SYSTEMATIZATION OF PERIOPERATORY NURSING ASSISTANCE IN PATIENT SAFETY: AN INTEGRATIVE REVIEW

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Objective: To know the approach of scientific articles on the systematization of perioperative nursing care related to patient safety.

Method: Integrative review with searches in the databases of the Virtual Health Library, National Library of Medicine (PubMed), and the journals of the Coordination of Improvement of Higher Education Personnel (CAPES). Articles were evaluated according to the level of evidence, using the evaluation tool proposed by the Joanna Briggs Institute (JBI).

Results: Ten articles were identified, of which eight were published in national journals, and two in international journals. The studies were classified according to levels of evidence (LoE): three with LoE 5 and seven with LoE 6.

Conclusions: There are few publications on the systematization of perioperative nursing care related to patient safety. The articles selected present a low level of evidence and the approach is directed towards patient safety, being restricted to the use of the checklist and implementation of the systematization of perioperative nursing care.

Keywords: Perioperative care. Perioperative nursing. Surgical center. Patient safety.


RESUMEN: Objetivo: Conocer el enfoque de los artículos científicos sobre la sistematización de la atención de enfermería perioperatoria relacionada con la seguridad del paciente. Método: Revisión integradora con búsquedas en las bases de datos de la Biblioteca Virtual en Salud, la Biblioteca Nacional de Medicina (PubMed) y las revistas de Coordinación de Mejora del Personal de Educación Superior (CAPES). Los artículos fueron evaluados según el nivel de evidencia, utilizando la herramienta de evaluación propuesta por el Instituto Joanna Briggs (JBI). Resultados: se identificaron diez artículos, de los cuales ocho se publicaron en revistas nacionales y dos en revistas internacionales. Los estudios se clasificaron según los niveles de evidencia (levels of evidence – LoE): tres con LoE 5 y siete con LoE 6. Conclusiones: Existen pocas publicaciones sobre la sistematización de la atención de enfermería perioperatoria relacionada con la seguridad del paciente. Los artículos seleccionados presentan un bajo nivel de evidencia y el enfoque se dirige hacia la seguridad del paciente, y se limita al uso de la lista de verificación y la implementación de la sistematización de la atención de enfermería perioperatoria. Palabras clave: Atención perioperatoria. Enfermería perioperatoria. Centro quirúrgico. Seguridad del paciente.

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SYSTEMATIZATION OF PERIOPERATIVE NURSING CARE: INTEGRATIVE REVIEW

INTRODUCTION

The systematization of nursing care (SNC) is a method that aims to improve the care provided by nurses to patients, seeking to provide a safe and quality care, improving communication between the teams. Thus, its importance is evident for nursing professionals, bringing several benefits to the patient and to the healthcare team.

According to the Resolution of the Brazilian Federal Nursing Council (COFEn) no. 358/2009, every health institution that provides professional nursing care should use SNC, allowing the implementation of its technical-scientific and humanization knowledge in the practice of care, organizing the professional approach regarding method, personnel, and instruments, operationalizing the nursing process (NP).

The surgical center (SC) is one of the most complex units of a hospital, consisting of human resources, materials, equipment, and highly complex technologies, aimed at the care of surgical patients in the perioperative period. Nurses working in this area can use perioperative nursing care systematization (PNCS) to promote quality care to surgical patients in a continuous, participative, individualized, and documented way. All periods related to a surgical act are understood as perioperative, namely: preoperative, transoperative, and postoperative.

In 2004, the World Alliance for Patient Safety was launched by the World Health Organization (WHO), seeking to improve patient safety. From this alliance, a global challenge was established, whose objective was to raise the quality standards of health services for safe surgery. In this sense, the Joint Commission International (JCI) promoted the international goals for patient safety: to identify patients correctly; improve effective communication; improve the safety of high-alert medications; ensure surgeries with correct intervention site, correct procedure, and correct patient; reduce the risk of health care-associated infections; and reduce the risk of patient harm resulting from falls.

Brazil is part of the WHO Global Alliance for Patient Safety and, in 2013, the Ministry of Health (MS) established the National Patient Safety Program (PNSP), through Administrative Rule no. 529, contributing to the qualification of the health care. Thus, the National Health Surveillance Agency (ANVISA) published the Resolution of the Collegiate Board of Directors (RDC) no. 36/2013, establishing actions to promote patient safety and aiming at improving quality in institutions.

Aiming to implement and guarantee the quality of care, health institutions currently use accreditation programs, such as that of the National Accreditation Organization (ONA), recognized as a competent entity for the development of the hospital process, coordinated by the Brazilian Accreditation System (SBA), which integrates organizations and health services, entities, and accrediting institutions for patient safety and improved healthcare.

In order to provide quality and safe assistance to surgical patients, the involvement and participation of the entire multiprofessional team is necessary. Establishing effective communication is critical to building partnerships for more qualified and safe perioperative care, as it helps to reduce errors during care processes. Therefore, effective communication is key to the profession in the healthcare field.

Considering the importance of PNCS for the improvement of quality and of the safety of surgical patients, this study aimed to guide and provide subsidies for its implementation in a SC.

OBJECTIVE

To know the approach of published scientific articles to PNCS related to patient safety.

METHOD

This is an integrative review, a research method that aims to synthesize the results obtained on a certain subject, contributing to deepening the knowledge on this subject, and is used in evidence-based practices. This method is carried out in six stages: identification of the theme; definition of the article inclusion and exclusion criteria and choice of databases; identification of selected studies; synthesis of studies; analysis and interpretation of collected data; and presentation of results.

The guiding question was: what is the approach of published scientific articles to the systematization of nursing care in the perioperative period related to patient safety?

The electronic databases used were: Virtual Health Library (VHL), National Library of Medicine (PubMed) and journals of the Coordination of Improvement of Higher Education Personnel (CAPES).

The inclusion criteria were: scientific articles published with free online access, in full, in Portuguese or Spanish or English, in the last 10 years, from 2008 to 2017. Exclusion criteria were:
publications classified as editorials, letters, dissertations, theses, manuals and protocols, and articles that did not address the research question.

The data collection period occurred from November 1 to November 15, 2017, using controlled descriptors obtained from DeCS and the Medical Subject Headings (MeSH): “perioperative care” (“assistência perioperatória”); “patient safety” (“segurança do paciente”); “nursing process” (“processo de enfermagem”); “perioperative nursing” (“enfermagem perioperatória”); and “surgical centers” (“centro cirúrgico”). An uncontrolled descriptor was also used: “systematization of assistance” (“sistematização da assistência”). These descriptors were combined with each other by the Boolean operators “AND” and/or “OR”, as shown in Chart 1.

The articles were evaluated and classified regarding their scientific rigor according to the characteristics of each study, using the evaluation tools proposed by the Joanna Briggs Institute (JBI)\(^\text{17}\). After this evaluation, the classification by level of evidence (LoE) was performed, according to validity and reliability. In this stage, an instrument was used, based on the Rating System for the Hierarchy of Evidence for Intervention/Treatment Question for the classification of the LoE of studies. The levels refer to:

- systematic reviews or meta-analyses of relevant randomized clinical trials (LoE 1);
- one or more randomized controlled trials (LoE 2);
- controlled clinical trials without randomization (LoE 3);
- control cases and cohort studies (LoE 4);
- systematic reviews of descriptive studies and qualitative studies (LoE 5);
- evidence of a single descriptive or qualitative study (LoE 6);
- expert opinion reports (LoE 7)\(^\text{18}\).

### RESULTS

Initially, the databases were searched according to the cross-referencing of the previously mentioned descriptors, shown in Table 1.

In the initial search, the titles were read, and 30 articles were selected in the databases. However, seven articles were repeated on different bases. After reading the abstracts and articles in full, 15 that met the selection criteria were selected. For the evaluation of the articles’ internal quality, five articles were excluded using the evaluation tools proposed by JBI.

According to the analysis of the selected articles — 10 in total — it was possible to verify their quantity according to year and their distribution: 2009 (n=1); 2011 (n=3); 2012 (n=1); 2013 (n=2); 2014 (n=1) and 2015 (n=2).

In relation to the production and its dissemination, eight articles produced and published in national journals and two in international journals were identified: Journal of Science, Care and Health (n=1); Journal of Nursing UFPE (n=1); Revista de Administração em Saúde (n=1); Journal of Nursing of the Federal University of Santa Maria (UFSM) (n=1); Revista Gaúcha de Enfermagem (n=1); Revista Mineira de Enfermagem (n=1); Anna Nery School Journal of Nursing (n=1); SOBECC Journal (n=1); Online Brazilian Journal of Nursing (n=1); and Journal Nursing Health (n=1).

Regarding the study design, the following were found: qualitative research (n=7); quantitative research (n=2), and mixed/qualitative and quantitative research (n=1). Thus, the studies were classified according to the LoE: three with LoE 5 and seven with LoE 6.

From the research performed, the articles were analyzed and grouped into two topics according to their focus: safe surgery and patient safety; and PNCS. Charts 2 and 3 present the synthesis of the articles selected in the integrative review.

### DISCUSSION

The analysis allowed the grouping of the theme into two topics, according to the articles’ approach. Chart 2 included the articles focusing on safe surgery and patient safety, which
addressed the importance of using the surgical checklist for quality of care.

WHO³ has launched the Second Global Challenge, which includes Safe Surgeries Save Lives, which aims to improve care for surgical patients by using the surgical checklist as a way to help the team reduce the occurrence of patient harm. It seeks to improve care safety and the communication of the surgical team, using a checklist that guides verbal interaction, confirming healthcare standards, minimizing the most common and avoidable risks, as well as improving the well-being of surgical patients¹⁹-²¹,²².

One study²¹ evaluated the checklist records in orthopedic surgeries, involving limbs and double laterality, in which the possibility of error is even greater, and the surgical site should be outlined to avoid adverse events. Thus, verification items and the correct and effective filling of this instrument are very important because they prevent errors and promote patient safety in the surgical procedure, and the results can contribute to the planning of corrective institutional actions based on the surgical checklist records.

In another study¹⁹, the authors emphasized the importance of the institutions to provide training regarding the use of the surgical checklist, emphasizing its importance to be applied in daily practice as a feasible tool to guarantee safe surgeries and to contribute to an effective communication process in the surgical environment. Carrying out training with the team encourages the promotion of best practices. It should be emphasized that the checklist should be routine in the SC to improve patient safety, so the correct completion of this instrument should be a continuous work²².

The checklist must be carried out at the three moments of the anesthetic-surgical procedure: before anesthetic induction, before the beginning of the procedure/before the skin incision, and at the end of the procedure/before the patient leaves the operating room. The implementation of this instrument generates some difficulties in the SC, because often there is not a good acceptance by the surgical team, which impairs their participation in its application. In this sense, the role of the nurse is very important, as it contributes to the application of the checklist and the orientation of the team in its use, emphasizing the benefits for professionals and patients¹⁹.

Thus, studies have shown that the use of the checklist improves communication with the surgical team, as it promotes better interaction between patients and professionals, providing quality and safe care¹⁹,²⁰-²².


<table>
<thead>
<tr>
<th>Descriptor: (perioperative nursing AND systematization of assistance)</th>
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<th>CAPES</th>
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<th>Descriptor: (perioperative nursing OR perioperative care) AND (patient safety OR nursing process)</th>
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SNC contributes to the organization of the nursing team’s work, but is complex, as it is different in each sector, being executed in four phases of the NP: data collection, nursing diagnosis, nursing care planning, and implementation²⁷. However, this study highlights the benefits and difficulties related to its implementation in the CC. The benefits emphasized were that, with the implantation, the nurse becomes better acquainted with the patient, performing a continuous nursing work, monitoring the surgical patient closely, improving the care provided, and establishing a routine. Regarding the difficulties, it was pointed out the lack of time and personnel to perform the SNC, the changes
in work practice, and the lack of knowledge to carry out the systematization. Studies emphasize that nurses report the importance and necessity of performing PNCS in their practice, but they do not carry it out due to the various difficulties and the lack of understanding for their application. One study reports that SC nurses cannot provide direct assistance to the patient during the perioperative period, since they perform various managerial activities in their work, being overloaded with, which stresses the need for assistance planning, in which the tasks must be redistributed so that nurses can care for the patient and promote integrated care.

SNC allows a humanized and individualized care, which highlights the importance of the use of quality indicators of nursing care in the SC, identifying the nursing interventions according to the needs of each patient, allowing nurses to

**Chart 2. Synthesis of articles focused on safe surgery and patient safety.**

<table>
<thead>
<tr>
<th>Authors, title and journal</th>
<th>Objectives</th>
<th>Design</th>
<th>Main results</th>
<th>Level of Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pancieri AP, Santos BP, Avila MAG, Braga EM</td>
<td>Apply the WHO “safe surgery” checklist in the surgical specialties of a school hospital and verify the opinion of the teams on the influence of this application on the safety of the surgical process and the team’s interpersonal communication.</td>
<td>Qualitative descriptive research</td>
<td>It is necessary that institutions make use of the tool and know its importance, ensuring safe surgeries and implementing communication processes between the teams. There is still difficulty in implementing the checklist regarding its acceptance by the surgical team. The subjects of the study did not notice changes in interpersonal communication by using the checklist, however, they indicated that its use provided more safety to the procedure, and some adaptations to the checklist were recommended.</td>
<td>LoE 6</td>
</tr>
<tr>
<td>Guzzo GM, Guimarães SM, Magalhães AMM</td>
<td>To identify the effects of the use of a surgical safety verification system, as well as the challenges of its implantation, as available in the literature.</td>
<td>Integrative review</td>
<td>The use of the surgical safety check system brings better care results to the surgical patient. Continuous monitoring of its implementation is necessary to guarantee its full operation and to improve SC practices with quality and safety to the patient.</td>
<td>LoE 6</td>
</tr>
<tr>
<td>Amaya MR, Maziero ECS, Grittem L, Cruz EDA</td>
<td>To analyze and relate the record of the information and content on the checklist with the goals of the Safe Surgery Saves Lives Program.</td>
<td>Quantitative research</td>
<td>Planning actions so that the checklist is registered correctly and with high adherence as to its completion. It allowed to identify potential surgical risks, contributing to a professional practice focused on patient safety.</td>
<td>LoE 5</td>
</tr>
<tr>
<td>Elias ACGP, Schmidt DRC, Yonkura CSI, Dias AO, Ursi ES, Silva RPJ, Feijó VBER</td>
<td>To evaluate adherence to the checklist in surgeries performed at a public school hospital, as well as identify the patients’ profiles from its use.</td>
<td>Descriptive, qualitative study</td>
<td>The checklist should be implemented into the SC routine and be carried out during daily practices, promoting better communication between teams, thus being improved, contributing to the reduction of adverse events in surgical patients.</td>
<td>LoE 6</td>
</tr>
</tbody>
</table>

Chart 3. Synthesis of articles focused on the systematization of perioperative nursing care.

<table>
<thead>
<tr>
<th>Authors, title and journal</th>
<th>Objectives</th>
<th>Design</th>
<th>Main results</th>
<th>Level of Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grittem L, Meier MJ, Peres AM&lt;sup&gt;23&lt;/sup&gt;</td>
<td>To develop a participatory process to structure perioperative nursing care in the Surgical Center Unit of a hospital in Curitiba.</td>
<td>Qualitative study</td>
<td>The arguments allowed reflection on the perioperative nursing care and the valuation of the activities performed by nurses as a way to collaborate to their professional recognition.</td>
<td>LoE 6</td>
</tr>
<tr>
<td>Gonçalves RM, Pereira MER, Pedrosa LAK, Silva QCG, Abreu RMD&lt;sup&gt;24&lt;/sup&gt;</td>
<td>To verify the importance of the verbal communication between nurse and patient in the perioperative period of cardiac surgery.</td>
<td>Descriptive-exploratory, quantitative and qualitative study (mixed)</td>
<td>It identified the importance of the nurse’s effective communication, seeking optimal interaction with the patient and the team, identifying their needs and elaborating systematized actions that are essential for the quality of care and systematization of perioperative care.</td>
<td>LoE 5</td>
</tr>
<tr>
<td>Umann J, Guido LA, Linch GFC, Freitas EO&lt;sup&gt;25&lt;/sup&gt;</td>
<td>To investigate scientific productions about the perioperative assistance of nurses to patients in heart surgery.</td>
<td>Integrative review</td>
<td>It is important that a care plan and intervention protocols are carried out, and that the NP be implemented. Research should be carried out to prove the effectiveness of the interventions, to assist in the profession’s scientific advancement with the implementation of evidence-based practices.</td>
<td>LoE 6</td>
</tr>
<tr>
<td>Klein AGS, Bitencourt JVOV, Dal Pai D, Wegner W&lt;sup&gt;26&lt;/sup&gt;</td>
<td>To evaluate the nursing records in the perioperative period of a hospital in Porto Alegre, Rio Grande do Sul.</td>
<td>Descriptive quantitative study</td>
<td>There is a lack and a difficulty of nursing professionals to carry out records in the perioperative period, which compromises the NP. It is recommended that a single and systematized instrument is prepared for perioperative records, providing a flow of information about the anesthetic-surgical procedure. The whole team should be motivated and committed to develop and implement specific instruments that can benefit surgical patients.</td>
<td>LoE 5</td>
</tr>
<tr>
<td>Adamy EK, Tosatti M&lt;sup&gt;27&lt;/sup&gt;</td>
<td>To evaluate the implementation of SNC in the perioperative period of a hospital in the west region of Santa Catarina, from the point of view of the nursing team.</td>
<td>Qualitative descriptive study</td>
<td>It highlights some difficulties regarding the implementation of SNC, such as a lack of collective commitment, rapid deployment, without adequate training for the nursing team, without having a computerized system to favor the work process, and lack of personnel. It emphasizes the importance of SNC implantation in relation to the safety of the surgical patient, the records became indispensable and facilitated the access to patient information, maintaining work organized and ensuring the continuity of the assistance. It is up to the institution to provide strategies that result in an effective and successful SNC.</td>
<td>LoE 6</td>
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plan their activities\(^2\). The importance to have a computerized system in the institution is highlighted for conducting organized work, keeping records properly, optimizing time, and facilitating access to patient information\(^1\). Nursing records should be performed in the perioperative period in a systematized instrument, seeking to confirm the practice and the care given to the patients, in order to allow the flow of information in the anesthetic-surgical procedure\(^2\).

PNCS allows SC nurses to qualify the care to be dispensed to patients in the perioperative period, planning the assistance, promoting better communication among the teams, monitoring and analyzing the indicators to provide the effectiveness of the nursing processes\(^3\).

Studies highlight the importance of communication between the teams in order to contribute to the improvement of perioperative care, developing actions that aim to guide and evaluate the needs of each surgical patient, resulting in quality care planning throughout the surgical process.

**FINAL CONSIDERATIONS**

This article sought to know the approach of the scientific articles, considering the few publications on PNCS related to surgical patient safety. The selected articles have low LoE and the approach is directed towards patient safety, being restricted to the use of the checklist and PNCS implementation.

The results of this study show the importance of using the checklist in the SC in order to provide greater patient safety in the anesthetic-surgical procedure, developing better interaction between the patient and the team, thus improving communication in the perioperative care. The results showed that the implementation of PNCS allows nurses to interact in the perioperative process, planning the care according to the needs of each patient, aiming at the quality of care provided, focused on a scientific process, based on all the practices adopted. It is suggested that further research be conducted on this subject to qualify the nursing care to the patient in the perioperative period.

**REFERENCES**


