</sup>	2018	Descriptive	To investigate staff perceptions of SSC and identify reasons and barriers to poor compliance and implementation.
Ferreira RA, et al. <sup>(13)</sup>	2019	Qualitative	To identify the factors involved in implementing the safe surgery checklist in a university hospital.
Schwendimann R, et al. <sup>(29)</sup>	2019	Mixed-method observational	To assess adherence to the protocol in the operating rooms of the university hospital.

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Author	Year of publication	Type of study	Objective
Tostes MFDP, et al. <sup>(9)</sup>	2019	Observational-cross-sectional	To identify the benefits, facilitators, and barriers to implementing the surgical safety checklist, according to reports from nurses working in the hospital surgical center.
Toti ICC, et al. <sup>(18)</sup>	2020	Exploratory-qualitative	To understand nursing professionals' perceptions of the application of the safe surgery checklist.
Domingo L, et al. <sup>(24)</sup>	2020	Observational-cross-sectional	To assess the attitudes and perceptions of nursing staff, surgeons, and anesthesiologists regarding adherence, usefulness, and impact on patient safety of the surgical checklist in a university hospital.
Santos EA, et al. <sup>(11)</sup>	2020	Observational-descriptive	To identify the knowledge of health professionals about SSC and the challenges and strategies for its implementation in a public hospital institution.
Gong J, et al. <sup>(26)</sup>	2021	Cross-sectional	To explore possible supporting factors for effective implementation and identify potential awareness and barriers to its implementation.
Kasatpibal N, et al. <sup>(27)</sup>	2021	Descriptive	To assess surgical team perceptions of surgical complications and safety, and examine satisfaction and barriers to SSC implementation.
Silva CC, et al. <sup>(16)</sup>	2021	Cross-sectional with a mixed approach	To identify professionals' perceptions regarding the use of the SSC and map the factors that may enhance or weaken filling out and adherence.
Zyl MV, et al. <sup>(22)</sup>	2023	Descriptive	To explore and describe the factors that affect checklist use in the operating rooms of a designated hospital.

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Author	Year of publication	Type of study	Objective
Moler KE, et al. <sup>(30)</sup>	2024	Cross-sectional	To bridge the gap between healthcare professionals' perceptions of SSC and their level of psychological safety.
Dirie NI, et al. <sup>(31)</sup>	2024	Case-control	To assess the implementation of the WHO SSC in selected hospitals in Mogadishu, Somalia, and assess its impact on surgical safety practices.
Lim SR, et al. <sup>(32)</sup>	2024	Qualitative	To understand the potential sociopsychological mechanisms of variations in SSC practices.
Falcão AS, et al. <sup>(19)</sup>	2024	Observational	To identify adherence to filling out the SSC of an ophthalmic surgical center.
Gurkan A, et al. <sup>(33)</sup>	2021	Quantitative	To assess healthcare professionals' attitudes toward SSC in resource-rich healthcare systems and provide insights into strategies to optimize SSC use.

Source: Prepared by the authors.

In order to group the findings according to advances and gaps in the literature, the evidence for practice and research

recommendations were organized according to the PAGER strategy, as Chart 3.

**Chart 3.** PAGER Framework for integrative review (Brasil, 2023)

Pattern	Advances	Gaps	Evidence for practice	Gaps
Potentialities	The use of SSC allows the reduction of adverse events, minimizes anxiety, and improves multidisciplinary communication.	Resistance from the entire team, work overload, and lack of training.	Ensures patient safety throughout the entire surgical period and improves the quality of care.	Conducting training and lectures for interaction between teams, analyzing difficulties in applying the SSC, and empowering the patient during the care provided.

Continua



Pattern	Advances	Gaps	Evidence for practice	Gaps
Challenges	Lack of employee assertiveness, lack of time and commitment, absence of a safety culture, and long filling.	Predominance of medical hierarchy.	Adequate knowledge about filling out the checklist presents benefits.	Institutional support for employees, monitoring the application of the SSC, and serving as a legal support tool in relation to judicialization.

Source: Prepared by the authors.

The main findings of the studies were subdivided into two categories, challenges and potential, for the application of the safe surgery checklist.

Lack of time<sup>(11,14,15,17-20,22,29)</sup> on the part of the surgical team, especially the medical category<sup>(11,12,15,16,18,22,23,29,34)</sup>, was listed as a hindering point for the application of the SSC. Points associated with the institutional aspect, such as lack of supervision<sup>(12,13,20,22,25,29,34)</sup>, monitoring and auditing regarding the correct filling out of the checklist<sup>(18,22,25,26)</sup>, as well as the lack of support from higher authorities, were also considered impediments to the use of the tool in care<sup>(16,17,25,34)</sup>.

Lack of training<sup>(11,12,17,23-26)</sup>, personal insecurity in leading the filling out of the checklist<sup>(20,28)</sup>, and lack of understanding of the items that comprise it also emerged as barriers to the implementation of the SSC<sup>(12,13,20,22,25,29,33)</sup>. It is noteworthy that the lack of understanding of the items was highlighted as a perception of the surgical team in the studies, but none detailed which items the professionals have the greatest difficulty completing during the SSC.

Regarding the potential of its use, the literature highlighted that the application of the checklist allows for the improvement of patient safety<sup>(16,23,29)</sup> by optimizing team communication<sup>(12,16,18-20,24,33)</sup> and che-

cking the materials and equipment used, which allows for the reduction of unintentional retention of surgical materials<sup>(16,33)</sup>. In addition, the assessment of the risk of allergies, estimation of blood loss, and reserve of blood components allow for the reduction of morbidity and mortality.

In addition to the benefits related to care safety, studies indicate that SSC contributes to enabling agility in care<sup>(12)</sup>, directly impacting the positive care experience, increasing patient and family satisfaction and confidence<sup>(17)</sup>, and favoring humanized care<sup>(18)</sup>.

For healthcare institutions, benefits included improved teamwork and the sharing of information relevant to surgical care<sup>(17)</sup>. It is important to emphasize that implementing SSC increases turnover and operating room utilization, reduces care-related errors that can result in litigation and impact the healthcare institution's image and costs<sup>(17,18)</sup>.

Another study identified in this review demonstrated a significant association between levels of psychological safety and perceptions of the Surgical Checklist (SC). Higher levels of psychological safety were found to be related to more favorable perceptions of the SC's role in strengthening interdisciplinary teamwork, fostering an effective organizational structure,

and enhancing caring and collaboration among colleagues<sup>(30)</sup>.

The literature also highlights that the implementation of a comprehensive training intervention resulted in a significant improvement in SSC adherence in resource-limited hospitals. The findings demonstrate the feasibility and effectiveness of the checklist in improving surgical safety practices, communication among team members, and patient outcomes, even in challenging healthcare settings<sup>(31)</sup>.

Implementing the SSC requires patience and care in executing the process, as well as dedication and attention to the safety verification steps during the safe surgery checklist. For the SSC to fully achieve its potential as a fundamental tool for communication and safety, a collective effort that balances rigor with efficiency is essential. Furthermore, it is essential to foster a culture of collaboration, strengthening and enhancing the safety culture in the surgical environment<sup>(32)</sup>.

There's also compliance with the filling out of SSC items, which are subject to variation, which may indicate barriers to adherence. Failure to complete the SSC suggests difficulties in adopting safe practices and highlights the need for ongoing training and changes in organizational culture<sup>(19)</sup>.

## DISCUSSIONS

Reading and analyzing the selected publications enables the identification of barriers and potentialities in the application of the safe surgery checklist. The barriers highlighted include a lack of training, a lack of monitoring of effective SSC implementation, and resistance from the surgical team. As potential advantages, SSC improves team communication, in-

creases the quality of care, provides safety, and reduces the risk of adverse events. This review provided a better understanding of the factors that influence the implementation of the checklist in the surgical center environment, which can guide the implementation of strategies so that this tool is used and has a positive impact on surgical patient care.

The SSC was designed to help reduce surgery-related adverse events. Nine of its ten guiding principles are based on teamwork; therefore, it cannot be implemented without the cooperation of all members involved in surgical care<sup>(6)</sup>. The studies assessed indicate that this is one of the main challenges to be overcome, especially when it comes to the medical team.

Surgeons have lower levels of awareness and adherence to the use of SSC compared to nurses<sup>(26)</sup>. Thus, the effectiveness of its use may be limited due to the hierarchical medical culture in the operating room and the professionals' fear of facing these challenges<sup>(20)</sup>. In contrast, its engaged use by surgeons has shown the potential to improve teamwork, facilitate group discussion and interaction, avoid tension during surgery, and promote structured communication<sup>(35)</sup>. Therefore, adherence strategies must be designed and implemented with a focus on the entire team involved in the anesthetic-surgical process and working in the surgical center, to strengthen the implementation of SSC in the patient's perioperative process.

Regarding nursing, precariousness in nursing notes and developments is identified, including the absence of professional category, council number, time record, illegible handwriting, incorrect and incomplete filling<sup>(36)</sup>. This effect can be minimized

with the application of training, continuing education, and continuous monitoring.

It should be noted that to achieve positive results from the use of care protocols, the surgical team must understand the true purpose of SSC for patient care and organizational improvement, which is possible through the development of educational processes<sup>(37)</sup>.

Studies show that an intervention of two theoretical classes significantly stimulated the correct use of the SSC by members, surgeons, nurses, and anesthesiologists, generating a positive influence even on the behavior and adherence to the instrument by colleagues who did not participate in the training<sup>(38)</sup>. This event becomes possible due to the socialization of relevant information about the SSC with a focus on improving the quality of care.

Institutional support for implementing SSC, which is intertwined with the involvement of the entire team, emerges as a challenge in the studies analyzed, and its implementation can contribute to professional adherence to the safe surgery protocol. Many strategies are employed to implement SSC in the operating room, such as leadership team composition, planning and analysis of the surgical center routine, target audience engagement, dissemination and promotion among the team, educational programs, pilot testing, auditing, feedback, reminders, and assessment<sup>(17)</sup>. Therefore, if there is no support from the institution, there is a high chance that the implementation of the SSC will fail.

For the dissemination and promotion of SSC, actions such as the creation of newsletters, a poster placed in each operating room, information sent through the hospital's internal communication systems, copies of the updated version

of the tool made available in the surgical rooms, and an email to the team are essential. Furthermore, holding interactive seminars, discussion forums, discussions in the operating room, meetings for joint learning among hospital representatives, presentation of clinical cases, and conferences are strategies to support the implementation of SSC<sup>(17)</sup>.

It is important to overcome the barriers of SSC, as it is known that its benefits encompass the entire care chain, with impacts on patient safety, team relationships, institutional costs, and the care experience.

The introduction of SSC reduced adverse events from 11.0 to 7.0%, with a drop in mortality from 1.5 to 0.8%, in a global setting in eight countries; in addition, it positively impacted the airway assessment performed before anesthesia, use of pulse oximetry, administration of prophylactic antibiotics, certification of patient identity, and the counting of compresses<sup>(8)</sup>. A study conducted in Paraná found that 72% of nurses who used SSC reported improved team communication, and 68% noted a reduction in adverse events. Because SSC is a standardized "language", it contributes to improved communication and information transfer throughout all stages of surgery<sup>(8)</sup>.

For hospitals, implementing SSC promotes cost reduction by improving the "time" indicator, reducing the time from entry to exit from the operating room and the duration of the procedure between anesthesia initiation and incision initiation<sup>(17)</sup>. Furthermore, the financial impacts are seen in the reduction of nurse turnover in the sector, the reduction in surgical procedure cancellations, and the prevention of surgical complications, allowing pa-

tients to be discharged on time<sup>(17)</sup>.

Another study conducted at a hospital in southern Brazil also emphasizes increased patient confidence in care, improved quality of care, and the possibility of perioperative patient rehabilitation. These factors reduce hospital costs, facilitate dialogue between the surgical team and patient, and prevent adverse events<sup>(17)</sup>.

In addition to the benefits related to healthcare safety, studies show that SSC contributes to humanized care, increases patient and family satisfaction, and enables faster care, which directly impacts the positive care experience. Humanized care is provided to reduce errors, involve the patient in the procedure being performed, and respect the patient's dignity, demonstrating a commitment to their safety. For the professional, it involves working in a collaborative institution that prioritizes patient safety, encourages effective communication, reduces stress, and increases job satisfaction. Humanized care benefits the healthcare institution by increasing quality and public trust and potentially reducing the costs of postoperative complications<sup>(17)</sup>.

It is important to emphasize that for the effectiveness of actions and the successful implementation of SSC, it is essential to perform a situational diagnosis and map the inconsistencies and challenges of its application in the surgical center. Therefore, the essential role of the nurse in this process is highlighted, as they are the main professional who supervises and coordinates the organizational process of the surgical center, considering the management of care in the unit from surgery scheduling to patient discharge from the

Anesthesia Recovery Room.

Therefore, these professionals must be aware of the challenges of their practice, the comprehensive implementation of the nursing process, and the management of care and resources. This allows them to identify and compile data that generates care indicators and demonstrates the need for adjustments across the team, in an equitable and personalized manner, according to the flow of each service.

Limitations of this research include the lack of access to some studies that could provide more information on the topic and the exclusion of gray literature. It is suggested that such inclusion may be considered in future studies.

## FINAL CONSIDERATIONS

When applying the surgery checklist, the SSC is extremely important to ensure patient safety, in addition to bringing improvements in the interaction and communication of the multidisciplinary team.

This review identified the main causes of resistance among the entire surgical block team, but mainly among the medical team, and it was realized that the main factor is the lack of time and the rush with which this team works in the surgical center. However, the potential of using this instrument is notable, as it enables, as previously mentioned, patient safety, reduced morbidity and mortality, and adverse events. As limitations of an integrative review, the heterogeneity of the included studies stands out, such as differences in samples, data collection instruments, and objectives, which may limit the generalization of the findings.

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