SURGICAL CHECKLIST ACCESSION IN LIGHT OF PATIENT SAFETY CULTURE

Adesão do cheklist cirúrgico à luz da cultura de segurança do paciente

Adhesión del checklist quirúrgico a la luz de la cultura de seguridad del paciente

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ABSTRACT: Objective: To analyze the national and international scientific production on adherence to the surgical checklist regarding patient safety. **Method:** Integrative literature review using the following databases: Scientific Electronic Library Online (SciELO), Literatura Latino-Americana em Ciências da Saúde (LILACS), PubMed and Scopus, from January 2007 to July 2017. **Results:** Of the 32 studies that included the objective of this study, 53.1% were published in Portuguese, and 40.6% in the year 2015. Among the subjects analyzed, special reference is made to protocol compliance (40.6%), records on safe surgery (37.5%), preparation and implementation of the checklist (9.4%), professionals' perception (9.4%) and importance of the postoperative visit (3.1%). Regarding the implementation of safe surgery protocols, 40.6% reported on permanent education and 21.9% on communication. **Conclusion:** The use of checklist for safe surgery is being increasingly elucidated in health services, using communication to to promote patient-centered care.
Keywords: Surgicenters. Patient safety. Communication. Nursing.

RESUMO: Objetivo: Analisar a produção científica nacional e internacional sobre a adesão de *checklist* cirúrgico quanto à segurança do paciente. **Método:** Revisão integrativa da literatura utilizando as bases de dados *Scientific Eletronic Library Online* (SciELO), Literatura Latino-Americana em Ciências da Saúde (LILACS), PubMed e Scopus, no período de janeiro de 2007 a julho de 2017. **Resultados:** Dos 32 estudos que contemplaram o objetivo deste trabalho, 53,1% foram publicados em língua portuguesa e 40,6% no ano de 2015. Entre os temas analisados, destacam-se adesão ao protocolo (40,6%), registros sobre cirurgia segura (37,5%), elaboração e implementação da lista de verificação (9,4%), percepção dos profissionais (9,4%) e importância da visita pós-operatória (3,1%). Quanto à implementação dos protocolos de cirurgia segura, 40,6% relataram sobre educação permanente e 21,9%, sobre comunicação. **Conclusão:** A utilização de *checklist* para cirurgia segura está sendo cada vez mais elucidada nos serviços de saúde, a partir da comunicação, buscando promover cuidado centrado no paciente.
Palavras-chave: Centros cirúrgicos. Segurança do paciente. Comunicação. Enfermagem.

RESUMEN: Objetivo: Analizar la producción científica nacional e internacional sobre la adhesión de checklist quirúrgico en cuanto a la seguridad del paciente. **Método:** Revisión integrativa de la literatura usando las bases de datos Scientific Eletronic Library Online (SciELO), Literatura Latino-Americana em Ciências da Saúde (LILACS), PubMed y Scopus, en el período de enero de 2007 a julio de 2017. **Resultados:** De los 32 estudios que abarcan el objetivo de este estudio, 53,1% fueron publicados en portugués y 40,6% en 2015. Entre los temas analizados, se destacan adhesión al protocolo (40,6%), registros sobre cirugía segura (37,5%), elaboración e implementación de la lista de verificación (9,4%), percepción de los profesionales (9,4%) y importancia de la visita postoperatoria (3,1%). En cuanto a la implementación de los protocolos de cirugía segura, 40,6% relató sobre educación permanente y 21,9%, sobre comunicación. **Conclusión:** La utilización de checklist para cirugía segura está siendo cada vez más elucidada en los servicios de salud, a partir de la comunicación, buscando promover cuidado centrado en el paciente.
Palabras clave: Centros quirúrgicos. Seguridad del paciente. Comunicación. Enfermería.

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INTRODUCTION

In 2004, the World Health Organization (WHO) established the World Alliance for Patient Safety, which aims to organize concepts and definitions about patient safety. Measures to reduce harm and to implement checklists are proposed, focusing on health and safety management, in order to substitute blame with learning from flaws in the health work process[1,2].

In Brazil, this issue was highlighted in 2013, with the elaboration of the National Patient Safety Program (*Programa Nacional de Segurança do Paciente* – PNSP), which supported the implementation of risk management and of the Patient Safety Nucleus (*Núcleos de Segurança do Paciente* – NSS) in health facilities[2,3].

In this context, safe and effective communication among the health team is a determining factor in reducing risks, based on the valuation of the perception, attitudes and behavior of all professionals involved in patient care, with a view to promoting the culture of safety. In this sense, participative leadership is present in the communication of the work process, and the team must communicate openly about concerns on safety breaches, without fear of blame or punishment[4]. To this end, the health service must be structured safely, with adequate risk management to use technologies, processes and human resources, as errors and damages have multifactorial causes[5].

In view of the above, permanent education in nursing is essential, since it establishes an institutional safety culture with changes in habits and attitudes, that is, learning and resignifying professional practices. In addition, the nurse, as a leader or manager, has, among other duties, the role of coordinating teams and work processes, whether in the hospital or basic care. Therefore, nurses must educate themselves, train and raise awareness in order to provide qualified, safe and patient-centered care[6].

OBJECTIVE

To analyze the national and international scientific production on adherence to the surgical checklist, with a view to the implementation of safe surgery in hospital health services.

METHOD

This is an integrative review, which enables the construction of an ample analysis of the chosen literature, contributing to discussions and reflections on the proposed theme. The construction of this review involved the identification of the theme and formulation of the research question, application of inclusion and exclusion criteria, definition of information extracted from the studies, evaluation of the included studies, interpretation of results and presentation of the results' synthesis[7].

For the selection of articles, the following databases were surveyed: Scientific Electronic Library Online (SciELO), Literatura Latino-Americana em Ciências da Saúde (LILACS), PubMed and Scopus. The health terminology found in the Health Sciences Descriptors (DeCS) and in the Medical Subject Headings (MeSH), both with vocabulary that allows standard and unified language for indexing scientific studies and journals, was used in the study. The terms "Checklist", "Guideline Adherence", "Patient Safety" and "Surgery" were used in the search of articles, combined with the Boolean operators "and" and "or": "Checklist AND Guideline Adherence OR Patient Safety"; "Patient Safety AND Checklist AND Surgery"; "Checklist AND Surgery OR Guideline Adherence".

Data collection took place between July and August 2017, with the following guiding question: how is the use of the checklist aimed at the implementation of safe surgery inserted in the care provided to surgical patients?

Inclusion criteria were: studies published in full article format, related to the topic of safe surgery, and published from January 2007 to July 2017. The studies included were published in Portuguese, English and Spanish. Publications such as theses, dissertations, abstracts and course papers were excluded.

Of the total of 70 studies found, 18 studies were excluded because they were not in full; 11 for not addressing the study topic, 8 for being repeated in the selected databases and 1 for being a dissertation. Therefore, of the 70 initial publications, 32 studies were used as samples.

To facilitate the analysis of the eligible studies, a spreadsheet was used in Microsoft Excel® for data collection, containing year of publication, Qualis/impact factor, country of origin, language, type of study, thematic addressed and descriptors.

With respect to the data obtained according to the descriptors, a conceptual map was elaborated which allowed structuring the course of data analysis through a hierarchy of ideas, effectively helping to understand what was being analyzed[8].

To facilitate the visualization of the surveying method, a Prisma-type[9] flowchart was elaborated (Figure 1).

Because this is a literature review, there was no direct involvement with human beings, however, it is important to

point out that the ethical precepts contained in the national and international norms that regulate the Research Ethics Committees have been followed.

RESULTS

Of the 70 studies analyzed, 32 addressed the topic of safe surgery in health services. Of these, 13 (40.6%) were published in 2015, 8 (25.0%) in 2014, 6 (18.5%) in 2013, 3 (9.4%) in 2016 and 2 (6.2%) in 2012.

As to the distribution of the journals, 19 (59.40%) were national, with emphasis on *Revista SOBECC* and *Revista Latino-Americana de Enfermagem*, with 4 (12.50%) and 3 (9.37%) studies published, respectively. As for the Qualis-CAPES (Coordination for Improvement of Higher Level Personnel), 12 national journals present the following stratification: 1 – A1; 2 – A2; 5 – B1; 1 – B2 and 1 – B3. Regarding the impact factor of the journals, *Revista Latino-Americana de Enfermagem* is attributed 0.5797, according to Table 1. In the international journals, 13 (40.60%) were included, with 2 studies (6.30%) from the

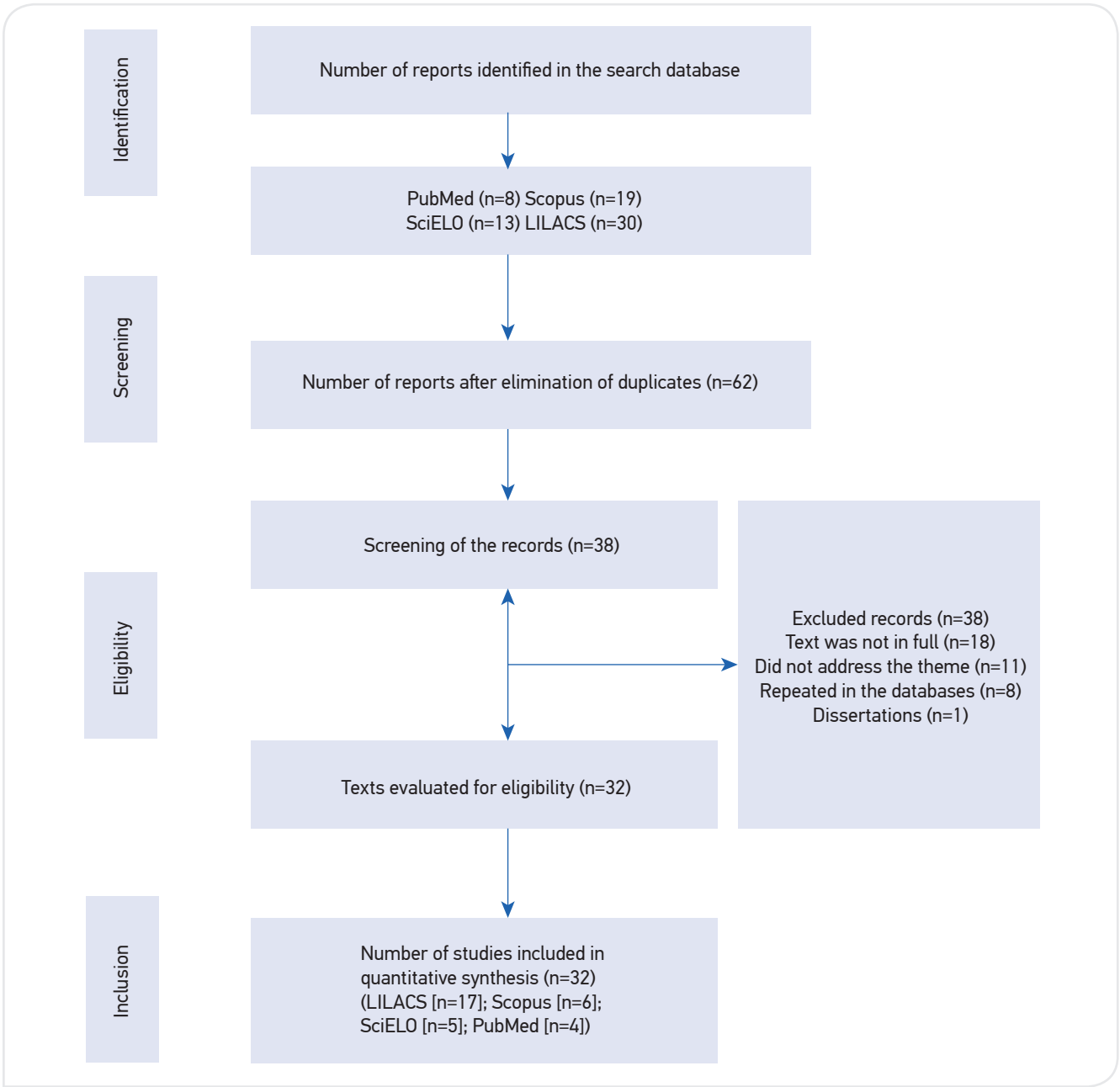

Figure 1. Flowchart of the search method of the studies in the integrative review.

BMJ Open Journals, followed by other journals with 1 (3.10%) each. Of the total of the international journals, 2 are focused on the publication surgery-related topics: ANZ Journal of Surgery and International Journal of Surgery. As for the Qualis for international journals, 4 have their stratification distributed as follows: 2 – B1; 1 – B2 and 1 – B3. The largest impact factor attributed was to the journal Implementation Science, with 3,354, according to Table 1.

Regarding the methodological approach of the studies, 10 (31.25%) were surveys; 5 (15.62%) were retrospective; 4 (12.50%) were observational; 3 (9.37%) were field studies; 3 (9.37%) were reviews; 3 (9.37%) were cross-sectional; 1 (3.12%) was comparative; 1 (3.12%) was documental; 1 (3.12%) was theoretical and 1 (3.12%) was prospective.

Regarding the language, 17 (53.1%) are in Portuguese, 13 (40.6%) are in English and 2 (6.3%) are in Spanish.

After analyzing the studies, the main themes of this review were: adherence to protocols for surgery (40.60%), records on safe surgery (37.50%), preparation and implementation of checklists (9.40%), professionals' perceptions

Table 1. Distribution of national and international scientific production, according to the journal, impact factor and Qualis-CAPES classification.

National Journals	n (%)	Qualis	Impact factor
Revista SOBECC	04 (12.5)	B3	–
Revista Latino-Americana de Enfermagem	03 (9.4)	A1	0.5797
Revista Acta Paulista de Enfermagem	02 (6.3)	A2	0.5083
Revista Gaúcha de Enfermagem	02 (6.3)	B1	0.4048
Escola Anna Nery Revista de Enfermagem	01 (3.1)	B1	0.3651
Cadernos de Saúde Pública	01 (3.1)	B1	0.4860
Revista da Escola de Enfermagem da USP	01 (3.1)	A2	0.4585
Revista de Enfermagem da UERJ	01 (3.1)	B1	–
Revista Brasileira de Ortopedia	01 (3.1)	B4	0.1667
Revista de Enfermagem do Centro-Oeste Mineiro	01 (3.1)	B2	–
Revista Brasileira de Anestesiologia	01 (3.1)	B1	0.0719
Cuidado é Fundamental Online	01 (3.1)	B2	–
Subtotal	19 (59.4)		
International Journals	**n (%)**	**Qualis**	**Impact factor**
BMJ Open Journals	2 (6.3)	–	2.369
Revista del Hospital Aeronáutico Central	1 (3.1)	–	–
Archivos Argentinos de Pediatría	1 (3.1)	B3	0.403
International Journal for Quality in Health Care	1 (3.1)	–	2.342
Scandinavian Journal of Trauma, Resuscitation and Emergency Medicine	1 (3.1)	–	2.036
Enfermería Global	1 (3.1)	B1	0.2549
The Journal of Laryngology & Otology	1 (3.1)	–	0.8440
Plos One	1 (3.1)	–	2.8060
Implementation Science	1 (3.1)	–	3.3540
ANZ Journal of Surgery	1 (3.1)	–	1.1220
Journal of Infection and Public Health	1 (3.1)	B1	1.4390
International Journal of Surgery	1 (3.1)	B2	0.6900
Subtotal	13 (40.6)		
Total	32 (100.0)		

CAPES: Coordenação de Pessoal de Nível Superior (Coordination of Higher Level Personnel); USP: Universidade de São Paulo; UERJ: Universidade do Estado do Rio de Janeiro.

regarding safe surgery (9.40%) and importance of the post-operative visit (3.10%). Regarding the implementation of safe surgery protocols based on the references in the manual *"Cirurgias Seguras Salvam Vidas"* (Safe Surgeries Save Lives)[10], 13 (40.60%) addressed permanent education as an important tool for patient safety and 7 (21.90%) reported on the importance of communication between health teams. Regarding the keywords, the descriptors most frequently used by the authors were "patient safety", in 22 (68.75%) studies, and "checklist", used in 10 (31.25%) publications.

After analyzing the descriptors and grouping the themes, a conceptual map was created, represented in Figure 2.

The thematic groups that emerged from the descriptors in the publications were: dependent factors, related factors and factors that influence the incorporation of protocols for safe surgery.

DISCUSSION

The publications analyzed in this study are recent, as they have focused on the last 5 years (2012 to 2017). This can be explained by the publication of the guidelines recommended by the WHO in 2008, and of the PNSP in 2013 in Brazil. This is important evidence, both nationally and internationally, because adverse events (AE) in surgical procedures are precedents for injury or damage to the patient, which can lead to incapacities and/or death[1,3,11]. In addition, section three of the WHO document "Second Global Challenge for Patient Safety: Safe Surgery Saves Lives" provides templates for checklists to be used in surgical work processes, and they can be adapted or modified according to the needs of each institution and to the demands brought by the surgical team[1,12,13].

It should be emphasized that this list guarantees patient safety prior to the induction of anesthesia (identification/sign in), after the induction and prior to the surgical incision (confirmation/timeout), and during or immediately after wound closure (registration/sign out)[1].

In Brazil, adherence to the checklists has been procedural in health services, albeit with some challenges, such as improper awareness of the importance of its use by professionals in the surgical team, with signs of blame and compensation for unsafe practices[14]. The viability of the surgical safety checklist has been shown to be promising in several Brazilian hospitals, although there is still low engagement of the surgical team regarding adherence. The nurse, as coordinator of the surgical sector, can appropriate this tool as a way to measure and evaluate the care provided.

In addition, medical skills, effective communication and the integral awareness of the surgical team about the risks involved in the anesthetic-surgical act qualify the process and the results as a safe and effective therapy to the surgical patient.

Thus, the presence of the list coordinator is necessary to verbally verify with the patient their identity, surgery site, procedure and consent obtained[12]. The coordinator will visually confirm if the operative site has been marked (if applicable) and will verbally review the risk of blood loss, airway difficulties, allergies, and the availability and safety of anesthetic equipment and medications, with the anesthesia team[1,12,15].

All of these actions aim at improving care standards through secure interprofessional communication and at reducing physical and psychological harm to the patient in this health environment.

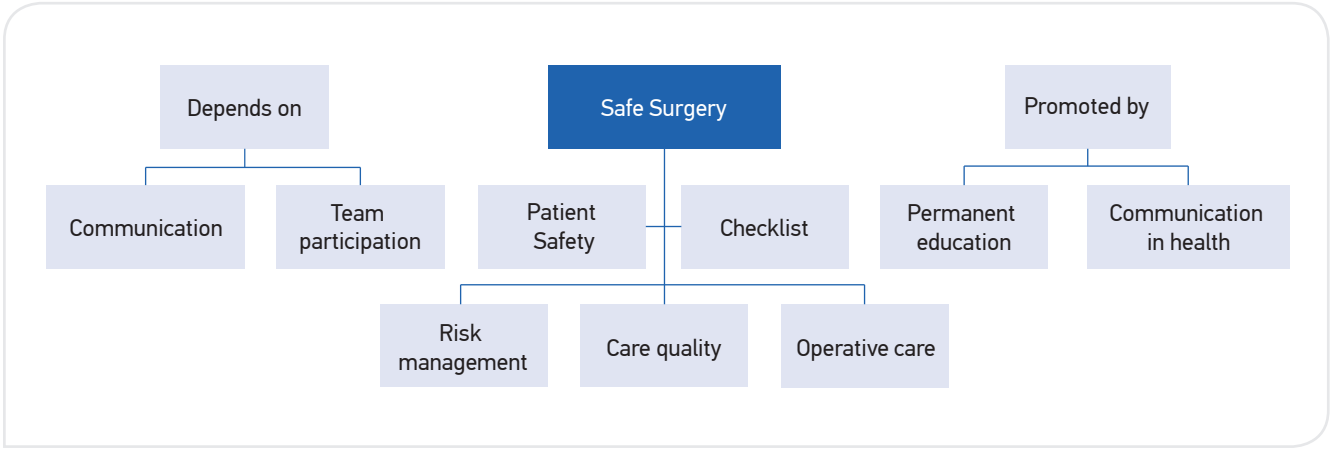

Figure 2. Conceptual map drawn from the descriptors used in the eligible publications.

Thus, the nursing team has an essential role in the adherence to the checklist, since it is responsible for the qualification, communication and professional qualification, with a view to the improvement of the service and the reduction of AE.

To this end, the team must be engaged and committed individually and collectively in order to understand the importance and necessity of using the checklist and, afterwards, to assign corrective actions through safe indicators. The nursing staff is responsible for the planning of their actions, for the dimensioning of the staff, as recommended by Administrative Rule 543/2017 of the Brazilian Federal Nursing Council (Cofen), and for the training and education of the work teams on safe care[5].

Permanent education is an instrument of nursing care management, as it comprehends the potentialities and difficulties that exist in these professional's daily lives[16]. In addition, it favors interpersonal communication, guided by the exchange of knowledge, horizontality, the listening and receptivity of new ideas, leading the whole team towards understanding and comprehension[17].

Thus, patient safety should be monitored and measured by a clear and precise definition of the clinical problem to be investigated in the health service. In a study conducted in Texas, United States, researchers developed the Safety Attitudes Questionnaire (SAQ), which measures the safety environment perceived by healthcare professionals in the operating room (OR). This instrument made it possible to obtain data on the perspective of health and clinical professionals and administrative managers, proposing interventions, directions and alternatives for promoting patient safety[18,19]. From the representation of the institution's values and actions, with respect to the perceptions of the professionals about the safety management in the institution, it is possible to identify and administer the safety of the patient in the surgical environment.

FINAL CONSIDERATIONS

Safe surgery is being increasingly elucidated in health services and discussed among peers. The use of a checklist is being implemented by various health institutions, according to their values and organizational culture, which results in benefit to both professionals and patients. In fact, with the implementation of checklists for safe surgery in the past decade and with the present analysis of reliable clinical indicators on adverse events, more reliable and systematic intervention data can be obtained from high-level organizational models that represent improvements in the safety of health services as a whole. A decade ago, we understood the phenomenology of the damage and its causes, but today, there is no strong evidence to indicate significant improvements in patient safety within all of the WHO guidelines, as well as in any organizational structure of health services.

It is also worth noting that participatory nursing leadership through communication among the team, the patient, family members and hospital managers promotes patient-centered care in a continuous and safe manner.

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