



SCIENTIFIC EVIDENCE ABOUT HEALTH COSTS: BIBLIOMETRIC STUDY

Rafaella Leite Lazarini*

Nathalia Vasconcelos Fracasso**

Maria do Carmo Fernandez Lourenço Haddad***

ABSTRACT

Objective: To analyze available scientific evidence on healthcare costs published in national databases and in a virtual library by Brazilian nurses. **Method:** This is a bibliometric analysis of publications by Brazilian nurses about health costs, with no search time limit, in different languages, indexed in national databases and in a virtual library, namely: Latin American and Caribbean Literature in Health Sciences (LILACS), Base de Dados de Enfermagem (BDENF), and Scientific Electronic Library online (SciELO), respectively. **Results:** According to the analysis, 212 articles published in Brazilian journals were identified, from 1983 to 2022. Of these, most were developed in the Southeast Region, with emphasis on the greater number of publications in 2015. There was a higher frequency of publication in six journals, with predominance in *Revista da Escola de Enfermagem* of the University of São Paulo with 33 articles on health costs. It is noteworthy that 64.2% of publications were directed to actions in highly complex services. **Conclusion:** The interpretation of the data allowed exposing that, despite the low number of publications over the years 1980 to 1990, from 2006 onwards, the growth of Brazilian scientific production regarding health costs is significant, demonstrating the possibility of access and interest of nurses to understand the cost management tools embedded in the nursing work process, which can optimize the financial management of health services.

Keywords: Costs and cost analysis. Health care costs. Hospital costs. Cost efficiency analysis.

INTRODUCTION

The importance of exploring the profitability of different procedures and services in health institutions is undeniable to compare and to determine the allocation of economic resources between different sectors^(1,2). It is a challenge for managers to measure and to control costs, as well as to develop effective strategies to minimize them, since the volume of material resources for providing services, combined with the diversity of services, makes this environment complex and expensive⁽²⁻⁴⁾.

Costs are understood as what must be spent on goods and services⁽⁵⁾. In this sense, cost management is beneficial to health institutions by extrapolating the accounting and tax dimensions, responsible for supporting the analysis of results and decision making by managers with regard to investments, changes in the service profile, feasibility analysis and expansion of health services for providing quality services⁽⁶⁾.

The increase in costs requires the attention of hospital managers, health professionals and the sources that pay for the assistance, whose expenses, associated with the scarcity of financial resources, have increased the emphasis on cost control, such as producing or outsourcing, eliminating a deficient service or maintaining it, under conditions, to strategies for breaking off negotiations, evaluating investments in technology, expansions, among others⁽⁷⁻¹²⁾.

Proportionately to technological advances, health care has incorporated hard technologies into the work process⁽⁸⁾, especially in the hospital environment, which directly impacts the increase in material consumption⁽⁹⁾.

From the growing cost increase in the health area, the need to acquire knowledge in this area has emerged, as the concern with health costs constitutes one of the main issues for the managers of these institutions, since there is a need to constantly relate the amount of material used, production and costs, that is, work

¹Deerived from the Scientific Initiation Project, entitled "Scientific evidence on health costs: Bibliometric study", presented to the Annual Meeting of Scientific Initiation, in the year 20201

*Nursing student. Londrina, PR, Brazil. E-mail: rafaellaleitezr@gmail.com ORCID iD: <https://orcid.org/0000-0002-9740-7979>.

**Nurse. Master degree in Nursing. Londrina, PR, Brazil. E-mail: vasconcelosnathalia@hotmail.com. ORCID iD: <https://orcid.org/0000-0001-7424-9771>.

***Nurse. PhD in Nursing. Senior professor of Universidade Estadual de Londrina. Londrina, PR, Brazil. E-mail: carmohaddad@gmail.com. ORCID iD: <https://orcid.org/0000-0001-7564-8563>.

efficiently. These costs, specifically in health, can be classified as: Indirect, common to several procedures or services, and cannot be attributed to a sector or product; Direct, expenses made directly to the population or service itself; Fixed, which remain constant within a certain time interval, regardless of changes in production and sales volume during this period; and Variables, those whose total value increases or decreases directly or indirectly with differences in production or sales⁽¹⁰⁾.

Therefore, this research is justified by investigating and analyzing the scientific production on health costs developed by Brazilian nurses, with the aim of contributing to the scientific practice of nurses. And, thus, demonstrating the importance of the subject addressed and its effective participation, exposing through bibliometrics the most productive authors, the disposition of the production in time, geographic and language frequency, among others.

In this sense, based on the importance attributed to the theme involving health costs, the study aims to analyze the available scientific evidence on health costs published in national databases and a virtual library by Brazilian nurses.

METHODOLOGY

This is a bibliometric analysis, carried out in electronic databases and a virtual library in the health area, about the scientific evidence published by Brazilian nurses. A search protocol was constructed to cover all stages of the analysis.

The steps that led this bibliometric review were: elaboration of the research question, sampling and data collection strategy; extraction of relevant data from primary studies; evaluation of studies; analysis and synthesis of the review results; and presentation of the bibliometric study⁽¹¹⁾.

It is important to emphasize that bibliometrics is an area of study of information science in which indicators are produced that show the degree of development of an area of knowledge⁽¹²⁾, defined as a quantitative and statistical technique for measuring production

and dissemination rates of scientific knowledge⁽¹³⁾. Thus, bibliometrics helps researchers to learn about academic productions on a particular subject or area, becoming a research on the dissemination and use of studies carried out and published⁽¹⁴⁾. Bibliometrics shows its function by registering links between items from one or more publications in relation to other previously selected items⁽¹⁵⁾.

Thus, the following databases were used: Latin American and Caribbean Literature in Health Sciences (LILACS), Nursing Database (*Base de Dados de Enfermagem* - BDENF) and a virtual library: Scientific Electronic Library Online (SciELO). The searches were carried out on March 3, 2020 and the search was updated on November 14, 2022, after selecting the descriptors registered in the Health Sciences Descriptors (*Descritores de Ciências da Saúde* - DeCS), namely: costs and cost analysis; health care costs, hospital costs; cost-efficiency analysis, combining them with the Boolean operator OR.

The inclusion criteria adopted and used for the selection of articles were: primary studies in Portuguese, English and Spanish, with no time limit for the date of publication, authored by Brazilian nurses. In addition to these criteria, it was necessary for them to answer the research question, namely: What scientific evidence is available on health costs published in databases by Brazilian nurses? Secondary studies, theses and dissertations, editorials and response letters were excluded.

The figure below demonstrates the organization and selection of the research steps.

After selecting the articles, the material was analyzed by two reviewers for pre-selection, according to the theme referring to publications by Brazilian nurses about health costs. For this, a database was created in the form of an electronic spreadsheet, using the Microsoft Excel 365 tool, version 2210/2022, where the information corresponding to the study variables was arranged, such as title, authors' names, language, year, region and journal of publication, database, level of attention, and inserted the electronic links of the selected and captured articles, to facilitate the data conference.

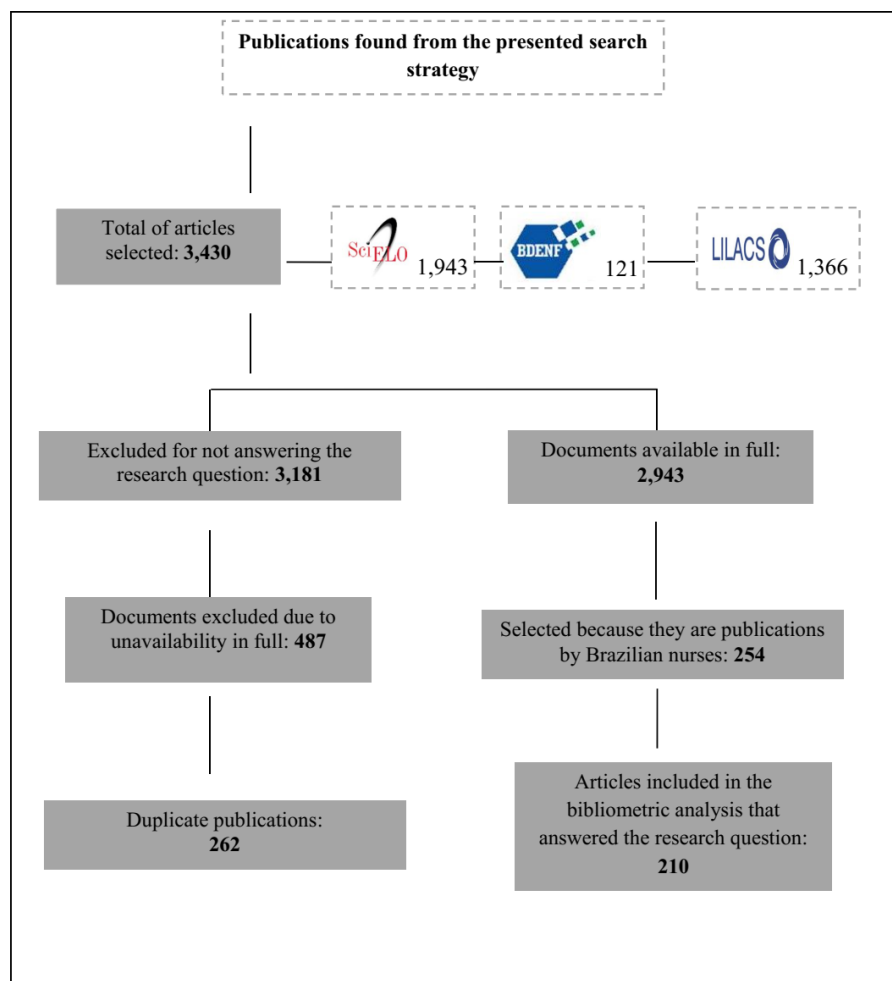


Figure 1. Flow of steps of bibliometric analysis, Londrina/PR, Brazil, 2022

Source: It was elaborated by the authors, (2022).

All publications were evaluated by titles and abstracts. Those in which the theme did not specifically correspond to the object of study ($n=3,181$) were excluded, and publications in English ($n=69$) and Portuguese ($n=141$) were included. Although the Spanish language was considered, no articles were found in the language in question. Thus, 210 articles were selected for meeting the research question, after reading these publications in full, with 74, 71 and 66 studies published in the BDENF, SciELO and LILACS databases, respectively.

The bibliometric study contributed to identifying the visibility of scientific production on the available evidence on health costs published in databases by Brazilian nurses. The analyzed data allowed the identification and

distribution of the frequency of publications per year in each database, the approach to related themes, the distribution of articles published by journals, among other information.

RESULTS

As for the number of publications included indexed in the databases, after applying the exclusion methods, the BDENF base stood out, followed by SciELO and LILACS.

Figure 2 shows the annual evolution of publications on this topic. The first record found was from 1983, with the publication of a single article. Over time, the growth in the number of published articles is notorious, the highest record occurred in 2015, with 24 articles.

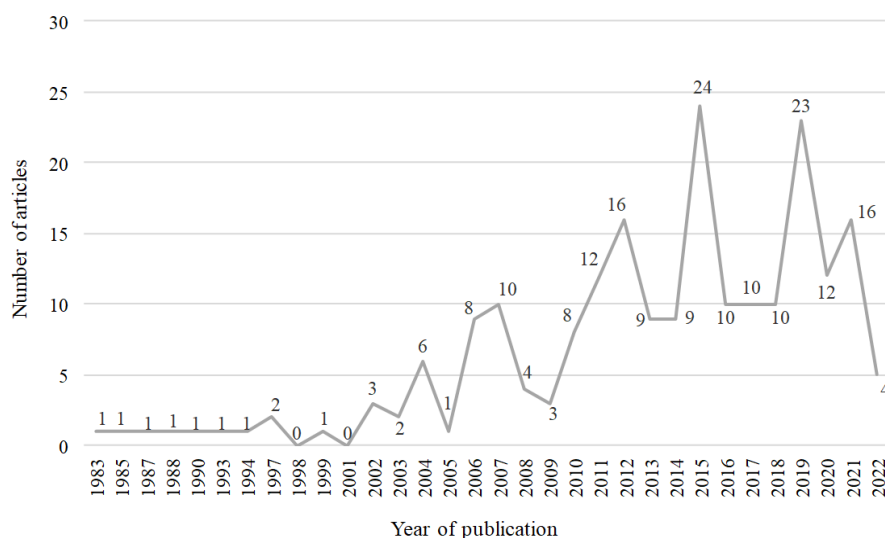


Figure 2. Distribution of articles published by Brazilian nurses on health costs according to the year of publication (1983-2022), Londrina/PR, Brazil, 2022

Source: It was elaborated by the authors (2022).

Figure 3 presents the most discussed subject in the identified studies, classified according to health care according to the demand of users of the Unified Health System (*Sistema Único de Saúde* - SUS) and private institutions. It is noted

that the highest prevalence of the studies found was in Tertiary Care, which involves highly complex actions, such as services performed in highly specialized hospitals⁽¹⁶⁾, while Primary Care is less prominent.

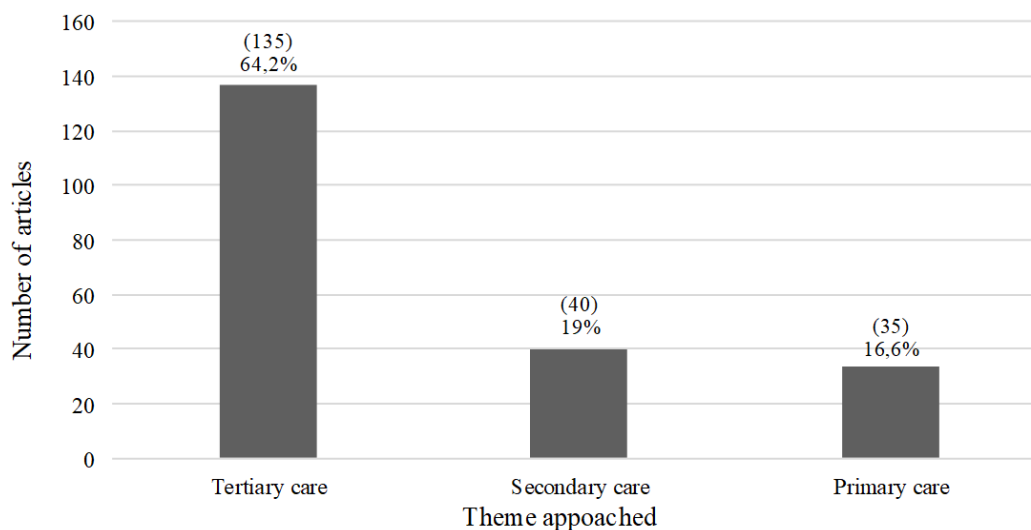


Figure 3. Percentage of studies developed according to the level of Health Care, from 1983 to 2022, Londrina/PR, Brazil, 2022

Source: It was elaborated by the authors (2022).

It was observed that six journals stood out in publishing on the subject, presenting a total of

111 articles, as described in Table 1.

Table 1. Distribution of articles in journals with the Impact Factor and QUALIS/2022, according to the production of Brazilian nurses on health costs, 1983 to 2022. Londrina/PR, Brazil, 2022

JOURNAL TITLE	IMPACT FACTOR	QUALIS CAPES (2022)	Nº	%
Revista da Escola de Enfermagem da USP	1.123	A2	33	15.7
Revista Latino-Americana de Enfermagem	1,725	A2	26	12.3
Revista Brasileira de Enfermagem	0.705	A4	22	10.4
Revista de Enfermagem UFPE	-	B1	16	7.6
Revista Enfermagem UERJ	-	A4	08	3.8
Revista de Administração em Saúde	-	C	06	2.8
Total			111	52.6

Source: It was elaborated by the authors (2022).

This information was constituted with the impact factors and QUALIS qualifications of September 2022, considering that many Brazilian journals, during the data collection period, still did not present the impact factor, therefore being, for the most part, classified by QUALIS.

It was observed that the distribution of scientific production according to its classification is unbalanced, since there is no

stability in scientific production among the highlighted journals.

Table 2 presents the frequency of articles published by region of Brazil. There is a predominance of studies developed in the Southeast Region with 135 articles, indicating 64.2% of the total number of publications, followed by the South Region, with 33 articles, pointing to 15.7% of the total number of published studies.

Table 2. Number of articles on health costs published by region of Brazil (1983-2022). Londrina/PR, Brazil, 2022

REGION OF BRAZIL	NUMBER	%
Southeast	135	64.2
South	33	15.7
Northeast	25	11.9
Center-West	8	3.8
Multi-center	6	2.8
It was not mentioned	3	1.4
North	0	0.0
Total	210	100

Source: It was elaborated by the authors, (2022).

It is noteworthy that, of the 210 articles, six referred to comparisons of different regions of the country, denominating themselves as multicenter, and another three ones did not mention the place of study, denominating themselves as not mentioned.

As for the frequency of the languages of the selected articles, there was a predominance of the Portuguese language (67.1%), followed by English (32.8%); despite not having a linguistic limit, no publications were found in Spanish.

DISCUSSION

After the analyses, there was a gradual increase in publications from 2006 onwards, with 2015 having the highest number (24 articles), followed by 2019 with 23 studies. It is noteworthy that the year 2021 shows considerable growth (16 articles), compared to the entire year 2020 (12 articles).

It should be noted that most of the studies were carried out in services that provide assistance in Tertiary Care (64.2%), consisting of services that apply highly specialized treatments and procedures, such as hospital and surgical procedures, and highly complex outpatient procedures and with higher costs ⁽¹⁷⁾. It is relevant to highlight this, as the

predominance of highly complex actions in Tertiary Care services persists in relation to primary care, directly reflecting on costs, since the higher the level of care complexity, the greater the expenditures on services offered, proving the importance of nurses' knowledge and participation in cost management.

On the other hand, the least discussed topic was related to Primary Care, representing only 16.6% of the publications, which is offered directly to the patient, characterized by a set of low-complexity promotion, prevention and treatment behaviors and, if necessary, rehabilitation ⁽¹⁸⁾.

The development of scientific research on the subject of cost management in Tertiary Care is extremely important, since this level of health care is organized regionally, to serve a population of up to 5 million people ⁽¹⁶⁾, as well as it has a high financial impact, such as dialysis, chemotherapy, radiotherapy and blood therapy ⁽¹⁹⁾. It is observed that primary care is directed towards less complex care (disease prevention and health promotion), which generally occur in a decentralized manner, in health centers and basic units, with lower costs ⁽¹⁶⁾. It is noteworthy that research on costs in the primary care network is relevant and should be carried out, as the results of this study demonstrated a knowledge gap in this area.

The national literature of the present study demonstrated the concentration of publications on health costs in only three journals: *Revista da Escola de Enfermagem* of USP, *Revista Latino-Americana de Enfermagem* and *Revista Brasileira de Enfermagem*, all located in the Southeast Region of Brazil.

The results of the study showed that there is a predominance of publications from the Southeast Region of Brazil (64.2%), mostly from the city of São Paulo. In contrast, in the North Region, there are few studies developed on this topic, which may be related to the lower concentration of postgraduate programs in these regions, as well as the economic, political, sociocultural and geographic context in which they are developed. scientific activities ⁽²⁰⁾.

The Document from the Evaluation Board of the Coordination for the Improvement of Higher Education Personnel (*Coordenação de Aperfeiçoamento de Pessoal de Nível Superior* -

CAPES) highlights the Southeast Region with the highest number of courses, 47 in total (40.5%); followed by the Northeast, with 30 courses (25.8%); South Region, with 25 courses (21.6%); Midwest, with 10 courses (8.6%); and North, with four courses (3.5%). There is inequality in the distribution of programs and, consequently, in scientific production, considering that the development of research is closely related to postgraduate studies ⁽²¹⁾.

As for the identified languages, there is a prevalence in studies published in Portuguese (67.1%), since one of the inclusion criteria was publications by Brazilian nurses, followed by English (32.8%). Although the present study does not have a linguistic limit, no publications were found in Spanish. It can be emphasized that this internationalization of articles is associated with numerous factors, such as the growing complexity and interdisciplinarity of research; advances in information and communication technologies; ease of global mobility; international cooperation policies and instruments; and the expansion of collaboration between authors and institutions around the world ⁽²⁰⁾.

FINAL THOUGHTS

The results of this study made it possible to analyze the scientific evidence available in the nursing area regarding health costs in Brazil; therefore, it is inferred that there is great interest in nursing in the subject. However, it was little explored during the years 1980 to 1990, especially in the North Region until the year 2022, due to the development of research being more directed to postgraduate studies, however implying itself as a negative point, since the exploration of this theme adds important knowledge for professional performance.

Even so, there is a growing interest of nurses in this topic from 2007 onwards, implying a positive impact, since, for the nurse manager, it is of great importance to have knowledge of financial administration and to have a good cost structure associated with control, to result in effective, evidence-based decision-making.

Due to the greater amount of research and authors concentrating on the Southeast Region, the authors' interest and viability regarding

knowledge about health costs are evident, encouraging other researchers and professionals from other regions to learn about the subject, developing a nurse with diverse managerial skills.

In this context, bibliometric techniques show

that research can be very useful for discovering scientific production in the area of health costs, since the data contained in this study can be used as a tool for planning and implementing strategies in order to better understand the findings of the scientific community.

EVIDÊNCIAS CIENTÍFICAS SOBRE CUSTOS EM SAÚDE: ESTUDO BIBLIOMÉTRICO

RESUMO

Objetivo: Analisar as evidências científicas disponíveis sobre custos em saúde publicados em bases de dados nacionais e uma biblioteca virtual por enfermeiros brasileiros. **Método:** Trata-se de análise bibliométrica das publicações de enfermeiros brasileiros acerca dos custos em saúde, sem limite temporal de busca, em diferentes idiomas, indexadas em bases de dados nacionais e em uma biblioteca virtual, são elas: Literatura Latino-Americana e do Caribe em Ciências da Saúde (LILACS), Base de Dados de Enfermagem (BDENF), e *Scientific Eletronic Library online* (SciELO), respectivamente. **Resultados:** Segundo a análise, identificaram-se 212 artigos publicados em periódicos brasileiros, no período de 1983 a 2022. Destes, a maioria foi desenvolvida na Região Sudeste, com destaque para maior número de publicações em 2015. Houve maior frequência de publicação em seis periódicos, com predomínio na *Revista da Escola de Enfermagem* da Universidade de São Paulo com 33 artigos sobre custos em saúde. Destaca-se que 64,2% das publicações direcionaram-se às ações em serviços de alta complexidade. **Conclusão:** A interpretação dos dados permitiu expor que, apesar do baixo número de publicações no decorrer dos anos de 1980 a 1990, a partir de 2006 é expressivo o crescimento da produção científica brasileira quanto aos custos em saúde, demonstrando a possibilidade de acesso e interesse dos enfermeiros para entender as ferramentas da gestão de custos imbricados no processo de trabalho da enfermagem, o que pode otimizar a gestão financeira dos serviços de saúde.

Palavras-chave: Custos e análise de custos. Custos de cuidados de saúde. Custos hospitalares.

EVIDENCIAS CIENTÍFICAS SOBRE COSTOS EN SALUD: ESTUDIO BIBLIOMÉTRICO

RESUMEN

Objetivo: analizar las evidencias científicas disponibles sobre costos en salud publicados en bases de datos nacionales y una biblioteca virtual por enfermeros brasileños. **Método:** se trata de análisis bibliométrico de las publicaciones de enfermeros brasileños acerca de los costos en salud, sin límite temporal de búsqueda, en diferentes idiomas, indexadas en bases de datos nacionales y en una biblioteca virtual, son ellas: Literatura Latinoamericana y del Caribe en Ciencias de la Salud (LILACS), *Base de Datos de Enfermagem* (BDENF), y *Scientific Eletronic Library Online* (SciELO), respectivamente. **Resultados:** según el análisis, se identificaron 212 artículos publicados en revistas brasileñas, en el período de 1983 a 2022. De estos, la mayoría fue desarrollada en la Región Sudeste de Brasil, con destaque para mayor número de publicaciones en 2015. Hubo mayor frecuencia de publicación en seis revistas, con predominio en la *Revista da Escola de Enfermagem* de la Universidad de São Paulo con 33 artículos sobre costos en salud. Se destaca que el 64,2% de las publicaciones se dirigieron a las acciones en servicios de alta complejidad. **Conclusión:** la interpretación de los datos permitió exponer que, a pesar del bajo número de publicaciones a lo largo de los años 1980 a 1990, a partir de 2006 es expresivo el crecimiento de la producción científica brasileña en cuanto a los costos en salud, demostrando la posibilidad de acceso e interés de los enfermeros para entender las herramientas de la gestión de costos presentes en el proceso de trabajo de la enfermería, lo que puede optimizar la gestión financiera de los servicios de salud.

Palabras clave: Costos y análisis de costos. Costos de atención de salud. Costos hospitalarios. Análisis costo-eficiencia.

REFERENCES

1. Cintra NM, Araújo NLM, Resende AL. A Utilização do Custeio Baseado em Atividades como modelagem de Custeio para o Teste de Função Pulmonar. *Rev. Cienc. Gerenc.* Brasília, 2017. [citado em 13 ago 2020];21(33):14-22. DOI: <https://doi.org/10.17921/1415-6571.2017v21n33p14-22>
2. Brasil, Ministério da Saúde. Secretaria de Ciência, Tecnologia e Insumos Estratégicos. Departamento de Ciência e Tecnologia. Diretrizes metodológicas: Diretriz de Avaliação Econômica. Ministério da Saúde, Secretaria de Ciência, Tecnologia e Insumos Estratégicos, Departamento de Ciência e Tecnologia. 2ª ed. Brasília: Ministério da Saúde, 2014. [citado em 28 jul 2020];2:132. Disponível em: https://bvsms.saude.gov.br/bvs/publicacoes/diretrizes_metodologicas_diretriz_avaliacao_economica.pdf.
3. Brasil. Ministério da Saúde. Introdução à Gestão de Custos em Saúde. Ministério da Saúde, Organização Pan-Americana da Saúde. Brasília: Editora do Ministério da Saúde, 2013. [citado em 28 jul 2020];2:148. Disponível em: http://bvsms.saude.gov.br/bvs/publicacoes/introducao_gestao_custos_saude.pdf.

4. Melo TO, Lima AFC. Cost of nursing most frequent procedures performed on severely burned patients. *Rev. Bras. Enferm* [Internet]. 2017. [citado em 28 jul 2020];70(3):481-8. DOI: <https://doi.org/10.1590/0034-7167-2015-0034>
5. Ferreira JJ, Farah BF, Dutra HS, Bahia MTR, Sanhudo NF, Franco MF. Atuação do enfermeiro na gestão de recursos materiais na atenção primária à saúde. *Rev Enferm Atual In Derme* [Internet]. 2021 [citado em 14 out 2022];95(35):e-021132. DOI: <https://doi.org/10.31011/reaid-2021-v.95-n.35-art.1213>
6. Fernandes JC, Cordeiro BC. The management of basic health units from the point of view of Nursing managers. *Rev. Enferm. UFPE* [on-line]. 2018 [citado em 15 de nov 2022];12(1):194-202. DOI: <https://doi.org/10.5205/1981-8963-v12i01a23311p194-202-2018>
7. Souza SESM, Silva AR. Contribuição do enfermeiro no processo de gerenciamento de custo nas instituições hospitalares. *Rev. Gestão & Saúde. Brasília*. 2017. [citado em 13 ago 2020];8(2):338-62. Disponível em: <https://periodicos.unb.br/index.php/rgs/article/view/3732>
8. Silveira MS, Cogo ALP. The contributions of digital technologies in the teaching of nursing skills: an integrative review. *Rev. Gaúcha Enferm*. 2017 [citado em 13 ago 2020];38(2):e66204. DOI: <https://doi.org/10.1590/1983-1447.2017.02.66204>
9. Ramos LCF, Spiegel T, Assad DBN. Gestão de materiais hospitalares: uma proposta de melhoria de processos aplicada em hospital universitário. *Rev. Adm. Saúde*. 2018 [citado em 13 ago 2020];18(70):1-22. DOI: <http://dx.doi.org/10.23973/ras.70.83>
10. Pedrosa AJG, Nascimento JML. Análise de custos hospitalares: Um estudo de caso na unidade de nutrição clínica em um Hospital Universitário. *RAHIS*. 2019. [citado em 14 ago 2020];16(2). DOI: <https://doi.org/10.21450/rahis.v16i2.5469>
11. Quevedo-Silva F, Biagi ASE, Moll BM, Vils L. Estudo Bibliométrico: Orientações sobre sua aplicação. *Rev. Bras. de Marketing*. 2016. [citado em 14 ago 2020];15(2):246-262. DOI: <https://doi.org/10.5585/remark.v15i2.3274>
12. Nascimento AB, Almeida JC. Gestão de custos, finanças e resultados em saúde. [E-book na Internet] Editora Senac. São Paulo, 2019 [citado em 13 ago 2020];1.118. Disponível em: <https://books.google.com.br/books?id=a910DwAAQBAJ&lpg=P1&hl=pt-BR&pg=PP1#v=onepage&q&f=false>
13. Lima JS, Andrade KBS, Camerini FG, Henrique DM, Pereira SRM, Assis TG. Strategies performed by nurses for risk factors prevention: a bibliometric study. *Cienc. Cuid. Saúde* [Internet]. 2018 [citado em 13 ago 2020];16(3). DOI: <https://doi.org/10.4025/cienccuidsaude.v16i3.33488>
14. Pimenta AA, Portela ARMR, Oliveira CB, Ribeiro RM. A bibliometria nas pesquisas acadêmicas. *Scientia*. 2017 [citado em 13 ago de 2020];4(7):1. Disponível em: <https://docplayer.com.br/137842425-A-bibliometria-nas-pesquisas-academicas.html>
15. Michel C, Olsson TO, Toassi RFC. Interprofessional Health Education: bibliometric analysis of national scientific production. *Rev da ABENO* [Internet]. 2019 [citado em 28 out 2022];19(4):78-90. DOI: <https://doi.org/10.30979/rev.abeno.v19i4.781>
16. Pedroso MC, Malik AM. As quatro dimensões competitivas da saúde. *Harvard Business Review Brasil*. 2016. [citado em 10 ago 2020];89(3):54-63. Disponível em: https://pesquisa-eaesp.fgv.br/sites/gvpesquisa.fgv.br/files/arquivos/malik_-_as_quatro_dimensoes_competitivas_da_saude_-_harvard_business_review_brasil.pdf
17. Paim, JS. Thirty years of the Unified Health System (SUS). *Ciência & Saúde Coletiva* [online]. 2018. [citado em 28 out 2022];23(6):1723-1728. DOI: <https://doi.org/10.1590/1413-81232018236.09172018>
18. Brasil. Ministério da Saúde. Atenção Primária à Saúde. Ministério da Saúde. Secretaria de Atenção Primária à Saúde. 2013. [citado em 26 jul 2020]. Disponível em: <https://aps.saude.gov.br/smp/smpoquee>
19. Brasil. Ministério da Saúde. O SUS de A a Z: garantindo saúde nos municípios. Ministério da Saúde. Conselho Nacional das Secretarias Municipais de Saúde. 3. ed. Série F. Comunicação e Educação em Saúde Brasília: Ministério da Saúde, 2009. [citado em 11 ago 2020];480 p. Disponível em: http://bvsmis.saude.gov.br/bvsmis/publicacoes/sus_az_garantindo_saude_municipios_3ed_p1.pdf
20. Costa JP, Costa ALF, Yamamoto, OH. A internacionalização na política científica brasileira e seus impactos para os programas de pós-graduação. *Avaliação: Revista da Avaliação da Educação Superior* [online]. 2021. [citado em 26 out 2022];26(03):881-899. DOI: <https://doi.org/10.1590/S1414-40772021000300013>
21. Brasil, Ministério da Educação, Coordenação de Aperfeiçoamento de Pessoal de Nível Superior, Diretoria de Avaliação. Área 20: Enfermagem. Ministério da Educação, 2019. [citado em 06 out 2021] Disponível em: <https://www.gov.br/capes/pt-br/centrais-de-conteudo/enfermagem-pdf>

Corresponding author: Rafaella Leite Lazarini. Rua Doutor Dimas de Barros, 65, apto 2801. Londrina, Paraná, Brasil. (43) 9 9997-2114. rafaellaleitelzr@gmail.com

Submitted: 14/03/2022

Accepted: 06/01/2023

Financial support:
Scientific Initiation Scholarship by Fundação Araucária