

QUALITY INDICATORS IN NURSING WITH EMPHASIS IN THE SURGICAL CENTER: INTEGRATIVE LITERATURE REVIEW

Indicadores de qualidade em enfermagem com ênfase no centro cirúrgico: revisão integrativa da literatura
Indicadores de calidad en enfermería con énfasis en el quirófano: revisión integrativa de la literatura

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ABSTRACT: Objective: To analyze the national and international scientific work concerning quality indicators in nursing in the surgical center. Method: This is an integrative review of the literature from 2009 to 2016 of articles indexed in the databases Latin American and Caribbean Literature in Health Sciences, Scientific Electronic Library Online, and US National Library of Medicine. The final sample included 17 articles. Results: In 2013, scientific studies carried out by master nurses with a quantitative approach were predominant. The themes of these studies were importance, reliability, and benefits of the quality indicators for the management of nursing care; difficulties in using the indicators; computerized system for data collection of indicators; and nurses' perspective on the use of this tool for the quality assessment. Conclusion: Benefits and main difficulties on the use of quality indicators for the surgical centers were observed. However, the surgical center performance assessment by means of indicators is still poorly used.

Keywords: Quality indicators, health care. Nursing. Surgicenters. Practice management.

RESUMO: Objetivo: Analisar as produções nacional e internacional dos indicadores de qualidade em Enfermagem no Centro Cirúrgico. Método: Revisão integrativa da literatura de 2009 a 2016 de artigos indexados nas bases de dados: Literatura Latino-Americana e do Caribe em Ciências da Saúde, Scientific Electronic Library Online e US National Library of Medicine. A amostra final foi composta por 17 artigos. Resultados: Houve predominância das publicações nacionais, em 2013, realizadas por enfermeiros mestres, com abordagem quantitativa. Os temas dessas foram: importância, confiabilidade e benefícios dos indicadores de qualidade para o gerenciamento da assistência de Enfermagem; principais dificuldades quanto ao uso dos indicadores; sistema informatizado para coleta de dados dos indicadores e visão dos enfermeiros a respeito do uso dessa ferramenta de qualidade. Conclusão: Foram observados os benefícios e as principais dificuldades referentes à utilização dos indicadores de qualidade para o Centro Cirúrgico. No entanto, a avaliação de desempenho do Centro Cirúrgico por meio de indicadores ainda é pouco utilizada. Palavras-chave: Indicadores de qualidade em assistência à saúde. Enfermagem. Centros cirúrgicos. Gerenciamento da prática profissional.

RESUMEN: Objetivo: Analizar las producciones nacionales e internacionales de los indicadores de calidad en Enfermería en el Quirófano. Método: Revisión integrativa de la literatura de 2009 a 2016 de artículos indexados en las bases de datos: Literatura Latinoamericana y del Caribe en Ciencias de la Salud, Scientific Electronic Library Online y US National Library of Medicine. La muestra final fue compuesta por 17 artículos. Resultados: Hubo predominancia de las publicaciones nacionales, en 2013, realizadas por enfermeros maestros, con abordaje cuantitativo. Los temas de esas publicaciones fueron: importancia, confiabilidad y beneficios de los indicadores de calidad para la gestión de la asistencia de Enfermería; principales dificultades con relación al uso de los indicadores; sistema informatizado para colecta de datos de los indicadores y visión de los enfermeros al respecto del uso de esa herramienta de calidad. Conclusión: Fueron observados los beneficios y las principales dificultades referentes a la utilización de los indicadores de calidad para el Quirófano. Sin embargo, la evaluación de desempeño del Quirófano por medio de indicadores aún es poco utilizada.

Palabras clave: Indicadores de calidad de la atención de salud. Enfermería. Centros quirúrgicos. Gestión de la práctica profesional.

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INTRODUCTION

The globalization process has promoted a substantial increase in the importance of productivity, which raises the level of demand for both people and organizations, transforming the quality into an applied matter¹.

The quality of health processes has been discussed among health professionals, whose main challenges are pursuing a service of excellence designed to meet the demands efficiently². In this context, the quality should generally be considered a collective attitude, as it is a necessary technical and social differential, which involves not only the patient, but also health system managers³.

Nurses should consider improving quality of care as a dynamic and comprehensive process of identifying factors that interfere in the work process, requiring the implementation of actions and the development of tools that enable the systematic assessment of quality levels of the care provided. Therefore, nurses need to analyze the results of the care to redefine management strategies⁴.

However, for such professionals to develop tools for assessing the results of their actions, to be based on information that directly or indirectly reflects the reality of care is required⁵.

Although the use of indicators is extremely important for the management of health services, it is still deficient in Brazil with respect to the indicators that represent the quality of nursing care in hospitals. In the 1990s, the indicators used in US hospitals were adopted in Brazil; however, those indicators were not consistent with the reality of that moment. Subsequently, initiatives have emerged, aiming the adequacy of indicators to the Brazilian reality. The manual of the Program "Commitment to Hospital Quality" (in Portuguese, *Compromisso com a Qualidade Hospitalar – CQH*) can be cited as an important publication of references for nursing indicators³.

The surgical center (SC) is considered one of the most important, complex, and specific hospital unit, in which numerous processes and sub-processes, directly or indirectly associated with the execution of surgical procedures, are shared. Such surgical procedures are sometimes stressful, and those processes and sub-processes may affect the quality of the care provided⁶.

Therefore, there is an increasing concern among the professionals working in SC in understanding the complexity

involving nurses' work and the construction and validation of quality indicators that guide their actions^{3,7}.

OBJECTIVES

This study aimed at understanding, characterizing, and analyzing the main themes in national and international literature related to quality indicators in nursing, with emphasis on SC.

METHODS

This is an integrative review, considered as a valuable part of the process of creating and organizing the reading with the same level of clarity, accuracy, and replication of primary research⁸.

This method consists of several steps recommended by subject matter experts^{8,9}. In this review, we intended to identify the problem (defining the subject of the review by means of a guiding question); to select the sample (after the establishment of the inclusion/exclusion criteria); to define the characteristics of the research (by means of the categorization of studies and data collection); to evaluate/examine the studies included in the review, identifying similarities and conflicts; to discuss and interpret the results; and to present the review/knowledge synthesis^{8,9}.

The guiding question was the following: What was the knowledge produced and published on the use and the importance of quality indicators in nursing with emphasis on SC?

The search for articles and sample selection occurred in May 2016, and the main method was searching in online databases of health: Latin American and Caribbean Health Sciences (LILACS), Scientific Electronic Library Online (SciELO), and US National Library of Medicine (PubMed). The following descriptors were used: in Portuguese for Brazilian databases – *indicadores de qualidade em assistência à saúde* AND *enfermagem* AND *gerenciamento da prática profissional*; and in English for international databases – quality indicators AND nursing AND surgical center.

The definition of the descriptors enabled the selection of the initial survey sample, which adopted the following inclusion criteria: full articles that were found in national and international literature and were published from January 2009 to May 2016.

The initial sample consisted of 87 articles, of which 35 articles were found in LILACS database, 24 articles in SciELO, and 28 articles in PubMed.

After the selection of articles, a carefully reading of the title and abstract was carried out. Those articles that did not respond to the guiding question and those repeated in more than one database were consequently excluded.

A tool for data collection was elaborated for the analysis and subsequent synthesis of the articles that met the inclusion criteria. This tool was elaborated on the basis of relevant literature¹⁰, and was adapted to the context of the research. The tool included information on the main researcher; the publication (type of study, source, year, and country of origin); host institution; database; goal; methodological framework; and the main conclusions.

RESULTS

From the systematic reading of the searched theme, a final sample of 17 scientific articles was obtained, 9 articles of which were found in LILACS, 2 articles were found in SciELO, and 6 articles were found in PubMed. The articles were published from 2009 to 2016, and 2013 had the greatest number of publications (four articles), followed by 2011 and 2015 (three publications each). Nurses were responsible for the largest number of publications (15 articles). Among those nurses, 6 of them were masters, 4 PhDs, 3 had postdoctoral degree, 1 was a specialist, and 3 did not inform institutional titles. All of those authors were working in different areas of SC.

The main sites of the studies were hospitals, including nine public and one private hospitals, as well as six hospitals that did not specify the type of administration. One of the articles was based on data provided by the National Database of Nursing Quality Indicators (NDNQI).

The reading of the articles facilitated the categorization of the main issues addressed in the articles, among which the importance, reliability, and benefits of quality indicators for the management of nursing care should be highlighted. In addition, it facilitated the categorization of the most relevant quality indicators for nursing care in SC; of the main difficulties related to the use of quality indicators; of the importance of using computer-based systems for the implementation of quality indicators, as well as provided evidence on experiences with quality indicators by the health organizations, and clarified the view of nurses on the use of this quality tool.

Although specific SC quality indicators had been poorly addressed in the articles found, their significant importance for SC work processes is clear. Among the most relevant indicators of nursing care in this scenario, this study revealed those related to systematization of perioperative nursing care (SPNC), preoperative visit by nurse (PVN), skin lesions (SL), falls, surgical site infection (SSI), and nursing records.

Several factors were identified as obstacles to the use of quality indicators, including the overload among nurses from the institution; the lack of theoretical and practical knowledge on the theme; the poor knowledge of process management; the poor engagement of the team in data collection, and the lack of follow-up from managers during the implementation, and use of indicators¹¹.

The studies highlighted the concern with verifying opinion of nurses on the use of indicators to assess the quality of care processes, as they are the main responsible for the development of tools for the data collection, implementation, and analysis of the results.

Chart 1^{2,4,6-7,12,13-24} presents quantitative and qualitative data related to the articles in the sample.

Chart 1. Quantitative and qualitative data related to articles selected for the survey sample.

Title (Country)	Authors, study type, and Journal	Objectives	Conclusions
<i>"Indicadores de qualidade na assistência de terapia intravenosa em um hospital universitário: uma contribuição da Enfermagem"</i> (Brazil) ²	Barbosa MT, Alves VH, Rodrigues DP, Branco MB, Souza RM, Bonazzi VC Quantitative study Journal of Research Fundamental Care Online	To understand the quality of indicators of intravenous therapy care in the neonatal intensive care unit of a university hospital.	Health professionals should facilitate and promote patient safety for their well-being and quality of life, avoiding risks and adverse effects.

Continue...

Chart 1. Continuation.

Title (Country)	Authors, study type, and Journal	Objectives	Conclusions
<p><i>“Opinião dos enfermeiros sobre a utilização dos indicadores de qualidade na assistência de Enfermagem” (Brazil)¹²</i></p>	<p>Silveira TV, Prado Junior PP, Siman AG, Amaro MO Qualitative study <i>Revista Gaúcha de Enfermagem</i></p>	<p>To investigate the opinion of nurses from hospitals on the use of quality indicators of nursing care.</p>	<p>Difficulties in using indicators: no time available, inadequate number of professionals, and lack of knowledge on the subject. Nurses understand the indicators as tools for assessment and improvement; however, they have incomplete and fragmented information on its use.</p>
<p><i>“Improving patient safety by optimizing the use of Nursing human resources” (Canada)¹⁶</i></p>	<p>Rochefort CM, Buckeridge DL, Abrahamowicz M Cohort Study <i>Implementation Science</i></p>	<p>To determine whether the educational levels of the nursing staff are associated with an increased risk of adverse events; whether the risk of adverse events in relation to the educational level of nursing staff is modified by the complexity of patient needs; and the possibility of establishing an optimal nursing workforce size.</p>	<p>Pioneer study in describing the effect of the nursing team strategies on the risk of adverse events such as changes in exposures over time, allowing to determine whether those risks change according to the duration of exposure of personnel (extensive use of overtime) or intensity of exposure (low number of hours of nursing per patient). These data facilitated the identification of nursing personnel standards, creating evidence-based information capable of assisting managers in making decisions concerning the effective use of scarce human resources in nursing and identifying personal standards that minimize the risk of adverse events.</p>
<p><i>“Changes in patient and nurse outcomes associated with magnet hospital recognition” (United States of America)¹⁷</i></p>	<p>KutneyLee A, Stimpfel AW, Sloane DM, Cimiotti JP, Quinn LW, Aiken LH Quantitative study <i>Medical Care</i></p>	<p>To compare the quality of the outcomes presented by surgical patients in hospitals which have obtained the recognition of magnet hospitals between 1999 and 2007, with those who remained without the title.</p>	<p>In general, the magnet recognition is associated with significant improvements over time related to the quality of the work environment and focused on the patient and nursing, surpassing the achievements of nonmagnetic hospitals.</p>
<p><i>“Fidedignidade de indicadores de qualidade do cuidado de Enfermagem: testando a concordância e confiabilidade inter avaliadores” (Brazil)¹⁸</i></p>	<p>Vituri DW, Évora YD Quantitative study <i>Revista LatinoAmericana de Enfermagem</i></p>	<p>To test agreement and reliability of 15 indicators of quality in nursing care and validate such tools.</p>	<p>The indicators show excellent reliability and reproducibility, showing that the development of valid and reliable assessment tools is possible, as well as essential for the management of nursing care.</p>
<p><i>“Nurse staffing and education and hospital mortality in nine European countries: a retrospective observational study” (Belgium, England, Finland, Ireland, Netherlands, Norway, Spain, Sweden, and Switzerland)¹⁹</i></p>	<p>Aiken LH, Sloane DM, Bruyneel L, Heede KV, Griffiths P, Busse R, et al. Quantitative study <i>The Lancet</i></p>	<p>To evaluate the hospital mortality rates after surgical procedures in relation to the workload and the level of training of nursing professionals.</p>	<p>The workload of the nursing professionals increased to 7% the risk of death of hospitalized patients within 30 days of hospitalization. The increase in the educational level of nurses was associated with a decrease in that rate. Therefore, reduction of the nursing team for cost savings may influence the outcomes of patient care. Higher educational level can reduce stable hospital deaths.</p>

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Chart 1. Continuation.

Title (Country)	Authors, study type, and Journal	Objectives	Conclusions
"Indicadores de qualidade da assistência de Enfermagem em centro cirúrgico: revisão integrativa de literatura" (Brazil) ⁷	Santos MC, Rennó CS Integrative review of the literature <i>Revista de Administração em Saúde</i>	To identify indicators of the quality of care in Surgical Center.	The most relevant indicators found in the review related to the SPNC, PVN, SL, falls, SSI, and complete records.
"Dificuldades vivenciadas pelo enfermeiro na utilização de indicadores de processo" (Brazil) ¹³	Menezes PI, D'Innocenzo M Quantitative study <i>Revista Brasileira de Enfermagem</i>	To identify the difficulties experienced by nurses of the Santa Casa de Montes Claros in the use of care processes indicators (in any phase or stage of the process).	Among the difficulties found, accumulation of personal activities (61.5%); lack of theoretical and practical knowledge on the subject (46.2%); poor knowledge on the process management (43.6%); poor involvement of the staff in data collection (30.8%) stood out, among others. The study concluded that to analyze the personal activities of nurses within the health facilities is important, as well as to reorganize their work processes, in addition to the inclusion of the theme in undergraduate courses in nursing.
"Falls among adult patients hospitalized in the United States: prevalence and trends" (United States of America) ²⁰	Bouldin ED, Andresen EM, Dunton NE, Simon M, Waters TM, Liu M, et al. Quantitative study <i>Journal of Patient Safety</i>	To provide data on the prevalence of falls in medical, surgical, and medical-surgical units in the US acute care hospitals, as well as determine the occurrence of falls during the 27 months preceding the implementation of the new limitation of reimbursement to Medical Service centers in accordance with the conditions acquired in the hospital.	The study provides the first national evaluation of falls, including those which resulted in losses to the respective units. The medical units showed higher number of falls owing to complex diagnoses and patients' walking.
"Associations between rates of unassisted inpatient falls and levels of registered and non-registered nurse staffing" (United States of America) ²¹	Staggs VS, Dunton N Quantitative study <i>International Journal for Quality in Health Care</i>	To improve nurses' understanding of unassisted falls, exploring nonlinear associations of unassisted falls rates and categories of nursing, enabling managers to improve patient safety.	The increase of technical professionals has proven ineffective in preventing unassisted falls. The increase of nurses may be effective, depending on the type of unit.
"Nurse reported quality of care: a measure of hospital quality" (United States of America) ²²	McHugh MD, Stimpfel AW Quantitative study <i>Research in Nursing & Health</i>	To evaluate the nurses' perspective on quality of care.	10.0% of nurses reported that the highest quality of care was associated with a lower chance of mortality and inability to recover; patient satisfaction; and greater consideration of acute myocardial infarction, pneumonia, and surgical patients; consequently, the quality of care is an important indicator of hospital performance.

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Chart 1. Continuation.

Title (Country)	Authors, study type, and Journal	Objectives	Conclusions
<p><i>"Mensuração de indicadores de qualidade em centro cirúrgico: tempo de limpeza e intervalo entre cirurgias"</i> (Brazil)⁶</p>	<p>Jericó MC, Perroca MG, Penha VC Quantitative study <i>Revista LatinoAmericana de Enfermagem</i></p>	<p>To measure the time spent on concurrent cleaning carried out by the hygiene service and cleaning in operating room, and the interval between surgery, as well as to investigate the association between cleaning time, size and specialty surgery, period of occurrence and size of the room.</p>	<p>The operating room clean-up time was 7.1 minutes, and the interval between surgeries was 35.6 minutes. No correlation was found between cleaning time and other variables. These findings instrumentalize the nurses in the efficient use of resources, accelerating the work process in Surgical Centers.</p>
<p><i>"Sistema informatizado para gerenciamento de indicadores da assistência de Enfermagem do Hospital São Paulo"</i> (Brazil)¹⁴</p>	<p>Labbadia LL, D' Innocenzo M, Fogliano RR, Silva GE, Queiroz RM, Carmagnani MI, et al. Case report <i>Revista Escola de Enfermagem da USP</i></p>	<p>To describe the experience of a group of nurses in creating a computerized system developed at the Hospital São Paulo to manage the indicators of nursing care.</p>	<p>The computerized system enables to store relevant data on the nursing care processes, being available for the evaluation of the results of nursing care, which can be viewed and printed at the required time.</p>
<p><i>"Utilização de indicadores de desempenho em serviço de enfermagem de hospital público"</i> (Brazil)⁴</p>	<p>Gabriel CS, Melo MR, Rocha FL, Bernardes A, Miguelaci T, Silva ML Quantitative study <i>Revista LatinoAmericana de Enfermagem</i></p>	<p>To identify performance indicators adopted the nursing service of a public hospital, and analyze the opinion of nurses regarding the use of these indicators to assess the quality of care.</p>	<p>This institution uses the indicators for monitoring results, and the use of process indicators for nurses to evaluate the performance of nursing is valued; consequently, to extend the analysis to multidisciplinary indicators is necessary.</p>
<p><i>"Percepção dos enfermeiros sobre os resultados dos indicadores de qualidade na melhoria da prática assistencial"</i> (Brazil)¹⁵</p>	<p>Franco JN, Barros BP, Vaidotas M, D'Innocenzo M Qualitative and quantitative study <i>Revista Brasileira de Enfermagem</i></p>	<p>To investigate the perception of nurses in a private hospital about the quality processes in nursing applied to improve care.</p>	<p>Nurses considered the use of performance indicators as a strategic tool. This perception supports healthcare improvement by the use of tools and indicators with an emphasis on processes failures registration, which may be used as possible quality improvement suggestions.</p>
<p><i>"Validação de conteúdo de indicadores de qualidade para avaliação do cuidado de Enfermagem"</i> (Brazil)²³</p>	<p>Vituri DW, Matsuda LM Quantitative study <i>Revista Escola de Enfermagem da USP</i></p>	<p>To validate the content of an assessment instrument of nursing care composed of quality indicators on nursing care in the prevention of adverse effects – instrument validation.</p>	<p>On the basis of the results, the authors believe that the content validation procedure is indispensable for the development of evaluative measures.</p>
<p><i>"La utilización de herramientas de investigación cualitativa en la construcción y diseño de indicadores de la práctica de enfermería"</i> (Chile)²⁴</p>	<p>Jara PC, Valenzuela SS Qualitative study <i>Ciencia y Enfermería</i></p>	<p>To describe the process of indicators in the practice of nursing in intensive care unit using qualitative approaches.</p>	<p>Enabled more reliable description of nursing practice and identification of specific indicators.</p>

SPNC: systematization of perioperative nursing care; PVN: preoperative visit by nurse; SL: skin lesions; SSI: surgical site infection.

DISCUSSION

This study shows that the nurse stands out not only in number of publications, but also in activities related to the management of work processes. The nurse is a qualified professional to manage the needs involving anesthetic and surgical procedures in all of their stages. Therefore, activities involving the operation of the unit, as well as technical, administrative, care, and people management activities are assigned to them²⁵.

Thus, the participation of the nurse manager in the quality and productivity assessment in SC is important to detect and redesign activities that are not in compliance with standards and requirements aimed at protecting the individual and collective health, as well as to continuously monitor and compare their results with those found in best practices⁶.

The hospital sector, main scenario of the studies, is characterized as one of the most complex and difficult to manage, involving high risks inherent in the activities, which requires constant and varied measurements from managers, influencing them to implement quality indicators in various areas¹¹.

The quantitative research used in most of the studies included in the sample “comprises a systematic collection of numerical information, maintaining the conditions of control, as well as the analysis of this information applying statistical procedures²⁶.”

Among the main issues addressed in the analyzed studies, the awareness of the importance of reliability and benefits of the quality indicators usage for nursing care management stands out, as the use of these data enables the establishment of standards and monitoring of their evolution over the years. Although the use of a single indicator does not raise the awareness of the complex social reality, the combination of diverse indicators, and also the comparison of different indicators from different locations facilitate its understanding²⁷. Quality indicators are based on the compliance with established standards to monitor the processes and outcomes²⁸.

Owing to the broad scope of quality indicators, the need, the concern, and the commitment of nursing professionals to build and validate tools around indicators, which may guide their actions and decision-making, are clear. This represents a constant pursuit of quality in their work processes, reflecting the different contexts of their professional practice.

Although publications on quality indicators in SC are scarce, the importance given to the systematization process, which is represented by the SPNC, is clear, as it enables the quantification of the assistance provided by the nursing team²⁷.

The SPNC includes PNV, which enables nurses from SC to know their patients in advance, to elaborate the care plan, and to provide the necessary information, consequently reducing stress and anxiety related to the procedure to be performed²⁹. This monitoring of patient outcomes and early detection of possible failures in nursing care facilitates holistic patient care⁷, because the SPNC is an approach to care without interruption, respecting the individual and their experiences, problems, and expectations²⁹.

Another indicator identified as relevant and pertinent to assess the quality of nursing care was the incidence of SL³⁰. SL prevention has a fundamental participation of the nurse, who must act assertively and beware of the risk of SL to which these patients are exposed, owing to the condition of physical dependence and fragility of the patient⁷.

The use of electrosurgery also offers risks to patients in this environment, as it may cause burns, explosions of combustible mixtures, including anesthetic and intestinal gases, stimulation of excitable tissues, and interference with instruments and pacemakers. However, burn is the most common complication³¹. Chemical risks are also present in the perioperative period, which represents a risk for both the patient and the professionals who work in this sector³².

Positioning of patient in a surgical procedure also has a significant impact on the quality of care. The main purpose of surgical positioning is to enable access to the surgical site; therefore, it must be done correctly to ensure safety of the patient and to avoid complications³³.

Incidence of patient falls in the SC is considered a serious event, which may be due to inadequate monitoring of the patient who is unable to walk, unattended or nonadherence to guidelines provided by the nursing team³⁴.

SSI is considered an indicator of technical failure in surgical procedures if its incidence is high in clean surgeries, which compromises patient's recovery. It is worth mentioning that preventive measures are the responsibility of those involved in the care to the patient⁷.

Owing to the various risks inherent in the SC, nurses and the surgical team should constantly monitor the anesthetic and surgical procedures, acting preventively and planning actions to ensure patient safety in all stages of the procedures. The “Second global patient safety challenge: safe surgery saves lives” is a protocol that promotes actions for the prevention of adverse events in order to ensure a care which do not cause harm⁷.

For nurses, a means of assessing the quality of nursing care in SC is the proper registration of all activities performed by the team; consequently, an indicator to evaluate the effectiveness of these records is necessary⁷. In this context, the health team should consider nursing records a written and effective means of communication, which facilitates the coordination and continuity of planning of health activities. Consequently, such records should be consistent and complete.

One of the analyses performed in a study, concerning the difficulties of the use of quality indicators, corroborates the elements that compose the difficulties described in the literature, such as no time available, inadequate number of professionals, and lack of knowledge on the subject. This same study showed that only 54.0% of the nurses used indicators of nursing care to guide their actions, that is, 46.0% of them collected and analyzed the indicators, but did not use the analysis of results to implement improvement actions in their work sectors. In other words, they used the metric, but did not qualitatively approach the phenomena investigated¹².

Another study, which also corroborates the data presented, indicated that many professionals mentioned that there are no meetings to present and discuss the results of the indicators assessment³⁰.

The discussion on indicators has taken a prominent role in the management of nursing services³⁵. Therefore, it is expected that the nursing team adopt this discussion as a strategy to identify weaknesses and set goals to improve the assistance provided. This should be a joint effort between managers and workers involved in the patient care³⁰.

Another fact revealed by the survey is that nurses do not learn such theme theoretically and/or practically during graduation, as its content is not included in the curricula of most schools. Therefore, the lack of information is one of the reasons for the difficulty of nurses with the use of indicators. Consequently, there is an urgent need for this content to be reviewed and taken into account by educational institutions for undergraduate courses¹³.

Another reason for the difficulties with the use of quality indicators that nurses reported is unawareness of its application. Therefore, understanding of the indicators by the users of information is important. They need to be generated and managed regularly and systemically, becoming a valuable assessment and management tool¹³.

With regard to the accumulation of activities assigned to nurses in the hospital and, consequently, to work overload, both identified as main causes of difficulties with the use of indicators, a critical analysis of these activities is necessary to reorganize the working process involving these professionals in their units¹³.

Given the evidence, the reduced number of nursing professionals visibly prevents the implementation of quality and safety actions. The administration of the institutions should necessarily be sensitive to this demand, promoting positive changes to the institution, the professional, and the patient¹².

The use of computerized systems is a mean to standardize and facilitate the deployment, collection, and analysis of indicators. These systems have interactive databases and intuitive interfaces, which are user-friendly and attractive from a pedagogical perspective. Moreover, the nurse may work with a modern tool, which is able to measure and contribute to the quality of their assistance¹⁴.

Even though nurses face many difficulties related to the use of indicators, they consider them important resources for the development of the work and consider that using the results as a strategic tool leads to improvements in healthcare practice, allowing the evaluation of nursing performance^{4,13,15}.

Nurses from SC are responsible for reviewing and monitoring the necessary indicators to qualify the nursing care, and to promote interaction between the professionals involved in the anesthetic and surgical procedures, in order to prevent risks and control complications²⁹.

The involvement of all members of an institution in the implementation process and in the use of quality indicators is strength, and enables the achievement of satisfactory results of work processes. More importantly, it ensures the provision of a safe, quality, and evidence-based nursing care.

Therefore, we consider as an advancement of this study the presentation of knowledge produced on this subject, reducing the gap in the literature.

However, the limitation of this study consists on the fact that literature analysis was limited to full articles published and available, consequently excluding other existing data sources.

CONCLUSION

Performance evaluation of SC activities using indicators paves the way for the critical review of the main processes, enabling intervention in the weaknesses and the development of improvements focused on patient care.

Owing to the gap in the literature on the quality indicators with an emphasis on SC, which was observed during this integrative review, the use of articles that addressed general indicators was necessary. This situation evidences the importance of broadening the culture of quality in nursing assistance, developing nurses to the elaboration and analysis of

indicators, and enabling a dynamic analysis of the service to achieve care excellence.

The effort to develop new studies on the theme will provide evidences and practical background to nursing professionals, mainly on measurement of the quality of the work processes. This measurement scores successes and failures that interfere in care, whether directly or indirectly (related to management). This may lead to the improvement of quality of the care provided in SC.

It is worth noting that this integrative review of the quality indicators in nursing with emphasis on SC prompted the development of a research conducted by the lead author in her Master Program.

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