

# SYSTEMATIC AND INTEGRATIVE REVIEW

## NURSING CARE IN VIEW OF COMPLEX THINKING: INTEGRATIVE LITERATURE REVIEW CUIDADO DE ENFERMAGEM NA PERSPECTIVA DO PENSAMENTO COMPLEXO: REVISÃO INTEGRATIVA DE LITERATURA

## CUIDADOS DE ENFERMERÍA DESDE LA PERSPECTIVA DEL PENSAMIENTO COMPLEJO: REVISIÓN INTEGRADORA DE LA LITERATURA

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### ABSTRACT

The present study is an integrative literature review aimed at comprehending the contribution of complexity theory to the construction of knowledge on nursing care. The studies were collected in LILACS, MEDLINE, and CINAHL, from the descriptor 'nursing care' and the term 'complexity' and their equivalent terms in Portuguese. The analysis yielded three themes: unveiling the times and scenarios of complex care nursing, emphasizing the principles and characteristics of complex thinking in nursing care, and training for nursing care in the context of complexity. The contexts of care have been constructed from contradictions, uncertainties, clutter, and organization in such a way that complex thinking permeates nursing care, beginning with the initial period of training. It can therefore be concluded that the importance of building the knowledge developed in the context of nursing care demonstrates that complex thinking is an emerging paradigm in health and nursing and is essential to the growth of care organizations.

**Keywords:** Nursing; Nursing Care; Knowledge; Standard of Care; Delivery of Health Care.

### RESUMO

*Revisão integrativa de literatura que objetivou conhecer a contribuição da Teoria da Complexidade para a construção do conhecimento sobre o cuidado de enfermagem. Os estudos foram coletados nas bases LILACS, MEDLINE e CINAHL, a partir do descritor "cuidados de enfermagem" e do termo "complexidade" e seus correspondentes em inglês. A análise originou três categorias temáticas: desvelando os tempos e cenários do cuidado complexo de enfermagem; enfatizando os princípios e características do pensamento complexo no cuidado de enfermagem; e a formação para o cuidado de enfermagem no contexto da complexidade. Os contextos do cuidado são construídos a partir das contradições, incertezas, desorganização e organização, de forma que o pensamento complexo permeia o cuidado de enfermagem, desde o período de formação profissional. Conclui-se que a importância da construção do conhecimento desenvolvido no contexto do cuidado de enfermagem demonstra que o pensamento complexo é um paradigma emergente na saúde e na enfermagem indispensável para o crescimento das organizações de cuidado.*

**Palavras-chave:** Enfermagem; Cuidados de Enfermagem; Conhecimento; Padrão de Cuidado; Assistência à Saúde.

### RESUMEN

*Revisión integradora de la literatura con miras a conocer la contribución de la teoría de la complejidad en la construcción del conocimiento sobre los cuidados de enfermería. Los artículos fueron recogidos en LILACS, MEDLINE y CINAHL, mediante el descriptor «atención de enfermería» y la palabra «complejidad» y sus equivalentes en inglés. Del análisis surgieron tres temas: revelando los tiempos y escenarios de la atención compleja de enfermería; destacando los principios y características del pensamiento complejo en la atención de enfermería, y capacitación para la atención de enfermería dentro del contexto de la complejidad. Los contextos de la atención se construyen a partir de contradicciones, incertidumbres, desorganización y organización para que el pensamiento complejo impregne los cuidados de enfermería desde el período de la formación. Se concluye que la importancia de la construcción del conocimiento desarrollado dentro del contexto de la atención de enfermería demuestra que el pensamiento complejo es un nuevo paradigma para la salud y para la enfermería, esencial para el crecimiento de las organizaciones de atención de la salud.*

**Palabras clave:** Enfermería; Cuidados de Enfermería; Conocimiento; Nivel de Atención; Prestación de Atención de Salud.

## INTRODUCTION

Complex thinking exposes the need for thinking capable of articulating fragmented knowledge within disciplines or fields of knowledge, which allows for a deeper understanding of specific areas, but starting to show signs of fragility in the face of a limited rationality that allows one to comprehend the inability of organized complexity.<sup>1</sup>

Various studies are underway in the world of science, based on complex thought, which aid in broadening the discussion on processes and relationships. These studies appear in healthcare and as an alternative to a broader understanding of the challenges posed in the field. Nursing is an integral part of this scenario as a profession characterized by care and, therefore, permeated by interactions and experiences that must be elucidated in individual, subjective, and collective contexts.

Understanding that the scientific revolutions that took place over the centuries set the stage for a reform of thought, a paradigm of complexity thus emerges in opposition to the simplifier paradigm, i.e., reductionist, which is characterized by separating, reducing, and fragmenting.<sup>2</sup> The separation of body and soul, subject and object, emotion and reason, existence and essence, quality and quantity bring about a need for change, even as the separation of human beings into biological, social, and psychological components no longer responds to human needs.

In this light, what emerges is a curiosity to understand the world from new ways of reflective thinking, through principles of disjunction, but also of conjunction and implication.<sup>3</sup> From the use of complex thinking, what arises is a concern for the processes, for interactions and interrelationships, as well as for multidimensionality, integrating the human being as a constitutive element and constituent of this complexity.

From this perspective, healthcare is presented as a complex system and seen in complex relationships between human beings, as well as between them and their environment, whether organizational, institutional, or natural. The incongruity of non-ambivalent and complementary dimensions present in this system challenges one to improve healthcare practices, considering the particular aspects of each human being and how they relate, see, and react to the world around them. This incongruence also challenges one to comprehend how each healthcare organization is conceived, understood, and managed, considering that such organizations are subject to instability, disarrangement, contradictions, and uncertainty.<sup>4</sup>

Healthcare systems are hegemonic and this form of production influences many healthcare workers, creating vicious cycles in their work process. They face strenuous routines, perform tasks mechanically, and have little time for interpersonal relationships. This manner of exercising their profession serves only to hinder the development of strategies that would improve their work processes as a whole.<sup>5</sup> This condition gener-

ates conflict, reduces the resolution capability, and causes dissatisfaction regarding the rendering and receiving of care, and thus requires a new approach that regards the human being as different, unique, complex, and multidimensional, and that calls for equal opportunity to develop and establish relationships and interactions.<sup>5</sup>

In this professional scenario, nursing care is focused on the needs of human beings involved in this care-giving relationship, in which nursing seeks to help the patients to acquire knowledge and self-control, to promote and preserve their life in the face of feelings of comfort and discomfort, in the hope of new opportunities, and to teach them how to deal with frequently changing situations.<sup>6</sup> Thus, it is necessary to contemplate the collective dimension of the human being and her relationships and interactions, of the parts with the whole, the whole with the parts, in which it is relevant to include some aspects of the individual dimension that make up this collective, such as *homo sapiens - faber - economicus - consumans - ludens-demens*.<sup>7</sup>

Currently, the prevalence of nursing care is still guided by a fragmented view of the human being. It is important for nursing to seek out complexity in its day-to-day activities, through a type of care that meets the individual's needs, considering both the singular and plural, that is, the part and the whole that it represents. Unlike fragmented and unilateral thinking, complex thinking represents another means through which to approach reality. In general, complexity is able to gather, contextualize, and globalize, while at the same time recognizing the singular, the individual, and the concrete.<sup>2</sup>

Given that presented above, that question that arises is: How does complexity theory contribute to nursing care? Thus, the present study sought to comprehend Complexity Theory's contribution to the construction of knowledge on nursing care through the study of scientific literature in the field.

## METHOD

The present study is an integrative literature review that is descriptive in nature and qualitative in approach. This integrative review is concerned with the process of gathering and synthesizing results on the topic, which will be more deeply explored in a systematic and orderly manner.<sup>8</sup> The steps in this research included: outlining the topic to be studied and the guiding question; defining the inclusion and exclusion criteria; defining the information to be extracted from the studies; a careful analysis of the extracted data; preparation of categories and discussion of the results; and, finally, a description of the results shown in the studies.

The article survey was conducted between May and June 2013, in the Virtual Health Library (VSL) and the CINAHL and MEDLINE databases, using the Portuguese term "cuidados de

enfermagem” and its corresponding term in English *nursing care*, as well as and the keyword in Portuguese “complexidade” and its corresponding English term *complexity*. Papers were read and selected based on the inclusion criteria: complete original articles that were available in the databases for the last ten years, as well as articles available in English, Spanish, and Portuguese that addressed Complexity Theory in nursing care in the context of health services. Exclusion criteria were defined as follows: repeated publications in the databases; review papers, reflection, experience reports, theses, dissertations, monographs, and articles that referred to the complexity as regards a complicated or difficult scenario and/or the level of complexity in the healthcare system. The double-blind process was performed after data collection with the intent of ensuring data reliability.

Next, the selected works were reviewed based on the research question and the inclusion and exclusion criteria. The articles were carefully read for the purpose of interpretation, at which time a discussion of the results was conducted.

Finally, a synthesis of the knowledge and presentation of data analysis was formulated, resulting in the current state of knowledge in nursing care, according to complex thought. Ethical principles permeated the process of producing this study, respecting the authorship and integrity of the articles that make up this integrative review.

## RESULTS AND DISCUSSION

Three hundred forty-one articles were found in the VSL, of which nine were selected from the LILACS database. A search

in the international databases produced 126 articles in MEDLINE, of which seven were selected, while 107 in were found in CINAHL, where three articles were selected. In total, nineteen manuscripts were selected for analysis and extraction of the following information: periodical, year of publication, and study site (Table 1).

The selected studies were published between 2004 and 2012, with most studies having been published in 2010, 26% (five) of the articles; followed by 2012 with 21% (four), 2006 with 16% (three), 2004 and 2009 with 11% (two) each year, and 2005, 2008, and 2011 with 5% (one) each year. No publications were found in 2003 and 2007.

National periodicals accounted for 68% (13) of the publications, especially the *Enfermagem da Escola Anna Nery* journal with 16% (three), followed by *Revista Escola Enfermagem USP* and *Revista Latino-Americana* with 11% (two) each. With regard to international journals, all of the studies were concentrated in American journals, with the *International Journal, Qualitative Health Research, Journal of Qualitative Nursing Care, Implement. Science, Health Care Management*, and *West Nursing Research Journal* representing 32% (six) of the publications.

As regards the type of research, 89% (17) of the studies used a qualitative approach for data analysis and 11% (two) were quantitative. As for the study site, most of the studies in Brazil were concentrated in the South, 54% (seven), followed by the Southeast, 23% (three). In the US, studies were focus in the state of North Carolina, 67% (four) of the international publications.

Table 1 - Scientific production on the Complexity Theory in the surveys and within the nursing care context

Base	Journal	Title	Author and year	Country
LILACS	Esc Anna Nery R Enferm	The interfaces of the care from the look of the complexity: a study with a group of post-graduation students in nursing.	Erdmann <i>et al.</i> , 2005	Brazil
BDENF LILACS	Rev RENE	The nursing care to old people with ostomy in the perspective of complexity	Barros <i>et al.</i> , 2008	Brazil
LILACS	Rev Esc Enferm USP	Teaching care in nursing graduation according to the perspective of complexity	Silva; Freitas, 2010	Brazil
LILACS	Rev Gaúcha Enferm	Educational geronto-technology for ostomized seniors from a complexity perspective	Barros <i>et al.</i> , 2012	Brazil
LILACS	Rev Bras Enferm	The pain of a child/adolescent with cancer: care dimensions	Menossi; Lima, 2004	Brazil
LILACS	Esc Anna Nery Rev Enferm	Emerging the complexity of nursing care facing a brain death	Pestana; Erdmann; Sousa, 2012	Brazil
LILACS	Esc Anna Nery Rev Enferm	Physical examination and its integralization in the nursing process in the light of complexity	Silva; Teixeira, 2011	Brazil
LILACS	Interface Comunic Saúde, Educ	Complexity in Family Healthcare and the training of future healthcare professionals	Moretti-Pires, 2009	Brazil
LILACS	Acta paul. Enferm	The (in)visibility of caring and of the profession of nursing in the relations space	Baggio; Erdmann, 2010	Brazil

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Table 1 - Scientific production on the Complexity Theory in the surveys and within the nursing care context

Base	Journal	Title	Author and year	Country
MEDLINE	Rev Esc Enferm USP	Caring for newborns in a NICU: dealing with the fragility of living/ surviving in the light of complexity.	Klock; Erdmann, 2012	Brazil
MEDLINE	Rev Lat Am Enfermagem	Understanding the dimensions of intensive care: transpersonal caring and complexity theories.	Nascimento; Erdmann, 2009	Brazil
MEDLINE	Latino-Am. Enfermagem	Multiple Relationships of Nursing Care: the Emergence of Care "of the us".	Baggio; Erdmann, 2010	Brazil
MEDLINE	Internat. Journal for Quality in Health Care	Improving assessment and treatment of pain in the critically ill.	Erdek; Pronovost, 2004	EUA
MEDLINE	J Nurs Care Qual	Improving Care in Nursing Homes Using Quality Measures/ Indicators and Complexity Science.	Rantz; Flesner; Zwygart-Stauffacher, 2010	EUA
MEDLINE	Implement Sci	CONNECT for quality: protocol of a cluster randomized controlled trial to improve fall prevention in nursing homes.	Anderson <i>et al.</i> , 2012	EUA
MEDLINE	Health Care Manage Rev	Connection, Regulation, and Care Plan Innovation: A Case Study of Four Nursing Homes.	Colón-Emeric <i>et al.</i> , 2006	EUA
CINAHL	Qualitative Health Research	Patterns of Medical and Nursing Staff Communication in Nursing Homes: Implications and Insights From Complexity Science.	Colón-Emeric <i>et al.</i> , 2006	EUA
CINAHL	West J Nurs Res	MDS Coordinator Relationships and Nursing Home Care Processes.	Piven <i>et al.</i> , 2006	EUA
CINAHL	Rev Eletr Enf	Challenges of systematization of nursing care in palliative care in cancer: a complexity perspective	Silva; Moreira, 2010	Brazil

The studies allowed the data to be systematized and discursively integrated into three categories: a) revealing the times and scenarios of complex nursing care, b) emphasizing the principles and characteristics of complex thinking in nursing care, and c) training for nursing care within the context of complexity.

## REVEALING THE TIMES AND SCENARIOS OF COMPLEX NURSING CARE

Complexity theory has been used in research to understand phenomena in the light of a "complexus" thought, i.e., that which is woven together. This thought considers multidisciplinary, transversal, multidimensional, transnational, global, and planetary realities and problems.<sup>2</sup> Accordingly, a number of areas have used complexity not to explain, but rather to try to elucidate a new understanding of the issues that are increasingly more complex within the studied phenomena.

In Brazil, research has been done on Unified Health System (SUS) environments, in basic healthcare units, hospitals, and undergraduate and graduate schools. High complexity searches were conducted in surgical inpatient units; pediatric oncology units; pediatric intensive care units; and neonatal, adult, and clinical inpatient units. Thus, it can be seen that specializations in Medicine fragment knowledge, which is ordered in discipline and predisposed to a rigid hierarchy, denoting a disregard for the overall view. As for hospitals, Morin<sup>9</sup> states that they are places of humanity and inhumanity, with a multitude of events that promote care, but that also isolate the individual

in parts, suffering the consequences of the compartmentalization of knowledge.

In the international scenario, studies included convalescent/nursing homes. Studies were conducted with patients or nurses in healthcare panoramas that require the need for complex thinking, encompassing all stages of life (newborns with critical care needs, children and adolescents with cancer, brain death in adults, and the institutionalized/stomized elderly). These scenarios are rife with feelings of grief, impotence, stress, pain, horror, sadness, doubt, confusion, failure, insecurity, physical and mental illness, vulnerability, and anguish. These generate difficulties for the professionals who work in these situations.<sup>10-12</sup> The Neonatal ICU is characterized by an increased survival rate of critically ill newborns, thereby filled with the humanitarian needs of nursing professionals, given that care is permeated by uncertainties, immediacy, and solitude.<sup>13</sup>

International studies treat the science of complexity as a lens through which to examine deviations in the coordination and implementation of planning and nursing care. The science of complexity is considered to be a means through which to study how living things behave in complex systems, as experienced by nurses in their daily routines in these institutions.<sup>14,15</sup>

Individuals are linked together in these complex systems, comprising part of the system through their relationships, interactions, and connections, which influence both the individual and the system as a whole. In the case of convalescent/nursing homes, effective self-organization would be expected to result in a more innovative, specific healthcare plan that is sensitive to

change, i.e., the connection and association processes among healthcare providers would bring innovation to planning<sup>14-16</sup>

Complex thinking is capable of understanding healthcare organizations as environments permeated with unpredictable connections, built on the basis of relationships, interwoven in healthcare processes in which nursing is inserted. These interactions may change the individuals in the relationship, as well as the environment itself. Consequently, the relationships between other health professionals requires nursing care planning, given that the processes are the results of the dynamics of the systems that are considered complex.<sup>14-16</sup>

Thus, the personal interactions of an organization, a company, or firm are antagonistic and complementary at the same time, which may lead to personal freedom and autonomy, as well as create flexibility in the organization.<sup>3</sup>

### EMPHASIZING THE PRINCIPLES AND CHARACTERISTICS OF COMPLEX THINKING IN NURSING CARE

The reviewed studies emphasized the principles and characteristics of complex thinking during the analysis of nursing care in the scenarios described above. Thus, this review opens the door to discussions and reflections on these phenomena without claiming to explain them, but rather to understand them in their context, interactions, and relationships.

Complexity Theory has signaled the possibility to respect differences, distinguish and unite, recognize the phenomena in a multidimensional manner, and understand that the whole is in the parts and the parts are in the whole.<sup>2</sup>

Healthcare services, and specifically nursing, are constantly immersed in structures, relationships, behaviors, and complex experiences, generating both needs and a multidimensional, flexible, and contradictory perspective. Nursing care is faced with the constant ambiguity between visibility and invisibility as regards the actions of professionals, which are characterized as contradictory and complementary.<sup>17,18</sup>

Understanding that nursing professionals work in hospital settings (ICUs) and deal with complex life situations (serious illness), they should be sensitive to assigning new meanings to the practice of healthcare capable of provoking reflection and deconstruction. This understanding, in various contexts, is experienced through human care, emotional care, and dialogical care, with singular and multiple features. Likewise, it overlaps relationships and unique, singular, and plural contexts. Disorganization, reorganization, and disorder characterize a nurse's relationships and work process.<sup>6,11,13,19</sup>

In terms of self-organization, professionals interact and mutually adjust their behavior, using what they learn together to deal with change and the organization's requirements for pro-

viding care.<sup>20</sup> Furthermore, in the nurse's daily routine, the performing of physical examinations implies a familiarity with order and disorder, providing a dialogic approach as well as conducting contextualized, integrated, and humane treatment.<sup>21</sup>

Thus, systemized nursing care is presented as an important tool for improving care processes, comprising practical nursing management that can lead to self-organization in healthcare services. Nurses have been searching for organized and systematic nursing that promotes scientific knowledge of their profession and improves the quality of care they provide. Practices that emphasize restricted models of care, such as Cartesian, or, by contrast, those that are unattainable, such as holism, should be replaced by complex care, considering the complexity of the human being and healthcare systems.<sup>12</sup>

Complexity is evident in all areas in these systems, also encompassing healthcare, as it is also permeated with complex relationships, including interactions in educational nursing care processes. These processes, dialogically constructed, make them co-participants in healthcare, developing a more humane and democratic form of caregiving, since it considers the complex reality of relationships and scenarios in which they takes place.<sup>22</sup>

Accordingly, to ensure that nursing care finds support in the practice of healthcare, from the perspective of complexity, interdisciplinarity must be considered essential, as it is a multiple and comprehensive viewpoint that favors comprehensive care that is capable of understanding the complex reality of healthcare systems and the needs imposed by panoramas built on therapeutic diversity.<sup>10</sup>

Studies from this research show that the science of complexity contributes key practices that enable organizations to successfully adapt to environmental changes. First, they appear through the organization and systematization of care, which should be seen as arising and flowing spontaneously when agents interact and, subsequently, through the presence of a multidisciplinary team that allows people from different backgrounds to participate in the formation of new ideas and actions.<sup>14,16</sup>

Complexity promotes more dynamic, flexible structures, set in disciplined, integrated, and complex knowledge, and resulting in new behaviors for planning and improving the quality of care.<sup>23</sup> It also enables the organization to explore the cognitive diversity of working professionals, promoting innovation or creative adaptation to a changing environment, which is characterized by self-organization capable of profoundly affecting the nature and quality of care, especially nursing care.<sup>14</sup>

It is also important to note the holographic, dialogic, and recursive principles of the science of complexity. The dialogic joins principles that should be eliminated. The holographic brings the paradox of organizations, while the recursive denies the linear cause-and-effect explanation, outlining process-

es in circuits, which can be exemplified by the nursing care and healthcare process.<sup>2</sup>

## TRAINING FOR NURSING CARE COMPLEXITY

Educating nursing students at the undergraduate and graduate level has been done in a fragmented, reductionist manner and organized into subjects. As a result of this training, the healthcare professional has pressing difficulties in their everyday actions as well as difficulty in seeing the complexity of these actions, interactions, and interrelationships in this scenario, which are characteristics of complex thought.<sup>24</sup>

Study on the perception of care-giving for graduate nursing students, considering the perspective of complexity, presents care-giving as action, activity, and interaction. The discussion is focused on the importance of relationships and interactions of the human beings involved in care-giving relationships in collective spaces in the various dimensions of care, characterizing a contextual, relational, plural, multifaceted, and complex care-giving, representing a way of understanding humane care-giving.<sup>25</sup>

Results from another study that assessed the perception of the teaching of care-giving to undergraduate nursing students point to the understanding of the need for complex care, which itself is related to teaching and learning, and to recognizing the complexity of the human being and the concept of complex caring-giving. However, these end up not fully achieving care-giving in practice, even while engaged in the activities themselves.<sup>26</sup>

Human understanding is one of the seven areas of knowledge necessary for education, as cited by Morin<sup>7</sup>, and this aims to understand human beings not only as an object, but also as a subject. To understand the other, one needs to understand one's self, as it is impossible to imagine human progress without progress in understanding. It is not taught, but it is crucial to the human being.

Another study reveals that the science of complexity has contributed to broadening students' perspectives in the healthcare field, especially nursing, for collaborative practice in healthcare, envisioning quality care. In addition, academic treatment contributes to the planning and execution of care-giving in healthcare institutions, where care is administered through the interaction between staff and patients, order and disorder processes, and the implementation of simple actions in dynamic, complex organizations.<sup>27</sup>

Complexity theory provides a constant process of reflection-action-reflection in professional training, and this suggests a constant construction, deconstruction, reconstruction of doing/thinking that is able to contribute to the innovation of professional practice as a science and discipline.<sup>28</sup>

Morin<sup>29</sup> describes how education systems teach one to isolate objects in the universe around them, separate disciplines,

dissociate problems, requiring the reduction of complexity to simplicity, unification to separation, recomposition to decomposition, to abolish everything that causes disorder or contradictions in the learning process. This fragmented thinking enables experts to perform well in specific areas, contributing in non-complex sectors of knowledge, but ignores, hides, and dilutes everything that is subjective, affective, free, and creative, causing alienation from reality.

Human beings are complex and plural, cognizant, sociopoliticocultural, with the ability to produce, build, learn, know, and move towards autonomy.<sup>30</sup> The student is then able to develop critical attitudes and reflective actions capable of overcoming the fragmentation and linearity of knowledge, the centralization in the teacher's role, and the lack of contextualization.<sup>31</sup>

It is essential to incorporate the need for relationship, the holographic principle, and flexibility in care-giving actions, so as to provide a space in which to reflect on the importance of incorporating complex thought in nursing education.<sup>26</sup>

Nursing and other healthcare professions need to rethink their training, constantly directing thought toward complexity, to reconnecting disciplinary knowledge, so that one discipline does not have dominion over another, thereby facilitating a broader, more sensitive, and complex care-giving.<sup>32</sup>

## FINAL CONSIDERATIONS

Complexity theory has contributed to a better understanding of the phenomena related to nursing care. This integrative review aimed to compile studies that have addressed this topic, the primary scenarios that were investigated, and characteristics used in the research processes. Studies intensified between 2008 and 2012 and stand out in the Brazilian scenario, especially in the southern part of the country.

Care-giving and the relationships established in this process appear to be constructed from the principles of complexity, given the contradictions, uncertainties, disorganization, organization, and self-organization present in the content of the publications. Complex thinking is intrinsic to nursing care, and there is a need to break from the traditional model of care, so that new configurations can be developed for better professional performance, to the extent that there is an understanding of the principles inherent to complexity.

In this sense, the categories of revealing the times and scenarios of complex nursing care, emphasizing the principles and characteristics of complex thinking in nursing care, and training for complexity in nursing care represent how Complexity Theory has been used in healthcare research and in nursing care, thus contributing to the construction of knowledge in this area.

These categories indicate how important it is for nursing to be sensitive to the development of care-giving practices

that are able to consider the importance of the interactions involved in care-giving, the relationships established in the process, the diversity in healthcare situations, and the characterization of healthcare organizations. It is salutary that nursing is a part of the healthcare field, facing order, disorder, uniqueness, plurality, certainty, and uncertainty.

Finally, the importance of building knowledge developed in this regard demonstrates that complex thinking is an emerging paradigm in healthcare and nursing, which is essential for the growth of healthcare organizations. Based on this understanding, these organizations will be able to improve healthcare and nursing in the face of the dynamics of reality.

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