

Palliative Care in Adult Intensive Care Units: A Bibliometric Study in Medical Research Journals

Cuidados Paliativos em Unidades de Terapia Intensiva Adulto: Estudo Bibliométrico em Periódicos da Área Médica

Cuidados Paliativos em Unidades de Cuidados Intensivos Para Adultos: Estudo Bibliométrico em Periódica Médica

Madson Mariz Melo Tavares¹; Márcia Adriana Dias Meirelles Moreira²; Ângelo Brito Pereira Melo³; Manuella de Sousa Toledo Matias⁴; Fernando André Costa de Souza⁵; Isabelle Cristinne Pinto Costa^{6*}

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ABSTRACT

Objective: The study's purpose has been to investigate the scientific production in the medical field about palliative care in the Intensive Care Unit of an adult audience. **Methods:** It is a bibliometric study, consisting of 318 articles gathered from the Scientific Electronic Library Online (SciELO), the Medical Literature Analysis and Retrieval System Online (MEDLINE), and the Literatura Latino-americana e do Caribe em Ciências da Saúde (LILACS) [Latin-American and Caribbean Literature in Health Sciences] through the Virtual Health Library. **Results:** There were identified articles related to palliative care in the Intensive Care Unit over the last 20 years, predominantly papers published in the United States of America, followed by Brazil, and in high impact journals as well. **Conclusion:** The scientific production on the subject has grown linearly, notably in the last 10 years, predominantly in the English language and produced by American universities.

Descriptors: Palliative Care, Palliative Medicine, Intensive Care Unit, Health Critical Condition.

¹ Medicine Graduate, MSc in Health Sciences, Doctor employed at Hospital Universitário Lauro Wanderley – HULW from the Universidade Federal da Paraíba (UFPB).

² Medicine Graduate, PhD in Surgery Research, Professor at Universidade Federal da Paraíba (UFPB), Researcher and Member of the Research Group: Núcleo de Estudos e Pesquisas em Bioética e Cuidados Paliativos (CCS/UFPB).

³ Dentistry Graduate, PhD in Endodontics, Associate Professor at Universidade Federal da Paraíba (UFPB), Teaching and Research Supervisor and Coordinator of the Dentistry Board of the Multiprofessional Residency Program at Hospital Universitário Lauro Wanderley – HULW from the Universidade Federal da Paraíba (UFPB).

⁴ Medicine Graduate, MSc in Health Sciences, Professor at Universidade Federal da Paraíba (UFPB).

⁵ Medicine Graduate, Residency in Medical Clinics by the Hospital do Servidor Público Municipal at the São Paulo State.

⁶ Nursing Graduate, Speech Therapist Graduate, PhD in Nursing, Adjunct Professor at Universidade Federal de Alenas (UNIFAL), Leader of the Interdisciplinary Board for Palliative Care Studies Group at Universidade Federal de Alenas (UNIFAL), Researcher and Member of the Research Group: Núcleo de Estudos e Pesquisas em Bioética e Cuidados Paliativos (CCS/UFPB).

RESUMO

Objetivo: Investigar a produção científica na área médica acerca dos cuidados paliativos na Unidade de Terapia Intensiva de público adulto.

Métodos: Estudo bibliométrico, constituído por 318 artigos pesquisados na biblioteca eletrônica Scientific Electronic Library Online (SciELO), nas bases de dados da Medical Literature Analysis and Retrieval System Online (MEDLINE) e da Literatura Latino-Americana e do Caribe em Ciências da Saúde (LILACS) através da Biblioteca Virtual em Saúde. **Resultados:** Identificaram-se artigos relacionados aos cuidados paliativos na Unidade de Terapia Intensiva, nos últimos 20 anos, predominando trabalhos publicados nos Estados Unidos, seguidos pelo Brasil, em periódicos de alto nível de impacto. **Conclusão:** A produção científica sobre o tema tem crescido linearmente, notadamente nos últimos 10 anos, com predominância na língua inglesa e produzido por universidades americanas.

Descritores: Cuidados paliativos, Assistência paliativa, Medicina paliativa, Unidade de terapia intensiva, Estado crítico.

RESUMEN

Objetivo: Analizar la producción científica en el ámbito médico sobre cuidados paliativos en la Unidad de Cuidados Intensivos de adultos.

Métodos: Estudio bibliométrico, constituído por 318 artículos investigados en la biblioteca electrónica Scientific Electronic Library Online (SciELO), en las bases de datos Medical Literature Analysis and Retrieval System Online (MEDLINE) y Literatura Latinoamericana y del Caribe en Ciencias de la Salud (LILACS) a través de la Biblioteca Virtual en Salud. **Resultados:** Se identificaron artículos relacionados a los cuidados paliativos en la Unidad de Cuidados Intensivos, en los últimos 20 años, prevaleciendo trabajos publicados en Estados Unidos, seguidos por Brasil, en publicaciones de alto factor de impacto. **Conclusión:** La producción científica sobre el tema ha crecido linealmente, se acentuando en los últimos 10 años, con predominancia en la lengua inglesa y elaboraciones por universidades estadounidenses.

Descriptores: Cuidados paliativos, Asistencia paliativa de apoyo, Medicina paliativa, Unidad de cuidados intensivos, Enfermedad crítica.

INTRODUCTION

It is human nature to search for the meaning of life and the understanding of death, observed in various ways according to the cultures, societies, beliefs and historical context in which reflection is made.¹ Modernly, man is living longer, anchored in the scientific and technological advances of society, especially those related to health, from the beginning of the twentieth century, which does not necessarily mean improved quality of life or death.²

The advances mentioned made possible, among others, the cure of various diseases with the appreciation and search for an increasingly improved technique for the resolution of diseases, establishing a culture of denial of death, which began to be viewed as an enemy, as a sign of weakness, failure or defeat.^{2,3}

Among these advances, certainly the emergence of Intensive Care Units (ICU), in the middle of the last century, has contributed to the resolution of many diseases, acute or chronic, and were created as a necessity to serve patients suffering from a polio epidemic in Europe (Denmark), which led them to respiratory failure, requiring ventilatory

support through primitive mechanical ventilators (“steel lungs”) and, consequently, the assistance of a team of doctors and nursing professionals, creating the idea is to rationalize resources, technologies and professionals specialized in the same physical environment, to care for critically ill patients until their recovery.^{4,5}

Nowadays, it is the most complex unit of a hospital, with great advances in organization and quality, becoming a recognized medical specialty (intensive medicine), with a range of professionals also from the areas of nursing, physiotherapy, nutrition, pharmacy, psychology, social assistance, dentistry, speech therapy, among others. It can be said that this is the place in the hospital where multiprofessional work is most decisive, as it is allied to an increasingly complex technology, with specializations (cardiology, neurology, traumatology, infectology, etc.) and covering various age groups, from the newborn to the elderly, representing an endeavor of humanity in its “fight” against death by diseases and diseases.^{4,5}

Despite all the advances, death remains, however, a human condition, occurring even in the most complex and supportive sectors, such as ICUs. In this framework, there were highlighted the Palliative Care (PC) approach that was revitalized in the 1960s⁶ and which aims to care for patients with serious and potentially fatal diseases, at all stages, especially those in which curative options are minimal or non-existent, with a focus on helping patients and families cope with the disease, and improving their quality of life.⁷

The PC are implemented through symptom detection and detection using methods of early detection, pain assessment, and treatment, and lead to other physical, psychosocial and spiritual problems.⁷ They should be exhibited in all age groups, notably for chronic patients in advanced stages of the disease and with a strong expectation of disabling sequelae. The main goals of PC are to provide the best possible quality of life for patients and to support the family during and after the illness without mourning.⁷

Unlike those who may think, the PC, when it can use and use indicators, do not deprive patients or patients of necessary and dispensable diagnostic and therapeutic resources, make hierarchical form and take into consideration the stage of the disease, the benefits, and harms that actions can bring to the patient, always respecting their capacity and values. In Brazil, this approach has gained strength in the last decade, focusing on integral and humanized care, including the interprofessional character, or what leads to the interest and intervention of several areas that make up health,⁸ especially in medicine.

Bearing in mind the aforesaid and considering the relevance of the theme, this study targets to investigate the scientific production in the medical field about palliative care in adult ICU.

METHODS

It is a bibliometric study,⁹ which is used to quantify the processes of written communication (books, magazines, etc.) aiming to measure scientific production by the use of grouping and synthesizing research results on a delimited theme in a systematic and orderly manner, then contributing to the construction and improvement of the knowledge of the addressed theme.^{10,11}

A unit of analysis consisting of medical articles published in online journals related to PC in adult ICUs. The bibliographic survey was performed at the Virtual Health Library (VHL) in the following databases: the *Literatura Latino-americana e do Caribe em Ciências da Saúde (LILACS)* [Latin-American and Caribbean Literature in Health Sciences], the Medical Literature Analysis and Retrieval System Online (MEDLINE); and the Scientific Electronic Library Online (SciELO), using the following descriptors in Portuguese, English, and Spanish, as health terminology available from Medical Subject Headings (MeSH), and the only ones available from the Health Sciences Descriptors (DeCS): “palliative care”; “Intensive care units”. It is noteworthy that the Boolean operator “AND” was applied for the crossing between the descriptors.

To select a sample, the following inclusion criteria were adopted: publication in the journal article, available in full in the online collection, in Portuguese, English, and Spanish, without period from 1999 to 2018 (20 years), with search and data taking place from March to July 2019, so it was possible to identify 2,680 articles. After selecting some publications according to the established criteria, then remained 1,527 articles.

Then, repeated studies, titles or keywords not presented, such as cited, neonatology, pediatrics or adolescence treaties, had no less than a medical professional author, other types of publications (editorials, letters to the editor, replicates, duplicates, erratums, comments, reflexes) totaling over 1,209 exclusions, so a sample of the study comprises 318 articles.

After reading the abstracts of the selected studies, and some in full, the following data were analyzed concerning the journals: publication year; denomination, Qualis CAPES and Impact Factor (IF); related to the article: title, originality (primary, secondary), thematic (terminality of life, professional/family or patient relationship, decision making, diseases, therapies, procedures, spirituality, religiosity, grief, bioethics, costs, concepts) selected from abstracts and also the descriptors and also related to the authors: names and affiliation institution of the first author.

Hence, the survey data were transcribed into tables made in Word (Microsoft Corporation®), then some were tabulated with the aid of Excel Office 365 software (Microsoft Corporation®) and then the descriptive statistical analysis was performed, with the distribution

frequency in absolute numbers (n) and relative frequency (%), arranged in graphs and tables, and use of a concept map, to facilitate the understanding of the content of the theme systematically,¹² built from the keywords.

RESULTS AND DISCUSSION

After employing the selection criteria, 2,680 articles were found in the electronic databases, of which 2,590 were from the VHL (MEDLINE, LILACS) and 90 from the SciELO virtual library, all published over the period from 1999 to 2018 - 20 years. 2,362 articles were excluded, which were selected according to the criteria already mentioned, resulting in 318 articles, which constituted the research sample, of which 96% (n=306) were available in the VHL and 4% (n=12) in the SciELO.

With regard to the articles considered in this research, **Figure 1** presents the distribution in absolute numbers of the production, according to the year of publication, observing in the temporal dynamics an almost linear increase in the dissemination of the works, being larger in 2015 and 2017. (n=53 and n=51), with a fall in the last surveyed year of 2018. No articles eligible for analysis were found between 1999 and 2005, and 359 articles were excluded during this period.

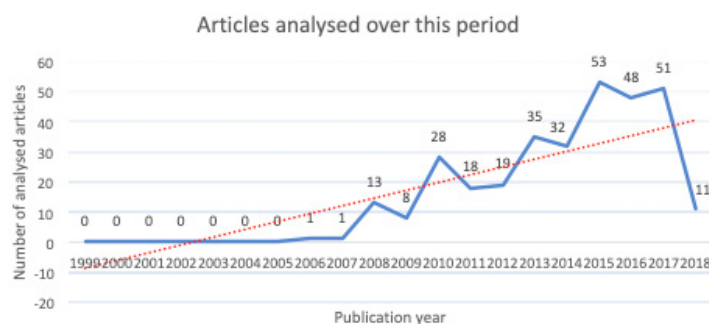


Figure 1 – Distribution of journals by their publication year. João Pessoa city, Paraíba State, Brazil, 2019

The language most used by the journals to spread their content, among those previously selected, was English with 294 (92.4%), followed by studies in Portuguese (n=18; 5.7%) and Spanish (n=6, 1.9%).

One hundred and twenty-seven journals published in the period and **Table 1** presents the list of the 21 most prolific, highlighting the Journal of Palliative Medicine with 35 papers and the American Journal of Hospice & Palliative Care with 14, covering, respectively, 19, 3% and 7.7% of the 181 articles of the 21 most productive. The **Revista Brasileira de Terapia Intensiva (RBTI)** [Brazilian Journal of Intensive Care] was the national journal with the largest number of publications (n= 8; 4.4%), followed by the Bioethics Journal of the Federal Council of Medicine (n=4; 2.3%). Furthermore, in the same table, we can see the

IF of the publication vehicle considering the data available in 2019, which presents the Journal of the American Medical Association (JAMA) with the largest IF (51.273) followed by the American Journal of Respiratory and Critical Care. Medicine, with IF of 16.490. The RBTI has Qualis for the *Coordenação de Aperfeiçoamento de Pessoal de Nível Superior* (CAPES) [Higher Education Personnel Improvement Coordination] A4 and the *Revista Bioética* [Bioethics Journal], A2 (2019).

Table 1 – List of 21 journals that most published articles, showing their numbers, percentages, IF and Qualis. *João Pessoa* city, *Paraíba* State, Brazil, 2019

Journal	n	%	IF	Qualis
Journal of Palliative Medicine	35	19.3	2.477	A2
American Journal of Hospice and Palliative Care	14	7.7	1.283	A4
Critical Care Medicine	13	7.1	7.442	A2
Chest (American College of Chest Physicians)	11	6.0	7.132	A1
Journal of Pain and Symptom Management	11	6.0	3.249	A1
American Journal of Respiratory and Critical Care Medicine	10	5.5	16.494	A1
Journal of Critical Care	10	5.5	2.743	A4
Intensive Care Medicine	09	4.9	15.008	A1
Current Opinion in Critical Care	08	4.4	2.540	A2
Revista Brasileira de Terapia Intensiva	08	4.4	0.362	A4
Annals of the American Thoracic Society	06	3.4	4.026	A2
Palliative & Supportive Care	06	3.4	1.965	A4
Supportive Care in Cancer	06	3.4	2.754	A2
American Journal of Hospice and Palliative Care	05	2.8	1.655	A4
BMC Palliative Care	05	2.8	2.540	A1
JAMA (Chicago, ILL)	05	2.8	51.273	A1
American Journal of Hospice & Palliative Care	05	2.8	0.520	A4
Revista Bioética CFM Brasil	04	2.3	0.300	A2
Neurocritical Care	04	2.3	2.857	B1*
Cancer	03	1.6	6.072	A1
Medicine (Baltimore, MD)	03	1.6	1.870	A2
	181	100		
DEMAIS PUBLICAÇÕES	137			
TOTAL	318			

Note: Instead of 20, there were considered 21 journals since two of them have shown the same number of articles (n=3). Qualis CAPES - 2019.
FI: Impact Factor (2019). *B1 in 2016.

Concerning the authors with five or more articles analyzed, distributed in **Table 2**, it was observed that the largest number of publications was from the physician J. Randall Curtis, with 34 articles, followed by Ruth A. Engelberg, with 20 publications.

Table 2 – Distribution of authors with 5 or more published articles. *João Pessoa* city, *Paraíba* State, Brazil, 2019

Author	n	University affiliate
Curtis, J Randall	34	University of Washington
Engelberg, Ruth A	20	University of Washington
Nelson, Judith E	12	Mount Sinai School of Medicine, New York
Nielsen, Elizabeth L	10	University of Washington
Shannon, Sarah E	9	University of Washington
Aslakson, Rebecca A	7	The Johns Hopkins School of Medicine, MD
Kross, Erin K	7	University of Washington
Puntillo, Kathleen A	7	University of Washington
Arnold, Robert M	6	University of Pittsburgh
Downey, Lois	6	University of Washington
White, Douglas B	6	University of Pittsburgh
Azoulay, Elie	5	Paris Diderot University
Creutzfeldt, Claire J	5	University of Washington
Hanson, Laura	5	University of North Carolina - Chapel Hill
Hua, May	5	Columbia University, New York
Khandelwal, Nita	5	Harborview Medical Center (Washington)
Treece, Patsy D	5	University of Washington

Regarding the 20 most published institutions, out of 214, 17 (85%) are from the United States, followed by Canada (n=2; 10%) and Brazil (n=1, 5 %) which corroborates the number of publications by country, with the United States of America appearing with 198 (62.2%), and then Brazil with 23 articles (7.2%), according to **Table 3**.

Table 3 - Results related to the most published institutions and countries. *João Pessoa* city, *Paraíba* State, Brazil, 2019

Variable	Article	Percent
University-Institution/Country		
University of Washington, Seattle	21	19.7
Mount Sinai School of Medicine, New York	13	12.2
University of Pittsburgh, Pittsburgh	9	8.5
The Johns Hopkins School of Medicine, Baltimore	7	6.6
University of North Carolina at Chapel Hill	5	4.7
Columbia University, New York	4	3.7
Duke University, Durham	4	3.7
Harborview Medical Center, Washington	4	3.7
The University of Texas, Houston	4	3.7
University of California, Los Angeles	4	3.7
University of Medicine and Dentistry of New Jersey	4	3.7
University of Toronto	4	3.7
Dana-Farber Cancer Institute, Boston	3	2.8
Harvard Medical School, Boston	3	2.8
Indiana University, Indianapolis	3	2.8
Memorial Sloan-Kettering Cancer Center, N. York	3	2.8
Universidade Federal de Santa Catarina	3	2.8
University of Ottawa, Ottawa	3	2.8
University of Pennsylvania, Philadelphia	3	2.8
University of San Francisco, California	3	2.8
	107	100
OTHER UNIVERSITIES	211	
TOTAL	318	
Principal Author's Country		
United States of America	198	62.2
Brazil	23	7.2
Canada	19	5.9
United Kingdom	12	3.8
Germany	09	2.8
China	09	2.8
Australia	08	2.5
France	06	1.8
Republic of Korea	05	1.6
Taiwan	05	1.6
Spain	04	1.3
Colombia	02	0.7
Netherlands	02	0.7
Israel	02	0.7
Italy	02	0.7
Turkey	02	0.7
Saudi Arabia	01	0.3
Argentina	01	0.3
Austria	01	0.3
Belgium	01	0.3
Croatia	01	0.3
Cuba	01	0.3
Greece	01	0.3
India	01	0.3
Kuwait	01	0.3
Singapura	01	0.3
TOTAL	318	100

Considering the originality of the analyzed articles, the prevalence was defined from primary (n=215; 67.6%) and secondary (n=103; 32.4%) articles.

The theme developed over the period was researched in reading the abstracts associated with the descriptors and was represented by a concept map constructed linearly, as shown in **Figure 2**.

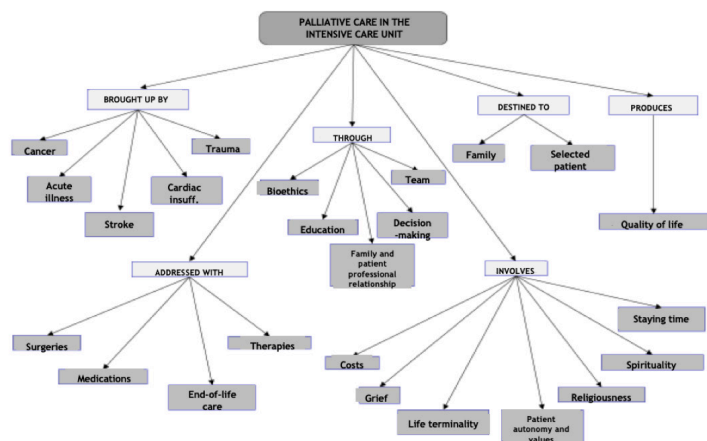


Figure 2 – Concept map elaborated from the evaluations of the abstracts and descriptors of the articles selected for this study. João Pessoa city, Paraíba State, Brazil, 2019

During the appraised period of 20 years, we can see the growth of the number of publications linearly, concentrated in the last five years, with a peak in 2015 (n=53; 16.7%), however, observed in 2018, the lowest number in the last ten years, which can be understood as the non-updating of recently produced articles, with a partial consolidation of these publications through databases or a phenomenon to be clarified temporarily.

Also in the article selection process, the high number of exclusions required (n=2,362) is noteworthy, mainly explained by the fact that even using the descriptors in Portuguese and Spanish, the databases and the electronic library had selected titles in English, which also appeared in the selection with the own, justifying the exclusion of these repeated articles. Moreover, the English language prevailed in the number of articles (n=294; 92.4%), because they were produced in North America, whose language prevails, as this is the language most present in high impact journals by coverage¹³ and which is more related to the theme “palliative care” as ratified by other studies.^{14,15}

Regarding the journals analyzed, we observed a considerably high number, totaling 127. Of those that publish the most subjects in the medical area, those based in the United States of America prevail (18 of the first 21 - Table 1), highlighting the Journal of Palliative Medicine (IF 2.477 Qualis A2) as the largest number of articles published (n=35; 19.3%), with copies in the area since 1998, with monthly distribution, reviewed by expert, covering medical, psychosocial, political and legal issues on end-of-life care and relief from the suffering of patients with intractable pain. It is the official academic journal of the Center for Advance Palliative Care and the Hospice and Palliative Nurses Association, USA institutions focused on training, outreach, and advancement in specialized care in critical illness and PC.¹⁶

The *RBTI* (IF 0.362; Qualis A4) was the national journal found with the most articles analyzed (n=8; 4.4%) and is

intended for the publication of original scientific work in the field of intensive care, being a quarterly publication of the *Associação de Medicina Intensiva Brasileira* (AMIB) [Association of Brazilian Intensive Care Medicine] and the Portuguese Society of Intensive Care, official representatives of the specialty in their respective countries, with the former showing interest in the area of PC, having a periodic immersion course for doctors, called “Palliative Care in the ICU”¹⁷

The *JAMA* (Chicago, Ill), the world's largest traditional publication since 1883, has been found to be the largest IF peer-reviewed international journal whose mission is to promote the science and art of medicine and the improvement of public health.

Impact Factor is a useful tool for evaluating scientific journals and intellectual productivity. It consists of the average citation equation of scientific articles published in a given journal indexed in a database.¹⁸

The Qualis assessment - organized by the CAPES, a foundation linked to the Brazilian Ministry of Education (MEC) - is the analysis system for academic journals in Brazil and abroad, which serves to the classification of scientific production, generally using bibliometric indicators.¹⁹

Regarding the Qualis *CAPES* of the 21 journals, 20 are rated “A”, which denotes the great quality of these international journals with equally high IF.

Considering the authors with more than 5 publications, the American physician J. Randall Curtis stood out, with articles published in the areas of intensive care, PC and pneumology from 2008 to 2017, according to the collection, belonging to the University of Washington, Seattle (USA), verifying that of the seventeen most successful authors, only one is linked to the University of Paris (Prof. Elie Azoulay) with all the others in American universities (Table 3), which once again demonstrates the reason for the United States of America leadership on the topic, with 198 (62.2%) publications, as it also has 18 (86%), of the 21 universities that publish the most papers, followed by Canada (n=2; 9%) and Brazil (n=1; 5%), represented by the *Universidade Federal de Santa Catarina* (UFSC), one of the pioneers in offering a professional master's program associated with the Medical Residency in Intensive and Palliative Care in the country and, therefore, standing out in academia concerning the matter.

It is noteworthy that we found 26 countries that published, which gives an initial idea of international dissemination of research, however, the distribution is uneven, because the African continent has no publication and South America, without the participation of Brazil, only contemplates three (2 from Colombia and 1 from Argentina), leading to the conclusion that the most developed countries are almost exclusively those that publish the most on the theme addressed here.

Concerning the originality of the analyzed articles, we

observed the prevalence of the primaries (n=215, 67.6%) represented by the original investigations (case report, case, and control study, cohort study, etc.) reflecting the dynamics and growing and permanent interest in the subject. Secondary studies were used in 103 articles (32.4%) characterized by reviews, systematic or not, with or without meta-analysis, guidelines, protocols, among others.

Observing the theme analyzed over the period, there is a wide variety of subjects, as shown in **Figure 2** in a concept map.

The reasons for the expansion and study of these themes originated from documents published in the 1990s, such as the important work called SUPPORT (The Study to Understand Prognoses and Preferences for Outcomes and Risks of Treatments/1995),²⁰ carried out in five major USA hospitals involving approximately 10,000 patients with intractable disease and estimated six-month life prognosis, demonstrating poor patient-family communication with end-of-life healthcare staff; the cost of end-of-life care was high and half of the patients died with moderate or severe pain, including suffering and loneliness.²¹

Subsequent reports in 1997²² and 2001²³ from the Institute of Medicine (IOM) also documented barriers and continuing deficiencies in care for patients with serious illnesses such as cancer.

Thus, in the early 2000s, the PC provided in ICU were still in their infancy, represented by the small number of publications compared to the last few years, or even by the development of services in countries known to be more advanced in this area such as the United States of America. There, 20 years ago, emerging PC in ICUs, although available to the population for at least 40 years; they had not yet achieved formal recognition as a specialty and were not adequately integrated into school curricula - let alone ICUs.²⁴

In 2003, a major report²⁵ sponsored by the Robert Wood Johnson Foundation (RWJF) involving USA and Canadian ICU teams sought to systematize quality care for end-of-life patients, establishing seven domains for use in the ICU, specifically: 1) patient and family-centered decision making; 2) communication; 3) continuity of care; 4) emotional and practical support; 5) symptom management and comfort care; 6) spiritual support and 7) emotional and organizational support for ICU professionals. Fifty-three quality indicators were proposed for these domains. Thus, it was recognized the existence of failures in patient care in PC in the ICU, with the proposition of measures that offer the best quality of care for these patients.

In 2008, another breakthrough was noted from the American Thoracic Society (ATS),²⁶ which established an "End-of-Life Care Task Force" to further develop and integrate PC into standard clinical management (curative care and/or restorative), identifying values as guidelines to be followed by health professionals, focusing mainly on the patient and family.

In this 2008 document, there were found the basis of what is advocated today, with a marked evolution of the initial (traditional dichotomous) model of PC in which patients first receive curative-restorative care until failure, and then only near the end of life, they receive PC; for the current (integrated individualized) model in which a patient receives PC at the onset of symptoms, concurrently with curative/restorative care, on an individualized basis, including family bereavement care.²⁶

More recently, PC consultative models are in evidence²⁷ with more skilled practitioners to address the most complex PC needs, including symptom management, medical decision-making, and grief, as well as the role of screening criteria. (also known as "triggers") for care consultation, especially when they are tailored to individual ICU needs. Also evident is the importance of self-help and peer support groups in mitigating the risk of burnout for ICU staff for these patients.²⁸

Currently, PC is not simply a synonym for end-of-life care. It addresses how patients live in the face of life-threatening illnesses and is delivered along with restorative treatment of the disease. It is concerned with the post-ICU quality of life, not only of the patient but also of the family. The tendency (and the need) is for more multidirectional communication between patients, families and integral care teams, all seeking treatment goals that respect the patient's personality, therapeutic ethical limits, as well as reduce distrust and conflict, both within and outside the ICU team.²⁹

CONCLUSIONS

This study has shown that for the past 20 years, medical scientific publications have been growing in high impact journals, most of them being originals, developed by the most advanced countries of the northern hemisphere, notably the United States, where are concentrated the major universities and subject matter writers, prompted by reports at the end of the last century, which pointed to the unsatisfactory quality of care offered to severely ill patients, despite all the technical apparatus and resources involved; with ominous results for the surviving patients themselves and their families.

The publications analyzed focus on some of the most varied aspects of quality care that need to be offered, nonetheless, restricted to three languages (broadly English) and focused on the topic from the medical point of view, however, as PC are promoted by interdisciplinary team; It is hoped that they can also be known and better investigated in the broad spectrum of professions involved, notably nursing, which will certainly contribute to a better delineation on the subject, as well as can be expanded to obtain more accurate information from countries with unfavorable economic reality, language, culture and bioethical values, different from the studied, with their

impacts on the way to approach PC in the ICU.

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***Corresponding Author:**

Isabelle Cristinne Pinto Costa

Rua Jaime Santos, 718

Alfenas, Minas Gerais, Brasil

E-mail address: belle_costa@hotmail.com

Telephone number: +55 (35) 9 9908-7062

Zip Code: 37.130-784

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