

## FLORENCE NIGHTINGALE'S CONTRIBUTIONS: AN INTEGRATIVE REVIEW OF THE LITERATURE

Contribuições de Florence Nightingale: uma revisão integrativa da literatura

Las contribuciones de Florence Nightingale: una revisión integradora de la literatura

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### ABSTRACT

**Objective:** Florence Nightingale is a source of inspiration and a subject of research for researchers worldwide. This article is aimed at identifying the contributions of Florence Nightingale's achievements and written work in the articles published between 2004 and 2011, from the perception of their authors. **Methods:** It is an integrative review of the literature based on articles that contained the words Florence Nightingale in their titles and/or abstracts, undertaken in databases between 2004 and 2011, totaling 33 articles. The analysis was based on an electronic table showing the objective and summary of the main points expressed in the articles. **Results:** The results suggest that, as a public person, Nightingale's personal and professional life has been the subject of controversial comments. **Conclusion:** It is concluded that her achievements and written work have influenced several fields other than nursing, such as statistics, health administration, public health, physiotherapy and spirituality.

**Keywords:** Nursing; History of Nursing; Nursing Care.

### RESUMO

Florence Nightingale é fonte de inspiração e alvo de pesquisa para estudiosos em todo o mundo. Este artigo teve como objetivo identificar a contribuição dos feitos e escritos de Florence Nightingale nos artigos publicados entre os anos de 2004 e 2011, na percepção de seus autores. **Métodos:** Trata-se de uma revisão integrativa da literatura exposta em artigos que continham, em seus títulos e/ou resumos, as palavras Florence Nightingale, realizada em bases de dados entre os anos de 2004 e 2011, totalizando 33 artigos. A análise ocorreu com base em um quadro com o objetivo e a sumarização dos pontos principais expostos nos artigos. Os resultados indicam que Nightingale, como uma pessoa pública, é alvo de comentários controversos sobre sua vida e profissão. Conclui-se que seus feitos e escritos influenciaram diversas áreas além da enfermagem, a exemplo da estatística, administração em saúde, saúde pública, fisioterapia e espiritualidade.

**Palavras-chave:** Enfermagem; História da Enfermagem; Cuidados de enfermagem.

### RESUMEN

**Objetivo:** Este capítulo tiene como objetivo identificar la contribución de los hechos y escritos de Florence Nightingale en los artículos publicados entre los años de 2004 y 2011, en la percepción de sus autores. **Métodos:** Se trata de una revisión integradora de la literatura expuesta en artículos que contenían, en sus títulos y/o resúmenes, las palabras "Florence Nightingale". La investigación fue realizada con un total de 33 artículos. El análisis se dio con base en un cuadro con el objetivo y el resumen de los principales puntos expuestos. **Resultados:** Los resultados indican que Nightingale, como persona pública, es objeto de comentarios polémicos sobre su vida y profesión. **Conclusión:** Se concluye que sus hechos y escritos influenciaron diversas áreas además de la enfermería, como la estadística, la administración en salud, la salud pública, la fisioterapia y la espiritualidad.

**Palabras-clave:** Enfermería; Historia de La Enfermería; Atención de Enfermería.

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<sup>2</sup> RN. Ph.D. in Nursing. Retired Professor at the Nursing Department and at PEN/UFSC. Member of the Research Group C&C. - Graduate Nursing Program (PEN) at the Universidade Federal de Santa Catarina (UFSC). - Florianópolis - SC - Brazil - telmacarraro@ccs.ufsc.br

## INTRODUCTION

In her age, Florence Nightingale contributed to the improvement and development of health. Today, she still represents a source of inspiration and a research subject for academics worldwide. Having been born into a wealthy family, she was confronted with the expectations from the English high society: spending long afternoons talking to her sister, going on carriage rides to visit friends, attending parties and dinners, playing the piano and keeping herself occupied with embroidery and paintings. All of this to prepare herself for marriage. Nightingale, however, wanted to use her skills to make a difference in this world<sup>1</sup>. Given her determination, intelligence, insight and influence, she managed to achieve her objectives. She was innovative in using her experience during the Crimean War to demonstrate the first examples of the interconnection between research, theory and practice<sup>2</sup>. Upon returning from the war, she used her influence to campaign in favor of public health and promote educational systems through letters and books<sup>3</sup>. Her most famous book, "Notes on Nursing: What it is and what it is not"<sup>4</sup> is a must read for nursing professionals, since it is filled with wisdom, wit, history and knowledge<sup>5</sup>.

Some of her observation practices, research, experience and art are starting to be rediscovered, with the purpose of inserting them into current nursing practice, including respect for the human being<sup>6</sup>. Recognized as a pioneer in philosophical, scientific and ethical thinking about nursing<sup>7</sup>, she left a legacy that is full of kindness and compassion, establishing care as the basis for nursing practice<sup>8</sup>.

Scientific literature about Florence Nightingale is extensive and present in many countries. In Brazil, research is focused on her biography and her written work is used as a theoretical and/or methodological framework for nursing studies. This review seeks to contribute to a portrait of what has been studied about Florence in the world, aiming to increase the knowledge of people in Brazil who are interested in the author and in particular of nursing academics and nurses. Therefore, this article is aimed at identifying the contribution of Florence Nightingale's achievements and written work in articles published between 2004 and 2011, according to the authors.

## METHODOLOGY

A research protocol was used, guided by the six steps recommended for the development of integrative literature reviews: 1) selection of the research question; 2) definition of the criteria for inclusion of studies and sample selection; 3) representation of the selected studies in table format, considering all common characteristics; 4)

critical analysis of the findings, identifying differences and conflicts; 5) interpretation of results; and 6) clear report of the evidence found<sup>9</sup>.

The search and selection of studies was undertaken in July 2011, through the websites *Biblioteca Virtual em Saúde* (BVS) and *EBSCOhost*, via remote access identified by the *Universidade Federal de Santa Catarina*. The research question was: what is the contribution of Florence Nightingale's achievements and written work as shown in the articles published from 2004 to 2011 according to the authors?

As criteria to select the articles, the following were considered: original research, reflections and literature reviews; fully available online free of charge; in Portuguese, Spanish and English; published between 2004 and 2011; and which contained the words Florence Nightingale in their titles and/or abstracts.

As a result of the selection, 1460 publications were identified, 178 of which were fully available. After reading the title and the abstract, duplicate productions and/or those that did not comply with the criteria were excluded, leaving 40 for detailed analysis, which was done through careful reading of the text, verification of adherence and relevance for the scope of the study. The final sample was composed of 33 articles. The data were organized into a table, and the identification of the article was based on the reference and summary of results.

## RESULTS

Concerning the country of origin of the articles published, the data reveal that 42.4% (14) came from the United States, 21.2% (7) from Brazil, 12.1% (4) from Canada, 12.1% (4) from England, 6% (2) from Australia, 3.1% (1) from Portugal and 3.1% (1) from Switzerland.

Chart 1 presents the summary of the authors' perceptions about the contributions of Florence Nightingale as expressed in each selected article.

## DISCUSSION

The data presented show fluctuation in the number of articles published about Florence Nightingale during the study period. 2011 shows a significant number of publications, which is the year when the centennial of her death was celebrated. The studies, based on different methodologies, show the versatility of her ideas. Different value judgments about Nightingale were registered, positive and negative, defending and accusing. In accordance with the articles, her achievements and written work influenced various areas beyond nursing, such as statistics, health administration, public health, physiotherapy and spirituality.

**Chart 1.** Summary of results per article

| Article   | Summary of results  |
|---|---|
| Ruffin PT. A history of massage in nurse training school curricula (1860-1945). <i>J Holist Nurs</i> [Online journal]. Mar 2011 [cited May 2012]; 29(1): 61-7. Available at: <a href="http://jhn.sagepub.com/content/early/2010/07/30/0898010110377355">http://jhn.sagepub.com/content/early/2010/07/30/0898010110377355</a>  | Nightingale emphasized touch as a way of care, which raised massage as a practice and subspecialty of nursing from 1873 to 1945, when this was prescribed by physicians. Between 1930 and 1940, with the development of drugs like morphine and aspirin, nursing care was more focused on technology, and massage started losing its importance. Currently, there is a movement to insert this content into the curriculum of nursing courses.  |
| Stanley D, Sherratt A. Lamp light on leadership: clinical leadership and Florence Nightingale. <i>J Nurs Manag</i> [Online journal]. Mar 2010 [cited 02 May 2012]; 18(2): 115-21. Available at: <a href="http://onlinelibrary.wiley.com/doi/10.1111/j.1365-2834.2010.01051.x/full">http://onlinelibrary.wiley.com/doi/10.1111/j.1365-2834.2010.01051.x/full</a>   | It defines nursing leadership as an administrative matter and clinical leadership as assistive matter. It can be highlighted that Nightingale was a Nurse Leader, and her work was more administrative than assistive, given her short period practicing, her terrible relationship with the nurses and greater concern with the cleaning and organization of the ward than with direct patient care.   |
| Lopes LMM, Santos SMP. Florence Nightingale –Apontamentos sobre a fundadora da enfermagem moderna. <i>Rev Enferm Refer</i> [Online journal]. Dec 2010. [cited 02 May 2012] III Series (2): 181-9. Available at: <a href="http://www.esenfc.pt/rr/rr/index.php?target=DetalhesArtigo&amp;id_website=3&amp;id_artigo=2208&amp;pesquisa=dor">http://www.esenfc.pt/rr/rr/index.php?target=DetalhesArtigo&amp;id_website=3&amp;id_artigo=2208&amp;pesquisa=dor</a> | Historical review of the life and achievements of Nightingale. It highlights her contribution through actions and written work that made professional nursing practice a dignified profession, which was innovative by prioritizing patients and prevention, rather than what was the focus at those times: diseases and cure.  |
| Selanders LC, Crane P. Florence Nightingale in absentia: nursing and the 1893 Columbian Exposition. <i>J Holist Nurs</i> . [Online journal] Dec 2010; [cited 02 May 2012]; 28(4): 313-6. Available at: <a href="http://www.ncbi.nlm.nih.gov/pubmed/20807865">http://www.ncbi.nlm.nih.gov/pubmed/20807865</a>  | Analysis of data collected from reports deriving from the Charity and Philanthropy International Congress, which took place at the same time as the Colombian Exposition in 1893. There was much discussion about Nursing and, although Nightingale did not participate due to her poor health, her achievements and written work had great influence. The regularization of the profession was discussed, which was a position not supported by Nightingale because she believed that professional nursing was a gift of God and there was not an education level capable of reaching this status.   |
| Wagner DJ, Whaite B. An exploration of the nature of caring relationships in the writings of Florence Nightingale. <i>J Holist Nurs</i> . [Online journal] Dec 2010; [cited 02 May 2012]; 28(4): 225-34. Available at: <a href="http://jhn.sagepub.com/content/28/4/225.short?rss=1&amp;source=mfr">http://jhn.sagepub.com/content/28/4/225.short?rss=1&amp;source=mfr</a>  | It defines the “care relationships” as a way of nourishing the fact of being with others (person or group), which included attitudes and actions. Nightingale’s written work offers an opportunity to explore past nursing care relationships and their influence on current professional nursing practice and education.   |
| Dossey BM. Florence Nightingale: A 19th-century mystic. <i>J Holist Nurs</i> . [Online jornal] 2010; [cited 02 May 2012]; 28(1): 10-35. Available at: <a href="http://jhn.sagepub.com/content/28/1/10.abstract">http://jhn.sagepub.com/content/28/1/10.abstract</a>   | It indicates five phases in Nightingale’s spiritual development: Calling: when she was 16, she had a vision, but only clearly understood it when she was 30; Purgation: years of fight and suffering to understand the calling and convince her family that she would be God’s wife and help the ones in need throughout the world; Enlightenment: phase in which her studies and determination are recognized with her first job as a nurse and her work in the Crimean War; Resignation: phase she returned to England, where she slowly recovered from an illness and also from mental and physical fatigue resulting from the period of intense work as a nurse, as well as from her vocation revealed by God. During this phase, she wrote the book “Union: Last Decade of Life”, which seeks to better understand the words of God, moment of peace and plenitude.                          |
| Selanders LC. Florence Nightingale: The evolution and social impact of feminist values in nursing. <i>J Holist Nurs</i> . [Online journal] 2010; [cited 02 May 2012]; 28(1): 70-78. Available at: <a href="http://jhn.sagepub.com/content/28/1/70.abstract">http://jhn.sagepub.com/content/28/1/70.abstract</a> .   | It analyzes the novel written by Nightingale entitled “Cassandra”, which describes the <i>status</i> and futility of being a woman in Victorian England; it is stated that this was an autobiography. Cassandra, a Greek myth, became a young woman of exquisite beauty, prophetess and devout of Apollo. When she refused to sleep with him, Apollo cursed her so that nobody would believe her predictions. Years after this fact, Cassandra was killed by a woman. This is a reflection of Nightingale, when she realized the important women in her life had destroyed her, her mother and sister. In her written work “Suggestions of Thought” and “Cassandra”, the feminist positions are highlighted and it is stated that Nightingale was not an extreme feminist, who contributed to women by breaking the paradigms related to the female gender, establishing nursing as a profession. |
| Dossey BM. Florence Nightingale: her crimean fever and chronic illness. <i>J Holist Nurs</i> . [Online journal] 2010; [cited 02 May 2012]; 28(1): 38-53. Available at: <a href="http://jhn.sagepub.com/content/28/1/38.abstract">http://jhn.sagepub.com/content/28/1/38.abstract</a> .  | It discussed the most common illnesses of Nightingale’s times and concluded that her symptoms were consistent with the Crimean fever, known as brucellosis. Many criticisms surround her emotional state, but the illness affected her personality, making her irritable, stressed and depressed. Nightingale’s life analysis and symptoms showed that she suffered strong pain and severe crises for 32 years, caused by the illness from 1855 to 1887. At that time, the doctors viewed her symptoms as a consequence of her excessive dedication to work.  |
| McDonald L. Florence Nightingale: Passionate statistician. <i>J Holist Nurs</i> . [Online journal] March 2010; [cited 02 May 2012]; 28(1): 92-98. Available at: <a href="http://www.ncbi.nlm.nih.gov/pubmed/20467034">http://www.ncbi.nlm.nih.gov/pubmed/20467034</a>   | Nightingale’s passion for statistics is directly related to her spirituality. Statistics help by precisely indicating how to act according to God’s wishes in order to take care of what was created by Him. The knowledge about statistical data led her to perform the hospital reform. Nightingale’s learning with the Belgian Quetelet can be highlighted, concerning the monitoring of the healthcare system and maternal mortality during childbirth, which instigated improvements in these areas.   |

| Article  | Summary of results   |
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| Beck DM. Remembering Florence Nightingale's Panorama: 21st-Century Nursing-At a critical crossroads. <i>J Holist Nurs.</i> [Online journal] Dec 2010; [cited 02 May 2012]; 28(4): 291-301. Available at: <a href="http://www.ncbi.nlm.nih.gov/pubmed/20664022">http://www.ncbi.nlm.nih.gov/pubmed/20664022</a>   | It explores the terms used by Nightingale – healthcare and illness nursing –, in which nurses should put patients into the best conditions for health to take place. This orientation by Nightingale is seen nowadays as something forgotten while focusing on the illness, and therefore should be remembered by nurses in order to improve the present and plan the future.  |
| Neils PE. The influence of Nightingale rounding by the liaison nurse on surgical patient families with attention to differing cultural needs. <i>J Holist Nurs.</i> [Online journal] Dec 2010; [cited 02 May 2012]; 28(4): 235-43. Available at: <a href="http://www.ncbi.nlm.nih.gov/pubmed/20592290">http://www.ncbi.nlm.nih.gov/pubmed/20592290</a> | The lessons taken from Florence's written work permitted emphasizing the ways nurses are and act in the scenario of surgical treatment, as well as the importance of having a nurse as a link between the family, the team and the patient in the surgical center.   |
| Beck DM. Expanding our Nightingale horizon: seven recommendations for 21st-century nursing practice. <i>J Holist Nurs.</i> [Online journal] Dec 2010; [cited 02 May 2012]; (28)4: 317-26. Available at: <a href="http://jhn.sagepub.com/content/28/4/317.abstract">http://jhn.sagepub.com/content/28/4/317.abstract</a>                                | Seven recommendations for Nursing in the 21st century based on Nightingale's written work. These recommendations were adapted to the present days and emphasized, in her times, in order to inspire nurses in the world: 1. promote health and influence with positive examples; 2. value the nurses and their health care; 3. use interdisciplinary and intercultural collaboration to promote community health; 4. think globally and act locally to create health education to everyone; 5. turn communication means into catalysts for professional nursing practice and health; 6. maintain a holistic and cross-disciplinary health; 7. respond to your internal calling, be the change you wish to see.                                   |
| Selanders LC. The power of environmental adaptation: Florence Nightingale's original theory for nursing practice. <i>J Holist Nurs.</i> [Online journal] March 2010; [cited 02 May 2012]; 28(1): 81-88. Available at: <a href="http://www.ncbi.nlm.nih.gov/pubmed/9801537">http://www.ncbi.nlm.nih.gov/pubmed/9801537</a>                              | Analysis of Nightingale's work under the philosophical paradigm in order to define her theory and components. It presents seven assumptions: Natural Laws; Nursing is a calling; Humanity can achieve perfection; Nursing is an art and a science; Nursing is achieved by environmental change; Nursing needs specific basic education; Nursing is different and separate from Medicine. The theory components, also named concepts, are: environment, human being, health and Professional Nursing Practice. This theoretical basis proposes the Nightingale's Model for nursing practice, relating it to the Glasgow Model, in order to conclude that the first is philosophically consistent and practically applicable.                      |
| Attewell A. Florence Nightingale's relevance to nurses. <i>J Holist Nurs.</i> [Online journal] March 2010; [cited 02 May 2012]; 28(1): 101-6. Available at: <a href="http://jhn.sagepub.com/content/28/1/101.abstract">http://jhn.sagepub.com/content/28/1/101.abstract</a>  | Analysis of Nightingale's relevance to nurses, studying her contribution in three aspects of nursing: knowledge, organization and education, and the importance of her life. The organization of nursing stands out based on her efforts to pursue the respect of doctors, besides the important role in hospital reforms. In education, the influence of Nightingale's Model can be seen in schools, initially directed towards hospital practice; however, Nightingale also envisioned care in public health.  |
| Kearney G. We must not forget what we once knew. <i>J Holist Nurs.</i> [Online journal] Dec 2010; [cited 02 May 2012]; 28(4): 260-2. Available at: <a href="http://jhn.sagepub.com/content/28/4/260.abstract">http://jhn.sagepub.com/content/28/4/260.abstract</a>   | Report of a refresher course for nurses working at a New York hospital. Parts of letters from Nightingale and the book "Notes on Nursing" were used. At the end, the participants reported they were surprised at how up-to-date Nightingale is in her positions and inspiring for nursing practice.   |
| Selanders LC, Lake K, Crane P. From charity to caring: Nightingale's experience at Harley Street. <i>J Holist Nurs.</i> [Online journal] Dec 2010; [cited 02 May 2012]; 28(4): 284-90. Available at: <a href="http://jhn.sagepub.com/content/28/4/284.abstract">http://jhn.sagepub.com/content/28/4/284.abstract</a>                                   | It addresses Nightingale's work at the hospital in the city of Harley Street. The quarterly reports to the hospital board demanded changes: literate and educated nurses, assistance to all sick people regardless of their religion, the cleaning of the facilities, promotion of a dignified death and the dissemination of nursing as a job for women. The perception about her role in Harley Street was to provide nursing as a Christian service to mankind.   |
| Wildman S. Nursing and the issue of 'party' in the Church of England: the case of the Lichfield Diocesan Nursing Association. <i>Nurs Inquiry.</i> [Online journal] 2009; [cited 02 May 2012]; 16(2): 94-102. Available at: <a href="http://www.ncbi.nlm.nih.gov/pubmed/19453354">http://www.ncbi.nlm.nih.gov/pubmed/19453354</a>                      | The involvement of the Church and religion in Nursing was very strong in the nineteenth century. The diocese of the city of Lichfield, in England, created a Diocesan Nursing Association and, in an opposite response, the Derby Association emerged, both disputing the control of nursing in the region. When asking Nightingale for advice and support, she was willing to guide them, but without engaging in religious controversies. She helped and sought nurses from all religious without discrimination. As a result, she exchanged letters with both organizations, advising them on nursing practices.  |
| Costa R, Padilha MICS, Amante LN, Costa E, Bock LFO legado de Florence Nightingale: uma viagem no tempo. <i>Texto Contexto Enferm.</i> [Online journal] Oct/Dec 2009; [cited 02 May 2012]; 18(4): 661-9. Available at: <a href="http://www.scielo.br/pdf/tce/v18n4/07.pdf">http://www.scielo.br/pdf/tce/v18n4/07.pdf</a>                               | The review calls attention to Nightingale's biography, and to her social, political, educative, administrative, feminist and historical role. The articles selected in this review present criticism and compliments; however, it appears that Nightingale's life and her role as a creator of modern nursing in the world is reinforced as something positive, a woman who dedicated her life to the care of others and to the professionalization of nursing.  |
| Helmstadter C. Authority and leadership: the evolution of nursing management in 19th century teaching hospitals. <i>J Nursing Management.</i> [Online journal] 2008; [cited 02 May 2012]; 16(1): 4-13. Available at: <a href="http://www.ncbi.nlm.nih.gov/pubmed/18211330">http://www.ncbi.nlm.nih.gov/pubmed/18211330</a>                             | It presents an overview of nursing in the nineteenth century in the area of administration, with a detailed history of the nursing leaders in the hospitals during that period. Nightingale found it difficult to coordinate the nurses at St Thomas Hospital, since they rejected her authority while planning the school of nursing. In 1860, the Nightingale Nursing School was founded but, due to health problems, she could not attend it in person. Therefore, she started to send annual letters to the students, inspiring and guiding them about nursing. Despite the difficulty Nightingale faced to administer the School of Nursing, it was named after her, due to her recognition in society, and it adopted her teaching method. |

| Article   | Summary of results  |
|---|---|
| <p>Meyers PD, McNicholas MJ. Improved data illustration in complex multi-ligament knee reconstruction surgery. <i>Acta Orthop</i>. [Online journal] 2008; [cited 02 May 2012]; 79(2): 244-8. Available at:<a href="http://www.ncbi.nlm.nih.gov/pubmed/18484251">http://www.ncbi.nlm.nih.gov/pubmed/18484251</a></p>   | <p>To support the development of a technological tool for data research, aimed at the development of studies in knee reconstruction, a historical review of Nightingale and John Venn is undertaken. Nightingale, who is remembered as the pioneer in hospital sanitation methods and Venn as an English mathematician; she was also innovative in collecting, tabulating, interpreting and illustrating descriptive statistics. During the Crimean War, she invented the polar-area diagram to add clarity to mortality data and to demonstrate their relationship with the living conditions found. She revolutionized the idea that social events can be subject to mathematical analysis and, using statistics, graphically illustrated the need for health care reform.</p>  |
| <p>Macedo PO, Quitete JB, Lima EC, Santos I, Vargens OMC. As tecnologias de cuidado de enfermagem obstétrica fundamentadas pela teoria ambientalista de Florence Nightingale. <i>Escola Anna Nery Rev Enferm</i>. [Online journal] 2008 [cited 02 May 2012]. 12(2): 341-7. Available at:<a href="http://www.scielo.br/pdf/ean/v12n2/v12n2a22.pdf">http://www.scielo.br/pdf/ean/v12n2/v12n2a22.pdf</a></p>                                   | <p>Analysis of care technologies during child labor with Nightingale's theoretical framework based on the book "Notes on Nursing". Parts extracted from the book are highlighted and interpreted within the reality of nursing care during labor and delivery, concluding that it is possible to use her written work in nursing practice.</p>  |
| <p>Stanley D. Lights in the shadows: Florence Nightingale and others who made their mark. <i>Contemp Nurse</i>. [Online journal] Feb 2007; [cited 02 May 2012]; 24(1): 45-51. Available at:<a href="http://www.ncbi.nlm.nih.gov/pubmed/17348782">http://www.ncbi.nlm.nih.gov/pubmed/17348782</a></p>  | <p>Nightingale received great recognition for her participation in the Crimean War; however, other women also played important roles in this war. She became the Savior of Scutari, given her political influence and support from influential people, such as Queen Victoria. It was disclosed that she reduced the mortality in the Crimean from 42.7% to 2.2%; however this is not accurate because, throughout her stay, mortality remained steady and even increased at times. She introduced the cleaning, but did not see any problem with the nursing ward being placed over an open sewer. After her return to England, the Sanitation Commission ordered the sewer to be closed, which resulted in the reduction of deaths and, within two months, the abovementioned reduction occurred. Other women went to Crimea: women from religious communities, the usual paid nurses, volunteers and non-official nurses. It is noteworthy that Mary Seacole, who came from Jamaica, was not accepted in Nightingale's group and formed her own ward, going to the battlefield to rescue the soldiers. The article highlights the need to recognize these women who lived in Florence's shadows and performed an important job in the nursing field.</p>   |
| <p>Gomes VLO, Backes VMS, Padilha MICS, Vaz MRC. Evolução do conhecimento científico na enfermagem: do cuidado popular à construção de teorias. <i>Investig Educ Enferm</i>. [Online journal] Sept 2007; [cited 02 May 2012]; 25(2): 108-15. Available at:<a href="http://aprendeenlinea.udea.edu.co/revistas/index.php/iee/article/view/2888/2447">http://aprendeenlinea.udea.edu.co/revistas/index.php/iee/article/view/2888/2447</a></p> | <p>It analyzes the four stages related to the progress of scientific knowledge in nursing. It identifies the first stage – called What to do? – as defined by Nightingale, who established rules and procedures in the nursing field, preceding the phases of great intellectual and technological development of the profession.</p>   |
| <p>Rasmussen BH, Edvardsson D. The influence of environment in palliative care: Supporting or hindering experiences of 'at-homeness'. <i>Contemp Nurse</i>. [Online journal] 2007; [cited 02 May 2012]; 27: 119-31. Available at:<a href="http://www.ncbi.nlm.nih.gov/pubmed/18386962">http://www.ncbi.nlm.nih.gov/pubmed/18386962</a></p>  | <p>Research developed with palliative care patients, with a focus on the influence of the environment in their care, based on the written work of Nightingale and Rogers. It is concluded that Nightingale's knowledge about the environment is still applicable and the art of nursing is to provide an environment that creates opportunities for healing, in this case for improvements in the quality of life of palliative care patients.</p>  |
| <p>Darr K. Quality improvement: the pioneers. <i>Nexus</i>. [Online journal] 2007; [cited 02 May 2012]; 85(4): 36-8. Available at:<a href="http://www.ncbi.nlm.nih.gov/pubmed/18171653">http://www.ncbi.nlm.nih.gov/pubmed/18171653</a></p>   | <p>It presents some of the pioneers in the area of health, including. It emphasizes that she showed the importance of good organization, cleaning and appropriate training for nurses in the treatment of soldiers in the Crimean War. She greatly contributed to the development of statistics. She founded the Nightingale School and is recognized for her hospital organization work, as the first Hospital Administrator.</p>  |
| <p>Clements PT, Averill JB. Finding patterns of knowing in the work of Florence Nightingale. <i>Nurs Outlook</i>. [Online journal] Sept 2006; [cited 02 May 2012]; 54(5)268-74. Available at:<a href="http://www.nursingoutlook.org/article/S0029-6554(06)00194-1/abstract">http://www.nursingoutlook.org/article/S0029-6554(06)00194-1/abstract</a></p>  | <p>The education and nursing practice were organized into a conceptual body called Knowledge Pathways of Barbara Carper, White, Munhal and Heath. Nightingale's written work was analyzed under this view and related in the six items that cover the pathways to knowledge in nursing: empiricism – she used her empirical knowledge to establish ways of caring in nursing, besides encouraging the nurses to use the empiricism in conjunction with science to provide better care; aesthetical – she discussed the presence of nurses, as well as interpersonal communication as a form of knowledge; ethical: the written work and the conduct of Nightingale were closely linked to ethics and morality, protecting the attitudes of nurses; personal knowledge – she emphasized personal knowledge and interpersonal relationships in nursing actions; sociopolitical knowledge – as a well-known person of her times, she had great social and political influence, due to her concern with those in need of healthcare; unknown – this category is linked to what nurses do not know about patients and should be alert to find out. She emphasized observation as a great attribute of nurses. The authors conclude that, given her persistence in educating nurses, if she knew the pathways to knowledge in nursing, she would have taken them as the base for her studies.</p> |

| Article   | Summary of results  |
|---|---|
| Kudzma EC. Florence Nightingale and healthcare reform. <i>Nurs Science Quarterly</i> . [Online journal] Jan 2006; [cited 02 May 2012]; 19(1): 61-4. Available at: <a href="http://www.ncbi.nlm.nih.gov/pubmed/16407602">http://www.ncbi.nlm.nih.gov/pubmed/16407602</a>   | Nightingale played an important role in the Healthcare Reform of the nineteenth century with her contribution in the area of statistics. Working in conjunction with William Farr, doctor and statistician, she contributed to great advances in the mortality of nurses in relation to women at that time, childhood mortality, as well as in the war.   |
| Weller T, Bawden D. Individual perceptions: a new chapter on victorian information history. <i>Library History</i> . [Online journal] July 2006; [cited 02 May 2012]; 22(2): 137-56. Available at: <a href="http://www.soi.city.ac.uk/~dbawden/libraryhistory.pdf">http://www.soi.city.ac.uk/~dbawden/libraryhistory.pdf</a>  | It highlights that Nightingale viewed information as something objective and scientific in her in-depth studies of statistics, through which she turned something subjective, such as the war deaths, into figures, giving them meaning, as well as showing and demanding changes to the living conditions of soldiers. Nightingale's studies revealed that figures alone are useless, but if the statistical information is analyzed in a rational and informative manner, it can become an important tool to change reality in the healthcare field.  |
| Padilha MICS, Mancia JR. Florence Nightingale e as irmãs de caridade: revisitando a história. <i>Rev Bras Enferm</i> . [Online journal] Nov-Dec 2005; [cited 02 May 2012]; 58(6): 723-6. Available at: <a href="http://www.scielo.br/scielo.php?pid=S0034-71672005000600018&amp;script=sci_arttext">http://www.scielo.br/scielo.php?pid=S0034-71672005000600018&amp;script=sci_arttext</a>  | Nightingale was influenced by the Sisters of Charity of France after she met them in the Hyot Hotel and followed their care and administrative work. The three-month internship at the Institute of Deaconesses in Germany followed similar rules to the Sisters of Charity, deeply influencing her way of thinking and the nursing practice she proposed to her students.  |
| Gill CJ, Gill GC. Nightingale in scutari: her legacy reexamined. <i>Clin Infect Diseases</i> . [Online journal] 2005; [cited 02 May 2012]; 40(12): 1799-805. Available at: <a href="http://connection.ebscohost.com/c/articles/17113743/nightingale-scutari-her-legacy-reexamined">http://connection.ebscohost.com/c/articles/17113743/nightingale-scutari-her-legacy-reexamined</a>  | Historical review of the conditions of the Campaign Hospital in Scutari and the poor health conditions of the wounded soldiers. In order to change this situation, Nightingale was sent to reform the areas of nutrition, cleaning of the facilities and patients, and ventilation, which resulted in great improvement for the soldiers. The authors respond to criticisms that Florence was not responsible for reducing the number of deaths, since her actions contributed to the wellbeing of patients, while the deaths were related to the sewage, which was something out of her reach. Other critics mention that Nightingale was more focused on administrative work than on real nursing in Scutari, which is contradictory to her letters and reports of doctors and nurses who worked with her. Nightingale's contribution goes beyond nursing. She played an important role in statistics, public health and nursing homes, by valuing dignified death in her practice. |
| Formiga JMM, Germano RM. Por dentro da História: o ensino de Administração em Enfermagem. <i>Rev Bras Enferm</i> . [Online journal] Mar-April 2005; [cited 02 May]; 58(2): 222-6. Available at: <a href="http://www.scielo.br/scielo.php?script=sci_arttext&amp;pid=S0034-71672005000200019">http://www.scielo.br/scielo.php?script=sci_arttext&amp;pid=S0034-71672005000200019</a>   | Nightingale expanded the nursing duties beyond care delivery, realizing that the organization of the facilities and services is important to nurses. Showing the need to introduce administrative functions in hospitals and implement them successfully, she started to be considered the pioneer in hospital administration.  |
| Carraro TE. Os postulados de Nightingale e Semmelweis: poder/vital e prevenção/contágio como estratégias para a evitabilidade das infecções. <i>Rev Latino-am Enferm</i> ; [Online journal] July-Aug 2004; [cited 02 May 2012]; 12(4): 650-7. Available at: <a href="http://www.scielo.br/scielo.php?script=sci_arttext&amp;pid=S0104-11692004000400011">http://www.scielo.br/scielo.php?script=sci_arttext&amp;pid=S0104-11692004000400011</a> | Due to Nightingale's concern with the environment and the human being, she acted in the prevention and control of infectious diseases and hospital infections, even before having knowledge about bacteria. She went beyond the environment with her concern about the vital power of the human being which, when strengthened, increased their immune system and decreased their vulnerability to infectious diseases.   |
| Martins DL, Garcia TR. Perfil diagnóstico de enfermagem de pacientes acometidos por infarto do miocárdio. <i>Brazilian J Nurs</i> . [Online journal] 2004; [cited 02 May 2012]; 3(2): [aprox. 5 screens]. Available at: <a href="http://www.uff.br/nepae/siteantigo/objn302martinsegarcia.htm">http://www.uff.br/nepae/siteantigo/objn302martinsegarcia.htm</a>   | It analyzes nursing diagnoses concerning patients who had a myocardial infarction and were admitted to the Intensive Care Unit (ICU), according to Nightingale's concepts: nutrition, change of environment, discussion of hopes and advices, noise and lighting, cleaning and ventilation. The concepts are interpretations of Nightingale's written work, given that she did not organize them into conceptual models. The authors conclude that her concepts are applicable not only at the ICU, but also in other hospital sectors.   |

Source: Developed by the authors based on the data extracted from the websites Biblioteca Virtual em Saúde (BVS) and EBSCOhost, in July 2011.

This Italian nurse stood out in her age for her skills in statistics, which allowed her to view the situation of the hospitals and propose improvements. As a highly skilled research methodologist and passionate about statistics, she was responsible for the most noteworthy hospital quality improvement project, as demonstrated by her careful quantitative documentation and by the outcomes of care delivery<sup>10</sup>. In the Crimean War, she introduced the view of nursing practice not only in relation to patients, but also in relation to the environment, by extending the nurses' duties to the organization of kitchen services, laundry, linen,

cleaning and warehouse, controlling them through observation and supervision. Based on this, she introduced hierarchy and discipline into Professional Nursing Practice<sup>11</sup>.

Some articles emphasize the importance of Nightingale as a precursor of nursing administration knowledge, as she changed the reality of hospitals. Before Florence's actions, these were nursing homes, where death clearly coexisted with life, insects and rodents disputed food with patients, dead and living people remained in the same bed. After Florence Nightingale, hospitals started to see health as the main asset and the improvement of quality of life as a constant target<sup>12</sup>.

Florence's nursing care plans transcend her times and urge to consider the present and the future, for example, when she evidenced the relationships between human beings, the environment and nature as a way of learning for professional growth through the connection between health, care and cure<sup>6</sup>. Her contribution transcends practice to reflect about the ethical and moral aspects of nursing, which allows academics not only to build Nightingale's legacy, but also to mold the future of the profession<sup>13</sup>.

Despite Nightingale's contributions to professional nursing practice and to health in general, authors discuss her role as a caregiver and highlight the difficulties in her relationship with war nurses, within her school and within the hospitals where she worked. However, reports from these times are contradicting because, while some of them confirm Nightingale's support and care to the people wounded in the war, others criticize her administrative position and dedication to registering her achievements. Regardless of the rumors about her work relationship style, Florence Nightingale's achievements have spread across the globe, making the Nightingale system to be considered a model in the creation of the first nursing courses.

## CONCLUSION

By revisiting Nightingale's life, achievements and written work, it can be noted that there are many possible perspectives. Innovative for her times, she influenced various areas of knowledge, as explored in the 33 articles selected for this review.

As a public person, Nightingale is the subject of controversial comments about her personal and professional life. With a more administrative or caring position, affectionate or distant, it is important to highlight her contribution in the various areas of study. As the pioneer in health, she continues to attract admirers and critics who deepen their studies about this nurse. It is possible to adapt and implement her written work to the most varied care in, which influence the experience of being a nurse.

Concerning the study limitations, the extensive number of publications about Florence Nightingale found, in addition to incomplete summaries, made the authors of this review read a large part of these articles in full in order to be able to select or reject them. The strict drafting of complete

summaries should be prioritized for the sake of a better understanding of the contents without having to read the full articles. It can be concluded that this review, by incorporating studies undertaken in various countries and covering different perspectives, contributes to broaden the views about Florence Nightingale. It shows her as a woman and an academic, as a person with qualities and imperfections, who left a significant legacy to nursing and to global health.

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