



Interrelations between Florence Nightingale's environmentalist theory and the ecosystem theory

Inter-relações da teoria ambientalista de Florence Nightingale e a teoria ecossistêmica

Interrelaciones entre la teoría ambientalista de Florence Nightingale y la teoría de los ecosistemas

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ABSTRACT

Objective: To reflect on the interrelations between Florence Nightingale's Environmentalist Theory and the Ecosystem Theory and their influences on the reparative process of diseases and on the health/disease/care of human beings. **Method:** A theoretical-philosophical reflection on the interrelations between Florence Nightingale's Environmentalist Theory and the Ecosystem Theory, based on authors who discuss this topic. **Results:** Both theories are similar in relation to the search for self-knowledge, self-organization/autopoiesis and the way to visualize the components of reality in human life and its interactions with the environment. Both involve the totality of the environment's biotic and abiotic organisms, and consider that they interrelate, influence, cooperate and interfere in human life. **Conclusion and implications for the practice:** The interrelations between both theories make it possible to construct, in a holistic way, new knowledge about human beings' thinking, seeing, feeling and acting in the universe and of Nursing care, thus apprehending the totality of the needs, and the integration and dynamic balance of being and living healthy.

Keywords: Ecosystem. Environment. Health. Nursing. Nursing Theory.

RESUMO

Objetivo: Refletir acerca das inter-relações da Teoria Ambientalista de Florence Nightingale e a Teoria Ecossistêmica e suas influências no processo reparativo das enfermidades e na saúde/doença/cuidado do ser humano. **Método:** Reflexão teórico-filosófica acerca das inter-relações da Teoria Ambientalista de Florence Nightingale e a Teoria Ecossistêmica, com base em autores que discutem essa temática. **Resultados:** As duas teorias assemelham-se em relação à busca do autoconhecimento, auto-organização/autopoiese e da forma de visualizar os componentes da realidade no viver humano e suas interações com o ambiente. Ambas envolvem a totalidade dos organismos vivos e não vivos do ambiente, consideram que se inter-relacionam, influenciam, cooperam e interferem no viver humano. **Conclusão e implicações para a prática:** As inter-relações das duas teorias possibilitam construir, de forma integral, conhecimento novo acerca do pensar, ver, sentir e agir do ser humano no universo e do cuidado de enfermagem, apreendendo, assim, a totalidade das necessidades, a integração e o equilíbrio dinâmico do ser e viver saudável.

Palavras-chave: Ecossistema. Enfermagem. Meio ambiente. Saúde. Teoria de enfermagem.

RESUMEN

Objetivo: Reflexionar sobre las interrelaciones de la Teoría Ambientalista de Florence Nightingale y la Teoría de los Ecosistemas y sus influencias en el proceso reparador de las enfermedades y en la salud/enfermedad/cuidado del ser humano. **Método:** Reflexión teórico-filosófica sobre las interrelaciones entre la Teoría Ambientalista de Florence Nightingale y la Teoría de los Ecosistemas, basada en autores que discuten este tema. **Resultados:** Ambas teorías son similares en relación con la búsqueda del autoconocimiento, la autoorganización/autopoiesis y la forma de visualizar los componentes de la realidad en la vida humana y sus interacciones con el entorno. Ambas involucran la totalidad de organismos vivos y no vivos del medio ambiente, y consideran que se interrelacionan, influyen, cooperan e interfieren en la vida humana. **Conclusión e implicaciones para la práctica:** Las interrelaciones de las dos teorías permiten construir, de manera integral, nuevos conocimientos sobre el pensar, ver, sentir y actuar del ser humano en el universo y del cuidado de Enfermería, aprehendiendo así la totalidad de las necesidades, la integración y el equilibrio dinámico del ser y vivir sano.

Palabras clave: Ecosistema. Enfermería. Medio ambiente. Salud. Teoría de Enfermería.

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INTRODUCTION

In 1854, during the Crimean War, Florence Nightingale, known worldwide as the pioneer of Modern Nursing, developed a new care modality for human beings, focusing on the environment. Continuing with this aim, in the second half of the 19th century, more specifically in 1859, she expanded the Environmentalist Theory, in which she described, presented and highlighted the basic principles and characteristics and their influence on human beings' healthy life, considering them capable of suppressing, preventing, contributing to and improving health processes, thus creating a new care modality for human beings.¹⁻⁴

By viewing human beings as individuals integral to nature and forming an integrated whole, Florence conferred significant importance to this therapeutic property and gave it respectable and fundamental contributory value to her theory. She warns that the results are considered as directly influenced and resulting from an environment as a whole, either healthy or harmful. Therefore, with regard to the Environmentalist Theory principles, health is influenced by multiple physical, psychological, spiritual, sociocultural and economic factors, whether biotic or abiotic in human beings' living spaces/environments. In this sense, Nightingale considers illness as a natural reparative process that has been hampered by lack of knowledge or attention to one or all of the elements of nature.⁵

This conception of the reparative healing process goes beyond a biological and natural phenomenon, which can be conceived as a multidimensional event, with Nursing's role being to provide and strengthen a stimulating environment for health development, using multiple factors capable of influencing the health/disease/care process used by the Ecosystem Theory. Thus, in her work, Nightingale⁵ already recommended that Nursing should put patients in the best condition so that nature can act on them.

Therefore, in the Ecosystem Theory view, the health/disease/care process should be carried out considering the function of balancing nature/environment and instigating its sustainability, with the aim of preserving, stimulating, developing and adding vital energy to environment users, which are one of its constituent elements.⁶ In this context, Nightingale warns that "in certain disease, much less heat is produced than in health, and there is a constant tendency to the decline and final extinction of the vital energy because of the effort made to sustain body heat".^{5:21}

From this perspective, regarding the systemic principle of autopoiesis/self-organization, the Ecosystem Theory is based on Maturana and Varela⁷ and is related to the health/disease/care process, practiced by nurses with the purpose of energizing users with the knowledge and care required to instigate and understand their co-participation in maintenance, sustainability of balance and healthy well-being.⁸ Therefore, this process, based on knowledge, makes it possible to trigger changes in users' thinking, seeing and acting, to make them understand how important and involving their collaboration in this process is and, thus, assist in adapting attitudes and behaviors that are relevant.^{7,9-11}

In relation to the Ecosystem Theory, the term "ecosystem" was created, proposed and used for the first time by botanist Arthur George Tansley in 1935, who defined it as the basic unit of

ecology.^{6,12-13} Etymologically, this word originates from two terms: *eco*, Greek prefix *oikos*, which means space/environment, plus the word "system", from the Latin *systema*, which is understood as a set of interconnected elements that interact with and influence each other. Mutually, they cooperate with each other and can produce changes and transformations. When added to the characteristic of a specific space and time, this systemic concept constitutes the aspects that differentiate it from the system, forming what is considered the ecosystem, consisting of organisms that interact with each other, and produce energy and forces capable of *autopoiesis*, that is, self-organization.^{6-8,14}

From this perspective, human beings make up one of the integral elements of this community, that is, of nature/environment. Therefore, from a broader perspective, the human ecosystem can be considered as a multidimensional system, with the capacity to adapt and adjust to instabilities, fluctuations and constant disturbances in the environment, in search of sustainability throughout their existence.^{6,13,15-16}

Advancing from this perspective, in the ecosystemic approach, human beings' dynamic balance is achieved through the energy obtained by means of interactions with its dimensions: physical/biological, social, psychological and spiritual, which can be identified by human beings' reactions, according to the disturbances and instabilities that arise in the environment in which they are inserted. By seeking balance, through the energy produced by the interrelationships of the constituent elements, they are capable of producing adaptations, changes and transformations necessary to reorganize itself.¹³ Thus, they are in contact with the environment in which human beings live, a dynamic network of elements that interact with each other with the purpose of producing changes and transformations necessary for dynamic balance and life maintenance and sustainability.⁷

Therefore, *autopoiesis* or *autopoiesis*, which etymologically originates from the Greek *auto*, which denotes "one's own", plus *poiesis*, which means "creation", is a term created in the 1970s by the Chilean biologists and philosophers Francisco Varela and Humberto Maturana, to designate living beings' ability to produce themselves. In this sense, the autopoietic theory can be conceptualized as a self-sufficient organized system. According to this theory, each living being is an autopoietic system, that is, a living, autonomous system that is constantly self-producing, self-regulating and interrelating with the environment of which it is an integral part. Therefore, *autopoiesis* preservation and the adaptation of a living being to its environment are systemic conditions for life.⁷

Looking at the Environmentalist Theory and at the Ecosystem Theory, both ground their basic principles on the ecology that supports them; they rely on nature/environment and justify their influences on the users' health conditions or, according to Nightingale,⁵ on the patients. In this way, this process considers human beings as an integral part of nature and, as such, they interrelate, influence, are influenced, suffer instabilities and disturbances, produce energy through interactions between the set of elements of reality where they live, work and develop and, consequently, through this energy they are capable of making changes and transformations influenced by the environment.⁶⁻⁷

Based on the above, the study objective is to reflect on the interrelations between Florence Nightingale's Environmentalist Theory and the Ecosystem Theory and their influences on the reparative process of diseases and on the health/disease/care of human beings.

METHOD

The study involves a theoretical-philosophical reflection, with a discussion about the interrelationships between Florence Nightingale's Environmental Theory and the Ecosystem Theory based on authors who discuss this topic. This reflection was developed in 2023 as part of the Integrated Nursing/Health Research Seminars II discipline from the PhD Course in Nursing at *Universidade Federal do Rio Grande (FURG)*.

After intense and critical-analytical readings of the material collected in online databases and the readings instituted during the course, a set of ideas, concepts and principles articulated among themselves was assembled, in which an inter-relational, critical and reflective discussion was established on the topic on the agenda.

The critical and reflective reading of the texts aimed at selecting the approaches with the greatest adherence and significance possible regarding the concepts, characteristics and constituent principles of both theories, especially exploring the aspects inherent to the interrelations and influences in the reparative process of diseases of the Environmentalist Theory and health/disease/care of the Ecosystem Theory. The readings led to deeper comprehension of the theme, to understanding the ideas expressed by the authors, which guided the discussion of the subject matter and helped direct it towards meeting the objective.

In this sense, the interest in the theme expanded as the readings of texts on the Environmentalist Theory and the theoretical-philosophical framework of the Ecosystem Theory increased, which gave rise to some questions regarding the interrelationships between these theories, making it possible to conjecture about nurses' professional practice and its applicability in nursing and health. Therefore, concepts, principles and characteristics understood as fundamental to understanding the theme and objective in question are presented.

As this is a theoretical study, without the involvement of human beings, approval of the project by a Research Ethics Committee was waived.

RESULTS

In this proposal, human beings are no longer seen from a Cartesian perspective, that is, fragmented, rigid, not contextualized, of certainties and accuracies, of the study of the object itself and with an emphasis on quantity to the detriment of quality. In this way, they start to be considered in their multidimensionality, integrality/totality, interrelated with and inserted in the environment where they live, work and develop.

This paradigmatic change from the General Systems Theory was published in 1950 by Ludwig Von Bertalanffy to meet the

scientific knowledge demands of the changing world, especially by making it essential to consider human beings' individual and collective needs and associate them with interconnections - relations with the other components of reality, which influence, interfere, interdepend and cooperate with each other in the process of living and need to be attended to maintain health balance, its sustainability and human well-being.¹³

In this context, the reflection on multidimensional human beings is understood as a challenge, as it encompasses different concepts and knowledge areas and leads us to consider them complex in their constitution, their thinking, being and doing in a space/environment, full of disturbances, uncertainties and instabilities. Complexity occurs through interrelationships, that is, the exchanges that are made throughout life. In this way, each human being is a unique individual made up of unique exchanges, whose complexity is also unique.

In this new perspective, it is necessary to consider the concept of complex in a contextualized, comprehensive, complete and irreversible way. It means understanding human beings in their multiple dimensions: biological, psychological, spiritual and sociocultural, among other of their constituents and their interrelations with the space/context/environment in which they produce energy and forms an interdependent totality/unit.^{6,8,11}

Based on the Ecosystem Theory, it is understood that, in human beings' life there are instabilities, inconstancies and continuous disturbances in the space/environment, driven by the elements that comprise it and their connections and interactions. This context needs to be considered to find favorable paths to process reorganization/*autopoiesis*, for the necessary adaptations for sustainability of the *locus/environment* and survival of human beings.^{7,12}

Following this logic, we come across the historical path of Florence, born on May 12th, 1820, which highlighted the importance of nurses being able to think critically and to holistically deal with adversity situations, as was the case in the Crimean War. Florence experienced uncertain, adverse scenarios and multiple contexts of individualized and specific care for war soldiers, for which she needed to apply knowledge and her critical and refined thinking, very developed according to the feminine molds and standards of the time.⁴ Nightingale identified that "apprehension, uncertainty, waiting, expectation and fear of surprise do more harm to a patient than any effort".^{5:53}

Seeing Florence from this perspective highlights the extraordinary work carried out that was reflected and influenced in several areas, in addition to Nursing, such as Statistics, Mathematics, Health Administration/Management, Public Health, Physiotherapy and Spirituality, among others. Her work influenced the reformulation of hospitals, health administration and the creation of public policies, in addition to laying the foundations of Nursing as a profession throughout the world. Furthermore, she coined precepts for valuing the appropriate environment for the health/disease/care process, teamwork with social division of labor in Nursing and preached and established nurses' authority and dominance over the care to be provided.

Interrelations between the environmentalist and ecosystem theories

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The compendiums written by Florence continue to guide the construction of the Nursing science, qualifying teaching, research, management and assistance.^{4,10}

For Nightingale, Nursing was an art (a science) that demanded practical-scientific skill. Nurses should be trained and qualified to serve in the reparative processes of diseases, resorting to integral principles based on knowledge, theories, research and subjective aspects, as well as to visualize the reality of each patient's life and their interactions with the environment, based on intuition and creativity. These aspects established by

Florence were decisive in the way in which the reparative care process for curing diseases was created.⁴

Continuing the reflection, the Ecosystem Theory is understood as the set of biotic and abiotic components of the space/context/environment, where human beings live, work and develop, interconnect, cooperate and influence each other, whose effects mobilize, interfere with and have repercussions on the system as a whole.^{6,13} Therefore, to ease the visualization of the similarities and respective interrelations between the Environmentalist Theory and the Ecosystem Theory, they are presented below in Chart 1.

Chart 1. Similarities and interrelations between the Environmentalist and Ecosystem theories, Rio Grande, RS, Brazil, 2023.

Environmentalist Theory	Ecosystem Theory
Environment as nature.	Ecosystem considered as Space/context/environment = Nature as an integrated whole.
Environment made up of interrelated biotic and abiotic elements, which influence the patient's health.	Space/Context/Environment made up of interrelated and interdependent biotic and abiotic elements that influence each other.
Environment as the main environment that interferes with the reparative healing process of the sick.	The environment/ecosystem influences human beings' health/disease/care process, sustainability and well-being.
Human beings as integral to nature.	Human beings are nature, that is, they are an integral element of nature/environment.
Human beings have different aspects and multiple needs.	Ecosystemically, human beings are considered multidimensional, consisting of the following dimensions: physical/biological, social, psychological and spiritual, interrelated with the environment as a totality/unit.
Nursing should have critical and comprehensive thinking. It must also consider the patient's subjective aspects – based on intuition and creativity.	In the care process, all specificities in relation to instabilities and disturbances specific to the space/context/environment should be considered, as they all influence human beings' health and well-being.
A pioneer/forerunner in the Nursing practice, it influenced several areas beyond Nursing, such as Statistics, Mathematics, Health Administration, Health Management, Public Health, Physiotherapy and Spirituality, among others.	Pioneer as an emerging theory to meet advances in knowledge, whose needs were no longer met by the paradigm of Cartesian thinking, influencing several areas, such as Health and Psychology, among others.
It perceives Health as influenced by multiple environmental factors.	Health is the incessant search for the balance of human needs, anchored in the set of relationships and interrelationships of the elements that make up the environment.
The reparative care process to cure diseases should balance the natural process of nature.	The health/disease/care process should energize users with knowledge and care for their co-participation in maintenance, sustainability of balance and healthy well-being.
Self-knowledge: It encouraged patients to participate in the reparative care process to cure diseases, in search of health recovery, organization and self-control.	It encourages empowering human beings to participate in adaptations and adjustments to constant instability, disturbances and uncertainties in the environment, in search of sustainability and reorganization of balance, that is, health.
Participation in patient healing: Florence explained, described and highlighted the basic principles that influence human beings' healthy life, considering them capable of suppressing, preventing and contributing to the reparative care process to cure diseases.	Each human being is an autopoietic system, that is, with the capacity to produce itself through the energy resulting from the interactions of the elements that constitute it and can make adaptations, adjustments; reorganize, create new knowledge and original ways of living. The unleashing of energies can be stimulated by caring for human beings.

Source: Prepared by the authors.

DISCUSSION

In this context, the Environmentalist Theory and the Ecosystem Theory are similar in the search for self-knowledge and self-organization/*autopoiesis*, as well as in the way of visualizing human beings' complexity, the significance of health and human life. While the Ecosystem Theory integrates a set of interconnected elements of a given space/context/environment that interact with and influence each other, the Environmentalist Theory, in turn, also advocates the concept related to interactions with nature and the environment, with influence on the reparative care process to cure diseases.

In a similar way, both address the environment, made up of biotic and abiotic beings, which can be interpreted as nature. In the Ecosystem Theory this corresponds to the context/space/environment and its constituent elements, forming a totality/unity.⁶ All elements of nature/environment, of which human beings constitute one of the elements, both in the Environmentalist Theory and in the Ecosystem Theory are perceived as interdependent, interconnected and interrelated factors/elements, which influence the health/disease/care and reparative care process to cure diseases and well-being of the sick.^{4,10}

From this perspective, it is clear that the Ecosystem Theory and the Environmentalist Theory share many similarities. While the Environmentalist Theory addresses more specifically the healing process of the sick, it approaches and understands that there are environmental interactions with direct influence on healthy living. In this sense, the Ecosystem Theory, in a similar way, approaches the concept with more depth and specificity in relation to instabilities and disturbances specific to the space/context/environment. However, in this specific language, the Ecosystem Theory points out the possible necessary flexibilities that allow and lead, through the energy produced by the interrelationships of the elements that comprise it, to make adjustments, readaptations and changes in view of *autopoiesis* in human beings' life.^{7,13,15}

In Florence's praxis, regarding the Environmentalist Theory, it can be understood that she also practiced *autopoiesis* by encouraging, guiding and stimulating soldiers to participate in care, in search of their recovery and/or necessary adaptations to achieve health. She demonstrated the applicability of her theory, especially during the Crimean War, and became recognized and renowned worldwide for being a pioneer in the Nursing practice, considering it a science and art when addressing the importance of nature/environment factors in the Nursing process for healing the sick. According to her, "the variety of shapes and color brightness of objects presented to patients are real means that affect recovery".^{5:87}

The work she carried out during the Crimean War in 1854 resulted in a reduction in mortality from 40% to 2% among soldiers, particularly resorting to practices such as the following: promoting clean and ventilated environments; supply of clean air; lighting, clarity and direct sunlight; personal hygiene; adequate sewage/sanitary network; and reduction of noise, among others.⁵

Therefore, Nightingale considered the environment as the main means for reparative care to cure diseases and achieve the patients' well-being, through which it guaranteed good quality humanized assistance and promoted well-being in the sick.

Continuing the reflection, Florence's image known as the "Lady with the Lamp" emanates, a nickname received for using this instrument to assist with lighting when visiting and advising the injured during the night. This care also symbolically shows dedication and care in relation to the patients' spiritual and emotional aspects, where light brought hope and motivation to them and encouraged to participate in their recovery. As Florence said: "Almost all sick people exercise more self-control at every moment of their day than you will ever know – until you get sick".^{5:90}

This care is represented in the Ecosystem Theory by *autopoiesis*/self-organization, motivated by the knowledge that should be offered to human beings, making them aware of how to share in recovering their health. Another fact that this analogy contributed to Nursing is the interconnection between research, theory/teaching and practice, which should work interdependently in the construction of Nursing knowledge in the health/disease/care process.

It is clear that, in her practices, Nightingale managed to reduce infectious diseases and to mitigate the severity of injuries and the spread of other pathologies, in addition to improving the soldiers' mental and psychosocial health. This care modality corroborates the importance of considering human beings in their multidimensional needs, paying attention to the biological, sociocultural, psychological and spiritual aspects. Florence showed the extent to which the environment influenced the patients' depressive state: "most of the depression cases will be observed among those patients subjected to a long monotony of the objects around them".^{5:85}

While the Ecosystem Theory points out that human beings' multidimensionality should be considered and that their needs must be met, the Environmentalist Theory also corroborates the social aspects, understanding that the consequences and disability of soldiers in the post-war period interfere with their lives.⁵ In this sense, it becomes important to know each user's space/environment and the people who are part of the social life and care, to be able to incorporate them into the recovery process and, thus, assist in the user's self-organization in living in its post-war environment.⁹

It can be stated that Florence Nightingale was a pioneer in Nursing by introducing Integrative and Complementary Techniques/Practices (ICPs) in the care context, such as colors, light, music, pets, exercise, flowers and use of Lavender essential oils, among others. These practices support comprehensive care for people, considering them as body/mind/soul.¹⁷ All of these techniques that Florence used had the purpose of calming patients, promoting an environment in search of healing, serving as a stimulus, premises of her theory, which states that the environment influences people's health. She reported the following in her book: "shape and color will rid your patients of their painful ideas better than any argument".^{5:89}

These attitudes impacted society by considering not only human beings' physical aspects, but also the interconnection between the biological/physical, social, psychological and spiritual dimensions of each individual and their interrelationships with the context/space/environment in which they live, work and develop. Both the Environmentalist Theory and the Ecosystem Theory consider and point out the cultural aspects, values and beliefs connected to the act of caring and highlight the ability to consider each person in their entirety/unity and the need to encourage them to participate in their recovery. In terms of the Ecosystem Theory, as already pointed out, this participation is expressed in a more visible way with the principle of *autopoiesis*/self-organization, which corroborates this aspect.^{4,6}

This reflection also refers to the current global health scenario experienced in times of the COVID-19 pandemic.¹⁸ It becomes necessary to reaffirm the scientific, human, ethical and social commitment of the Nursing science to recognize the value of the Environmentalist Theory principles integrated to the theoretical-philosophical framework of the Ecosystem Theory, whose concepts and principles are interconnected by pointing out the environment as an important element in the reparative care process for curing diseases and achieving well-being in the sick (Environmentalist Theory) and in the health/disease/care process (Ecosystem Theory).^{11,19}

In this sense, for a good quality health/disease/care process, it is necessary to know the environment in which each human being lives, to check the elements that interfere in this process and try to achieve dynamic balance, encouraging users' *autopoiesis*/self-organization. This care modality leads to self-knowledge and, thus, can be transformed into possibilities for self-organization to promote well-being, quality of life and, consequently, enhance health.⁶ Therefore, this way of constructing knowledge through of the health/disease/care process, helps to achieve sustainability, both for human beings and for the environment of which they are one of the components, in which they interrelate with others, producing energy in the collective for health recovery and maintenance and for improving the ecosystem, as well as well-being and quality of life for users and communities.

CONCLUSION

This theoretical-philosophical reflection highlighted important aspects in relation to the contributions of Florence Nightingale's legacy to the Ecosystem Theory. It was identified that the interrelations between both theories make it possible to deepen knowledge especially related to the integral dimension in the execution of the Nursing care process. It is noted that studying the interrelationships between the Environmentalist and the Ecosystem theories enabled the emergence of new knowledge about the aspects present in both theories, in addition to emphasizing and collaborating to understand the importance of comprehensive care for users.

It is noteworthy that it was evident that comprehensive care for users unites both theories, both in relation to aspects of the singular dimensions of the multidimensionality of human beings

and to the interconnections and influences between the biotic and abiotic components of the environment, of which each user constitutes an integral element, forming a totality/unity that influences human life in an interdependent way.

Finally, the interrelations of the theoretical-philosophical framework of the Ecosystem Theory with the Environmentalist Theory generated a positive approach in pointing out possibilities for a new way of seeing the Nursing science, both in educational aspects and in care, management and investigative practices. In this way, innovating in Nursing presupposes rescuing, interconnecting and enhancing Nightingale's principles and concepts with emerging theories that exert an impact on the present day; in this case, the Ecosystem Theory that perceives the universe/planet, the environment and human beings in an interconnected, interrelated, interdependent and interconnected way, thus forming a totality/unity.

In conclusion, it is noted that the theoretical-philosophical reflection on Florence's Environmentalist Theory and the Ecosystem Theory enabled understanding that the principles and characteristics of both share similarities, that their mutual interrelations and influences are processed in an analogous way in human Nursing and Health and assist in comprehensive care for users. Thus, for comprehensive mastery by Nursing, the theories contribute pertinent, appropriate and interconnected subsidies, which allow advancing in the sustainability domain, as part of the World Health Organization (WHO) sustainable development goals.

The **limitations of this reflection** indicate lack of published research addressing the interrelationships and influences of Nightingale's Environmentalist Theory and the Ecosystem Theory. This aspect denotes a knowledge gap to be bridged, given the importance of this topic for Nursing training, care, research and management. In relation to the **implications for the practice**, the possibility of producing impacts on the professional practice in the research, teaching and management fields stands out, through the knowledge produced and by recognizing Florence's legacy in the various knowledge areas, especially Nursing. Furthermore, this study allows understanding the interrelationships between Nightingale's Environmentalist Theory and the Ecosystem Theory.

This reflection led to evidencing that there are many similarities between both theories and that the interrelationships between the constituent elements of each one make it possible to create a new way of thinking, seeing, feeling and acting for man in the universe/nature, which means establishing new knowledge and new practices in interrelated and integrated Nursing.

However, referring to the events, changes, transformations and scientific advances arising in relation to the distance in terms of time, from 1854 (Crimean War) to the present day (2023) there is a gap and certain perplexity between the reasons and factors that led Florence to the idea of changing care for sick humans. What would Florence's inspiration have been when outlining the Environmentalist Theory, to be able to fulfill such a noble and inspiring mission, whose principles remain current

and manage to intertwine with emerging theories seeking to meet today's human needs? Which were Florence's greatest achievements that continue, in an extraordinary way, to inspire nurses in relation to professional relevance? Which are the most valuable aspects of the Environmentalist and Ecosystem theories, from the perspective of nurses devoted to teaching and care?

AUTHOR'S CONTRIBUTIONS

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