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Effective teaching strategies in perioperative nursing learning for undergraduate students: Scope review.

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ADMINISTRATIVE INFORMATION

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 25 June 2026 and was last updated on 25 June 2026.

INTRODUCTION

Review question / Objective Based on the arguments derived from the scientific literature, the research question is: What are the most effective teaching strategies for perioperative nursing learning among undergraduate students? The objective of this research is to analyze the attributes of effective teaching strategies for perioperative nursing learning among undergraduate students so that they can be considered for replication in other contexts. As a secondary objective, the main characteristics of perioperative nursing instruction at the undergraduate level will be described, such as content, time dedicated to these topics, and teaching characteristics. This information will serve as a reference for those responsible for the education of generalist nursing professionals, considering that graduating competent professionals will contribute to the safety of surgical patients.

Background Interest in perioperative nursing (PN) education among undergraduate students has been evident since the 1970s. North American nurses were among the first to write about it, expressing their concern about the reduction or elimination of this topic in curricula. The Association of PeriOperative Registered Nurses (AORN) in the U.S. addressed this issue and highlighted the benefits of including these topics at the undergraduate level, ranging from increasing interest in pursuing the specialty in the future to improving the safety of surgical patients.

In this regard, it is important to remember that some of the activities performed by nurses during the perioperative period contribute directly to the safety of surgical patients. For example, one of the

complications arising from surgical care continues to be surgical site infection (SSI); in this respect, an association has been demonstrated between the reduction of SSIs and the activities performed by nursing professionals during perioperative care. However, when nursing staff competencies for preventing surgical site infections (SSIs) are evaluated, few demonstrate expertise, a factor that may contribute to the persistence of this problem. Therefore, it is important that higher education institutions ensure that nursing graduates possess the necessary competencies to guarantee safe care for surgical patients. From the moment nursing students begin their training, the gradual acquisition of competencies that enable them to resolve or prevent problems arising from surgical care must be ensured; curricula and their implementation should contribute to this. Contrary to the above, some authors have mentioned that the topics remain nonspecific despite having been strengthened over the years, and, in addition, students perceive their mentorship as deficient. Given this, it should be considered that when teaching is intentional and guided, learning is consolidated.

Rationale There are some educational proposals that suggest the perioperative nursing learning outcomes that undergraduate students should acquire in their generalist training; however, after operationalizing these proposals, they do not evaluate the learning achieved, only perceptions of course satisfaction. Some authors have proposed teaching strategies such as educational games; however, they also do not report learning outcomes, only perceptions or opinions related to the games. A systematic review that addressed the use of games confirmed that most studies on the subject did not report objective learning data, making it difficult to determine if the strategies are effective.

In other cases, clinical simulation was used to promote perioperative nursing education, and the main evaluation strategy used was debriefing, a qualitative approach which, while enriching, does not provide detailed evaluations in the research that reflect the learning achieved. Another scoping review reported on teaching strategies used for learning pre- and postoperative care, without considering the intraoperative phase. It was reported that most publications evaluated course satisfaction, student stress and anxiety levels, and characteristics of the educational experience; very few reported learning outcomes in terms of knowledge and skills.

METHODS

Strategy of data synthesis The search was conducted in the scientific document platforms PubMed, Cochrane, SciELO, CINAHL, Scopus, Web of Science, and LILACS, up to October 21, 2024. Articles in Spanish, Portuguese, and English were considered, regardless of publication year. Search strategies differed for some platforms due to the navigation language of each (Table 1).

Table 1. Search strategies

Cochrane (perioperative nursing) AND (undergraduate nursing students)
PUBMED ((perioperative nursing OR preoperative care) AND (teaching OR learning OR education) AND (nursing students OR undergraduate nursing students OR baccalaureate))
SCOPUS "perioperative nursing" OR "Preoperative care" AND "undergraduate nursing students" OR "nursing students" AND education AND learning AND teaching AND (LIMIT-TO (LANGUAGE , "English") OR LIMIT-TO (LANGUAGE , "Portuguese") OR LIMIT-TO (LANGUAGE , "Spanish"))
Web of science ("perioperative nursing" OR "perioperative care") AND (teaching OR learning OR education) AND ("nursing students" OR "undergraduate nursing students" OR baccalaureate)
Scielo (perioperative nursing) AND (teaching)
LILACS (perioperative nursing) AND (teaching)
CINAHL perioperative nursing AND undergraduate nursing students

Additionally, the TesiUNAM repository was consulted as a source of gray literature, and the references of the selected articles were searched for those related to the phenomenon of interest.

Eligibility criteria The inclusion criteria were limited to original quantitative studies (randomized controlled trials and quasi-experimental studies). The target population was undergraduate nursing students. Qualitative research, opinion pieces such as letters to the editor, and studies whose target population was graduate nursing staff or postgraduate students were excluded. Studies lacking a clear methodology, failing to describe the learning outcomes, or containing incomplete statistical data were also eliminated.

Source of evidence screening and selection Following the implementation of the search strategy in each database, the article metadata was exported to an Excel document. The PRISMA (extension for scoping reviews) guidelines were followed. In the first stage, articles were selected

by title and abstract, and subsequently, the full text was read. These steps were performed and verified by the authors of this article. When there was disagreement between reviewers regarding the selection of an article, a third reviewer was consulted.

Data management The selection process for the studies and the relevant information extracted from each selected article are presented descriptively. Priority was given to the intervention implemented (educational strategy), the stage of the perioperative period addressed, and the learning outcomes in their dimensions of knowledge, skills, and competencies.

Reporting results / Analysis of the evidence The initial search identified 1421 articles (PubMed 530, Scopus 766, Web of Science 36, SciELO 21, LILACS 23, CINAHL 21, and Cochrane 24). 269 duplicate articles were then removed. A total of 1151 titles were reviewed, followed by 425 abstracts, and finally 175 full titles. Seventeen articles were selected for this review. Two reviewers participated independently in each phase, and a third reviewer participated when discrepancies arose (Figure 1). Regarding documents found in other sources, no results were found in the search on TesiUNAM, and no publications were retrieved from the reference lists of other articles.

Language restriction No language filter was introduced for the search; however, only articles in English, Spanish, and Portuguese were analyzed.

Country(ies) involved Mexico.

Keywords perioperative nursing; teaching; learning; nursing students; undergraduate nursing students; baccalaureate.

Dissemination plans The authors intend to publish the manuscript and disseminate the results in academic settings and conferences related to perioperative nursing and education.

Contributions of each author

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Author 2 - Sofía Elena Pérez-Zumano - Independently screened titles. Acted as a third independent reviewer to resolve discrepancies during the selection process. Conducted critical reviews of the intellectual content and suggested methodological improvements. Reviewed and approved the final manuscript.
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