

The Florence Nightingale's Environmental Theory: A Critical Analysis

Teoria Ambientalista de Florence Nightingale: Uma Análise Crítica *Teoría Ambientalista de Florence Nightingale: Un Análisis Crítico*

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ABSTRACT

Objective: To analyze the environmental theory of Florence Nightingale based on the model proposed by Johnson and Webber. **Methods:** Theoretical and reflective study conducted in the months of November and December 2012. Theory analysis based on eight criteria: meaning, boundaries, language, concepts, formation of propositions, variables and assumptions, theoretical knowledge helps explain and predict phenomena and theoretical knowledge influences nursing practice. **Results:** The theory presents: clarity of meaning of ideas, clear boundaries, level of understanding above 90%, the main concepts, formulated propositions based on the concepts, variables and hypotheses that help to understand and interpret propositions, influence on the practice of nursing. **Conclusion:** We conclude that the environmentalist theory of Florence Nightingale has concepts that serve today's parameters, and its relevance is considered a landmark in the history of nursing.

Keywords: Nursing; Nursing Theory; Environment.

RESUMO

Objetivo: Analisar a teoria ambientalista de Florence Nightingale com base no modelo proposto por Johnson e Webber. **Métodos:** Estudo teórico e reflexivo realizado nos meses de novembro e dezembro de 2012. Análise da teoria com base em oito critérios: significado, limites, linguagem, conceitos, formulação de proposições, variáveis e hipóteses, conhecimento teórico ajuda a explicar e prever o fenômeno e conhecimento teórico influencia a prática de enfermagem. **Resultados:** A teoria apresenta: clareza de significado de ideias, limites claros, nível de compreensão acima de 90%, os principais conceitos, proposições formuladas com base nos conceitos, variáveis e hipóteses que ajudam a entender e interpretar proposições, influência na prática da enfermagem. **Conclusão:** Conclui-se que a teoria ambientalista de Florence Nightingale possui conceitos que servem de parâmetro na atualidade, sendo a sua relevância considerada um marco na história da enfermagem.

Palavras-chave: Enfermagem; Teoria de Enfermagem; Meio Ambiente.

RESUMEN

Objetivo: Analizar la Teoría Ambientalista de Florence Nightingale con base en el modelo propuesto por Johnson y Webber. **Métodos:** Estudio teórico y reflexivo realizado en los meses de noviembre y diciembre de 2012. El análisis de la teoría fue basada en ocho criterios: significado; límites; lenguaje; conceptos; formulación de proposiciones; variables; hipótesis; conocimiento teórico. **Resultados:** La teoría presenta: claridad del significado de las ideas; límites claros; nivel de comprensión mayor que 90%; los principales conceptos; proposiciones basadas en los conceptos; variables e hipótesis que ayudan en la comprensión e interpretación de proposiciones; influencia en la práctica de enfermería. **Conclusión:** La Teoría Ambientalista de Florence Nightingale tiene conceptos que sirven todavía de parámetro, siendo su relevancia considerada un punto en la historia de la Enfermería.

Palabras clave: Enfermería; Teoría de Enfermería; Ambiente.

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INTRODUCTION

The environmental theory developed by Florence Nightingale¹ in the second half of the nineteenth century in England, has focused primarily on the environment, interpreted as all external conditions and influences that affect the life and development of an organism, that are able to prevent, suppress or contribute to disease and death¹.

The disease is considered, in this theory, a restoring health process and the nurse's function is to balance the environment, in order to save the patient's life energy to recover from the disease, prioritizing the delivery of an stimulating environment for the development of the patient's health^{1,2}. Here lies, then, the conception of the human-being as a member of nature, an individual whose natural defenses are influenced by a healthy or unhealthy environment¹.

Nightingale believed that providing a suitable environment was the difference in the recovery of patients, and in this perception underlies the Environmentalist theory. Thus, Nightingale became known for her actions that have brought innovative results to treatment of patients².

In her writings, Nightingale addresses the provision of factors for maintaining an environment that is favorable to the facilitation of the healing and healthy living processes such as: ventilation, cleaning, lighting, heat, noise, odors and feeding, so that the recovering process, established by nature, is not prevented¹.

In nursing, such concern about the environment has existed since the foundation of professional nursing in the second half of the nineteenth century. It can found on the present days, in a humanized care, based on environmental control around the patient, which is seen as a being that is part of relationships and interactions with the environment in which this one can be found³.

It should be noted also that the ambience is just one of the devices for the development of humanized care, but it can be added, among such devices: hosting with risk rating, collegiate managers, training program in health and work, reference teams and matrix support, ambience projects, companion rights and open visit and the construction of collective monitoring and evaluation processes of humanization activities⁴.

Thus, the goal of the nursing field is to provide assistance for patients in maintaining their vital capacity, satisfying their needs. Therefore, Nightingale shows that nursing is a non-healing practice, in which the patient is placed in the best condition for the action of nature¹.

In this perspective, the focus of nursing care is on environmental hygiene, the most basic concept and characteristic of her works. In those, Nightingale lists the tasks that nurses must perform to assist sick individuals, and many of them are relevant even nowadays⁵.

The use of nursing theories is of great importance due to the practice foundation. It provides the appreciation of the knowledge of the profession and its relation with the performance of the nurses. Therefore, it is important to make a critical analysis about the theory in focus, bearing in mind that carrying out a critical analysis study of a theory assists in ensuring the validity

of such and its correct use, providing relevant information for its development.

Analysis or evaluation theory is the process of examining systematically a theory by using criteria that vary depending on the authors that propose methods of analysis, which are: examination of the origins of the theory, meaning, logic appropriateness, usefulness and possibilities of generalization and test⁵.

The primary purpose of the analysis of a theory is to determine its potential contribution to the scientific knowledge. It also contributes by adding knowledge, to the perspective of practices, providing its greater solidification, and allowing the identification of faults and inconsistencies as for the use of the theory in practice^{5,6}.

In order to critically analyze a theory, many authors have proposed methods to conduct this process such as: Walker and Avant⁶, Meleis⁷ and Johnson and Webber⁸. The criteria of critical analysis of these last ones were used in this study to examine the Environmental Theory of Florence Nightingale¹.

Based on the critical model based on criteria that was proposed by Johnson and Webber⁸, it will be discussed in this article the following: significance, boundaries, language, concepts, propositions, variables, hypothesis and the influence of the theory in the practice of nursing. Thus, the aim of this study is to analyze the Environmental Theory by Florence Nightingale through the model proposed by Johnson and Webber.

METHOD

It is a theoretical and reflective study, conducted in November and December 2012, whose analysis of the Environmentalist Theory proposed by Florence Nightingale was based on Johnson and Webber's model⁸.

It was used as a primary source for the critical analysis of the Environmentalist Theory by Florence Nightingale, its most widespread work, the book "Notes on Nursing - what it is and what it is not" written in 1859, translated into Portuguese in 1989¹. Secondary sources on the Environmental Theory^{2-4,9-11} were also used, which contributed significantly in the preparation of this reflection.

Secondary sources were used as subsides for the discussion of the critical analysis made from the primary source. Such sources comprised books and scientific articles found in online databases and sectorial libraries where the study was developed and it appears a base for the adherence to the theme of reflection.

In order to analyze this theory, it was used the model of critical analysis based on criteria by Johnson and Webber⁸, when examining the intent, concepts and propositions of the theory and the construction of judgments about the usefulness of it at its practice, demonstrating how the theoretical knowledge is embedded in the nursing practice.

This model is intended to help make judgments about the theoretical value and the use of the theory in order to identify connections between the nursing practice and the theory, assuring the achievement of its own examination⁸.

The criteria set forth by the authors⁸ to critically analyze a theory are: meaning of the theory; consistency of boundaries; language comprehension; presence of important concepts and definitions; formulation of proposals; variables and hypothesis; theoretical knowledge to explain and predict the phenomenon; influence of theoretical knowledge in the nursing practice.

The possible judgments that were possible to be made with this type of critical analysis demonstrate how the theoretical knowledge is embedded in the nursing practice and provides knowledge about the theory in which the practice is consolidated⁸.

To facilitate the presentation of some of the criteria, five-point scales were used, proposed by the authors⁸, to their measure along with the contribution of the literature concerning the matter.

The criteria mentioned are organized and analyzed in three phases: the first phase - Intention of a theory - comprises the first three criteria presented: meaning, limits and language; the second - Concepts and proposals - refers to the criteria concepts, propositions and variables and hypothesis; the third phase - Utility of the theory in the nursing practice - shows the last two criteria: theoretical knowledge helping to explain and predict the phenomenon and influence the nursing practice⁸.

RESULTS AND DISCUSSION

The results are shown and discussed according to the criteria explained by Johnson and Webber⁸. It should be noted that the critical analysis of a theory proposed by these authors is based on a judging process, which determines the utility theory to the practice of nursing.

Criterion 1 - The significance of the theory is clear and understandable

The first criterion focuses on the significance of the theory and the classification of its clarity and understanding⁸. Nightingale presents as the meaning of the environmental theory the fact the cause of the disease and/or non-rehabilitation of the patient is closely related to the environment in which the patient is inserted, which is most often unhealthy. Therefore, Nightingale advocated essential factors that would ensure the sanitation of dwellings such as clean air, clean water, efficient drainage, cleanliness, lighting, prevention of infection, among others¹.

The care in the rehabilitation process of the wounded soldiers in combat or the ones coming from surgeries, during the Crimean War, was the crucial fact that led Nightingale to develop innovative thoughts to the context of care provided to individuals. Her experience enabled the comprehension about what was effective and what was hindered this process. These ideals are part of the context of the practice experienced by nursing professionals in different areas².

In her work, Nightingale succinctly stated what she believed to be important in the care of the sick person⁵. The Environmental Theory, with its message of valuing the environment as an essential tool to the healing process of people, highlights the importance of ventilation, heating, sanitary conditions of housing, as for the housing hygiene^{1,9}.

Other factors for the patient's care are also presented by Nightingale, such as noise, the varied, nutritive and punctual eating habits. In addition, the analyzed theory includes information about the appropriate buildings in which patients should be treated in and about the management of hospitals⁵.

Johnson and Webber⁸ show a form of measurement for this criterion with a five-point scale, which was assigned value 5, indicating that the theory has clear ideas in meaning, given that the reader does not need to have a vocabulary too far-fetched for the full understanding of the work into focus.

Criterion 2 - Limits are consistent with the practice of nursing

The second criterion leads to the judgment as to the limits of the theory, if they are consistent for the practice of nursing. Among the limits are included: for whom the nursing care is directed, care scenarios, the role of nurses in the administration of this care and responsibilities of other health professionals⁸.

Nightingale's work was written for caregivers at home, with methods and guidelines to improve the health of patients, aiming to support the work of these professionals. She directed her teachings to women, because they are those who were primarily responsible for family care¹⁰.

The main scenario addressed by Nightingale in her theory was the home environment. She taught how to create favorable environments to the recovery of the patient's health at their home and later proposed modifications in the way of building hospitals and manage them¹⁰.

Nightingale sparked a revolution in the concept of the nurses back then, specially considering the foundation of nursing as a profession by offering professional training for nurses, which came to be seen as responsible for putting the individual in the best condition to the action of nature, which occurs primarily through the impact on the environment². To Nightingale, caring was minimum among the tasks for which she had been driven to¹.

Other health professions were responsible for analyzing situations and making judgments about the patient's health. Therefore, the caregiver, the main subject besides the patient, in this theory, must know how to communicate effectively with these professionals, because upon this relied the efficiency of the care and the patient's welfare¹⁰.

Before what has been presented and based on the characterization proposed by Johnson and Webber⁷, it's possible to identify that in order to promote the criterion in of the matter, the theory has a high consistency, and its limits are clearly identified.

Criterion 3 - Understandable language and includes minimum jargon

Throughout her work, Nightingale tells true and experienced stories by herself, often demonstrating her opinion about them¹¹. This format substantially facilitates understanding of the information that the author intends to pass on to their readers.

Responding to the third criterion, an understandable language could be verified in all her work, especially in the chapters

added to the end of it, where weaving comments on the meaning of being a nurse and behaviors that it must provide assistance in the various types of patients can be found.

The very alphabet of a nurse is to be able to read every change which comes over a the patient's countenance, without causing him the exertion of saying what he feels. What would many a nurse do otherwise than she does if her patients were a valuable piece of furniture or a sick cow? I do not know. Yet a nurse must be something more than a lift or a broom. A patient is not merely a piece of furniture to be kept clean and ranged against the wall, saved from injury and breakage - though to judge from what many a nurse does and does not do^{1:161-162}.

When she directed her words to the nurses who worked at house caring for children, she used to make use of a colloquial and affectionate language, milder than that used for setting what the profile of a good nurse would be. In this, Nightingale shows her hurtful mood, showing a clear language, which was sometimes harsh¹². "Immediately disappoint those who, though devoted and obedient, treat their patients with the same efficiency that take care of furniture, porcelain or even an animal"^{11:5}.

We are confident that this little book will delight all who read it, for its historicity and actuality, the clear and elegant style, sometimes openly ironic, so well captured by its translator, and the mixture of passion and thought that runs through its pages^{11:7}.

The jargons - enunciation of unintelligible words, professional slangs¹³ - were not identified in her writings as well as new words that could be added to our vocabulary were not displayed.

The measurement for this criterion was also based on a five point scale value, with a score of 5, which is representative of the understanding about the theory above 90%.

Criterion 4 - Important concepts are identified and defined

According to Johnson and Webber⁸, there are two categories of concepts: those commonly understood and used in most theories can be called common concepts; and those more specific, where not common concepts are used in theory studied.

In the Environmental Theory, the concepts are presented and explained in detail. Nightingale addresses the concepts of health, illness, nursing and environment, as concepts that belong into the first category.

For Nightingale, health goes beyond the absence of disease, it is to be well, being able to use well all the powers one has. A disease is an effort of nature to restore health. Nursing is the way to put the structure of the individual in such a state that there is no disease or that may allow one recover from the disease, ie, the individual must be kept in the best possible conditions for the nature to preserve or restore health, prevent or cure the disease or injury^{1:5}.

The concept of environment in this theory is included in both categories of concept, since it is the Environmentalist Theory. So Nightingale conceptualized environment as the place where the sick individual and/or the family members are, comprising the health institutions and the domicile, and considering their physical, social and psychological components which need to be understood as interrelated¹.

Besides the one about environment, some non-common concepts are presented: aeration, in regard to conserve the environment as pure as the outside ambient air; heating, to provide a moderate temperature in the sick room avoiding its cooling; the sanitary conditions of housing, in relation to ensuring the hygiene of the housing, emphasizing the use of pure water, efficient sewer facilities, cleanness, with reference now to the prevention of infections, and lighting, involving the light and direct sunlight^{1:9}.

Moreover, among the concepts are also presented: the noise, unnecessary noises that are harmful to the patient and cause an expectation in their mind, which undermine and disrupt the need for the patient's home, such as talks with the caregiver, audible by the individual, the rustling of skirts, agitation, unnecessary questions and the strong stepping while walking¹.

The variety is also inserted within these concepts, specifically in the context of changing furniture location, placement of paintings or different portraits and flowers that can be enjoyed by the patient, leading them to diversify their thoughts. Nutritious and punctual feeding, appropriate beds and linen and individual's personal hygiene were also concepts presented by Nightingale¹.

Nightingale brings in her work, the concept of nurse:

(...) one who is to be depended upon, a woman of delicate and decent feeling, she must be a sound and close and quick observer, she must be sober, honest, religious and devoted, that is, someone who must have a respect for her own calling, because God's precious gift of life is often literally place in her hands^{1:168}.

To analyze the criteria in question, a rating scale of the consistency of the concept is proposed by Johnson and Webber⁷. The concepts presented for current and future practice such as "moderate consistency" (value of 2 for the scale), before the presence of some definitions that have been modified over time are characterized, as set forth below.

The Environmental Theory was presented by Nightingale in 1859. The fact it has been written over 150 years ago can be regarded as a limitation on the consistency of the its own concepts, because even though it endorses many current actions, some factors may be identified as outdated. Among them we can mention the fact that only women used perform nursing care and nursing was seen as an art not science.

Nursing practice was a female domain, but an independent practice of their own right, since the nurses acted according to doctors whose prescriptions they should faithfully follow, even

though they were not subservient to them. Nursing was therefore seen as an art, while the medicine was seen as science¹.

Nursing has feminine traits, to the extent that this genre has a close relationship with the gift and sacrifice, represented by the virtuous self-denial of Nightingale, and the provision of care at all times¹⁴. However, even though, over the years, the number of women in nursing continue growing much higher when compared to men, they are present in this occupation and have gradually increased their admission number in undergraduate courses in nursing and consequently there is the training of new nurses, who seek the profession because of the wide field of action¹⁴.

Another concept that is little consisting if the fact nursing is seen as art and not as science. Therefore, there should be considered the historical background throughout its more than 150 years since its foundation as a profession dedicated to the art of caring by Nightingale, in the nineteenth century, to the investments that have been undertaken, gradually and systematically, in building a scientific practice¹⁵.

Science consists of a set of descriptive information, explanatory and predictive of reality, resulting from the observation and the experience over the phenomena. Through the attempt of renovation or expansion of the nursing knowledge, there is the emergence of theories, in which purposes, limits and possibilities are evidenced in the care and allow reflection on nursing care⁵.

Criterion 5 - Concepts stimulate the formulation of propositions

As already mentioned, the legacy left by Nightingale has the environment as a fundamental principle for the practice of the profession. The ideals concerning this principle were grounded in the concepts referred in the Environmental Theory and were considered essential to the success of the theoretical work, managing to reduce the deaths of wounded soldiers infection and promoting the recovery of patients².

The above-mentioned concepts led to the development of several propositions identified throughout the work studied¹. Among all of them some of them are pointed:

- A healthy environment is essential to healing;
- The windows should be opened allowing the entry of light for all occupants and a fresh air flow;
- With the proper clothing you can keep, at the same time, the patient warm and in well-ventilated environment;
- The proper administration of the residence interferes with healing of the sick;
- The nursing care involves the house in which the patient lives and those who have contact with them, especially caregivers;
- Noise is harmful and disturbs the need for rest of patients;

- Nutritious food, beds and appropriate bed linen and individual's personal hygiene are essential;
- Cleaning prevents morbidity;
- With the a clean environment the number of cases of infection decrease;
- All external conditions and influences that affect the life and development of an organism are able to prevent, suppress or contribute to disease and death.

Faced with the scale for the evaluation of proposals, proposed by the authors⁸, it was found that the formulation of proposals to the concepts and their definitions were "very easy" (value 7 to the scale), as it was presented in the previous paragraphs.

Criterion 6 - variables and hypothesis help to understand and interpret propositions

The following are presented as theory of variables: the fresh air, light, heating, quietness, cleanliness, punctuality and assistance in the diet management. To Nightingale, the delay in the patient's recovering is based on the lack of knowledge or attention to any or all of these variables, causing the interruption of the restorative process¹.

It was identified as hypothesis from the Environmentalist Theory the fact that the patient feels cold, presents fever, suffers fainting, feels bad after meals or presents decubitus ulcers, is generally not due to illness, but to nursing¹. So Nightingale blames the process of the individual's disease to the negligence of the nursing actions.

However, it is essential to emphasize that the responsibility for such an interruption is not directed in its entirety to nursing, since deficiencies in sanitation and architecture, as well as failure in the administrative organization, also can be considered as variables to influence the nursing practice¹.

The variables and hypothesis here contribute to the understanding and interpretation of the proposals outlined in the previous criterion.

Criterion 7 - Theoretical knowledge helps explain and predict phenomena

This criterion concerns the utility of the theory to predict the results. It is in this criterion that is made the relationship between theory, theoretical knowledge and nursing practice. It's been tried to identify how the practice reflects on the theoretical knowledge and which explanations can be given over the practice based on the theory under study⁸.

Nightingale's knowledge was constructed through her experiences, therefore, the environmental phenomenon influencing the health-disease process is backed more on her practical knowledge than even in her theoretical knowledge.

(...) in this work Florence registers the result of her experience of more than fourteen years in dealing with patients, nurses and hospitals. Her affirmations and suggestions,

however, derive from systematic observations, supported by statistics, and a permanent reflection on the bedside care and ways to maintain good health^{11:4}.

Not only the practical knowledge, but also the fact of knowing the patient and promoting an empathetic relationship between them and the nurse are discussed by Nightingale, stressing that it is highly necessary, in order to be able to identify its possible problems¹⁶.

Given the above and knowing that the presented theory have full relationship with the effective theoretical practice, this criterion is characterized - Theoretical knowledge helps to explain and predict the phenomenon - with value 5 in the scale, which equates to "The theory really makes a difference" in the practice of nursing.

Criterion 8 - Theoretical knowledge influences the nursing practice

The methods used in Nightingale's works served as a basis for the teaching of nursing for more than a century, and as a matter of fact, they still exist in nursing programs nowadays. It is clear, therefore, a lasting influence of her writings on the professional practice and nursing education⁵.

Nightingale's ideas, even after a century of her death, have primary influence on the professional practice of modern nursing, leading us to a reflection on the professional act, particularly with respect to current ecological problems on the binomial health and the environment⁹.

The theoretical representativeness is so relevant that many of her works continue to present guidelines for nurses in the present days. The critical thinking mentioned by Nightingale as a duty of the nurse in the reality of the care, characterizes what was done in this study⁵.

Before the exposed and based on the scale that is how the theory influences in the nursing practice, the value 5 of the proposed scale for this criterion was identified, supporting that the theory makes a significant difference in the nursing practice.

As seen, eight were the criteria used in the theory analysis proposed by Johnson and Webber⁸. It's possible to verify that most of the criteria present score scale given for each criterion, however, the criteria 2 - Limits are consistent with the practice of nursing - and 6 - variables and hypothesis help understand and interpret propositions- do not use scales for their analysis.

The study had as limitation the fact that the analysis was made on the translated work and not in the original work. For this reason, some elements may have lost the sense noted by the author in the original work, which may have influenced the analysis.

CONCLUSION

The study allowed us to critically analyze the Environmental Theory of Florence Nightingale, through an attentive and reflective reading of the book "Notes on Nursing - what it is and what it is not". It is noticeable that the theoretical principles were established and serve as parameter nowadays, and their relevance can be considered a history mark in the history of nursing.

We conclude, therefore, through the critical analysis carried out, that the theory in focus has significances, clear and understandable language and concepts, which induce the formulation of proposals and are explained and understood by variables cited by Nightingale in the construction of the Environmental Theory and that there is the influence of the practice of nursing.

New studies under the same perspective are essential because they will provide subsidies for the theoretical development of the nursing practice, which can greatly contribute to its development as a science.

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