

Evidence on nursing management models in hospital services: an integrative review

Evidências sobre modelos de gestão em enfermagem nos serviços hospitalares: revisão integrativa
Evidencias sobre modelos de gestión en enfermería en servicios hospitalarios: revisión integradora

Gilberto Tadeu Reis da Silva¹  <https://orcid.org/0000-0002-0595-0780>

Rebecca Maria Oliveira de Góis²  <https://orcid.org/0000-0002-3935-5904>

Deybson Borba de Almeida³  <https://orcid.org/0000-0002-2311-6204>

Thadeu Borges Souza Santos³  <https://orcid.org/0000-0003-2497-3889>

Maria Sagrario Gómez Cantarino⁴  <https://orcid.org/0000-0002-9640-0409>

Paulo Joaquim Pina Queirós⁵  <https://orcid.org/0000-0003-1817-612X>

Simone Coelho Amestoy⁶  <https://orcid.org/0000-0001-8310-2157>

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Modelos organizacionais; Serviço hospitalar de enfermagem; Gestão em saúde; Gestão da qualidade

Descriptores

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Corresponding author

Rebecca Maria Oliveira de Góis
E-mail: rebecca.gois@hotmail.com

Abstract

Objective: To identify, assess, and summarize the scientific evidence on nursing management models in hospital services between 2013 and 2019.

Methods: This is an integrative literature review carried out in the Web of Science, Latin American and Caribbean Center for Health Sciences Information, BIREME/VHL, National Library of Medicine (PubMed/MEDLINE), Education Resources Information Center (Eric), and Scientific Electronic Library Online (SciELO) databases between 2013 and 2019.

Results: Of the 100 studies found in the databases, 16 were selected for analysis after applying the inclusion and exclusion criteria. Of these, 14 (87.5%) productions were international and two (12.5%) were national. Six publications (37.5%) were from the United States of America, two (12.5%) were Brazilian articles and two (12.5%) were from Italy. Africa, Portugal, England, Germany, China and Canada had one article (6.2%) each. The evidence related to the management models adopted by nurses in the hospital environment was systematized into three categories: *Management focused on improving care*; *Management focused on service efficiency*; *Management focused on hospital costs*. These categories show a diversity of models adopted in hospital management under the leadership of nurses.

Conclusion: The study indicates the existence of management models in the perspective of continuous improvement of care processes and to strengthen the professional practice of nurses in production of care, in order to guarantee harm-free care and, above all, customer and worker satisfaction. The diversity of management models is highlighted.

Resumo

Objetivo: Identificar, avaliar e sumarizar as evidências científicas sobre os modelos de gestão em enfermagem nos serviços hospitalares entre os anos de 2013 e 2019.

Métodos: Trata-se de uma revisão integrativa da literatura realizada nas bases de dados Web of Science, Centro Latino-Americano e do Caribe de Informação em Ciências da Saúde – BIREME/ BVS, National Library of Medicine (PubMed/MEDLINE), Education Resources Information Center (Eric) e na biblioteca Scientific Electronic Library Online (SciELO), entre os anos de 2013 e 2019.

Resultados: Dos 100 estudos encontrados nas bases, 16 foram selecionados para análise, após aplicação dos critérios de inclusão e exclusão. Destes, 14 (87,5%) produções eram internacionais e duas (12,5%)

¹Universidade Federal da Bahia, Salvador, BA, Brazil.

²Universidade Tiradentes, Aracaju, SE, Brazil.

³Universidade do Estado da Bahia, Salvador, BA, Brazil.

⁴Universidad de Castilla-La Mancha, Ciudad Real, Spain.

⁵Escola Superior de Enfermagem de Coimbra, Coimbra, Portugal.

⁶Universidade Federal do Vale do São Francisco, Petrolina, PE, Brazil.

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nacionais. Seis publicações (37,5%) eram originárias dos Estados Unidos da América, dois (12,5%) artigos brasileiros e outros dois (12,5%) provenientes da Itália. África, Portugal, Inglaterra, Alemanha, China e Canadá tiveram um artigo (6,2%) cada. As evidências relacionadas aos modelos de gestão adotados por enfermeiros no ambiente hospitalar foram sistematizadas em três categorias: Gestão com foco na melhoria do cuidado; Gestão com ênfase na eficiência dos serviços; e Gestão voltada aos custos hospitalares. Essas categorias evidenciam uma diversidade de modelos adotados na gestão hospitalar sob liderança de enfermeiros.

Conclusão: O estudo indica a existência de modelos de gestão na perspectiva da melhoria continuada dos processos assistenciais e de fortalecer a prática profissional do enfermeiro na produção de cuidados, a fim de garantir uma assistência livre de danos e, sobretudo, a satisfação de clientes e trabalhadores. Sinaliza-se a diversidade de Modelos de Gestão.

Resumen

Objetivo: Identificar, analizar y resumir las evidencias científicas sobre los modelos de gestión en enfermería en servicios hospitalarios entre los años 2013 y 2019.

Métodos: Se trata de una revisión integradora de la literatura realizada en las bases de datos Web of Science, Centro Latinoamericano y del Caribe de Información en Ciencias de la Salud – BIREME/ BVS, National Library of Medicine (PubMed/MEDLINE), Education Resources Information Center (Eric) y en la biblioteca Scientific Electronic Library Online (SciElo), entre los años 2013 y 2019.

Resultados: De los 100 estudios encontrados en las bases, 16 fueron seleccionados para el análisis, luego de aplicar los criterios de inclusión y exclusión. Entre estas producciones, 14 (87,5 %) eran internacionales y dos (12,5 %) nacionales. Seis publicaciones (37,5 %) eran originarias de los Estados Unidos de América, dos (12,5 %) artículos brasileños y otros dos (12,5 %) provenientes de Italia. África, Portugal, Inglaterra, Alemania, China y Canadá tuvieron un artículo (6,2 %) cada uno. Las evidencias relacionadas con los modelos de gestión adoptados por enfermeros en el ambiente hospitalario fueron sistematizadas en tres categorías: Gestión con foco en la mejora del cuidado, Gestión con énfasis en la eficiencia de los servicios y Gestión orientada a los costos hospitalarios. Estas categorías demuestran una diversidad de modelos adoptados en la gestión hospitalaria bajo liderazgo de enfermeros.

Conclusión: El estudio indica la existencia de modelos de gestión en la perspectiva de la mejora continua de los procesos asistenciales y de fortalecer la práctica profesional del enfermero en la producción de cuidados, a fin de garantizar una atención libre de daños y, sobre todo, la satisfacción de clientes y trabajadores. Se observa una diversidad de modelos de gestión.

Introduction

It is understood that the care management model adopted by nursing guides the organization of services and professional practices with a view to achieving institutional goals and care.⁽¹⁾ These objectives must be explicit to the team, so that they affect the work process and, consequently, help to produce/reproduce management and care practices consistent with the organization's mission, vision and values.⁽²⁾

Historically, there is a concern of health organizations to establish a health management model that reflects the ideology best suited to the work process of its members.⁽³⁾ One aspect of health management models focuses on the best operational results, which, although clinically adequate and safe to care protocols, may not be sufficient to improve quality indicators. Nursing management activities include management and care, with intense capillarity between both dimensions, being empowering to the achievement of organizational goals and important mediators of care production processes.^(4,5)

There are several management models and the choice for one of them is linked to the institutional philosophy as well as organizational activities' ad-

ministrative, strategic and operational characteristics.⁽⁵⁾ Nursing management models in hospital services are essential for conducting care practices and are usually guided by nursing theories. These theories, based on a scientific framework, indicate paths that guide performing care and encouraging strengthening management and assistance spheres, teaching and research.

Therefore, an integrative literature review regarding the models of care management adopted in hospital services is essential,^(6,7) since the elucidation of the characteristics that make up each model and the expanded knowledge of their respective advantages and limitations contribute to their better understanding and improvement.

Given the above, this research aims to identify, assess, and summarize the scientific evidence on nursing management models in hospital services between 2013 and 2019.

Methods

This is an integrative literature review. This study followed the review protocol that includes topic identification and research question elaboration;

definition of criteria for searching electronic databases; data collection; exhaustive analysis of the acquired material; careful interpretation of the findings; presentation by category of results.⁽⁸⁾

To identify the theme and the research question, PICO strategy was used, in which P means population, I means phenomenon of interest, Co means context of the study.⁽⁹⁾ Based on these elements, the research question was elaborated: What is the available scientific evidence on the management models adopted by nursing in hospital services?

The searches were carried out in the Web of Science, Latin American and Caribbean Center for Health Sciences Information, BIREME/VHL, National Library of Medicine (PubMed/MEDLINE), Education Resources Information Center (Eric), and Scientific Electronic Library Online (SciElo) databases.

With the descriptors selected from the question, the following search strategy was built: “Organizational Models” AND “Administration, Hospital” AND “Service, Hospital Nursing”. The search in the databases was supported by a librarian and combinations with the Boolean operators OR and AND were used, considering the strategy to be followed in the VHL/BIREME: (“service, hospital nursing” OR “hospital nursing services” OR “nursing services, hospital” OR “services, hospital nursing” OR “hospital nursing service”) AND (“organizational models” OR “model, organizational” OR “organizational model”) AND (“administration, hospital” OR “hospital organization AND administration” OR “organization AND administration, hospital”) AND (year_cluster:[2013 TO 2019]).

Online articles, available in full versions in Portuguese, English or Spanish and published between the years 2013 and 2019, covering the theme of the study, were included (Figure 1). This time frame is justified by the dynamics in the socio-economic, political and technological context of the global scenario that interfered in hospital organizations. Letters, editorials, books, summaries of annals of events, theses and dissertations were excluded.

The searches resulted in 100 publications, of which 76 were excluded after reading the title and abstract: 36 for duplication in other databases and

40 for not being related to the object of the research. Then, 24 articles were read in full, but of these eight did not answer the guiding question, being excluded. At the end, the review study sample comprised 16 articles.

The database search took place in January 2020; then, duplicate articles were identified by submitting the material to the Mendeley® bibliographic management tool. After this stage, two researchers read the titles and abstracts blindly, in order to increase the study reliability, excluding articles that did not meet the guiding question and those that did not meet the inclusion criteria. The next step involved a thorough reading, in full, of the selected articles, in order to identify the evidence related to the models adopted in hospital management under the leadership of nurses.

After reaching a consensus among the researchers, the articles that would be part of the sample were defined, which were systematized in a collection instrument that contemplated the title, year of publication, authors, journal, database, management models adopted, level of evidence, and Qualis.

The observed level of evidence in the studies were: meta-analyzes (level 1), experimental (level 2), quasi-experimental (level 3), descriptive or qualitative (level 4), case reports (level 5) and based on expert opinions (level 6).⁽¹⁰⁾

Results

The analyzed studies were summarized and characterized as follows: 14 (87.5%) international and two (12.5%) national productions. Most publications, six articles (37.5%), are from the United States of America (USA). Then, there are two (12.5%) Brazilian articles and another two (12.5%) from Italy. Africa, Portugal, England, Germany, China and Canada had one article (6.2%) each. From a qualitative point of view, the results were categorized into three nuclei of meaning: *Management focused on improving care*; *Management focused on service efficiency*; *Management focused on hospital costs*. The subdivision by categories and the level of scientific evidence are also shown in Chart 1.

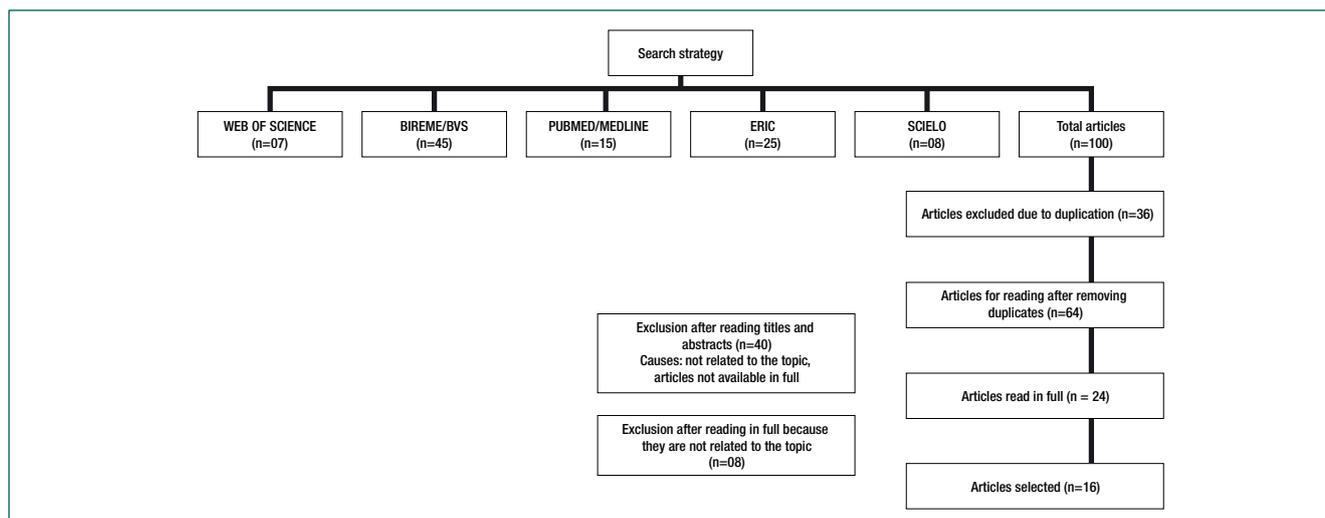


Figure 1. Representation of the methodological flowchart with the stages of selection and exclusion of published studies

Management focused on improving care

In this category, results of studies on some experiences developed in hospital services that instituted the management model focusing on improving patient-centered care/care are presented. It is noteworthy that the management model adopted is related to the conception of nursing care management,⁽²⁵⁾ understood as professional doing shaped by principles of organization, planning, patient safety, in the sense of promoting a model of care that can support the safe professional practice of damage and enable the development of nursing workers.

This perspective is currently reinforced by the need for continuous improvement of hospital services, as well as for improvement of nurses. A study⁽²⁶⁾ showed that the need to remain in strategic positions in the work environment causes nurses to seek qualification and continuous improvement, and the elements of creativity, innovation and proactivity are important characteristics in care management.

In contemporary times, the influence of scientific and classical administration on the nursing work process is still notorious, although some models of care management/production adopted in health institutions since the 19th century have been influenced by other administrative theories, but to a less deterministic degree. Examples of these theories are bureaucratic theory, of human relations, structuralist, behaviorist, systems and contingency, in

which the efficiency of the organization dispenses with the logic of the work process.⁽¹⁴⁾

Some studies have reported advances in hospital management that have included new financial incentives for health plans, in order to create innovative models for providing care, capable of improving operational efficiency.^(27,28) One of them consists of the experience report⁽³⁾ of a pediatric radiology unit that adopted the principles of the Disney model to value the environment and well-being and promote happiness to patients and workers. The initiative has managed to turn the negative waiting experience into long lines of children and family members who arrive in radiology departments scared and sad.

Moreover, other hospital management models also prioritize patient-centered care. A study⁽¹⁴⁾ developed in Portuguese health institutions evidenced the particularities in the organization of rehabilitation care, because it involves a multiplicity of scenarios, without knowing for sure the work developed in each of them, nor its results. The research concluded that the category of nurses prevails in relation to the others and identified three models of organization of rehabilitation care: an intern, focusing on the care provided specifically by rehabilitation nurses; another external, in which the provision of care is ensured by a specialized team (physiotherapists) external to the unit; and the third as a mixed model, in which care is provided by the

Chart 1. Characterization of selected studies according to title, authors, journal, year of publication, objective, method, management model, repercussion for nursing and level of evidence

CATEGORY	REFERENCE	PLACE/YEAR	MANAGEMENT MODEL	REPERCUSSION	DATABASE/LEVEL OF EVIDENCE/QUALIS
Management focused on improving care	Sang J. Communication channels as implementation determinants of performance management framework in Kenya. <i>J Educ Pract.</i> 2016; 7 (17): 28–37. ⁽¹¹⁾	Africa, 2016	Management model focused on process communication	Improved performance assessment	ERIC Level 6/B2
	Reed GW, Hantz S, Cunningham R, Krishnaswamy A, Ellis SG, Khot U, Rak J, Kapadia SR. Operational Efficiency and productivity improvement initiatives in a large cardiac catheterization laboratory. <i>JACC Cardiovasc Interv.</i> 2018;11(4):329-38. ⁽¹²⁾	United States of America, 2017	Management model based on analysis systems	Improved customer satisfaction	PUBMED/MEDLINE Level 4/B2
	Richards MR, Lasater K, McHugh M. A Race to the top? Competitive pressure and magnet adoption among US hospitals 1997-2012. <i>Med Care.</i> 2017; 55 (4): 384–90. ⁽¹³⁾	United States of America, 2017	Management Model based on Magnet Recognition	Improved customer satisfaction	PUBMED/MEDLINE Level 4/B2
	Sze RW, Vera CD, Hogan L, Iyer RS. If Disney ran your pediatric radiology department: a different approach to improving the patient and family experience. <i>Radiol Pediatr.</i> 2019;49(4):493–9. ⁽³⁾	United States of America, 2019	Customer experience-centric management model	Improved customer satisfaction	PUBMED/MEDLINE Level 4/B1
	Mendes RM, Nunes ML, Pinho JA, Gonçalves RB. Organization of rehabilitation care in Portuguese intensive care units. <i>Rev Bras Ter Intensiva.</i> 2018;30(1):57–63. ⁽¹⁴⁾	Portugal, 2018	Customer experience-centric management model	Improved customer satisfaction	VHL/Level 4/B1
	Fiorio CV, Gorli M, Verzillo S. Evaluating organizational change in health care: the patient-centered hospital model. <i>BMC Health Serv Res.</i> 2018;18(1):95. ⁽¹⁵⁾	Italy, 2018	Customer experience-centric management model	Improved customer satisfaction	PUBMED/MEDLINE Level 4/A2
Management focused on service efficiency	Morrison J, Palumbo MV, Rambur B. Reducing preventable hospitalizations with two models of transitional care. <i>J Nursh Scholars.</i> 2016;48(3):322–9. ⁽¹⁶⁾	United States of America, 2016	Management model focused on reducing hospital readmission	Improved operating results	PUBMED/MEDLINE Level 4/B1
	Thomas D, Borchert M, Brockhaus N, Jäschke L, Schmitz G, Wasem J. [Service productivity in hospital nursing – conceptual framework of a productivity analysis]. <i>Gesundheitswesen.</i> 2015;77(1):e1-7. German. ⁽¹⁷⁾	Germany, 2015	Management model focused on productivity analysis	Creating an integrated productivity model	PUBMED/MEDLINE Level 1/B2
	Dubois CA, D'amour D, Tchouaket E, Clarke S, Rivard M, Blais R. Associations of patient safety outcomes with models of nursing care organization at unit level in hospitals. <i>Int J Which Health Care.</i> 2013;25(2):110–7. ⁽¹⁸⁾	Canada, 2013	Management model focused on productivity analysis	Improved operating results	PUBMED/MEDLINE Level 4/B1
	Procter S, Wilson PM, Brooks F, Kendall S. Success and failure in integrated models of nursing for long term conditions: multiple case studies of whole systems. <i>Int J Nurs Stud.</i> 2013;50(5):632–43. ⁽¹⁹⁾	England, 2013	Primary care-focused management model	Improvement of operational results with reduction of hospital admissions	PUBMED/MEDLINE Level 4/ A1
	Vergílio MS, Toledo VP, Silva EM. Workshops as a democratic proposal in order to change the supervision work in nursing. <i>Rev Bras Enferm.</i> 2018;71(4):2050–4. ⁽²⁰⁾	Brazil, 2018	Traditional management model based on administrative theories.	Productivity analysis through control/supervision	SCIELO Level 5/A2
	Silva VL, Camelo SH, Soares MI, Resck ZM, Chaves LD, Santos FC, et al. Leadership practices in hospital nursing: a self of manager nurses. <i>Rev Esc Enferm USP.</i> 2017;51(0):e03206. ⁽⁶⁾	Brazil, 2016	Management model based on transformational leadership	Improving results with the strategic use of leadership	SCIELO Level 4/A2
Management focused on hospital costs	Zanotto G, D'Onofrio A, Della Bella P, Solimene F, Pisanò EC, Iacopino S, et al. Organizational model and reactions to alerts in remote monitoring of cardiac implantable electronic devices: A survey from the Home Monitoring Expert Alliance project. <i>Clin Cardiol.</i> 2019;42(1):76–83. ⁽²¹⁾	Italy (2019)	Management model based on analysis systems	Improved operating results	PUBMED/MEDLINE Level 4/B2
	O'Leary KJ, JK Johnson, M Manojlovich, JD Goldstein, Lee J, MV Williams. Redesigning systems to improve teamwork and quality for hospitalized patients (RESET): study protocol evaluating the effect of mentored implementation to redesign clinical microsystems. <i>BMC Health Serv Res.</i> 2019;19(1):293. ⁽²²⁾	USA, 2019	Management model based on Advanced and Integrated MicroSystems (AIMS)	Improved operating results	PUBMED/MEDLINE Level 3/A2
	Yi L, Hao A, Hu M, Huang P, Yuan H, Xing M. Construction and application of a refined hospital management chain. <i>Cell Biochem Biophys.</i> 2015;72(1):19–22. ⁽²³⁾	China, 2014	Construction and application of a Hospital Management Chain	Optimize the flow process, reduce waste	PUBMED/MEDLINE Level 4/B2
	Xiang X, Robinson-Lane SG, Rosenberg W, Alvarez R. Implementing and sustaining evidence-based practice in health care: The Bridge Model experience. <i>J Gerontol Soc Work.</i> 2018;61(3):280–94. ⁽²⁴⁾	United States of America, 2018	Bridge Model	Focus on promoting social health based on intervention work to reduce hospital readmissions	PUBMED/MEDLINE Level 4/B2

hospital organization's team (nurses) in conjunction with a specialized external team.

Analysis⁽¹²⁾ on the experience of an Efficiency Improvement Program implemented in a cardiology laboratory showed that the first step involves the composition of a multidisciplinary leadership team and institution of nursing management, nursing supervisors, department administrators and physicians. Then, these professionals should map the flowchart of the work process, describing each step necessary to ensure continuity of the care of a typical patient.

Another survey⁽¹³⁾ investigated, through a literature review, the adoption of a management model known as Magnet Hospitals. This model considers that some hospitals have attractive properties, hence the idea of "magnets", which allow them to recruit and retain nurses and offer quality care to the patient. The researchers concluded that this competitive pressure increases the motivation of hospital services to improve operational outcomes.

Management focused on service efficiency

This category discusses the relationship between increased productivity and efficiency and the management model adopted. Some studies have discussed the production of care aimed at increasing productivity. It was also evidenced, in a research⁽¹⁵⁾ conducted in Italy, that changes in organizational levels are related to different roles and responsibilities of the team and require cooperation between the nurse and his team in promoting care to hospitalized patients.

A study⁽¹⁷⁾ on the reality of German hospitals concluded that the management model adopted in nursing prioritizes increased productivity and efficiency, so that one of the challenges has been to reduce the number of employees without compromising the achievement of organizational objectives. This has led to a continuous increase in productivity in recent years, partly due to the management model adopted.

In another study⁽¹⁸⁾, two types of nursing management models were defined. The first, called the Nursing Care Organization Model, includes the management decisions made by nursing workers

with a higher level of formal education and who have professional governance structures that support them through evidence-based practices. The second, known as Functional Models of Nursing Care Organization, stands out for representing a view of nursing as a broad set of tasks that can be delegated and performed by a variety of workers.

Also from the perspective of organizing operational processes, the study⁽¹⁹⁾ concluded that, although nursing managers are fundamental to achieve better operational results, such as performance indicators, they can, when they exert high control, contribute to results associated with decreased workers' satisfaction and performance. In this study, an interprofessional team measured the indicators related to satisfaction and productivity in a context of high control by nursing managers, verifying that the satisfaction and competence of transformational leadership improved significantly after the implementation of several strategies to mitigate this control.

It is perceived that the organizational model interferes in the way care is provided. One example of successful experience, reported in a study,⁽²⁹⁾ opens new perspectives for the adoption of management models in hospitals focused on patient care and improvement of operational efficiency. According to the findings, nursing leadership in the value-based model is seen as a strategy for achieving organizational goals, through the engagement of other employees.

Management focused on hospital costs

The third thematic category discusses the costs to implement the strategies reported in the analyzed studies, with a view to promoting improvements and innovations in the current management models for the hospital environment. This is an indispensable discussion, as it determines the economic viability of health services to implement these actions. Technological innovations are increasingly present in various sectors of society, including health. It is of paramount importance to implement new strategies capable not only of reducing costs or increasing productivity, but, above all, of resignifying professional practice to ensure user

safety through continuous training and development of professional skills.⁽⁹⁾

An innovation was highlighted in a context of difficulties in defining and measuring quality,⁽²²⁾ since institutions and organizations need interventions that mobilize teamwork in order to redesign the systems of care for hospitalized patients.

In this regard, the Care Excellence Framework resembles another model reported in the study developed in England, the Addressing Frail Elder Care. It is even possible to identify a correlation between both, since the second also provides a standardized structure for addressing and assessing risks among hospitalized elderly, in order to improve indicators of care quality.⁽³⁰⁾ This care management model has as characteristics the analysis of the workflow and the detailing of the processes developed by the care team, with the objective of reducing patient average length of stay and the rate of hospital complications, avoiding additional costs.

Discussion

This study presents as a limitation the restriction of access to complete articles on this theme, since costs are charged for making the material available in electronic bases, making it impossible to read in full.

The results of this research contribute to the deepening of knowledge about management models in nursing. This theme is important for the continuous improvement of services from the perspective of quality management in health, in addition to its practical applicability to encourage the rethinking of managerial practices in nursing in the production of quality and harm-free health care/nursing.

The study is structured in three categories that address different aspects related to the care management models adopted by nurses in hospital services.

When analyzing the organizational structure, it is noted that management models make it possible to recognize human resources as fundamental assets for the organization and not as costly liabilities that increase costs and can be replaced at any time to meet business demands that are aimed exclusively

at profit. However, this conception will depend on organizational culture.

Nursing has experienced a process of evolution in the academic and professional spheres, which has favored the consolidation of their knowledge and actions and allowed greater professional autonomy. Furthermore, hospital institutions have also undergone changes in the way they produce care.⁽¹⁷⁾

Thus, knowledge about management models and, therefore, their contributions to nursing care, is essential, considering the need to align the managerial dimension and care practice and, consequently, to promote a viable adjustment between objectives and goals, skills and resources of an organization. This alignment also signals opportunities for a market with frequent turbulence and continuous transformation.

The results found in the present study corroborate these statements, as they show that nursing managers who are in the middle line of the organizational structure make the connection between the operational nucleus and the strategic dome.⁽²⁾

It is noteworthy that appropriately targeted productivity improvements require proven effective methods for productivity acquisition and measurement. However, in general, there is a deficiency in qualitative productivity measurement instruments for hospital nursing services, which requires expanding knowledge in this regard and developing a more appropriate model.⁽²³⁾

At the same time, health plans in general and health system funding agencies have faced strong pressure to maximize value by improving patient outcomes and reducing costs in all aspects of health care.⁽²⁷⁾ This is a reality with worrying results for both developed and underdeveloped countries.

Studies point to a way of producing care in the hospital environment similar to a production line, under a significant influence of Administrative Theories since the Industrial Revolution. However, since it is about people's health and quality of life, it is not correct to value only the task, the division of labor and the results obtained in terms of improving the care provided. It is necessary to rethink the models of care management, so that they are, in fact, consistent with the work object of Health and

Nursing and focused on people and their projects of happiness.

Conclusion

The study identified, assessed, and summarized the national and international scientific evidence published regarding the nursing management models adopted in hospital services. The scientific production analyzed allows us to affirm that these models are centered on the improvement of care, the efficiency of services and hospital costs, therefore, focused on quality management as well as care security. However, the centrality of the hegemonic models of scientific and classical administration in the organization of nursing and health care should be recognized. In the findings of this integrative review, the experiences developed in hospital nursing services that adopted management models focused on improving care, focusing on the efficiency of services or seeking to reduce hospital costs, all reflecting on the productivity of workers and economic viability of nursing services.

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